

FACULTEIT ECONOMIE EN BEDRIJFSKUNDE



**Affective Persuasive Communication:
Multiple Roles of Affect in Persuading the Consumer**

Anick Bosmans

Promotor: Prof. Dr. P. Van Kenhove

Co-promotor: Prof. Dr. L. Warlop

DOCTORAL DISSERTATION

Affectieve Overtuigende Communicatie:

Verskillende Rollen van Affect in het Overtuigingsproces van de Consument

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Preface

This dissertation is the result of a number of research projects that were conducted during the past four years. The different projects all dealt with the role of emotional stimuli, and can all be integrated into the field of affective persuasion.

I really enjoyed the past four years, and looking back on them, I'm amazed about my own academic maturation. This could not have been possible without the help of the people surrounding me. They all deserve a special word of appreciation.

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Samenvatting

Affectieve Overtuigende Communicatie: Verschillende Rollen van Affect in het Overtuigingsproces van de Consument

Emoties spelen een belangrijke rol in de promotie van producten en diensten. Ondanks diverse toepassingen, zijn de onderliggende verklaringsmechanismen vaak niet erg helder en consistent. Onderzoek toont aan dat positieve gevoelens – zoals bv. uitgelokt door een aangename geur of door een leuke film – leiden tot meer aangename evaluaties. Het omgekeerde is waar voor negatieve gevoelens – zoals bv. de frustratie die men ervaart onder tijdsdruk of de ergernis als gevolg van teveel lawaai. Deze bevinding kan echter niet verklaren hoe het komt dat campagnes die gebruik maken van negatieve emoties (zoals bv. schuldgevoelens) toch effect hebben.

Wij argumenteren in dit doctoraat dat er verschillende rollen zijn voor affect. We focussen hoofdzakelijk op de rol die affectieve valentie (positief versus negatief affect, zie hoofdstukken 2, 3 en 4) en activatie (geactiveerd versus niet geactiveerd, zie hoofdstuk 5) spelen op het overtuigingsproces van de consument.

Ten eerste blijken, volgens de sociaal psychologische literatuur, de meeste mensen geneigd om hun positieve stemming te behouden, terwijl ze een negatieve stemming vermijden. Vermits een extensieve verwerking van een bepaalde (reclame)boodschap in vele gevallen leidt tot gevoelens van aversie (vooral wanneer de verwerking moeilijk is) vermijden vele mensen om uitgebreid (reclame)boodschappen te verwerken. Negatieve stemming signaleert daarenten dat de situatie problematisch is, en dat er iets moet ondernomen worden om de situatie te veranderen. Dit geeft aanleiding tot een meer systematische verwerking van de aangeboden informatie. In onder andere hoofdstuk 2 wordt aangetoond dat negatief affect een uitstekende motivator kan zijn om de (reclame)boodschap in meer detail te verwerken.

Een andere manier waarop affect het overtuigingsproces van de consument kan beïnvloeden is door de gedachten affectief te kleuren terwijl men een boodschap aan het verwerken is. Dit blijkt vooral het geval wanneer mensen erg gemotiveerd zijn om de advertentie, het verkoopspraatje of de reclamespot te verwerken. Wanneer iemand zich in een bepaalde affectieve toestand bevindt (bv. men is in een positieve stemming), dan wordt de overeenkomstige affectieve “geheugenknoop” geactiveerd, waarna de activatie zich zal verspreiden naar geassocieerde mentale concepten. Hierdoor zullen mensen die in een positieve stemming verkeren zich ook meer positief materiaal herinneren, en meer positieve evaluaties maken.

Ten slotte, wanneer mensen niet erg gemotiveerd zijn om na te denken, vonden we evidentie voor “affect als informatie”. De affect als informatie hypothese suggereert dat mensen soms hun gevoelens als informatief beschouwen wanneer zij een evaluatie maken, ook al hebben deze gevoelens vaak weinig of niets te maken met het te evalueren product. Men schijnt te redeneren “Ik voel me goed, dus het product zal ook wel goed zijn”.

Samengevat, in dit doctoraat wordt aan de hand van een waaier aan affectieve stimuli (waaronder zowel affect uitgelokt door de advertentie als de stemming van de consument) op consistente wijze aangetoond dat affect verschillende rollen speelt bij het overtuigingsproces van de consument.

Summary

Affective Persuasive Communication: Multiple Roles of Affect in Persuading the Consumer

Emotions play an important role in the marketing of products and services. Despite the extensive practical applications, the explanatory mechanisms are often not very clear and straightforward. Researchers have found that positive feelings – e.g. elicited by a pleasant odour or by a pleasant movie – lead to more positive product evaluations. The opposite seems to hold for negative feelings – e.g. the frustration one experiences under time pressure or the annoyance resulting from too much surrounding noise. These findings however can not account for the beneficial effects that are usually observed when advertisers and marketers use negative feelings such as guilt and sadness in their advertisement campaigns.

We argue in the present dissertation that there are multiple roles for affect. We mainly focused on the role of affective valence (positive versus negative affect, see chapters 2, 3 and 4) and arousal (activated versus sleepy, see chapter 5) on the consumers' persuasion process.

First of all, according to social psychological literature, most people seem to act to maintain their positive moods, while they avoid being in a negative mood. Since processing a message extensively often results in feelings of aversion for the task (especially when the task is difficult), message recipients in a positive mood are motivated to avoid such thorough processing in order to maintain their positive moods. In contrast, negative mood signals that the situation is problematic, and that something has to be done in order to change the situation. Therefore, people in a negative mood are more likely to engage in a systematic processing of the presented information. This was confirmed for example in Chapter 2.

Another way that affect can influence consumers' persuasion process is by coloring consumers' thoughts while evaluating a new brand or a new product. This is most likely when consumers are very motivated to process the ad, the commercial or the sales talk. As a person experiences a certain affective state, the affect's correspondent memory node is activated, and activation will spread towards associated concepts (nodes), thereby assisting in the encoding and / or retrieval of affect consistent ideas. Happy people will therefore recall more pleasant material, and make more positive evaluations.

Finally, especially when people were not very motivated to process the ad, we found evidence for "affect as information". The affect as-information hypothesis suggests that people sometimes use their current feelings as the basis for forming evaluations. That is, people sometimes mistakenly take their current feelings as informative when they make an evaluation. They seem to think "I feel good, so the product / brand must be good".

In sum, a variety of affective stimuli (including both ad elicited affect and consumers' general moods state) were used throughout this dissertation, who consistently showed evidence for the multiple role of affect on consumers' evaluation process.

Chapter 1

Introduction: Affective Persuasion and Consumer Behavior

Chapter 1

Introduction: Affective Persuasion and Consumer Behavior

1. Introduction

Emotions play a prominent role in the marketing of products and services. Music and colors for example, are often used in a retail setting to create pleasant feelings and to make customers (unconsciously) feel free and alive. Humor, tenderness, and eroticism are just a grasp of positive feelings that are widely used in advertisements and commercials. The usage of feelings in the domain of advertising is not limited however to positive feelings: also negative feelings, such as sadness or guilt are often used to promote products or services. Feelings of guilt for example, are typically associated with advertisement campaigns in support of charity organizations.

Despite the extensive practical application of feelings in the domain of marketing, the explanatory mechanisms are often not very clear and straightforward. In fact, many questions remain unresolved. For instance, it is found in practice as well as on a more academic level, that positive feelings lead to more positive product evaluations, while negative feelings lead to more negative product-evaluations (see for example Bagozzi, Gopinath, & Nyer, 1999). If this is the case, than how can the success of a charity campaign (such as Medecins Sans Frontiers, or 11.11.11) that elicit negative feelings of guilt be explained? Also, the effect of feelings sometimes seems to depend upon the consumers' willingness to attend to the persuasive communication. Surprisingly, some theoretical studies have shown that the effect is more pronounced when consumers are less willing to pay attention or processing effort to the persuasion attempt (see for example Petty, Unnava, & Strathman, 1991).

The general purpose of this dissertation is to take a closer look at the effects of feelings on the consumers' persuasion process. More specifically, we will look both at

elicited affect (for example positive affect that is elicited by a magazine ad or a television commercial) as well as mood (for example the positive mood people experience after they have watched a comedy movie). In the remaining of this first chapter we will first take a closer look at the nature of emotions, followed by a short review of the effects of affective valence (i.e. the main component of an emotion) on consumers' persuasion. We will end this chapter with an overview of the different studies that are discussed in this dissertation.

2. Emotions and Consumer Behavior

2.1. Emotions, Affect, and Mood: Definitions

Affect can be considered as a mental state of readiness that arises from cognitive appraisals of events and thoughts. Affect is usually accompanied by physiological processes (such as heart beat acceleration or increase in blood pressure) and is often expressed physically (e.g. in gestures, posture, and facial features).

The source of affect can be diverse. Affect can arise from one's preexisting mood state or affect can arise from the emotions that are called for by the ad. Hence, in this dissertation, affect generally covers both consumers' mood state as well as their more specific emotions (for a related discussion, see Gorn, Pham, & Sin, 2001).

The line between an emotion and mood is often difficult to draw but by convention a mood is conceived as longer lasting (from a few hours up to days) and lower in intensity than affect. Also, an emotion has a clear referent, whereas moods are mostly diffused or global, without a clear referent (e.g. Frijda, 1993).

From a practical viewpoint it may become clear that while an emotion can be easily manipulated by the marketer (e.g. by means of fear appeals in ads or by cheerful music in a television commercial or by means of a funny or exciting advertisement), moods are more difficult to manipulate. Regarding the effects of mood on consumers' persuasion, we believe that the present dissertation is important in that it provides a framework that takes into account the mood of the consumer and provides

recommendations about possible marketing actions. After all, consumers always are in some kind of mood when they are confronted with a persuasion attempt: the present series of studies show the importance of taking consumers mood state into account when one is trying to reach them. Of course, it is not always possible to know the mood states that consumers are in, but there are a number of situations in one can easily assume consumers' current mood state. After a soccer game for example, the supporters of the winning team will be in a very good mood, while those of the losing team will be in a bad mood. If you were a beer manufacturer, would you employ the same advertising strategy for both groups of consumers? The results of the present series of studies will advise you not to do so.

Importantly, the present series of studies will not look at specific emotions such as excitement, delight, surprise, contentedness, hostility, sadness, calmness, ...per se. Instead we will approach emotions from their basic two-dimensional affective structure (see *infra*, see Russell, 1997; Watson & Tellegen, 1985; Larsen and Diener, 1992).

2.2. Structure of Affect

In the field of psychology, affect has been described by a two-dimensional circumplex model, that consists of two basic orthogonal dimensions: pleasure and arousal (i.e. state of activation). An example of such a circumplex structure is shown in Figure 1. This representation of emotions has been called the two-factor model, because, based on the techniques used to generate it (e.g. factor analysis and orthogonal scaling), emotions can be arranged around two orthogonal axes. Russell (1997) terms the axes pleasure-displeasure and arousal-sleepiness, while Watson and Tellegen (1985) label them high positive affect – low positive affect and high negative affect – low negative affect.

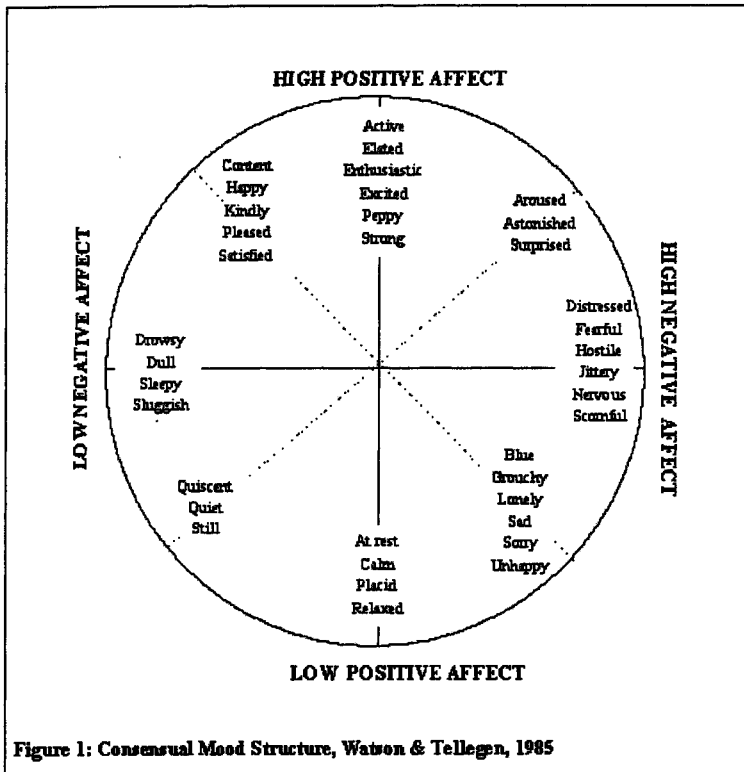


Figure 1 Two-Dimensional Structure of affect

The idea behind the circumplex model is that specific emotions exist in bipolar categories (e.g. happy – sad, nervous – relaxed) and can be arranged in a continuous order around a perimeter of a two – factor space. The closer emotions are to each other on the perimeter, the more similar they are. For example, excited and aroused are more similar than are content and aroused (see Figure 1). The origin or center of the circumplex is thought to represent a neutral point or adaptation level.

In the first 3 chapters (Chapter 2, 3 and 4) we will almost exclusively look at the impact of affective valence (pleasure: positive versus negative) on consumers' persuasion. In our last series of studies (Chapter 5), we will also take a look at the effects of arousal (high versus low activation) on the persuasion process.

3. Effects of affect on consumers' persuasion

Recent research has shown that affect has a considerable impact on people's processing strategies as well as on their evaluation of the attitude object. It is found for example that happy moods are usually associated with heuristic processing strategies, whereas sad moods are associated with a systematic elaboration of information (e.g. Bless, Clore, Schwarz, Gollwitzer, Rabe, & Wölk, 1996; Sinclair & Mark, 1995, 1992; Clore, Schwarz & Conway, 1994; Schwarz & Clore, 1999). The logical conclusion from this is that people in sad or neutral moods spontaneously process information more effortfully than people in happy states.

Although the increased reliance on heuristics by individuals in positive moods has been replicated many times, there have been studies that have shown opposite results, namely that positive moods could lead to both increased or diminished levels of cognitive processing (e.g. Martin, Ward, Achee, and Wyer, 1993). Wegener, Petty, and Smith (1995) showed that positive mood could lead to either lesser or greater levels of information processing, depending on whether happy individuals believe that systematic processing will lead to the maintenance or destruction of their positive mood. People in a positive mood-state, who believe that systematic processing of a message could help maintain their mood, may engage in more detailed processing. However, if they view systematic processing of that message as a threat to their positive mood state, they would avoid elaborate processing.

Recent research suggests, however, that this might be only a piece of the entire picture. Careful consideration of the mood literature indicates that the effect of mood may be not so equivocal as expected. In some studies (e.g. Bless, Bohner, Schwarz, & Strack, 1990; Worth & Mackie, 1987) it was found that, when explicitly asked to evaluate message quality, happy participants differentiate between strong and weak arguments as much as neutral or sad mood participants. If happy participants fail to detect differences in message quality when making their attitude judgment, it is not clear how they could have had available this information later on, when asked to rate the strength of the arguments. Similarly, in several studies (e.g. Bless et al. 1990) happy, neutral, and sad mood participants did not differ in their ability to recall the

content of a message. As Bless and his colleagues (Bless et al. 1996) notice, these results suggest that happy individuals noticed the quality of the arguments presented to them but did not use this information when making an attitude judgment. It should also be noted that the conclusion of reduced processing under happy moods seems at odds with other available evidence (Bless. et al. 1996). For example, happy participants outperform participants in a neutral or sad mood in creativity and problem solving tasks (for an overview see Isen, 1987). In a related vein, Martin and his colleagues (Martin, Ward, Achee & Wyer, 1993) found that good mood could decrease as well as increase processing depending on how participants interpreted the implications of their mood. Similarly, it has been shown that a happy mood can lead to more creativity (Martin & Stoner, 1996; Hirt, Levine, McDonald, Melton and Martin, 1997).

3.1. Multiple roles for affect

3.1.1. The Elaboration Likelihood Model (ELM) perspective

It may be clear from the above reported findings that the influence of mood on consumers' persuasion can not be ascribed to a simple shift in processing ability or motivation. The thesis that is taken in the present dissertation is that there are multiple roles for affect depending on a number of circumstances. This assumption is largely, but far from exclusive, inspired on the Elaboration Likelihood Model of Persuasion.

According to the elaboration likelihood of persuasion (ELM) developed by Petty and Cacioppo (1986), the influence exerted by various communication elements (such as the influence of affect in the ad) will depend on the amount of issue relevant thinking (referred to as elaboration) that occurs during processing. When elaboration is high, the central route to persuasion is followed, in which only those message elements (referred to as arguments) that are relevant to the communication attempt are influential. Conversely, the peripheral route to persuasion occurs under low levels of elaboration as elements (referred to as peripheral cues) that are irrelevant to developing a reasoned opinion become influential. Both arguments and peripheral

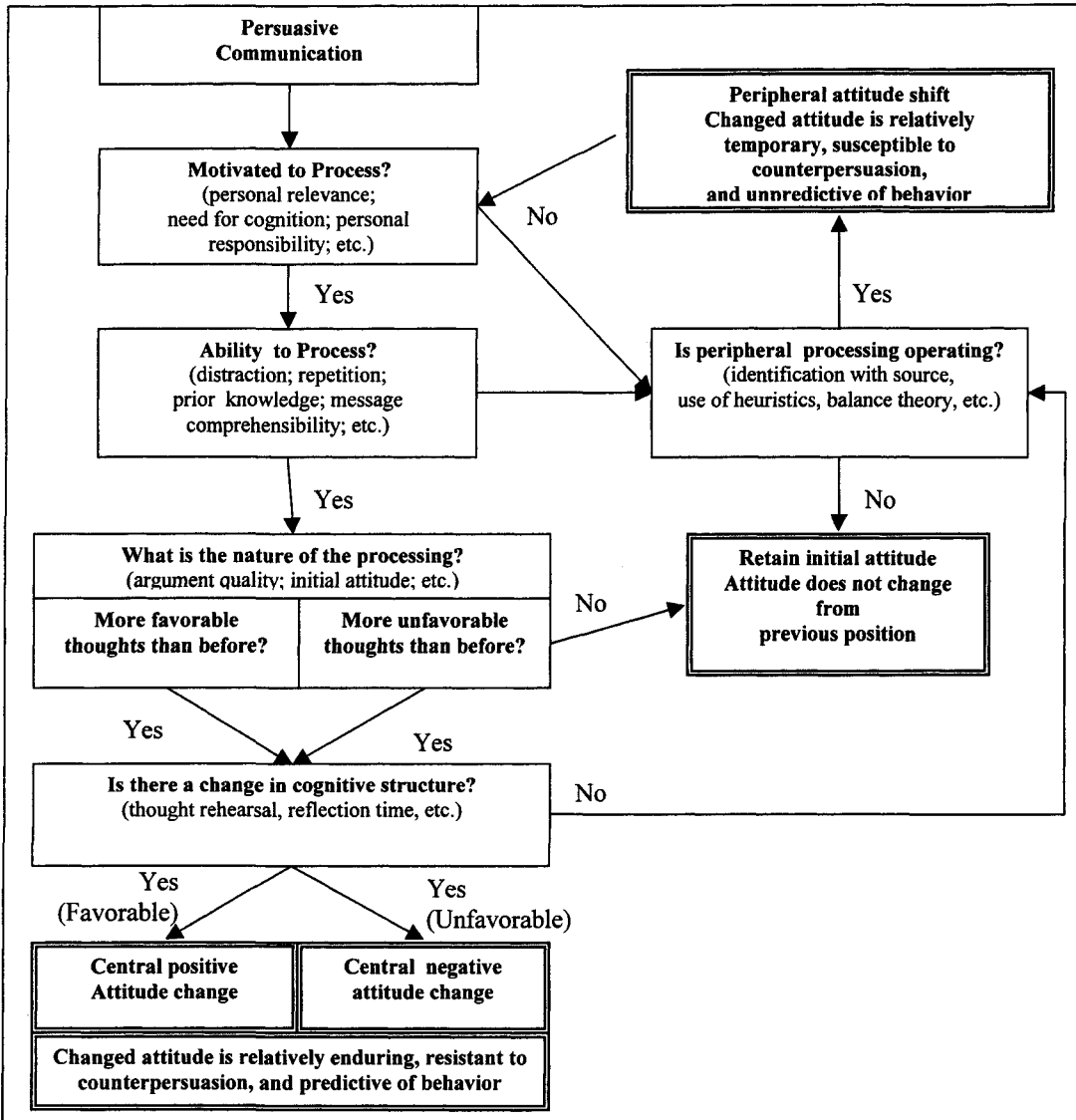


Figure 2: The Basics of the Elaboration Likelihood Model (Petty & Cacioppo, 1986)

cues may have an effect under moderate levels of elaboration. The basics of the ELM are outlined in Figure 2.

Elaboration, in turn, depends on the person’s motivation and ability during message processing. A person motivated and able to elaborate will take the central route. The peripheral route is travelled when motivation or ability is lacking.

One of the hallmarks of the ELM perspective is that a given variable can impact persuasion via different processes at different levels of elaboration likelihood. That is, a given variable might act as a peripheral cue (when elaboration likelihood is quite low), might act as an argument or bias information processing (when information likelihood is quite high), or might influence the amount of message processing that occurs (when elaboration likelihood is not constrained to be particularly high and low, and especially if message recipients are not sure if the message warrants scrutiny).

In an examination of multiple roles for mood, Petty et al (1993) found that the mood state of message recipients (induced by a television program or music) directly influenced attitudes toward a product or advocacy when elaboration likelihood was low (when the product was low in personal relevance or the message recipients were low in need for cognition). However, the same difference in mood influenced attitudes only through mood-based biases in the thoughts that were generated in response to the message when elaboration likelihood was high (when the product was high in relevance or message recipients were high in need for cognition).

The Petty et al. (1993) study is, to our knowledge, the only study that directly tested the multiple role of affect on consumers' persuasion process. The main purpose of this dissertation is threefold: a) to provide further evidence for this assumption, b) to extend this (primarily psychological) finding to the domain of consumer behavior, and c) to provide additional insights in the field of affective (consumer) persuasion by relating affect to other important consumer behavior related constructs. The multiple role of affect is investigated a) in relation with techniques that enhance the application of self-relevant information in an advertisement context (i.e. self-referencing, Chapter 2), b) in relation with the possible effects of ambient odor in a persuasion context (Chapter 3), c) with regard to products and services that have negative connotations (such as meat and blood donation, Chapter 4) and c) with regard to the way people deal with ambiguous and / or suspicious persuasion attempts. A more detailed description of the different chapters is discussed at some length in the next section. First however we will take a more detailed look at the different roles for affect in the persuasion process.

3.1.2. Different Roles for Affect

3.1.2.1. Affect as Motivator to Process

In a typical affective persuasion study, Bless, Bohner, Schwarz, & Strack (1990) induced a happy or a sad mood by asking participants to provide a vivid report of either a pleasant or an unpleasant life event. As part of a purportedly independent second study, participants were subsequently exposed to a tape-recorded communication that presented either strong or weak arguments in favor of an increase in fees for student services. After participants listened to the message, their attitudes toward an increase in these fees were assessed. Bless and his colleagues found that participants in a sad mood reported more favourable attitudes toward an increase in fees for student services when they were exposed to strong arguments than when they were exposed to weak arguments. Participants in a happy mood, on the other hand, were equally persuaded by strong and by weak arguments, and showed moderately positive attitude change under both conditions.

This pattern of findings has been replicated in a number of studies with a range of different mood inductions and persuasive messages about different attitudinal issues (for examples see Petty, Unnava and Strathman, 1991). In sum, these studies suggest that recipients' processing of persuasive communications depends on their affective state. Whereas recipients in a neutral or negative mood are persuaded by strong but not by weak messages, recipients in a positive mood are about equally persuaded by both.

These findings can be explained by the fact that mood has a motivational impact on people's persuasion process. Most people seem to act to maintain subjective feelings of well-being, preferring to expose themselves to positively rather than negatively toned material (Isen & Simmonds, 1978; Mischel, Ebbesen, & Zeiss, 1973) and to engage in behaviors that maintain rather than destroy positive mood (Isen & Levin, 1972). If extensive thinking about an issue is difficult (Janis & Mann, 1979), or if processing a message may result in exposure to aversive information, message recipients in a positive mood might be motivated to avoid such processing in order to

maintain their mood (see Mackie and Worth, 1989 for a discussion; Isen, Means, Patrick, & Nowicki, 1982). In this motivational view of mood, people in a positive mood suffer from motivational deficits: They *can* systematically process incoming material, but they just *do not want to*.

3.1.2.2. Affect as a Peripheral Cue: Affect as Information

The affect as information model (Schwarz, 1990; Schwarz & Bless, 1991; Schwarz & Clore 1983) suggests that individuals may assume that their mood states are affective reactions to the object being evaluated and thus base their evaluations on their affective states. For example, a happy individual when asked to evaluate a painting may ask the question “How do I feel?” and infer that his or her positive mood is a reaction to the painting and therefore come to the conclusion that he or she likes the painting. The feelings as information hypothesis suggests that when individuals attribute their mood state to something else than the object being evaluated, the effect of mood on evaluation should disappear. Schwarz & Clore (1983) found support for this hypothesis when they showed that peoples’ mood affected their judgments of life satisfaction. They telephoned people on either warm and sunny or cold and rainy days. They found that weather influenced mood, and that mood affected perceptions of well-being. The effect however disappeared when the interviewer casually mentioned the weather to the individuals. Presumably, the casual mention of the weather made people attribute their mood to the weather, and hence the mood lost any diagnostic value in evaluating life satisfaction. In other words, people may use their moods as the basis for forming evaluations of objects unless the diagnostic value of the mood is discounted. Clore, Schwarz, and Conway (1994) moreover showed that individuals may use feelings as information when the evaluation task is affective in nature, when other information is lacking, when the information is complex, or when there are time constraints.

This affect as information process is very similar to the affect transfer hypothesis (Zajonc, 1980), which has received considerable less attention in the field of consumer behavior. The affect transfer hypothesis maintains that affect can exert influence without affecting prior cognitive mediation. Affect transfer was first

suggested by a mere exposure experiment (Kunst-Wilson & Zajonc, 1980) in which subjects, by virtue of repeated exposures, developed affective preferences for previously novel Chinese ideographs. One way of interpreting these results is to allow for the possibility that gross affective discriminations can be made virtually without awareness, whereas cognitive discriminations require greater access to stimulus information. Indeed, the affect transfer hypothesis hinges on the assumption that the simple affective qualities of stimuli, such as good versus bad or positive versus negative, can be processed more readily than their non affective attributes. Murphy and Zajonc (1993) tested this affect transfer hypothesis by comparing the effects of affective and cognitive priming under extremely brief (suboptimal and longer (optimal) exposure durations. At suboptimal exposures only affective primes produced significant shifts in participants judgments of novel stimuli. These results suggest that when affect is elicited outside of conscious awareness, it is diffuse and non-specific, and its origin and address are not accessible. Having minimal cognitive participation, such gross and non-specific affective reactions can therefore be diffused or displaced onto unrelated stimuli. At optimal exposures this pattern of results was reversed such that only cognitive primes produced significant shifts in judgment.

3.1.2.3. Affect and (Biased) Information Processing: Affect Priming

Memory-based affective persuasion models (e.g. Bower, 1981) argue that mood-congruent judgment is thought to occur because of a connection between mood and memory that is often described in terms of a spreading activation model of memory (Collins & Loftus, 1975). A spreading activation model describes the memory system consisting of interconnected nodes in a network; most nodes represent cognitive concepts. A subset of these nodes however represented individual moods such as happiness and sadness. As a person enters a given mood, the mood's correspondent node in memory is activated, and that activation spreads to associated concepts, thereby assisting in the encoding and / or retrieval of mood-associated ideas. Happy people will, therefore, better recall pleasant material; sad people will better recall unpleasant material. Under such conditions the effect is said to be symmetrical in happy and sad moods.

Isen (1987) and Mackie and Worth (1989) have argued that since positive memories are highly interconnected, positive mood will prime and activate more related and many unrelated positive memories, thus leading to 1) colored evaluations and 2) cognitive capacity constraints. According to this memory-based explanation, individuals suffer from capacity constraints because too much positive material is activated, resulting in the adoption of heuristic processing strategies.

Related to this view, affect has been shown to influence retrieval of information, whereby persons in a positive mood state at the time of retrieval have been found to show superior recall of positive material learned during encoding, relative to neutral or negative material. Isen, Shalcker, Clark, and Karp (1978) for example had respondents study positive, negative and neutral words. Either positive, neutral or negative mood states were induced in these respondents. Respondents in the positive mood condition retrieved more positive words compared with neutral or negative words. These results can be explained by the fact that positive mood at the time of retrieval functions as a cue that primes the positive material in memory, making this material more accessible. The easier accessibility of positive material may then influence other cognitive processes, such as evaluations and decision making, and also subsequent behaviors.

3.1.2.4. Summary

It is clear from the above that affect may act as a peripheral cue (i.e. affect as information, when processing motivation is low), affect may bias information processing by activating similarly valenced material (i.e. affect priming, when processing motivation is high), or affect may influence the amount of message processing (when processing motivation is medium and / or when processing ability is not constrained). In a number of studies we will extend the view that there are multiple roles for affect under different kinds of processing motivation.

3.1.3. Alternative explanatory mechanisms

In theorizing about the different roles for affect, we argued that we based ourselves mainly on the ELM perspective. It is important to note however that this multiple role for affect is not a unique contribution of the ELM. Other researchers (e.g. Forgas, 1995; Chaiken, 1980) have also theorized about multiple roles for a same cue in the domain of persuasion.

3.1.3.1. Chaiken's Heuristic-Systematic Model (HSM)

The heuristic-systematic model (HSM; Chaiken 1980, 1987), which is more silent with regard to the impact of affect on persuasion, also assumes multiple roles for a same cue under different conditions of processing motivation, and may therefore also account for the seemingly inconsistent findings in the affective persuasion literature. The HSM also accommodates for the joint impact of systematic processing on attitudes. The HSM also represents an explicit attempt to explain why certain cues, such as affective valence of an ad, or people's mood, or message strength, influence the persuasion process. The model focuses on heuristics retrieved from memory rather than decision rules generated on-line. That is, Chaiken proposes that in contrast to "systematic" (or central) processing, many source cues, message cues, and other cues are processed by means of simple schemas or cognitive heuristics that people have learned on the basis of past experience and observation. To the extent that various persuasion rules of thumb are available in memory, they may be retrieved to evaluate persuasive communications.

3.1.3.2. Forgas' Affect Infusion Model (AIM)

Forgas (1992, 1995) has recently proposed a multiroute model of the impact of affect on judgment: the affect infusion model, or AIM. In the AIM, several information processing modes are described. Two of the modes address when affect has an impact on judgment, and two address when affect does not have an impact. Specifically, Forgas notes that affect can have an impact on judgment in two ways. In what Forgas

calls “heuristic processing”, affect influences judgment because people “use their affect as a shortcut to infer their evaluative reactions to the target”. When the evaluative target is simple, the personal relevance is low, cognitive capacity is limited, or when the accuracy requirements are not high, the individual may resort in this heuristic, high affect infusion strategy. Under these circumstances, evaluations may be based on the existing mood, as in the feelings-as-information hypothesis (Schwarz & Bless, 1983).

In what he calls “substantive processing”, affect influences judgment “through its selective influence on attention, encoding, retrieval, and associative processes”. When the judgmental situation requires the individual to learn and process novel information, and when he or she has adequate cognitive capacity and motivation to process the information, substantive, high affect infusion processing is predicted to take place.

In essence, these two processing modes map nicely onto the ELM notion that affect can influence judgment under low-elaboration conditions by serving as a peripheral cue, and under high-elaboration conditions by biasing thinking.

Forgas further notes that affect will not have an impact on judgment if a person has a strong prior attitude that is retrieved directly (i.e. the “direct access mode”). Forgas suggests that direct-access processing (i.e. low affect infusion) is used when the evaluative target is familiar and when there are no strong cognitive, affective or situational factors that call for systematic processing. Accordingly, individuals who evaluate very familiar objects would be using direct-access processing, and hence, mood effects would not be found in such cases.

Another low-affect infusion strategy is motivated processing, where the information search and the evaluative outcome are guided by prior motivational goals such as mood repair.

4. Overview of the Studies

The general purpose of this dissertation is to take a closer look at the multiple role of affect in the domain of advertising and consumer behavior. More specifically, we aim to 1) provide further evidence for the multiple role of affect in the persuasion domain, 2) extend the (primarily psychological) findings to the domain of consumer behavior and 3) use acquired knowledge to gain insight in other relevant consumer behavior related constructs. In this dissertation, a number of research papers are integrated, that deal with this multiple role of affect in an advertising (Chapters 2-4) or consumer behavior setting (Chapter 5).

In a first series of studies (Chapter 2) we will take a closer look at the motivational effect of affect on consumer persuasion, and relate it to a persuasion-enhancing technique that is related to people's self-concept: self-referencing. In Chapter 3, affect is operationalized by the use of ambient odor (e.g. the scent of the ad), and we will look at the different roles of affect (ambient odor) under different conditions of processing motivation. In the next chapter (Chapter 4), we will extensively look at the effects of affect when consumers have to evaluate a product or service that is associated with negative feelings or beliefs. Again we will look at different processing motivation and ability factors. In our last chapter (Chapter 5) we will look mainly at the arousing part of emotions (instead of the affective valence) and show that arousal affects consumers' ability to deal with a persuasion attempt, resulting in different evaluative outcomes under different conditions of arousal.

4.1. Self-Referencing: Affect as Motivator

The first research paper investigates the moderating role of affect in an advertisement context. More specific, the study investigates the dual-role of affect on the way that consumers process and evaluate ads that use of self-reference techniques. Self-reference techniques are often employed to enhance self-referencing, a cognitive process whereby individuals associate self-relevant incoming information with information that is previously stored in memory (one's self-concept) in order to give

the new information meaning. This process has beneficial effects on both information processing and evaluation.

Affect, as a motivator to process, is used to take a closer look at the mechanisms underlying self-reference effects. Both mood as well as ad elicited affect are successfully employed to manipulate consumers processing motivation. While the study mainly focuses on the mechanisms underlying self-referencing, it also nicely shows that affect is a motivator to process, and that it moderates the impact of self-reference cues in an advertisement context. Several practical implications are discussed.

4.2. Ambient Odor: Different Roles of Affect Under Different Conditions of ELM

In this research paper the dual-role of affect is investigated by manipulating the ambient odor that surrounds a persuasion attempt. Odors are frequently used in the field of advertising and marketing, and are thought to elicit pleasant moods and affect (Bone & Ellen, 1999). We show that when consumers are motivated to process the advertisement, a pleasant odor only enhances product evaluations when the ambient odor is congruent with the advertized product. That is, when an orange juice ad smells like fruit, and not like soap for example. In contrast, when consumers were not motivated to process, congruency of the ambient odor did not matter. These results can be explained in the light of dual-process models of persuasion: when processing motivation is low, consumers take the affect (elicited by the odor) as informational for the judgment, and do not notice the incongruency with the product category. When processing motivation is high, consumers will notice the incongruency with the product category (either because (un)related constructs are activated because of affect priming or because consumers think more elaborately about the message because of increased processing motivation, or a mixture of both). Some interesting and useful practical implications will be discussed.

4.3. Affect and the Evaluation of Negatively Valenced Mental Categories: New Evidence for The Multiple Role of Affect

The third research paper investigates the multiple role of affect in the context of product categories that are associated with negative beliefs and feelings. The results of four studies suggest multiple roles for affect. Besides evidence for affect as information under conditions of low processing motivation, and for affect priming under conditions of high processing motivation, we find enhanced product evaluations when our participants were in a bad mood. Interestingly, because we are dealing with schemata that had negative connotations, we find that negative mood motivated people even more to think about the presented messages, such that evaluations become also more positive when mood was negative. This effect, which we label the cognitive tuning effect, is only found when our participants are sufficiently motivated to process. Some straightforward practical implications are discussed.

4.4. How Arousal Affects Consumers' Use of Persuasion Knowledge

In our last research paper, we investigate the role of affect on the way consumers try to deal with persuasion attempts. This paper is somewhat different from the previous ones. First, the conceptual framework that is used is not directly related to the ELM. Instead, the Persuasion Knowledge Model of Friestad and Wright (1994) is used as a starting point. This model describes how consumers try to deal with persuasion attempts when they go shopping, when they read ads, when they watch commercials, etc. Second, while the previous research papers mainly concentrate on the affective valence part of emotions (e.g. Russell, 1997), this study deals with the arousal part of emotions. As discussed throughout this introductory section, affective valence has been found to fulfil multiple roles in the persuasion process. One of it is its influence on consumers' processing *motivation*. In the present series of studies, it is found that arousal affects consumers processing *ability*. Note that both motivation and ability are factors that influence consumers' elaboration likelihood of persuasion (see Figure 2). The results of three studies indicate that when arousal is high (i.e. low processing ability), consumers are not further able to apply their persuasion knowledge, and will

be more likely to succumb to even blatant persuasive tactics. Also, when arousal is high, they are more likely to be persuaded by peripheral message cues, such as a T-shirt worn by the salesperson, or the mere exposure to a message advocacy.

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Chapter 2

The Effect of Affect on Self-Referencing in a Persuasion Context: Affect as Motivator



Chapter 2

The Effect of Affect on Self-Referencing in a Persuasion Context¹: Affect as Motivator

1. Abstract

The present study investigates the influence of affect (both felt affect and mood) while consumers process and evaluate ads that make use of self-reference techniques. Self-referencing is defined as the cognitive process whereby individuals associate self-relevant incoming information with information that is previously stored in memory (one's self-concept) in order to give the new information meaning. The process has beneficial effects on both information processing and evaluation.

Affect (as a motivator to process) is used to take a closer look at the mechanisms underlying self-reference effects. Two alternative explanations regarding self-referencing are contrasted. On the one hand, it can be hypothesized that self-referencing is a data-driven, high elaboration bottom-up process, that is manifested under conditions of high processing motivation (e.g. when mood is negative, or when involvement with the product is high). Alternatively, it can also be hypothesized that self-referencing is a schema-based top-down process, manifested under conditions of low processing motivation (e.g. when mood is positive, or when involvement with the product is low).

The results of two studies indicate that self-referencing resembles an active, data-driven bottom-up process, that is likely to occur when consumers have sufficient

¹ Part of this chapter is adapted from Bosmans, A., P. Van Kenhove, P. Vlerick, & H. Hendrickx, 2001. The Effect of Mood on Self-Referencing in a Persuasion Context. Published in *Advances in Consumer Research*, 28, 115-121.

processing motivation available to process the information (in the ad). Several practical implications are discussed.

2. Introduction

Advertisers often try to persuade consumers by encouraging them to relate the information presented in the ad to aspects of oneself (e.g. one's own personal experiences). This information processing strategy, known as self-referencing, can be induced by a variety of techniques: Photo's are presented that visually place consumers in the position of the scene actor or participant (instead in that of an uninvolved onlooker), or relatively personal second-person wording is used ('You are going to a party') as opposed to rather removed third-person wording ('He is going to a party') (Debevec & Romeo, 1992).

Self-referencing has been described in the literature as a cognitive process whereby individuals associate self-relevant incoming information with information previously stored in memory (one's self-concept) in order to give the new information meaning (e.g. Kuiper and Rogers 1979; Markus 1980).

Research suggests that self-referencing has a considerable impact on the recall of information (e.g. Baumgartner, Sujan and Bettman 1992; Sujan, Bettman and Baumgartner 1993), as well as on product evaluations (e.g. Baumgartner et al. 1992; Sujan et al. 1993; Meyers-Levy and Peracchio 1996; Sujan et al. 1993). It has been found for example, that performance of a self-referencing task rather than some other task leads to a greater recall of words and phrases that are presented during the task (see for example Rogers, Kuiper, & Kirker, 1977). However, the results obtained from the different studies are not at all unequivocal. Although most studies show enhanced memory and evaluation effects as a result of self-referencing, others show detrimental effects (for a meta-analysis see Symons and Johnson 1997). Under some circumstances a positive effect of self-referencing on recall has not been obtained. It was for example not obtained when people were asked to form an image or picture in their minds (i.e. visualization strategy) that are related to to-be-remembered words to

themselves (Lord, 1980). It seems as if self-referencing depends upon people's specific processing strategies: visualization for example (see above) seems to be unaffected by self-referencing. Why is this?

In the present studies we try to clarify the inconsistency in findings in the self-reference literature. As we will discuss later, we argue that the conditions under which self-reference effects occur depend on consumers' processing motivation. Since mood has been found to influence people's processing strategies in a significant manner (see for example Bagozzi, Gopinath, and Nyer, 1999), we argue that people's mood can influence the way they process self-reference prompts.

The present paper presents two studies that show how peoples' affective state (their mood state or the affect that they feel after seeing an ad or a commercial) influence the way they process an ad that is either relevant (in the self-referencing condition) or not relevant (in the not self-relevant condition) for themselves. For practitioners, insight into this problem is of considerable importance. In the present research, we will try to clarify a number of the conditions under which self-referencing is most effective. Naturally, this will give insight into conditions under which self-referencing will or will not be successful. After all, it would be rather dull to invest a considerable amount of money in a self-referencing campaign that has no or little additive value or effect. At the same time, if some specific (yet to be investigated) conditions in your market are satisfied, why not use self-referencing in your campaign, given that it has beneficial effects on consumers' evaluations as well as on their comprehension of the ad. More specifically, the present research aims to explore under which affective conditions (e.g. positive or negative mood) referring to consumers' self-concept will be most effective? Does self-referencing work better if people are in a positive mood (for example, after they have watched a happy tv-show), or does it work better if they are in a sad mood (for example after having watched the daily news)? In the first study we will deal with consumers' mood state (defined as a general, non specific state of affective activation), while in the second study we will deal with consumers' affect that they feel after they have looked at an emotional colored ad (i.e. we will look at the effect of affective stimuli). On the basis of the literature (see for example Soldat, Sinclair, & Mark, 1997) we argue that both felt affect and mood will have a similar effect on self-referencing.

Besides these more practical research questions, the importance of mood – and affective stimuli in general – as plausible moderators for self-referencing, can help us clarify the mechanisms underlying self-referencing effects, and give us more insight into the self-concept in general. In general, we hypothesize that the effectiveness of self-referencing will depend upon people's processing motivation. Two alternative explanations concerning self-referencing are contrasted. We will discuss these in the very next section. Also, since mood has been found to influence people's processing motivation (e.g. Isen, 1984; Mackie & Worth, 1991; Schwarz & Clore, 1983), we find it an interesting manipulation of processing motivation. We will discuss this in a subsequent section.

3. Self-referencing effects: Exploratory mechanisms

The self-reference effect is thought to occur because knowledge of oneself is rich and plentiful, containing many associations that can be related to the incoming information. The self is described in the literature as an elaborate and organized network of associations (e.g. Markus 1980). Consequently, it affects elaboration of relevant stimulus information and also individuals' evaluative judgments in a persuasion context.

3.1. Self-referencing as a top-down process

According to Brewer (1986), self-referencing can be seen as a process whereby knowledge structures of oneself are accessed and used to understand the incoming information.

This abbreviated way of information processing, whereby one's mental processing is guided by means of the "top" level of knowledge stored in memory, has been labeled in the cognitive psychological literature as "conceptually driven processing" (see for

example Ashcraft, 1993 for a discussion). Other current synonymous terms are “analysis by synthesis” (e.g. Neisser, 1967), and “top-down” or “schema-based” processing. Conceptually or schema-based processing is characterized by the fact that the “top” level of knowledge (for example the self-concept) exerts an influence “down” toward the actual perceptual process. Consequently, people will rely almost exclusively on what they already know when processing information: i.e. on their general knowledge structures or mental schemas.

This reliance on knowledge structures or schemas typically leads to subjective perception. A few years ago for example, this was demonstrated by a controversial advertisement that was developed for the famous clothing manufacturer Benetton. Because a black man and a white man were handcuffed together, the ad was the target of many complaints about racism after it appeared in magazines and on hoardings, even though the company has a reputation for promoting racial tolerance. People interpreted it to mean that the black man had been arrested by a white man. Even though both men are dressed identically, people’s prior assumptions shaped the ad’s meaning.

Research in the domain of cognitive psychology shows that relying on general knowledge structures or schemas does not necessarily lead to dysfunctional processing such as biased thinking and use of stereotypes. Instead, it allows the individual to reduce the complexity of information processing at different stages. That is, a reliance on general knowledge structures promotes parsimonious and efficient processing (see for example Markus & Zajonc, 1985; Bless & Fiedler, 1995). At the encoding stage, schemata allow the individual to ignore unrelated and unimportant details of a situation and, therefore, reduce information complexity, rendering more elaborate processing unnecessary. Moreover, general knowledge structures influence retrieval processes (e.g. Hastie, 1981), and judgments can be formed parsimoniously on the basis of schemalike knowledge structures (Brewer, 1988; Fiske & Neuberg). In sum, relying on one’s knowledge structure when processing information can be seen as a heuristic, effortless information processing strategy (Nisbett & Ross, 1980).

Consistent with this schema-based view of self-referencing, Baumgartner, Sujan, and Bettman (1992) demonstrated that an increase in self-referencing changes the context

of consumers' thoughts. Baumgartner and his colleagues manipulated self-referencing by letting people relate the information in the ad to an autobiographical event. They found that consumers' thoughts were more focused on the autobiographical episode, and thoughts about and memory for product features was less accessible. These findings indicate that self-referencing is a schema-based and conceptually driven process. In a related vein, Sujon, Bettman, and Baumgartner (1993) showed that ads that encouraged self-referencing (again via the retrieval of autobiographical memories) elicited a transfer of affect of the self-concept to the brand, resulting in enhanced ad evaluation.

If these findings are generalizable to the complete field of self-referencing, they have serious practical implications for evaluations: when self-referencing is high, evaluations will be based less on arguments presented in the message. In addition, when the self-related knowledge structure (e.g. an autobiographical memory) has strong positive affect, this affect will transfer to the product attitudes resulting in favorable product evaluations. On the other hand, when the self-related knowledge structure has negative affect, the affect transfer will result in less favorable evaluations.

3.2. Self-referencing as a bottom-up process

In contrast, Meyers-Levy and Peracchio (1996) found that whether people would actually respond to self-reference prompts depended on people's motivation to process carefully. They observed for example that only when people employed a rational decision making style² (as opposed to an intuitive decision making style) they were responsive to self-reference prompts. According to their findings, self-referencing will only manifest itself if respondents are sufficiently motivated to process the information presented in the ad, making them responsive to the self-reference prompts (Meyers-Levy and Peracchio 1996).

² In Meyers-Levy and Peracchio's (1996) study, decision making style was a measured individual difference variable. They did not manipulate processing motivation.

This reasoning is based on evidence that when processing motivation is limited, ad recipients tend not to respond to nonsalient cues such as the self-reference prompts in question (Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991). It has been shown that individuals who favor such perfunctory processing typically base their evaluations on simple heuristic cues, such as the affect they associate with the product category, the enjoyment they derive from the ad photo or the ad copy's writing style, and the like (e.g. Alba and Hutchinson 1987; Mick 1992), but not on information that needs a certain amount of processing motivation. According to Meyers-Levy and Perrachio (1996), self-referencing is a processing device that is associated with a considerable motivation to process.

Note that this line of reasoning is more consistent with a data-driven processing style (see Ashcraft, 1993). This processing strategy implies that people work from the bottom up, using only the features and clues in the stimulus – the data in the environment (e.g. the ad) – to process the information. Data driven or bottom-up processing means that one processes the information with very little existing knowledge. Hence, this processing style is opposite to the conceptually or schema-based processing style.

3.3. Research objective

The main objective of this research is to distinguish between these two alternative self-referencing explanations. Since mood has been found to affect people's processing motivation (i.e. detailed systematic processing versus use of heuristics and short cuts, see below), we believe that manipulating our participants' mood will give us more insight into the process of self-referencing. First we will briefly discuss the effects of mood on consumers' information processing and persuasion process.

4. Mood

Recent research has shown that mood states have a considerable impact on people's processing strategies as well as on their evaluation of the attitude object. It is found that happy moods are associated with heuristic processing strategies, whereas sad moods are associated with systematic elaboration of information (e.g. Bless, Clore, Schwarz, Golisano, Rabe and Wölk 1996; Sinclair and Mark 1995). With regard to evaluations, it is observed that when people in different moods make evaluations, the typical result is that those in positive moods render more favorable evaluations than those in negative moods (e.g. Mayer, McCormick and Strong 1995; Sedikides 1992).

Several explanations have been formulated to account for the fact that mood influences people's processing strategies. According to memory-based models (e.g. Bower 1981; Isen 1984), mood influences evaluations by increasing the accessibility of mood-congruent information. According to Mackie and Worth (1991) for example, being in a positive mood causes people to bring more positive information to mind than does being in a negative mood. According to this affect priming principle (Isen 1987; Mackie and Worth 1989), being in a good mood limits processing capacity because of the activation of a large amount of interconnected positive material stored in memory. Hence, individuals in a good mood may not have the cognitive resources required by systematic processing strategies and may therefore default to less taxing heuristic strategies.

Alternatively, according to the affect-as-information view (Schwarz and Clore 1983), negative affect signals that the environment poses a problem, whereas positive affect signals that the environment is benign. As a result, negative affective cues may motivate detail-oriented, systematic processing, which is usually adaptive in handling problematic situations. In contrast, positive affective states, by themselves, signal no particular action requirement, and happy individuals may hence not be motivated to expend cognitive effort unless called for by other goals. In accordance with this affect-as-information hypothesis, Bless (Bless et al. 1996) found that happy moods increase, whereas sad moods decrease the reliance on general knowledge structures.

Similarly, Bodenhausen (1993) argues that happy mood participants make more use of stereotypic information when making a judgment.

Distinguishing between these different mood theories is far from crucial at this point and would lead us too far from the actual purpose of this study. What is important to remember at this point is that positive mood seems to decrease whereas negative mood seems to increase a systematic, detail oriented processing strategy.

5. The Relationship between Mood and Self-Referencing

The purpose of the present research is twofold. First, we investigate the moderating influence of one of these plausible factors, namely the influence of mood, on self-referencing. Secondly, we attempt to, through the use of mood as plausible moderator, clarify the mechanisms underlying self-referencing. In the present study we hypothesize that the effect of self-referencing is moderated by people's processing motivation. Two alternative explanations concerning self-referencing effects are contrasted.

Since mood has been found in the literature to moderate people's processing motivation, we find this an interesting manipulation of processing strategy. As a result, our main research question concerns the influence of mood on self-referencing. We argue that insight into the plausible moderating influence of mood on self-referencing can help us to clarify the mechanisms underlying self-referencing effects. In addition, it will give us more insight into the self-concept in general. We furthermore argue that through the manipulation of mood under different self-reference conditions, more theoretical insight can be obtained concerning mechanisms responsible for observed mood effects in the persuasion literature.

As we discussed above, being in a positive mood usually results in a decrease in processing motivation (see for example Bagozzi et al., 1999). This leads to an increase in the adoption of processing heuristics and to a greater reliance in general knowledge structures (see Bless et al., 1996; Bodenhausen, 1993). Because the self-

schema is such a well-organized cognitive schema, it can be expected that self-referencing prompts will be more effective for persuasion under conditions of positive mood: the self-reference prompt activates the self, and because people are in a good mood (and experience the situation as benign) they will rely on their self-concept when making evaluations. Note that in this case, we hypothesize that self-referencing is a top-down or schema-based process (Schank and Abelson 1977).

On the other hand we argued that self-referencing will only manifest itself if respondents are sufficiently motivated to process the information that is presented in the ad, making them responsive to the self-reference prompts (Meyers-Levy & Peracchio, 1996). Since negative affect has been found to be an effective motivator to process information in a more detailed and systematic manner than does positive affect (Bodenhausen, 1993; Petty et al., 1993), it can be expected that self-referencing prompts will only be used by respondents under conditions of negative mood. Note that in this case we hypothesize that self-referencing is a bottom-up or stimulus-based process (Schank & Abelson, 1977).

6. Study 1

6.1.Hypotheses

6.1.1. Effects of Self-Referencing and Mood on Product Evaluations

Because the present study does not deal with mental schemas associated with negative emotions (such as fear or guilt), it can be expected that self-referencing will lead to more positive product evaluations. Consistent with results obtained by studies dealing with the effect of self-referencing on persuasion, it can be expected that:

H1a: Product evaluations will be more positive in self-referencing conditions compared to no self-referencing conditions.

We can furthermore expect that if self-referencing is a top-down process (see above), and is the result of a reliance in general knowledge structures (the self-concept in this case), product evaluations will be more positive under conditions of positive mood:

H1b:³ If self-referencing can be considered as a top-down process, it can be expected that under conditions of self-referencing, product evaluations will be more positive when subjects are in a positive, compared to a negative mood.

If however, self-referencing can be considered as a bottom-up process (see above), and will only manifest itself when subjects are sufficiently motivated to process, product evaluations will be more positive under conditions of negative mood:

H1c: If self-referencing can be considered as a bottom-up process, it can be expected that under conditions of self-referencing, product evaluations will be more positive when subjects are in a negative, compared to a positive mood.

Moreover, it can be expected that under low elaboration likelihood (e.g. Petty et al. 1993) mood can be taken as an affective cue when making evaluations (see earlier, affect-as-information hypothesis). So, for the no self-referencing condition, the following hypothesis concerning the effects of mood on evaluations can be formulated:

H1d: In the no self-referencing condition, product evaluations will be more positive when subjects are in a positive, compared to a negative mood.

Hence, if self-referencing can be seen as a schema-based top-down process, we expect a main effect of self-referencing (H1a) and a main effect of mood (H1b and H1d) on

³ We acknowledge that it is not very usual, but for reasons of simplicity, we chose to contrast all sub-hypothesis b and c in the next sections to indicate contrasting explanations.

product evaluations. If however, self-referencing is more like a bottom up process, a main effect of self-referencing (H1a) and an interaction effect of mood and self-referencing (H1c and H1d) on product evaluations can be expected.

6.1.2. Effects of Self-Referencing and Mood on Positivity of Thoughts

Self-referencing is also thought to have an effect on the valenced thoughts subjects have (Anand and Sternthal 1990; Burnkrant and Unnava 1995; Meyers-Levy and Peracchio 1996). This is because as elaboration rises (as is the case for self-referencing), people have a greater opportunity to recognize, appreciate, and reflect on the cogency of a message and the favorable information that the persuasive message mostly conveys (Meyers-Levy and Peracchio 1996). As a result, respondents generate predominantly favorable thoughts. Another explanation is that self-referencing leads to the activation of the self-concept that is in most cases (except in cases of depression) a positively valenced mental knowledge structure (e.g. Alloy, Abramson, Murray, Whitehouse and Hogan 1997). Through the principle of affect transfer (Baumgartner et al. 1992; Sujon et al. 1993) thoughts about the product and the ad also become more positive. At this point however, distinguishing between these two explanations is not crucial.

H2a: In general, self-referencing will lead to a greater positivity of thoughts (number of positive thoughts compared the total number of thoughts) compared to when there is no self-referencing.

Furthermore, we can hypothesize that in the case self-referencing is a top-down process:

H2b: If self-referencing can be considered as a top-down process, it can be expected that in the self-referencing condition positive mood will lead to a greater positivity of thoughts compared to negative mood.

In contrast, when self-referencing is a bottom-up process:

H2c: If self-referencing can be considered as a bottom-up process, it can be expected that in the self-referencing condition negative mood will lead to a greater positivity of thoughts compared to positive mood.

6.1.3. Effects of self-referencing and mood on purchase intentions

Because self-referencing has generally been found to enhance advertising effectiveness (Baumgartner et al. 1992; Burnkrant and Unnava 1995), it can be expected that self-referencing will lead to increased purchase intentions (e.g. Krishnamurthy and Sujana 1999):

H3a: Overall, self-referencing will lead to higher purchase intentions compared to no self-referencing.

Also, when self-referencing can be considered as a top-down process:

H3b: If self-referencing can be considered as a top-down process, it can be expected that in the self-referencing condition purchase intentions will be higher when mood is positive compared to when mood is negative

In contrast, when self-referencing is a bottom-up process:

H3c: If self-referencing can be considered as a bottom-up process, it can be expected that in the self-referencing condition purchase intentions will be higher when mood is negative compared to when mood is positive

6.1.4. Effects of Self-Referencing and Mood on Recall of Product Features

It should be noted that the literature is not very clear upon what can be expected concerning the effects of self-referencing on the recall of product features.

On the one hand, it has been extensively shown that self-referencing enhances message recall (for a review see Symons and Johnson 1997). Because the self is a complex, well organized knowledge structure, its activation provides more potential linkages between new information and information that is already stored (memory structures). Because of these linkages, elaboration of the incoming information is facilitated (Anderson and Reder 1979).

On the other hand, detrimental effects of self-referencing on recall have been reported in the literature (e.g. Sujan et al. 1992). Referencing the self is an attention-consuming task, and as this referencing increases, attention to the environment diminishes (Carver and Scheier 1981) and there may be interference with the encoding of new information. Baumgartner (Baumgartner et al. 1992) showed that increased retrieval of autobiographical memories (a form of self-referencing) results in more thoughts about the autobiographical episode, and less thoughts about the product features.

Given these different research findings, we argue that it is not very opportune to formulate specific hypotheses regarding the effect of self-referencing and mood on the recall of product features. Therefore we consider our recall variable, although previously investigated in the literature, as exploratory. After all, neither of these findings is in support for data-driven or top-down processing. Both exploratory

mechanisms are able to account for the two above mentioned observations (increase or decrease in recall).

6.2.Method

6.2.1. Participants and Design

Participants were 83 undergraduate university students. They participated on a volunteer basis.

Participants were randomly assigned to the conditions of a 2 (Mood: positive versus negative) \times 2 (Self-referencing: self-referencing versus not) full factorial between-subjects design. Participants were received in groups up to 4 by the experimenters, who briefly explained that participants would be completing some independent tasks that had been combined into one session. These tasks (described below) included (a) the mood induction, (b) presentation of the ad (for a fictitious brand of orange juice), and (c) measurement of the dependent variables related to the ad: product evaluations, positivity of thoughts, purchase intentions, and recall of product attributes.

For the mood induction task, participants were asked to provide a vivid written report of either a happy or a sad life event, purportedly to help with the construction of a "Life Event Inventory" (as done by Bless et al. 1996). Subjects were led to believe that this Life Inventory Task was unrelated to the remaining of the tasks. Reporting a happy event was intended to induce a happy mood, whereas focusing on an experienced sad event was intended to induce a sad mood. Participants were given 12 minutes to complete their reports. They were then asked several questions about the task. Embedded among these questions was a manipulation check question that read "How do you feel right now?". Consequently 6 9-point semantic differential items (ranging from -3 over 0 to 3) were presented. These items were derived from the Mehrabian and Russel (1974) Pleasure scale (happy/ unhappy, pleased/ annoyed, satisfied/ unsatisfied, contented/ melancholic, hopeful/ despairing, relaxed/ bored).

Subjects were asked to indicate to what extent these items described their feelings at the moment.

Self-referencing was manipulated by systematically varying the introductory paragraph of the ad. In the high self-referencing condition, the messages addressed subjects directly by using very personal second person wording (e.g. "Citrus Orange and your breakfast is complete ... You love a good breakfast? ..."). In the low self-referencing condition, the message was written in the third person (e.g. "Citrus Orange and his breakfast is complete ... He loves a good breakfast ..."). Similar self-referencing techniques have been described in the literature (e.g. Burnkrant and Unnava 1995; Meyers-Levy and Peracchio 1996). After the presentation of the ad, subjects were asked to answer a series of questions designed to provide a check on the validity of the self-referencing manipulation. The questions asked about the extent subjects believed the ad was meant for them, they were personally involved by the ad, the ad was written with them in mind, the ad was relevant for them, they felt personally attracted to the ad, the ad related to them personally, and about the extent they thought about their own experiences with orange juice (inspired on Burnkrant and Unnava 1995). For each of these seven questions, they indicated their agreement on a 7-point scale (strongly disagree to strongly agree).

6.2.2. Procedure

Subjects were first asked to help the department of Psychology of the university with the collection of sad and happy life events (see earlier). Afterwards, they were presented the critical ad (either containing a self-referent prompt or not) in a standardized way. Participants were told that it was a pretest ad. The ad depicted a fictitious brand for orange juice (Citrus Orange), together with a picture of a breakfast situation and some text describing the new brand. Afterwards, subjects were asked to fill in a questionnaire containing measures about the dependent variables.

6.2.3. Dependent Variables

The questionnaire began with the measurement of the validity of the self-referencing manipulation (see earlier). After this manipulation check, subjects were given a three-minute cognitive response task in which subjects were asked to list all the thoughts they had when they read the orange juice ad. After they had listed all their thoughts, subjects were asked to code each thought as positive, negative, or neutral in terms of its implications for the orange juice. Instructions on the thought-listing and coding task followed Cacioppo and Petty (1981). These valenced thoughts were used to calculate the positivity of thoughts index: (number of positive thoughts / total number of thoughts) \times 100.

After this thought-listing procedure, attitudes towards Citrus Orange orange juice were measured on 4 7-point semantic differential items: positive/negative, love/hate, good/bad, desirable/undesirable (Simons and Carey, 1998). These product evaluation items were averaged for analysis ($\alpha = 0.90$).

Behavioral intention was measured by asking subjects about their purchase intentions on one 7-point item: "How likely is that you will actually buy Citrus Orange when it is for sale?" (e.g. Krishnamurthy and Sujan 1999). Answers had to be given from very unlikely to very likely.

The questionnaire concluded with a recall question, in which subjects were asked to write down as much as they could remember about the orange juice ad. We subsequently scored each subjects' recall protocol by counting the number of arguments from the ad that were recalled (maximum 6).

6.3. Results and Discussion

A MANOVA analysis was performed on our dependent variables product evaluation, positivity of thoughts, purchase intentions and recall of product attributes. Overall,

this analysis shows a significant main effect of self-referencing: $F(4, 76) = 2.80, p < .05$ (power = .74), as well as a significant interaction effect of self-referencing and mood: $F(4, 76) = 3.21, p < .05$ (power = .81). The main effect of mood was not significant ($F < 1$).

Table 1 Means and Standard deviations as a function of Mood and Self-Referencing

Effect	Product Evaluation		Positivity of Thoughts		Purchase Intentions		Recall of Features	
	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Self-Referencing								
High	3.32	(1.14)	46.16	(31.06)	3.14	(1.63)	2.00	(1.56)
Low	2.77	(1.17)	36.24	(26.66)	2.15	(1.30)	1.80	(1.75)
Mood								
Positive	3.06	(1.20)	37.21	(29.53)	2.63	(1.54)	1.98	(1.71)
Negative	3.04	(1.18)	45.61	(28.63)	2.68	(1.58)	1.83	(1.60)
High Self-Referencing								
Positive Mood	2.99	(1.34)	35.99	(28.83)	2.82	(1.59)	2.41	(1.74)
Negative Mood	3.68	(.76)	57.36	(30.20)	3.50	(1.64)	1.55	(1.23)
Low Self-Referencing								
Positive Mood	3.13	(1.06)	38.49	(30.90)	2.43	(1.50)	1.52	(1.60)
Negative Mood	2.40	(1.19)	33.87	(21.91)	1.85	(.99)	2.10	(1.89)

Table 1 gives the means and standard deviations as a function of mood and self-referencing for each dependent variable. In the remaining, we will report separate univariate t tests for each variable. First however we will discuss the validity of our manipulations.

6.3.1. Manipulation Checks

Participants' ratings of how happy and sad they felt after the mood induction task indicated that the mood manipulation had been successful. Mean scores on the mood items ($\alpha = .80$) were higher for participants who had described a positive life event compared to subjects who had described a negative life event ($M = 2.18$ vs. $M = 1.62$), $t(81) = 2.30$, $p < .05^4$.

With regard to self-referencing, a significant effect of second- versus third-person wording was found after averaging our manipulation check items ($\alpha = .91$): $t(81) = 2.27$, $p < .05$ ($M = 3.08$ vs. $M = 2.52$). As intended, subjects felt that the ad related more to themselves when second-person wording was used compared to when third-person wording was used, suggesting that our self-referencing manipulation was successful.

6.3.2. Product Evaluations

ANOVA shows a significant main effect of self-referencing on subjects' attitudes towards the advertised orange juice ($F(1, 79) = 5.36$, $p < .05$), as well as a significant interaction effect ($F(1, 79) = 8.04$, $p < .01$). No main effect of mood on product evaluations was found.

Consistent with hypothesis H1a it was found that in general, self-referencing has a significant effect on product evaluations: subjects attitudes in the self-referencing condition were more positive compared to attitudes of subjects in the no self-referencing condition ($M = 3.32$ vs. $M = 2.77$). This finding is consistent with existing literature showing that self-referencing is beneficial for product evaluations. It should be noted however, that the mental knowledge structure called for by the ad is a

⁴ Note that both scores are at the positive end of the mood scale. We argue that this has no further implications for our research. In a pilot study we found that both positive and negative mood manipulation conditions differed significantly from a neutral condition. Instead of talking about 'more than usual positive' or 'more than usual negative', it seems more opportune to talk about positive and negative moods.

positive one (drinking orange juice in a breakfast situation), such that the possibility remains that because of affect transfer (e.g. Baumgartner et al. 1992, Sujan et al. 1993) self-referencing has detrimental effects on product evaluations when negatively valenced knowledge structures are used (see our discussion earlier).

More importantly however, as our interaction effect already indicated, planned comparisons show more positive product evaluations when mood is positive ($M = 3.13$) compared to when mood is negative ($M = 2.40$) when self-reference prompts are absent: $F(1, 79) = 4.42, p < .05$. This finding is consistent with our hypothesis H1d. On the contrary, when the self has been prompted, product evaluations are more positive when mood is negative ($M = 3.68$) compared to when mood is positive ($M = 2.99$): $F(1, 79) = 3.40, p < .05$. Hence, support was found for our hypothesis H1c, suggesting that self-referencing indeed needs a certain level of motivation (by the induction of negative mood) to become effective and can be considered as an active bottom-up process. No evidence was found that self-referencing will result in a reliance in general knowledge structures when subjects are in a positive mood.

6.3.3. Positivity of Thoughts

ANOVA shows a near to significant main effect of self-referencing on the positivity of thoughts: $F(1, 79) = 2.86, p < .10$ and also a significant interaction effect of self-referencing and mood: $F(1, 79) = 4.39, p < .05$. No main effect of mood on positivity of thoughts was found ($p > .10$).

Consistent with our hypothesis H2a, it was found (although marginally significant) that thoughts were more positive when a self-reference prompt was given compared to when this prompt was absent ($M = 46.16$ vs. $M = 36.24$), suggesting that self-referencing leads to a higher positivity of thoughts (at least when positively valenced mental knowledge structures are activated by the ad).

Moreover, planned comparisons show that, consistent with hypothesis H2c, when personal second-person wording is used (self-referencing condition), more positive

thoughts are generated when mood is negative, compared to when mood is positive ($M = 57.36$ vs. $M = 35.98$) ($F(1, 79) = 6.00, p < .05$). As for product evaluations, this suggests that self-referencing is a bottom-up process. No evidence for H2b was found.

In the no self-referencing condition, no effects of mood were found on positivity of thoughts ($M = 38.49$ vs. $M = 33.87$) ($F < 1$). This is not so surprising, since in this condition little message elaboration is expected to occur, and subjects will base their judgment more on peripheral cues (such as felt affect during ad presentation) instead of on extensive elaborations.

6.3.4. Purchase Intentions

In line with our hypothesis H3a, ANOVA revealed a significant main effect of self-referencing on subjects' purchase intentions: $F(1, 79) = 10.13, p < .01$. In general, subjects had higher intentions to buy the advertised orange juice in the future when they were exposed to the self-referencing condition compared to subjects in the no self-referencing condition ($M = 3.14$ vs. $M = 2.15$). This suggests that self-referencing enhances advertising effectiveness. No main effect of mood on purchase intentions was found ($F < 1$).

Again, as for our product evaluation and positivity of thoughts results, superior self-referencing effects were found when mood was negative compared to when mood was positive: a significant interaction effect of self-referencing and mood was found on purchase intentions $F(1, 79) = 3.87, p = .05$. This interaction effect shows a slight increase in purchase intentions in the self-referencing condition as mood becomes more negative ($M = 2.82$ vs. $M = 3.5$), and a slight decrease in purchase intentions in the no self-referencing condition as mood becomes more negative ($M = 2.43$ vs. $M = 1.85$). However, these effects could not be supported for by our planned comparison analysis.

6.3.5. Recall of Product Attributes

Neither a significant main effect of self-referencing ($F < 1$), nor a main effect of mood ($F < 1$) was found on the recall of product attributes presented in the ad. In contrast, we did find a significant interaction effect: $F(1, 79) = 3.99, p < .05$. In our self-referencing condition, a decrease in recall was observed as mood became more negative ($M = 2.41$ vs. $M = 1.55$) ($F(1, 79) = 2.89, p < .10$), while no significant effect of mood was observed in our no self-referencing condition ($M = 1.52$ vs. $M = 2.1$) ($p > .10$).

These recall results support the findings of studies on the effects of autobiographical memories (e.g. Baumgartner et al. 1992; Sujan et al. 1993) suggesting that as self-referencing increases (as in our negative mood manipulation), thoughts become more focused on the autobiographical episode, and thoughts about, and memory for, product features become less accessible.

6.4. Conclusion

By investigating the moderating effect of mood on self-referencing, we observed enhanced self-referencing effects under conditions of negative mood. Under self-referencing conditions, product evaluations were more positive, purchase intentions higher, and positivity of thoughts greater when mood was negative compared to when mood was positive. These findings suggest that self-referencing cues are only picked up by respondents when they are sufficiently motivated to process the information that is presented to them. As a consequence, self-referencing can be seen as an active, data-driven bottom-up process.

One can argue that, because individuals in a positive mood will be less likely to process information in a detailed manner, they may have 'missed' the self-reference prompt all together. So, if subjects in the positive mood condition did not completely process the self-reference prompt, it is not possible to make the above inferences

concerning bottom-up processing. However, a t-test between our two mood conditions with regard to the self-referencing manipulation check revealed no significant differences between these two conditions, suggesting that positive mood respondents did pick up the self-reference prompt. This finding makes it more likely to assume that self-referencing is a bottom-up process.

It should furthermore be noted that our results indicate that further research into mood effects is needed. If we take a closer look at the effects of mood under different self-referencing conditions, we found that, consistent with the mood literature, mood-congruent product evaluations were observed in our low elaboration, no self-referencing condition. At the same time, no mood effects were found on the positivity of thoughts in this condition. Both observations are consistent with dual theories (e.g. Forgas 1995; Petty et al. 1992) stating that under low elaboration conditions, mood is considered by subjects as an affective cue (heuristic process), and leads to mood congruent judgments, without affecting the valence of generated thoughts. This line of theorizing however, also predicts that under conditions of high elaboration (like in our self-referencing condition), because of the spread of activation, positive mood leads to more positive thoughts and to more positive product evaluations (see the affective priming hypothesis, Mackie and Worth 1991). In contrast, in our high elaboration condition, negative (and not positive!) mood led to enhanced evaluations and more positive thoughts. It is more than likely that this finding is due to the effects of self-referencing. Although this is behind the scope of this research project, it would be interesting to investigate this effect in closer detail. We believe that this is material for an additional research program.

In the present study we assumed that processing motivation was very limited. We used a product category that did not call for much involvement (orange juice). Also, our participants received no credits for participation in the study (resulting in rather low levels of processing motivation, see for example Soldat et al., 1997). Consequently, since negative affect has been found to be an effective motivator to process information in a more detailed and systematic way (see for example also Petty, Schumann, Richman, & Strathman, 1993), we assumed that negative affect was the main motivating force in our study. Under the assumption that self-referencing is a data driven bottom-up process, we inferred that self-referencing prompts were only

picked up by respondents in the negative mood condition. That is because in our other (positive mood) conditions, our ad recipients are not expected to respond to non-salient cues such as the self-reference prompt in question. The main question that follows from this is what would happen with a self-referencing ad when processing motivation is sufficiently high for participants to engage in effortful systematic processing, irregardless of participants' mood. That is, an intermediate to high involvement product normally motivates people to process ad information in detail. According to the bottom-up hypothesis, people would respond to the self-reference prompts independent of the affective valence.

In our second study we tried to replicate the findings of our first study. More specifically, we tried to find evidence for a bottom-up processing account for self-referencing effects. In this study we increased processing motivation by using a new brand of an intermediate to high involvement product: the new "Steffino bike".

In a pretest we investigated whether our student population was indeed more involved with the product category of a bicycle compared to the product category of orange juice. Therefore we used 10 involvement items that were derived both from Mittal's (1995) involvement questionnaire as well as from Laurent and Kapferer's (1985) Consumer Involvement Profiles Questionnaire (cronbach alpha = 0.84). Forty university students were questioned (on a 7-point scale ranging from 1 to 7) about their involvement with both bicycles and orange juice. As expected, students showed significantly more involvement with bicycles ($M = 5.12$, $SD = 0.94$) compared to orange juices ($M = 3.97$, $SD = 1.09$): $t(39) = 5.20$, $p < 0.001$.

7. Study 2

7.1. Expectations

Consistent with the results that are obtained in studies that deal with the effects of self-referencing, and consistent with our hypotheses of our first study, we expect that

self-referencing will have salutary effects on consumers product evaluations as well as on the valence of their thoughts. In addition, we expect purchase intentions to be higher when we refer to the self versus when we do not.

The main objective of this study is to distinguish between bottom-up processing and top-down processing as competitive explanations for self-referencing effects. Dependent upon which mechanism is responsible for self-referencing (i.e. top-down versus bottom-up), different expectations come up for our dependent variables (product evaluations, purchase intentions, as well as positivity of thoughts) when affective valence of ads is taken into account. In the remaining of this section, we contrast hypothesis 1 and 2 to indicate contrasting expectations. Hypothesis 1 describes what can be expected if self-referencing can be considered as a top-down process. Hypothesis 2 describes what can be expected if self-referencing can be considered as a bottom-up process. Hypothesis 3 deals with mood effects in general. Note that these expectations are somewhat different from those that were formulated in the first study. That is because we are now dealing with an intermediate to high involvement product category (instead of a low involvement product category), and we assume that our participants in all our conditions are sufficiently motivated to respond to the self-referencing cues.

H1: As discussed above, if self-referencing can be considered as a top-down process, we can expect only self-referencing effects under conditions of positive affect. More specific, one can expect that in our self-referencing condition (compared to our no self-referencing condition), **only when affect is positive:**

- a. product evaluations will be more positive
- b. purchase intentions will be higher
- c. thoughts will be more positive

When affect is negative, no effects of self-referencing can be expected.

H2: In contrast, if self-referencing can be considered as a bottom-up process, it can be expected that under both positive and negative affective conditions self-reference effects will occur. This will result in the fact that **in both positive and negative affect conditions:**

- a. product evaluations will be more positive
- b. purchase intentions will be higher
- c. thoughts will be more positive

H3: Moreover, apart from underlying self-referencing mechanisms, one can expect a main effect of affective condition on our dependent variables (see for example Bless et al., 1996). More specific, it can be expected that in our positive affective condition, compared to our negative affective condition:

- a. product evaluations will be more positive
- b. purchase intentions will be higher
- c. thoughts will be more positive

7.2.Method

7.2.1. Participants and Design

Ninety-one participants were randomly assigned to the conditions of a 2 (Affective Valence: positive versus negative) by 2 (Self-Referencing: self-referencing versus not) full factorial between-subjects design.

For the negative affective condition we primed the mental concept of traffic jam (i.e. a negative loaded mental knowledge structure). This was done both in the headline (“the annoyance of being struck in traffic jam”) as well as in the ad picture (picture of traffic jam). For the positive affective condition we primed the mental concept of riding a bike in the woods (“isn’t it great to ride the bike in the woods?”). Similar to the negative affective condition, positive affect was also created in the picture. The 4 ads are shown in Appendix 2. The effectiveness of this manipulation was measured as in the first study: 6 9-point semantic differential Pleasure items were used that were adopted from the Mehrabian and Russell (1974) Pleasure, Arousal and Dominance scale.

Self-referencing was manipulated by using both second person wording ('JIJ' (Dutch for YOU) instead of 'HET' (Dutch for IT)) as well as placing the ad recipient in the position of the scene actor (as opposed to being in the position of an uninvolved onlooker). For the negative affective condition, the following two headlines were used: "Isn't it annoying to be stuck in traffic?" (for the no self-referencing condition) and "Don't you find it annoying to be stuck in traffic?" (for the self-referencing condition). For the positive affective condition, the following two headlines were used: "Isn't it wonderful to ride through the woods?" (for the no self-referencing condition) and "Don't you find it wonderful to ride through the woods?" (for the self-referencing condition). Similar self-referencing techniques have been described in the literature (e.g. Burnkant and Unnava, 1995; Meyers-Levy and Perrachio, 1996). A manipulation check was performed on our self-referencing ads by using the same 7 items as in our previous study.

Besides these two manipulations (affective valence and self-referencing), our 4 different ads were identical. This can be seen in Appendix 2.

7.2.2. Measures

After presentation of the ad, and after our manipulation checks, our dependent variables were measured. This was done in the same way as in the first study: Subjects were asked to list their thoughts, and to code each thought as positive or negative in terms of its implications for the bicycle (after Cacioppo and Petty, 1981). These valenced thoughts were used to calculate the positivity of thoughts index: $(\text{number of positive thoughts} / \text{total number of thoughts}) \times 100$. After this thought-listing procedure, attitudes towards the Steffino bike were measured on 4 7-point differential items (ranging from 1 to 7) (cronbach alpha = 0.80). Behavioral intention was measured by asking subjects about their purchase intentions on one 7-point item: "It is a good idea to buy a Steffino bike".

7.3. Results

A MANOVA analysis was performed on our dependent variables product evaluation, purchase intentions and positivity of thoughts. Overall, this analysis shows a significant main effect of self-referencing: $F(3, 85) = 6.25, p = 0.001$ (power = 0.96), as well as a significant main effect of affective valence: $F(3, 85) = 5.25, p < 0.01$ (power = 0.92). The interaction effect was not significant.

7.3.1. Manipulation checks

As indicated by our averaged Pleasure items (cronbach alpha = 0.80), participants felt significantly more happy after seeing the positive ads compared to the negative ads: $F(1, 89) = 13.97, p < 0.001$ ($M = 0.97$ versus $M = 0.20$).

In addition, our self-referencing manipulation was also effective: $F(1, 89) = 12.00, p < 0.001$. Average self-referencing scores (cronbach alpha = 0.89) indicate higher self-referencing scores when an involving second person ad was used compared to a more removed third person ad.

Table 1 gives the means and standard deviations as a function of self-referencing and affective valence for each dependent variable.

7.3.2. Product Evaluations

Consistent with H2a, ANOVA shows a significant main effect of self-referencing on subjects' attitudes towards the new brand of a bicycle: $F(1, 87) = 8.89, p < .01$. In general, subjects product evaluations were more positive in the self-referencing condition compared to the no-self-referencing condition. This finding suggests that self-referencing can be considered as an active, data driven bottom-up process: in both affective conditions, self-referencing enhanced product evaluations. The interaction

effect, as predicted by our H1a, did not reach significance ($F < 1$). Hence, no support for self-referencing as a top-down process was found.

In addition, as predicted by H3a, a near to significant effect of affective valence was found: $F(1, 87) = 3.31, p = .07$. Product evaluations were more positive when respondents were confronted with a positively valenced ad compared to a negatively valenced ad.

7.3.3. Purchase Intentions

A significant main effect of self-referencing ($F(1, 87) = 11.17, p = .001$) as well as a significant main effect of affective valence ($F(1, 87) = 11.25, p = .001$) was found on respondents' purchase intentions. Again, this is consistent with both hypotheses H2b and H3b. Purchase intentions were higher in the self-referencing condition compared to the no self-referencing condition. Also, purchase intentions were higher when subjects were confronted with a positively valenced ad compared to a negatively valenced ad. The interaction effect was not significant ($F < 1$). No support was found for H1b. Again, this suggests that self-referencing can be considered as a data driven bottom-up process.

7.3.4. Positivity of Thoughts

As for our product evaluation and our purchase intentions results, ANOVA shows a significant main effect of self-referencing on subjects' positivity of thoughts: $F(1, 87) = 4.03, p < .05$. Our results show that thoughts were more positive in the self-referencing condition compared to the no self-referencing condition. Again, evidence was found for self-referencing being an active bottom-up process (as predicted by our H2c). The interaction effect of self-referencing and affective valence on positivity of thoughts was not significant ($F < 1$): No evidence was found for top-down processing (H1c).

Also, as predicted by H3c, respondents' thoughts were more positive when they previously had seen a positively valenced ad compared to when they were exposed to the negatively valenced ad.

Table 2 Means and Standard Deviations as a Function of Self-Referencing and Affective Valence

Effect	Product Evaluation		Purchase Intentions		Positivity of Thoughts	
	M	(SD)	M	(SD)	M	(SD)
High Self-Referencing						
Positive Affect	3.43	.77	3.09	1.54	54	34
Negative Affect	3.15	.69	2.08	1.67	40	22
Low Self-Referencing						
Positive Affect	2.98	.62	2.09	1.31	42	33
Negative Affect	2.74	.67	1.05	1.25	27	29

7.4. Discussion

In sum, these results are consistent with expectations and suggest that self-referencing effects occur both when an ad elicits positive as well as negative feelings: product evaluations and thoughts were more positive and purchase intentions were higher under both positive and negative affect but high self-referencing conditions. That is, a main effect of self-referencing was found. This again suggests that self-referencing leads subjects to base their evaluations on the data being present in the ad, and not as much on their general knowledge structures.

This conclusion is based on the argumentation that 1) since positive affect leads to a reliance on general knowledge structures (Bless et al., 1996), and 2) in the case self-referencing could be considered as a schema-based top-down process, this summed up reliance on general knowledge structures would lead to self-referencing effects that are more pronounced in the positive affective condition compared to the negative affective condition (because negative affect does not lead to a reliance on general knowledge structures, and as a consequence, no summed up "schema-reliance" is expected to be present). No such effects were found. Instead, our results are consistent with a data-driven account: Since we used a product category that induced sufficiently high levels of involvement, we assumed that all participants would be sufficiently

motivated to pick up the self-reference cues. We indeed found self-referencing effects in all affective conditions.

Note that our findings are also in line with results that can be expected from the mood literature (e.g. Bless et al., 1996). Product evaluations and thoughts were more positive and purchase intentions higher when subjects were confronted with a positive compared to a negative advertisement. Hence, additional support for the effectiveness of our affective manipulation was found.

8. General discussion

In two studies we were able to show that self-referencing is an active, on the data driven process, that makes people consciously think about the information that is presented in the ad. In the first study, where our participants were not very motivated to process (because we used a very low involvement product, and did not use incentives in our study to motivate participants), we found that self-referencing cues were only picked up under conditions of negative mood. Since negative mood is usually associated with an increase in processing motivation, this led us to believe that people need to be sufficiently motivated in order for self-referencing to be effective. In the next study, where our participants were somewhat higher motivated, we showed that self-referencing is unaffected by affective valence of the ad. The latter finding is irreconcilable with a schema-based explanation for self-referencing, since this would suggest higher self-referencing under conditions of positive affect (see for example Bless & Fiedler, 1995). Instead, a data-based account is suggested.

Our results are not consistent with the hypothesis that self-referencing is the result of a reliance in general knowledge structures (such as the self), because being in a positive mood – usually thought to increase a reliance in knowledge structures (e.g. Bless et al. 1996) – did not lead to increased self-referencing results. In contrast, opposite results were found. At first, this finding seems in contradiction with research concerning the automatic activation of the self-concept (e.g. Bosmans, Vlerick, Van

Kenhove, Hendrickx 2000), that shows an increased reliance on general knowledge structures when the self-concept is confronted with information relevant for it (e.g. a self-relevant personality trait). We would like to argue however, that automatic activation and self-referencing are two distinct mechanisms, both operating under different conditions: the first mechanism being an automatic process, the second a conscious control process. Further research however is needed to gain more insight into the similarities of and differences between automatic activation effects and self-referencing.

We used both mood (in Study 1) as well as ad elicited affect (in Study 2) as operationalizations of consumers' affective state. We acknowledge the fact that both are not perfectly comparable⁵, but they do elicit similar affective valence states (positive versus negative affect). For marketers this implies it is not only important to take into account the affective valence in the ad, but also consumers' current mood state.

One of the shortcomings of the present study is that we did not take into account specific process measures with regard to self-referencing. Additional evidence for self-referencing would for example be obtained if we had taken into consideration our participants' self-related thoughts they had while looking at the ads. Higher ratios of self-related thoughts (as opposed to "other" thoughts) could have delivered additional evidence for self-referencing.

9. Practical Implications

Last but not least we want to point to the practical implications of the present findings. Our society is suffering from an advertisement overload, and as a result, it has become extremely difficult to capture consumers' attention in advertising campaigns. Self-referencing can be a helpful persuasion enhancing device. But under what conditions is it opportune to use self-referencing prompts in advertisements? The

⁵ Mood is usually lower in intensity as more specific emotions, and has no clear referent (see for example Isen, 1984). In contrast, emotions that are elicited by the ad do have a clear referent.

present series of studies suggest that, at least when it comes to affective ads, self-referencing prompts are effective in both positive and in negative affective ads. However, given the beneficial effects of positive affect, best product evaluations are obtained in the positive affective condition. Importantly, there is one limitation to this conclusion (see study 1): subjects have to be sufficiently motivated to process the ad (otherwise, a negative ad will be more effective). Study 1 moreover shows that our effects are not only valid for affective ads, but also for ads (or commercials) that are placed in a given valenced "atmosphere". A positive atmosphere can for example be created / looked for after a happy television program. A sad atmosphere can for example be assumed in a newspaper, after the announcements dealing with people who passed away.

Of additional practical importance is the finding that self-referencing enhances bottom-up processing, and that consumers will base their evaluations upon the 'data' being present in the information that is presented to them. This can for example have beneficial effects when one wants to communicate new product features or unknown product benefits. However, when one wants the consumer to rely on already stored knowledge to make a judgement, self-referencing is not a very good communication device.

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Appendix 1A
Stimulus Material of Study 1

Self-Referencing Ad

Citrus Sinaas

en je ontbijt is compleet

Hou je van een lekker ontbijt? Hou je van de fruitige smaak van sinaasappelsap?



Speciaal voor jou is er Citrus Sinaas

sinaasappelsap, een non-alcoholische drank met vruchtvlees en vezels.

Citrus Sinaas geeft je de nodige energie om de dag mee te beginnen.

Citrus Sinaas lest ook jouw dorst.

Appendix 1B
Stimulus Material of Study 1

No Self-Referencing Ad

Citrus Sinaas

En zijn ontbijt is compleet

Hij houdt van een goed ontbijt...

*Hij houdt van de fruitige smaak van
sinaasappelsap...*



*Speciaal voor hem
is er Citrus Sinaas*

*sinaasappelsap, een non-alcoholische
drank met vruchtvlees en vezels.*

*Citrus Sinaas geeft hem de nodige
energie om de dag mee te beginnen.*

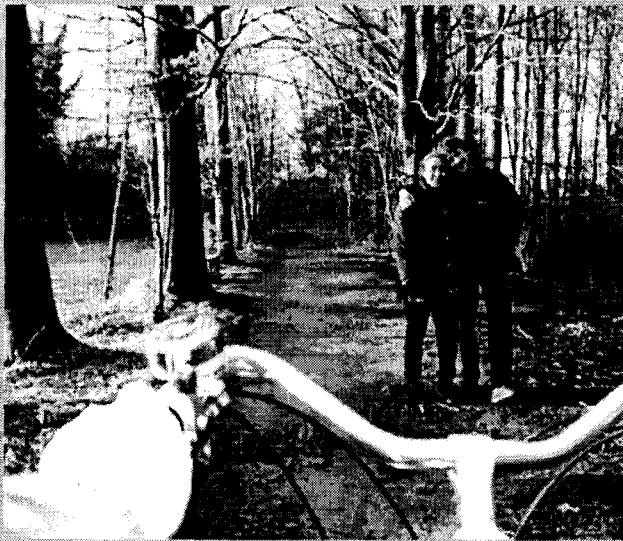
Citrus Sinaas lest ook zijn dorst.

Appendix 2A
Stimulus Material of Study 2

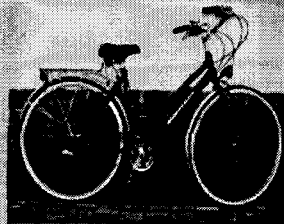
Self-Reference Ad
Positive Affect

Steffino

Vind jij het ook zo heerlijk om door de bossen te crossen?



De **Steffino** is een sportieve en betrouwbare fiets. Met zijn 21 versnellingen en zijn stevige banden is de **Steffino** snel en krachtig in het Bos, maar ook in de drukke stadskern. De **Steffino** is uitgerust met een gelzadel en is volledig roestvrij.



Appendix 2B
Stimulus Material of Study 2

No Self-Reference Ad
Positive Affect

Steffino

Is het niet heerlijk om door de bossen te
crossen?



De **Steffino** is een sportieve en betrouwbare fiets. Met zijn 21 versnellingen en zijn stevige banden is de **Steffino** snel en krachtig in het Bos, maar ook in de drukke stadskern. De **Steffino** is uitgerust met een gelzadel en is volledig roestvrij.



Appendix 2C
Stimulus Material of Study 2

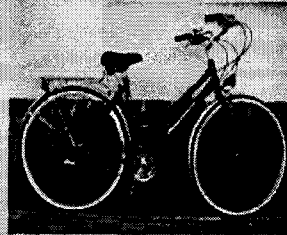
Self-Reference Ad
Negative Affect

Steffino

Vind jij in de file staan ook zo vervelend?
Dan biedt Steffino voor jou de oplossing.



De Steffino is een sportieve en betrouwbare fiets. Met zijn 21 versnellingen en zijn stevige banden is de Steffino snel en krachtig in het Bos, maar ook in de drukke stadskern. De Steffino is uitgerust met een gelzadel en is volledig roestvrij.



Appendix 2D
Stimulus Material of Study 2

No Self-Reference Ad
Negative Affect

Steffino

**Is het niet vervelend om in de file te staan?
Steffino biedt de oplossing.**



De **Steffino** is een sportieve en betrouwbare fiets. Met zijn 21 versnellingen en zijn stevige banden is de **Steffino** snel en krachtig in het Bos, maar ook in de drukke stadskern. De **Steffino** is uitgerust met een gelzadel en is volledig roestvrij.



Chapter 3

Smells Like Soap: When Congruency of Ambient Odor Matters

Chapter 3

Smells Like Soap: When Congruency of Ambient Odor Matters

1. Abstract

We show that when consumers are motivated to process (e.g. when need for cognition is high), pleasant ambient odor only affects product evaluations when the odor is congruent with the product category. When the ambient odor was incongruent (but also pleasant), product evaluations did not differ significantly from evaluations when no ambient odor was present. A different pattern was observed when consumers were not motivated to process: here, both congruent and incongruent odor affected product evaluations positive (compared to a no odor control condition). These findings are discussed in the light of recent dual process theories.

2. Effects of odor

In recent years, retailers and advertisers have used ambient odors in order to influence consumers' shopping behavior and evaluations. Practitioners generally assume that choosing the right odor can positively impact consumers' behavior. Odors are frequently used in both retail settings as well as in the field of advertising.

We all know the smell of fresh baked pastries distributed in department stores that is just aimed at luring us all to the stores' bakery department. More generally, ambient scent is currently found in such diverse locations as retail stores (Helmsley, 1997), supermarkets (Bainbridge, 1998), restaurants (Petran, 1998), office buildings (Marsh,

1998), gambling casinos (Chase, 1998), and subway stations (“The scent of the subway”, 1999). Morrin and Ratneshwar (2000) also discuss some new applications in the field of fragancing. For example, some companies are testing the use of scent-kiosks in grocery stores: Touching the key for a particular product on a touch-screen results in the release of that product’s scent into the atmosphere (Schick, 1999). Other companies are in the process of “scent-enabling the Internet” (Wilder, 1999) by selling computer hardware devices that attach to personal computers and emit scents according to specific software instructions.

Odors have also been frequently used in the field of advertising. Most often they are used in advertisements for products in which scent is a primary attribute (e.g. perfumes, room fresheners) and, when used in that context, are a form of sampling. However, scents have also been used for products for which scent has been considered as irrelevant. For instance Tanquary gin ran a pine-scented ad in USA Today, Rolls Royce advertised its cars in Architectural Digest using leather-scented strips, and the state of Utah used floral and spice-scented panels in a four-page tourism ad (examples derived from Bone & Ellen, 1998).

Despite the extensive interest in and use of odors by firms and advertising / marketing agencies, scholarly research on the effects of odors on consumer behavior has been limited. Hirsh (1991) conducted a study involving sport shoes. Participants of the study looked at a pair of shoes in both a scented and unscented room. 84% of those asked preferred the shoes in the scented room and 10% of them were willing to spend more per pair. In a similar vein, Spangenberg and his colleagues (Spangenberg, Crowley and Henderson, 1996) diffused a number of different aromas into a mocked up store. When asked to make an evaluation of the store, respondents rated the scented environments as more favorable, positive and modern. They also expressed a greater intent to visit the store and regarded the merchandise as more up-to-date, varied and of higher quality. Spangenberg concluded that the presence of an inoffensive scent in a store is an inexpensive way to enhance consumer reactions to the store and its merchandise.

The present study deals with ambient odor. Ambient odor refers to odor that does not originate from any particular object, but that is present in the environment. Research

on ambient scent has been even less common (Bone & Ellen, 1994; Gulas & Bloch, 1995), but may be of greater interest to retailers and other service providers than product-specific scents. Ambient odor could affect perceptions of the store and its products, including those products that are difficult to scent (e.g. office supplies and furniture, Gulas & Bloch, 1995).

3. Odor and affect

One of the most common findings in olfactory research is that pleasant odors create pleasant mood states (Ehrlichman & Bastone, 1992). Also, consumers seem to perceive the primary dimension of an odor to be its pleasantness (Henion, 1971; Richardson & Zucco, 1989). Moreover Ellen and Bone (1998) point out that olfactory responses are primarily autonomic, and affect a person physiologically before affecting cognition. Odors moreover seem to stimulate the limbic system, the part of the brain responsible for emotional responses.

These findings suggest that odors influence consumers' evaluations via the affect (or pleasantness) they elicit: because the odors are pleasant or unpleasant, associated objects are also perceived to be pleasant or unpleasant.

4. Congruity of odor

However, as indicated by Bone and Ellen (1999), the effects of ambient odor on evaluations and purchase intentions are not at all unequivocal. While some studies found positive effects of pleasant ambient odors on consumers' evaluations, others have not been able to show that odor increases the number of items purchased or the amount of money spent (Knasko, 1989). Also, Spangenberg et al.'s study (1996) showed some unexpected findings: while he found effects of odor on people's evaluations, nor the type of scent, nor its intensity did matter in forming judgments.

Mitchell, Kahn, and Knasko (1995) showed that the effect of ambient odor on consumers' persuasion depends upon the congruency of the odor with the product class. They found that pleasant congruent odors, which are odors that thematically match the product class, lead to more elaborate processing (e.g. more time spent on processing the data, higher recall scores) compared to incongruent pleasant odors.

Along similar lines, Bone & Jantrania (1992) found that lemon-scented cleaner was rated more positively than was coconut-scented cleaner. Conversely, coconut-scented sunscreen lotion was rated more positively than was lemon-scented lotion. If a disinfectant was scented with lemon instead of coconut, it was regarded as disinfecting better. Both odors were regarded as pleasant. Hence, scents that are inconsistent with the product tend to have a negative effect on product or ad evaluations.

Similar findings were also found with regard to purchase intentions and prices that consumers are willing to pay for products. Fiore, Yah, and Yoh (2000) found that the purchase intentions and the prices consumers were willing to pay was higher for products in an appropriate fragranced display than for those in an inappropriate fragranced display. In addition, they found an effect of fragrancing on imagery: the appropriate smell increased the level of seeing oneself in a fantasy image, whereas the inappropriate smell interfered with the formation of a fantasy image, compared to the condition using a display without fragrance.

The basic premise underlying the scent congruity effect is one of semantic matching. This means that, for brands for example, stronger links should be formed in memory when a brand is meaningfully related to an ambient scent. The associative network model of memory (e.g. Anderson, 1990; Collins & Loftus, 1975) implies that nodes in memory share meaning (i.e. nodes that are highly semantically related) will result in greater associative strength. Consequently, it is expected that semantic matching between a brand and a product will have beneficial effects.

Related to this, Mandler (1982) argues that when an external cue (such as ambient odor) is consistent with the consumers' expectations or schema, he or she should respond with a "primitive positive evaluation" (p.13). When information is

incongruent and disrupts the consumers' expectations, Mandler predicts negative effects. Hence, a consumer seeing an ad about lemon-scented detergent would expect the accompanying scented strip to hold a lemon scent. If instead the consumer were exposed to a mint scent, it could lead to a violation of the schema resulting in negative affect.

5. Congruency of scent and affect priming

Considering scent as an affective cue, the finding that a congruent scent leads to more positive evaluations than an equally pleasant incongruent scent can be explained by the affect priming hypothesis (e.g. Bower, 1981; Mackie & Worth, 1991). According to affect priming, affect (e.g. being in a positive mood) cues similarly valenced materials in memory, thereby biasing people's perceptions of the target at the time of evaluation. Hence, when affect is positive, activation will spread towards related positive constructs, resulting in more positive evaluations compared to when the affect is more negative or neutral.

However, odors not only convey valenced information (positive or negative), but are also associated with semantic information. Odors are often tied to specific objects, events and people in the consumers' long-term memory (Ellen & Bone, 1998). In fact, an odors' effect may vary dramatically among individuals, depending upon their cognitive associations with that odor. For example, though some people may find the scent of cigar smoke unpleasant, it may evoke in others pleasant memories of a specific cigar smoker (Engen, 1972). Previous research has shown that odors serve pretty well in retrieving information from long-term memory (e.g. Schab, 1991). For example, confrontation with certain odors can automatically evoke autobiographical memories that are tied to product classes (e.g. Baumgartner, Sujan, and Bettman, 1992), or call for personal relevant attitudes (Fazio, Powell, and Williams, 1989).

Hence, when introducing a congruent pleasant ambient odor into the environment, we argue that activation is spread (see for example Collins & Loftus, 1975) towards

congruent attitudes, autobiographical memories, and product-class knowledge. In contrast, when we introduce an incongruent but pleasant ambient odor, we expect that this will interfere with consumers' elaboration. If ambient odor is a memory cue, information that is incongruent with the product class is activated, resulting in cognitive interference.

6. Congruency of scent and affect as information

The purpose of the present study is to take a closer look at this congruity effect of odor. As will become clear later in this paper, we are not convinced that congruity of pleasant ambient odor is always a necessary condition for positive evaluative effects. On the basis of research in the field of affective persuasion (e.g. Petty, Schumann, Richman, & Strathman, 1993) we argue that the congruency effect of odor is dependent upon consumers processing motivation. That is, the importance of a congruent odor will only matter when consumers are sufficiently motivated to process the information in the ad (or sufficiently motivated to carefully inspect the retail environment when shopping). We will try to clarify this argumentation in the remaining of this section.

Affect priming is especially likely when consumers are sufficiently motivated to process. Petty and his colleagues (Petty et al., 1993), and a few years later also Forgas (1995) have suggested that there are different roles for affect under conditions of high and low processing motivation: in both conditions affect influences persuasion. But Petty et al. (1993) showed that positive affect has a direct effect on product evaluations when consumers' processing motivation is low, while positive affect has an indirect effect on product evaluations by activating associated positive thoughts. This means that when consumers are not very motivated to process, affective stimuli (such as ambient odor) affect persuasion irregardless of what people are thinking. Hence, there is no association of the felt affect with currently activated mental schemata. In contrast, because high processing motivation has been found to influence consumers' judgment via their thoughts, we can assume an associative link between felt affect and consumers' currently activated knowledge structures or schemata.

The process whereby affect directly influences consumers' evaluation corresponds with the affect as information hypothesis (when processing motivation is low), while the process whereby affect indirectly influences consumers' judgments corresponds to the affect priming hypothesis (when processing motivation is high) (e.g. Soldat, Sinclair, & Mark, 1997; see below).

7. Affect priming versus affect as information

We can therefore expect that congruency of ambient odor will have a significant influence when consumers are sufficiently motivated to process, since under these conditions a link between ambient odor and consumers' activated schemata is expected. More specifically we expect that:

H1a: When processing motivation is high, a pleasant ambient odor that is congruent with the product category will lead to more positive product evaluations compared to a pleasant ambient odor that is incongruent with the product category.

Also,

H1b: When processing motivation is high, a pleasant ambient odor that is congruent with the product category will lead to more positive product evaluations compared to a neutral condition where no ambient odor is present.

However, according to Petty et al.'s (1993) dual-process theory of affect, when processing motivation is low, affect is expected to serve as a simple cue when making an evaluation (see also Soldat et al., 1997). According to this affect-as-information hypothesis (originally formulated by Schwarz & Clore, 1983), people sometimes mistake their current feelings for their reactions towards an attitude object. This

means that when consumers are not very motivated to process, affect will have a direct effect on consumers' evaluations, and will not influence associated thoughts and beliefs. Here, no association between experience of the ambient odor and activated schemata is expected. Considering ambient odor as an affective cue, we can therefore expect that under low processing motivation conditions, the congruency of the odor with the product class will have no significant influence on product evaluations: both congruent and incongruent pleasant ambient odor produce pleasant affect, and this affect will have a direct influence on consumers' evaluations.

H2a: When processing motivation is low, a pleasant ambient odor that is congruent with the product category will lead to more positive product evaluations compared to a neutral condition where no ambient odor is present.

Also,

H2b: When processing motivation is low, a pleasant ambient odor that is incongruent with the product category will also lead to more positive product evaluations compared to a neutral condition where no ambient odor is present.

8. Study

8.1. Participants, Design, and Procedure

Participants were 116 undergraduate students who volunteered in this study. The design was a 2 (Need for Cognition: High versus Low) by 3 (Ambient Odor: Congruent, Non Congruent, No Odor) full factorial between-subjects design, with Pleasure of scent as a covariate.

Need for Cognition (NFC, see Petty & Cacioppo, 1982), as a measured individual difference variable, was considered as our processing motivation variable. People

scoring high on NFC usually think about things thoroughly, and are most of the time highly motivated to process. People scoring low on the NFC measures are characterized by shallow information processing, and they do not like to think profoundly. We measured NFC using the Pieters, Verplanken, & Modde (1987) questionnaire (items ranged from -3 over 0 to +3), and averaged the items for analysis (cronbach alpha = 0.84). People scoring below the NFC median score ($Md = 0.97$) were included in the NFC condition, while people scoring above or equal to the median were categorized in our High NFC condition.

Participants were presented an ad for a new (fictitious) brand of grapefruit juice (Pompeltje). The ad is shown in the Appendix. This ad was surrounded by our ambient odor (which was either congruent or incongruent with the product category of grapefruit) or was not surrounded by any odor (in our neutral No Odor control condition). For our Congruent Ambient Odor condition we scented the ad with a natural grapefruit scent, while in our Incongruent Ambient Odor condition we used the scent of lavender. A prior study revealed that both scents are perceived as pleasant. Participants were asked to look at the ad from a brand evaluating perspective, and were told that they had to fill in a short questionnaire afterwards. While looking at the ad, we did not draw attention to the surrounding odor.

8.2. Dependent Measures

Besides NFC (as a measured independent variable, see above) we measured participants' evaluation of the advertised grapefruit brand. This evaluation was measured using four 7-point semantic differential items ranging from 1 to 7 (positive / negative, good / bad, like / dislike, desirable / not desirable). These items were averaged for analysis (cronbach alpha = .90).

We do not exclude the possibility that some people prefer the lavender more than grapefruit scent (or vice versa). Therefore we included liking for the scent (lavender or grapefruit) as a covariate in our analyses. This measure (Scent Liking) was

presented to our participants after they filled in their questionnaire (one item scale ranging from 1 (dislike it) to 7 (like it)).

8.3. Results

Figure 1 shows mean evaluation scores as a function of Congruency of Ambient Odor and NFC. The outcomes of our ANCOVA analysis are displayed in Table 1.

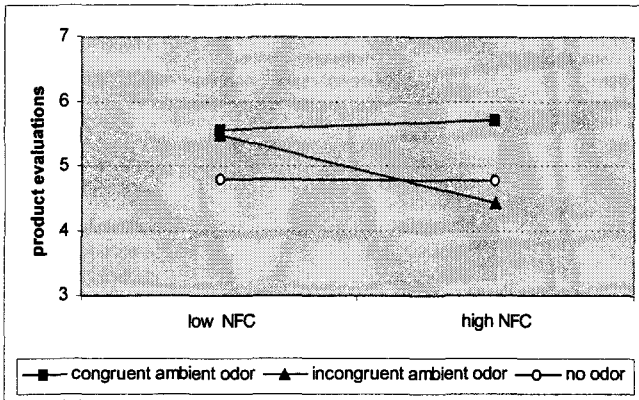


Figure 1 Mean Evaluation Scores as a Function of Congruency of Ambient Odor and NFC

A 2-way Ancova was performed with Congruency of Ambient Odor and NFC as between-subjects variables, and Scent Liking as covariate. Scent Liking as a covariate did not have a significant influence on the remaining of our analysis. Therefore we do not report further effects of this variable.

We found a significant main effect of Congruency of Ambient Odor on evaluations of the grapefruit brand: $F(2, 109) = 4.38, p = .01$. The main effect of NFC was near to significant: $F(1, 109) = 2.79, p = .09$. More importantly however, we found a significant 2 by 3 interaction effect: $F(2, 109) = 4.09, p = .01$. Planned comparisons show that, as expected, in our high NFC condition Congruent Ambient Odor led to

more positive evaluations compared to when Ambient Odor was Incongruent (**H1a**: $M = 5.72, SD = 0.63$ versus $M = 4.42, SD = 1.40$) or to when No Odor was present (**H1b**: $M = 5.72, SD = 0.63$ versus $M = 4.78, SD = 0.76$): $F(1, 109) = 10.52, p = .001$ and $F(1, 109) = 6.15, p = .01$. Also as expected, when NFC was low, compared to the No Odor condition, both Congruent Ambient Odor (**H2a**) as well as Incongruent Ambient Odor (**H2b**) led to more positive evaluations ($M = 4.80, SD = 0.65, M = 5.55, SD = 0.83, M = 5.47, SD = 0.61$ respectively): $F(1, 109) = 3.92, p = .05$ and $F(1, 109) = 4.30, p < .05$.

Table 1: 2-way ANCOVA with Pleasantness as a Covariate

Source of variation	Sum of squares	DF	Mean Square	F	P
Pleasantness (COV)	1.21	1	0.73	1.65	0.20
Congruence	3.20	2	0.73	4.38	0.01*
NFC	2.04	1	0.73	2.79	0.09
Congruence x NFC	2.99	2	0.73	4.09	0.02*

9. Discussion

Our results are consistent with dual-process theories (see Petty et al., 1993; Forgas, 1995), in that different processing mechanisms are responsible for the effects of affect on persuasion. We hypothesized that under conditions of low processing motivation, subjects would not notice (or take into account) the inconsistency between the ambient odor and the product category. At the same time we expected that when processing motivation was sufficiently high, they instead would notice the inconsistency, leading to less positive evaluations. Our results are consistent with our expectations.

Our high need for cognition (NFC) results are consistent with the affect priming hypothesis: congruent odors seemed to activate attitudes and memories that are associated with the product category, resulting in more positive evaluations. Incongruent odors however seemed to activate attitudes and memories that are not

associated with the to-be-evaluated product, and interfere with judgments. The former applies to conditions where consumers are very motivated to process the information. When NFC was low, this effect was not found. When processing motivation was low, our results are consistent with the affect-as-information hypothesis and that regardless of its semantic content, affective valence is taken as informative for the judgment: congruency of the ambient odor did not have any effect on product evaluations.

Our results extend those obtained by Mitchell et al. (1995) in that we not only show that congruence of ambient odor is of considerable importance when consumers have to make evaluations or decisions, but that the level of consumers' processing motivation is a substantial moderator of this relation.

At first sight, our results seem not completely consistent with those obtained by Bone and Ellen (1998). They presented their participants an ad containing a "scratch-and-sniff" panel that was either congruent or incongruent with the ad (an ad promoting a fictitious travel destination). They found that the addition of a more congruent (versus no) scratch and sniff panel to an advertisement improved neither attitude toward the ad nor attitude toward the brand. In contrast, we found scent-congruency effects in all processing motivation conditions. We would like to argue that this inconsistent finding may be due to the fact that in Bone and Ellen's study participants were made attentive to the odor by letting them smell the very salient scratch-and-sniff panel. Consequently, they were not really dealing with ambient odor, since they made the source of their odor salient. In contrast, the present study dealt with ambient odor, since the people were not made attentive to the presence of the odor. Importantly, research in the field of affective persuasion (e.g. Schwarz & Clore, 1983) shows that making people attentive to the source of their felt affect has a considerable effect on the outcome of the persuasive process. For example, Schwarz & Clore (1983) called up people on either a rainy or a sunny day and asked about their "general feeling of well-being". They found that people were more satisfied with their lives on a sunny compared to a rainy day. However, when the same procedure was used, but when people were pointed at the weather ("by the way, how is the weather over there?"), the mood-effect disappeared. According to Schwarz & Clore (1983) and their affect-as-information theory, the effect of mood on evaluation disappears when people can

make an external attribution about the cause of their mood. We want to argue that this may have happened in Bone and Ellen's study: people may have ascribed their current affect to the odor of the scratch-and-sniff panel, and may have corrected for it while making evaluations. This difference between ambient and no ambient odor may be a very interesting topic for further investigation.

10. Practical Implications

From a managerial perspective our findings indicate that one should be careful when using ambient odor that does not correspond with the product category. This is especially the case when customers are highly motivated to process (e.g. when the purchase is highly relevant for them). Distributing floral scents in a store selling electronic equipment for example (where/when motivation to process information is expected to be high) would not be such a good idea. However, when consumers are not very motivated to process, all pleasant odors, irregardless of their congruency, are expected to have a positive effect on evaluations and shopping behavior. This is for example the case when customers have habitual shopping patterns, mostly found in grocery shops. For retailers, this suggests that it may even be beneficial when your food department smells like soap.

11. Acknowledgment

The author is grateful to Anouk Lepinoy for her help collecting the data and creating the stimulus material.

12. References

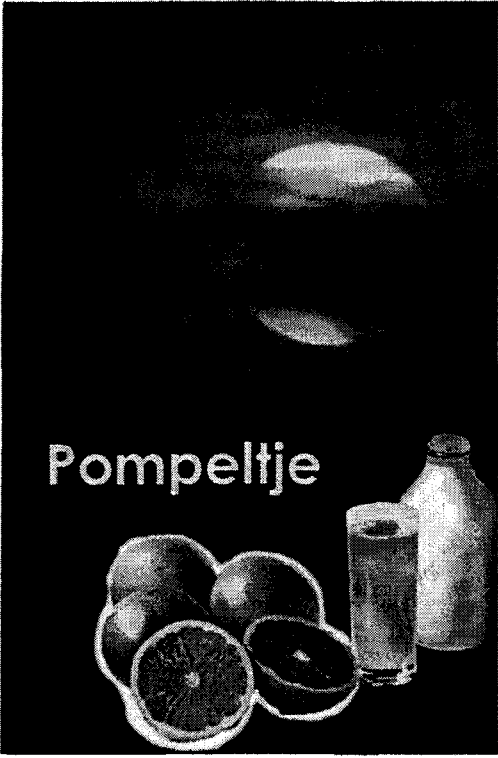
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Appendix

Stimulus Material: Ad of Pompeltje



Pompeltje

Pompeltje is een fruitbom! Eén glas Pompeltje is ruim voldoende voor je dagelijkse behoefte aan vitaminen en is daarom aanbevolen voor jong en oud. Pompeltje is een natuurlijk product zonder toevoeging van suikers of bewaarmiddelen, rijk aan vitamine C. Daarom is Pompeltje even gezond als vers geperst pompelmoessap. Het is caloriearm en dus goed voor de lijn. Pompeltje is binnenkort te vinden in elk warenhuis!

Chapter 4

Affect and the Evaluation of Negatively Valenced Mental Categories: New Evidence for the Multiple Role of Affect

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Affect and the Evaluation of Negatively Valenced Mental Categories: New Evidence for the Multiple Role of Affect

1. Abstract

The present series of studies investigated the effect of affective valence on consumers' evaluation of product categories that are associated with negative beliefs and feelings. In the first two studies we manipulated participants' mood and confronted them with an ad for a service (blood donation in Study 1) or product category (condoms in Study 2) that has negative connotations. In our last 2 studies, both dealing with consumers' evaluation of a new meat label after a meat crisis, we manipulated affect by using different kinds of emotional ads.

The results of these 4 studies suggest multiple roles for affect, as was also suggested by Forgas (1995) and Petty, Schumann, Richman and Strathman (1993): affect is taken as information under conditions of low processing motivation, while affect colors people's thoughts under conditions of high processing motivation. Both mechanisms enhance the persuasive process. While the former finding is not completely new in the domain of affective persuasion, and confirms what has been suggested in the literature before (e.g. Forgas, 1995), we were also able to show a persuasive effect when mood was negative. Interestingly, because we were dealing with schemata that had negative connotations we found that negative mood motivated people even more to think about the presented messages, such that evaluations became also more positive when mood was negative. This means that when marketers have to deal with products or services that have some negative associations attached to them (such as genetically manipulated food, meat, drugs, life insurances,...), it will be beneficial to urge consumers to think very elaborately about the message that is

presented to them. After all, thinking thoroughly about a new quality meat label, or about condom use or blood donation should lead one to the natural conclusion that the label / condom / donation is indeed a very positive product or act. This finding is very different from studies that deal with positive to neutral valenced product categories, because they usually find that product evaluations become more negative as people scrutinize on the presented message arguments (Petty, Unnava, & Strathman, 1991). That is, when the valence of a certain product category is positive or neutral in nature, increased message elaboration usually leads to increased recognition / production of negative arguments. The opposite seems to be true for product categories that are associated with negative beliefs.

2. Introduction

Advertisers and marketers often have to deal with products or services that are associated with negatively valenced beliefs or feelings. The main purpose of the present study is to explore consumers' evaluations of products / services (or their associated advertisement campaigns) that have negatively valenced connotations. An in essence emotionally neutral advertisement for a certain brand of pain killers for example is very likely to call for negatively valenced thoughts of painful head aches, stomach complaints and the like. The mere thought of using a sedative is associated with these negative representations. In a related vein, a governmental campaign stimulating blood donation will probably evoke mental images of dizziness, a sore arm, nausea,...

More specifically, we aim to investigate the influence of affective states (e.g. being in a happy or sad mood; being positively or negatively affected by the advertisement campaign) on the evaluation of these negative product / service categories. For example, advertisement campaigns concerned with charity donation (such as organizations against child abuse, or organizations helping developing countries), often try to elicit feelings of sadness or guilt. These negatively valenced feelings are often consistent with the negative feelings that are associated with one's mental representation (one's mental schema) of child abuse or developing countries. Will a

'sad charity commercial' lead to better evaluative effects than a 'happy charity commercial' in this context? Will evaluations be more positive when one is in a negative mood when evaluating a new brand of pain killers, or will they, in contrast, be more positive when one is in a positive mood (because the negative mood is more consistent with feelings and beliefs associated with associations of pain killers)?

In the first two studies we will investigate the influence of mood (as a more global and nonspecific affective state) on the evaluation of negatively valenced mental categories. In the last two studies we will focus on the effects of consumers' felt affect (resulting from an emotionally laden advertisement) on the relevant product evaluation.

We believe that insight into the underlying mechanisms of evaluation of negatively valenced mental schemata is not only of practical importance. Past studies concerning mood effects on persuasion exclusively measured evaluations of products or services that were associated with neutral or positively valenced beliefs. In the present studies we argue that more insight into the persuasion process can be gained when taking products and services into consideration that are very likely to call for negatively valenced associations (e.g. transport of nuclear material, cigarettes, condom use, blood donation,...).

Regarding the influence of affective states on the evaluation of negative products or services, a number of theoretical frameworks can be invoked in order to come up with some theoretically based expectations. In the next sections, we will discuss what appear to us the three most important theoretical frameworks in the field of affective persuasion: affect priming, affect-as-information, and cognitive tuning. All these models originate from social psychology. Only recently, some attempts are made to translate these models in a more consumer behavior and marketing related context (see for example Bagozzi, Gopinath, & Neyer, 1999). In what follows, it becomes clear that these different theoretical considerations predict different outcomes when it comes to mood effects on evaluation of negatively valenced products / services. But note that in the case of evaluating positive or neutral products / services, all these frameworks predict the same outcomes, namely *mood-congruent judgments*.

3. Affective Persuasion

When people in different affective states make evaluations, those people in positive affective states render more favorable evaluations compared to those in negative moods (e.g. Mayer, McCormick, & Strong, 1995). In addition to these evaluative effects, mood also affects information processing. In general, it has been found that whereas people in neutral or negative affective states are differentially affected by the quality of diverse persuasive messages and report more favorable attitudes after exposure to strong rather than weak arguments, recipients in a good mood are as persuaded by weak as by strong arguments (e.g. Bless, Mackie, & Schwarz, 1992). These results have supported the idea that the processing of information by individuals in positive affective states is characterized as heuristic and less systematic, while individuals in mildly negative affective states often show a more careful and analytic type of processing (e.g. Clore, Schwarz, & Conway, 1994; Schwarz & Bless, 1991). In the past decade, a number of theoretical models are formulated to account for these findings.

3.1. Affect Priming

According to the affect-priming hypothesis (e.g. Bower, 1981; Mackie & Worth, 1991), mood states (positive or negative mood) cue similarly valenced materials in memory, thereby biasing people's perceptions of the target at the time of evaluation. Hence, when in a positive mood, activation will spread towards related positively valenced constructs, resulting in more positive evaluations compared to when mood is more negative or neutral.

This model also explains some persistent findings that positive mood is associated with a more shallow and heuristic kind of processing (see for example Bagozzi et al., 1999 for a review). When people are in a positive mood, more material, and more diverse material comes to mind (e.g. Boucher & Osgood, 1969; Isen, 1984): unless people are clinical depressed, they have more positive material stored in memory than

negative material (Isen, Means, Patrick, & Nowicki, 1982). The easy accessibility of this material, or its presence in working memory, seems to reduce cognitive capacity. Mackie and Worth (1989) discuss a number of possible explanations. The presence of positive material, for example, might merely reduce space in a capacity-limited system (Shiffrin & Schneider, 1977). Also, the easy and simultaneous accessibility of material might defocus attention (Isen, Daubman, & Nowicki, 1987). A conscious decision may be made to deal with the material in some way (Sherman, 1987), or the presence of positively toned material in working memory might automatically draw available attention to itself (Nielsen & Sarason, 1981; Zajonc, 1980). Mood might therefore function as a distraction, interfering with the ability to engage in careful elaborative processing (Petty & Brock, 1981).

Differentiating between these alternative mechanisms is behind the scope of the present studies, but the ultimate consequence of the induction of a positive mood is that it (1) provides in more positive product evaluations as a result of accessibility of similar valenced material and (2) reduces the overall capacity available for other tasks or leads to a more heuristic form of processing of the primary (evaluation) task due to reduced processing capacity (see also Ellis & Ashbrook, 1988).

In a series of studies Worth and Mackie (1987, 1989) found evidence for this affect-priming hypothesis. In one of these studies, subjects in whom a positive mood had been induced and subjects in a neutral mood were both exposed for a limited amount of time to a message concerned with controlling the impact of acid rain. Messages were delivered by either an expert or a nonexpert and comprised either strong and valid or weak and specious arguments for the advocated position. Subjects in a positive mood appeared to engage in little systematic processing of the message, as indicated by their failure to differentiate strong from weak arguments in their postexposure attitudes (Petty & Cacioppo, 1981) and their reduced elaboration and retrieval of message-relevant material in recall protocols (Chaiken, 1980; Craik & Lockhart, 1972). In addition, the postexposure attitudes of subjects experiencing positive mood showed greater relative impact of a heuristic cue (expertise of the source) in the persuasion context. In contrast, both the postexposure attitudes and the cognitive response listings of subjects in a neutral mood indicated the persuasive impact of strong (but not of weak) arguments and the relative impact of the heuristic

cue. In sum, recipients in a positive mood failed to engage in systematic or central route processing.

According to Petty, Schumann, Richman and Strathman (1993), affect-priming is most likely observed when people are relatively high motivated to process the information. Especially when processing motivation is high, the mood colored thoughts will be taken into account when making an evaluation. In other words, positive mood increases the net positivity of the thoughts generated (Mathur & Chattopadhyay, 1991). Because highly motivated people are more likely to take their thoughts into account when making an evaluation (Petty and Cacioppo, 1986; Petty et al., 1993), we can expect that our results are consistent with the affect priming hypothesis especially when likelihood to process is high (see also Smith & Shaffer, 1991).

Applied to our current research question, we can therefore expect that evaluations of our negatively valenced product / service will be more positive under positive mood conditions (compared to negative mood conditions), since more positive material is expected to become accessible in memory. Thus, according to affect priming, mood-congruent evaluations are expected.

3.2. Affect as Information

According to the affect-as-information model (Schwarz & Clore, 1983), people sometimes mistake the affective feedback that is provided by their current mood state with the affective feedback they experience when evaluating a target stimulus. That is, people sometimes mistake aspects of their reactions to a non-target source as their reaction to the target. One consequence of this confusion is a shift in people's target evaluations toward the valence of their moods (i.e. mood-congruent judgements). This process, whereby mood is seen as informative for the judgement to be made, has been labeled in the literature as the "How do I feel about it?" heuristic.

In their original research, Schwarz and Clore (1983) examined the role of attributions in the relation between mood and judgments of life satisfaction (subjective well-being). They telephoned people on either warm and sunny or cold and rainy days. They found that the weather influenced people's mood, and that the mood affected perceptions of well-being. Those who were in a good mood reported being generally more satisfied with their lives than did those in a bad mood. In some conditions, Schwarz and Clore also cued people directly to the weather, as a source of their mood. When people in a bad mood were cued to the weather, they made an external attribution to the source of their mood, and reported greater life satisfaction than did people in a negative mood who were not cued to the weather (see also Sinclair, Mark, & Clore, 1994).

In their affect-as-information hypothesis, Schwarz and Clore (1983) posit that mood influences judgments, such as judgments of life satisfaction, only when the mood's affective cues are perceived as informative, in that they appear to be part of the reaction to the object of judgment. In other words, mood will have such effects only when respondents do not make external attributions for their feelings.

According to Petty and his colleagues (Petty et al., 1993), affect-as-information is likely to occur under conditions of low processing motivation: affect-as-information is thought to influence judgments directly (i.e. without affecting people's cognitive thoughts), and this process is most likely to take place under conditions of "peripheral" or "heuristic" processing (see Petty and Cacioppo, 1986 or Chaiken, 1980). Indeed, in a series of studies (Schwarz, 1990; Bless, Schwarz, & Wieland, 1996; Bodenhausen, Kramer, & Süsler, 1994) it has been shown that taking one's affect as a source of information, is the result of a decreased processing motivation: when participants are explicitly instructed to pay attention to the argument strength (i.e. increasing one's motivation), people base their evaluations on the strength of the arguments, and no longer on their own affective state (see Bless et al., 1996). Hence, when motivation to process increases, the affect-as-information effect disappears (for a related discussion upon the motivational effect of mood, see Bless & Schwarz, 1999).

Although the underlying mechanism is different from the affect-priming hypothesis, the affect-as-information model also predicts that evaluations will be more positive when people are in a positive compared to a negative mood. Hence, affect-as-information also predicts mood-congruent judgments.

3.3.Cognitive Tuning

The cognitive tuning hypothesis (e.g. Schwarz, 1990; Sinclair & Mark, 1992; Clore, Schwarz, & Conway, 1994), which can be seen as a “cognitive” extension of the affect-as-information hypothesis, assumes that affective cues do not only provide substantive, but also procedural information. A cognitive tuning effect occurs when feedback about the nature of a situation modifies how information is processed. Negative affective cues (such as negative moods) signal that a problem has been encountered and that ongoing efforts and strategies are inadequate. This perception triggers more detailed, systematic processing. On the contrary, positive affective cues signal that a situation is benign and that one’s current effort and strategies are adequate. More positive affective cues should therefore elicit less systematic, more heuristic processing.

Given this tendency of happy individuals toward parsimonious and effortless processing (e.g. Bless, Clore, Schwarz, Golisano, Rabe, & Wölk, 1996), it is not so surprising that happy individuals seem to rely on general knowledge structures (e.g. Bless & Fiedler, 1995). Because general knowledge structures allow the individual to reduce the complexity of information processing at different stages, they often promote parsimonious and efficient processing (see for example Fiske & Taylor, 1991; Hastie, 1981). At the encoding stage for example, schemata allow the individual to ignore unrelated and unimportant details of a situation and, therefore, reduce information complexity. As a result, people need not elaborate excessively on the information that is provided to them. General knowledge structures also seem to influence retrieval processes (Hastie, 1981), and judgments can be based parsimoniously on the basis of schemalike knowledge structures (e.g. Fiske & Neuberg, 1990). Hence, this parsimonious aspect of knowledge structures may

explain why happy individuals are more influenced than sad individuals by activated general knowledge structures (e.g. Bless & Fiedler, 1996; Bless et al., 1992; Bless et al. 1996).

Bodenhausen, Kramer, and Süsser (1994) for example found that happy people who were simply asked to make some judgments about a case of alleged student misbehavior were significantly more likely to render harsher judgments about a stereotyped judgment target than were people in a neutral mood.

In a related vein, in an impression formation task, Ottati, Terkildsen and Hubbard (1997) found that when their participants were confronted with a happy face they engaged in a heuristic processing style. In their study, participants were presented a video showing a political candidate who emitted neutral, happy-reassuring, or anger-threat facial displays. The candidate's verbal statements consistently advocated conservative solutions to a number of domestic policy problems facing the nation. Systematic or piecemeal processing in this situation would entail that participants consider both pros and cons of the candidate specific issue positions and combine these to evaluate the candidate (e.g. Fishbein & Coombs, 1974). A heuristic processing style would involve categorizing the candidate as a conservative, perhaps on the basis of the candidate's initially expressed issue positions, and judging the candidate on the basis of an evaluation of this stereotypic category (e.g. Fiske & Neuberg, 1989). Ottati and his colleagues found that neutral facial displays elicited a systematic processing style, with individuals judging the candidate on the basis of his specific issue positions. Use of the candidate's global ideology as a heuristic device was absent in this condition. The happy displays elicited a heuristic processing style, with individuals judging the candidate on the basis of his global ideology (but not his specific issues). Angry displays elicited a processing style falling in between these extremes. This pattern of findings was only observed for the low motivated participants. When motivation to process was high, all participants engaged in systematic, issue-based processing, regardless of the candidate's facial expression.

If we apply this reasoning to our research problem with regard to the effects of affect on negatively valenced mental schemata, we can expect that subjects in a positive mood will make more negative evaluations. This is because they base their

evaluations on a knowledge structure that is loaded with negative affect. In contrast, because negative mood is hypothesized to call for systematic processing, we can expect that since we are dealing with negatively valenced mental schemata, evaluations will be more positive when mood is negative. This is because as elaboration of the arguments increases (as a result of negative mood), subjects will have more opportunities to recognize the positive aspects of the product / service or of the advertisement campaign (for a related discussion, see Bagozzi, 1996). If you are for example first confronted with an ad campaign for a new meat label, it can be expected that your evaluation will be rather negative, given the recent meat crisis and the health related issues involved. But if you think about it more systematically, it will come to you that a new quality control label is indeed important to guaranty safe and healthy meat.

Hence, according to cognitive tuning, opposite results are expected as from affect-priming or affect-as-information hypotheses, namely more positive evaluations when mood is negative and more negative evaluations when mood is positive.

4. Overview of the studies

In a first study we simply contrasted positive and negative moods and their influence on the evaluation of a negative associated service. The negative service category of interest was that of blood donation. Interestingly, and despite our mood manipulation that was successful, we did not find any effects of mood on evaluations at all. This led to a number of post hoc explanations, that were tested in the second study. More precisely, we assumed that processing motivation was so high, such that we both found evidence for affect priming (in our positive mood condition) as well as for cognitive tuning (in our negative mood condition).

Our second study, which dealt with condom use, tested this post hoc explanation. When our subjects were in a state of high processing motivation, we found evidence for both affect priming as well as cognitive tuning. When our participants were not very motivated, we found evidence for affect-as-information.

Our last two studies, dealing with meat consumption (after a meat crisis), further tested our assumptions by taking into account additional process measures. Our results of the first two studies are both replicated and extended.

Throughout the remaining of this paper it will become evident that our research findings, at first intended to be practical in nature, have also far reaching theoretical implications.

5. Study 1: Blood Donation

The purpose of this first study was to explore the proposed effects of mood (positive versus negative) on the evaluation of a negatively valenced category. We expected that at least one of the above mentioned frameworks would be able to explain the observed effects. The negative mental category of interest was that of blood donation.

5.1. Negativity of the Mental Schema

In this study, we measured subjects' attitudes towards a blood donation initiative at the university. Although people hold both negative and positive beliefs towards giving blood, research suggests that beliefs are more often negative (e.g. giving blood would lead to a sore arm, dizziness, nausea) than positive (e.g. feelings of self-satisfaction) (see Bagozzi, 1996). A free elicitation procedure (Cacioppo and Petty, 1981) was used to check for the negativity of the mental schema of blood donation for the student population used in our study. In a pilot study 27 students were asked to indicate the beliefs they associated with donating blood. After they had written down these associations, they subsequently were asked to indicate whether these associations were negatively, neutral or positively valenced. As suggested by other research (e.g. Bagozzi, 1996), people retrieved or constructed many negative beliefs (e.g. It will be painful, I will feel faint or dizzy, I would get a sore arm,...) and few positive beliefs (e.g. I would fulfill a social obligation to help others, It would help to

save lives,...) about the consequences of giving blood. Moreover, positive beliefs tended to occur later in the sequence, suggesting less salience and/or general inability to retrieve them.

5.2. Participants, Design and Procedure

Participants were 46 undergraduate university students. They participated on a volunteer basis for what was presented as an advertising study. None of the participants had ever donated blood before.

Participants were randomly assigned to one of two mood conditions: positive versus negative mood. Participants were received in groups up to 4 by the experimenters, who briefly explained that participants would be completing some independent tasks that had been combined into one session. These tasks (described below) included (a) the mood induction, (b) presentation of the critical ad concerning the blood donation initiative, and (c) measurement of the dependent variable: evaluation of the initiative.

For the mood induction task, participants were asked to provide a vivid written report of either a happy or a sad life event, purportedly to help with the construction of a "Life Event Inventory" (as done by Bless et al., 1996). Subjects were led to believe that this Life Event Inventory task was unrelated to the remaining of the tasks: They were told that the Psychology department needed their help with the construction of the Inventory, and that the departments was still looking for happy (for the positive mood condition) or negative (for the negative mood condition) life experiences. Reporting a happy event was intended to induce a happy mood, whereas focusing on an experienced sad event was intended to induce a sad mood. Participants were given 12 minutes to complete their reports. They were asked several questions about the task. Embedded among these question was a manipulation check question that read "How do you feel right now?". Consequently 6 9-point semantic differential items (ranging from -3 over 0 to 3) were presented. These items were derived from the Mehrabian and Russell (1974) Pleasure Scale (happy / unhappy, pleased / annoyed, satisfied / unsatisfied, contented / melancholic, hopeful / despairing, relaxed / bored).

Subjects were asked to indicate to what extent these items described their feelings at the moment. These items were later on averaged for analysis (Cronbach alpha = .89).

After this mood induction, subjects were presented an ad describing a new (i.e. fictitious) blood donation initiative organized by the university. The initiative stated that from next year on, every student was obliged to donate blood at least once a year. After this statement, some arguments promoting the blood donation initiative were given. Participants were given one minute to look at the ad. The ad is shown in Appendix 1.

After presentation of the ad, the dependent variable as well as an additional mood manipulation variable was measured. First, subjects were asked "How do you feel at this moment" (e.g. Sinclair et al., 1994). Answers had to be given on a 9-point scale ranging from extremely bad (score 1) to extremely good (score 9). This was done to make sure that our mood manipulation lasted as long as the ad was presented. Evaluation of the blood donation initiative was measured on 4 7-point semantic differential items: positive / negative, love / hate, good / bad, and desirable / undesirable (Simons & Carey, 1998). Lower scores indicated less positive attitudes. These attitudes were then averaged for analysis (Cronbach alpha = .88).

5.3. Results

5.3.1. Mood manipulation.

Participants' rating of how happy and sad they felt after the mood induction task (but before presentation of the ad) indicated that the mood manipulation had been successful. Mean scores on the mood items were higher for participants who had described a positive life event compared to subjects who had described a negative life event ($M = 2.02$, $SD = 0.87$ versus $M = 0.73$, $SD = 1.80$): $t(43) = 3.10$, $p < .10$. Moreover, according to the mood manipulation item that was presented after presentation of the ad, subjects in the positive mood condition still had a more

positive mood compared to subjects in the negative mood condition ($M = 6.77$, $SD = 0.87$ versus $M = 5.29$, $SD = 1.87$): $t(44) = 3.38$, $p < .01$.

5.3.2. Evaluation of the blood donation initiative.

Contrary to expectations, no significant mood effects were found on evaluation of the blood donation initiative. Subjects in a positive mood did not evaluate the initiative on a significantly different way compared to subjects in a more negative mood ($M = 2.99$, $SD = 1.41$ versus $M = 2.75$, $SD = 1.62$): $t(42) = 0.51$, $p > .50$.

5.4. Discussion

No effects of mood on the evaluation of the blood donation initiative were found. Hence, no support for affective persuasion effects was obtained.

One possible explanation for this null finding is an unsuccessful mood manipulation. However, given the fact that a significant effect on subjects' feelings was found both before and after presentation of the ad makes this possibility unlikely.

It is important to note that our blood donation schema was a very negative one. Several subjects reported feeling nauseous and dizzy when looking at the ad and thinking about the blood donation initiative. This negativity alone may have resulted in the fact that people's affective states in all experimental conditions became so negative that the negativity of the mental schema alone overrode all other mood effects. In other words, we might have been confronted with a floor effect. Again, the fact that mood manipulation effects persisted even after ad presentation makes this explanation very unlikely. Moreover, mean mood effects didn't even reach the negative half of the scale, suggesting that moods were only slightly lower (for our negative mood condition) and higher (for our positive mood condition) than baseline mood levels.

Another possibility is that processing motivation was too high in order for mood effects to take place, resulting in a ceiling effect. On top of the extreme negativity of the mental schema of blood donation, which might have caused a heightened processing motivation (see Clore et al., 1994). After all, the blood donation message that was given to our participants was of high personal relevance: the initiative told participants that they themselves would be obliged to donate blood next year. Since personal importance also heightens people's processing motivation (for a review see Forgas, 1995) this might have resulted in extremely high levels of processing motivation. This remark is important because several studies did not find any effects of mood states when subjects were highly motivated to process (e.g. Soldat, Sinclair, & Mark, 1997; Ottati, Terkildsen, & Hubbard, 1997). The authors of these studies explain their results by proposing that increased motivation can lead to systematic processing even if affective cues suggest that the situation is benign. This reasoning however is not very consistent with what can be expected from the affective priming hypothesis, assuming that positive mood facilitates the retrieval of positive information: several studies (e.g. Petty, Schumann, Richman, & Strathman, 1993; for a review see Bagozzi, Gopinath, & Nyer, 1999) have documented that affect priming results are especially likely under conditions of high processing motivation. So if we assume that processing motivation was relatively high in our first study, why did we not find evidence for affect priming?

The lack of a solid explanation for our null findings made us think (although post hoc) that maybe mood did affect persuasion, but that the effects were present in both our positive as well as in our negative mood conditions, hence filtering out any observable effects. In this case, two different mechanisms are expected to be responsible for these effects: active in both mood conditions. Hence, evaluations in both positive AND negative mood conditions may be more positive than in a neutral control condition. Unfortunately, we did not include a control condition in the present study. Since we can safely assume that all our participants were highly motivated, we suggest that *affect priming* was observed in our positive mood condition (since affect priming is mostly found under conditions of high processing motivation, see earlier), and *cognitive tuning* was observed in our negative mood condition.

As we mentioned earlier, affect priming predicts that positive mood leads to a spread of activation towards related (i.e. positively valenced) concepts when processing motivation is sufficiently high (see Bower, 1981; Clark & Isen, 1982). This results in more positive attitudes when mood is positive compared to when mood is more neutral: mood affects evaluation by biasing the thoughts that come to mind as a person thinks about the persuasive communication. Hence, when mood is positive, it can be assumed that more positive memory nodes become active because of the spread of activation towards mood-congruent constructs. As a result, it can be expected that evaluations will be more positive when mood is positive.

In contrast, when mood is negative, we propose that cognitive tuning will boost motivation to process, resulting in evaluations that are based on message scrutiny. Since we are dealing with negatively valenced mental categories, we argue that elaborately thinking about and investigation of the presented ad, will result in more positive evaluations. Take for example the case of our blood donation initiative: people looking carefully at the folder and investigating the pro's of donating blood at the university are very likely to hold positive attitudes towards the initiative: after all, donating blood IS a positive act.

From a more practical point of view, this reasoning would suggest that, as long as consumers have sufficient processing motivation, both positive as well as negative mood would lead to more positive evaluations when the product has negative connotations.

This post hoc reasoning might explain the fact that we did not find any result of mood on evaluations when assuming that processing motivation was high: both positive as well as negative mood might have caused more positive evaluations, although through different mechanisms. Study 2 was designed to test this post hoc explanation. If our assumptions hold, then we should find mood effects¹ under two conditions: a) when processing motivation is very low, so subjects are not motivated enough to elaborate on the presented message (i.e. no cognitive tuning under conditions of low processing motivation), and b) under conditions where there are no message arguments available

to elaborate on, for example when the presented ad is completely emotional and provides no further information (i.e. cognitive tuning has no effect because there are no arguments available to elaborate on).

6. Study 2

Study 2 was conducted to further test this post hoc explanation. In this study we used a negatively valenced product category that was not as extremely negative as our blood donation initiative: condoms (see below). This was done in order to prevent that our participants would be too motivated to process (because of the negative affect associated with the product category). We also manipulated involvement in order to obtain a low and a high processing motivation condition.

If our post hoc explanation holds, we again should find no effect of mood on persuasion if processing motivation is high (high involvement condition), but we should find a mood effect if processing motivation is low (low involvement condition). In this latter condition, we expect that the results will be consistent with the affect-as-information hypothesis. After all, affect-as-information is usually observed under conditions of lower processing motivation (Soldat et al., 1997). Moreover, since we expect that under conditions of high processing motivation there are two mood mechanisms at play (affect priming and cognitive tuning) we expect that evaluations in both mood conditions will be more positive compared to baseline levels. Hence, mean evaluation scores in both mood conditions are not expected to be significantly different from evaluation scores in conditions where also mood effects are expected (low involvement / positive mood condition; affect-as-information is expected), but we do expect that these evaluation scores will be significantly higher than evaluation scores in conditions where we do not expect mood effects (low involvement / negative mood condition: no cognitive tuning effect because processing motivation is too low).

¹ With a mood effect we mean here a significant difference in evaluations between a positive and a negative mood condition.

Additional support for cognitive tuning when processing motivation is sufficiently high AND mood is negative would be provided by the absence of a mood effect under conditions where participants do not have the opportunity to scrutinize on message arguments because, for example, when there are no arguments provided in the ad. To test this prediction, study 2 included also a visual ad where no textual information was given. If our effect in our high processing motivation / negative mood condition is driven by heightened message scrutiny as a result of cognitive tuning, we should find no such effect under similar conditions when message arguments are absent. Hence, when the ad is exclusively visual, we expect more positive evaluations when mood is positive, independent of involvement level.

6.1. Negativity of the Mental Schema

As in the previous study, the negativity of the mental schema of condom use was investigated in a pilot study. Using a free elicitation procedure (Cacioppo & Petty, 1981), 22 subjects were asked what kind of beliefs they associated with condom use. After summing up their beliefs, they were asked to indicate the valence of these beliefs. It was found that, as expected, condom use was associated with more negative (e.g. unnatural, sexual diseases such as AIDS, unwanted pregnancies,...) compared to positive beliefs (e.g. protection, sexual freedom,...). Looking at the ratio of negative beliefs, we found that condom use was associated with less negative beliefs compared to blood donation: the ratio of negative beliefs was smaller for condom use compared to blood donation (0.57 versus 0.67). This suggests that, although condom use is associated with a lot of negative beliefs, the mental schema is less negative than that of blood donation.

6.2. Participants, Design and Procedure

Participants were 191 undergraduate university students. They participated on a volunteer basis for what was presented as an advertising study.

A 2 (processing motivation: high versus low involvement) by 2 (mood: positive versus negative) by 2 (advertisement type: textual versus visual) full factorial between subjects design was used. Participants were randomly assigned to one of the eight conditions. They were received in groups up to 4 by the experimenter, who briefly explained that participants would be completing some independent tasks that had been combined into one session (as in Study 1).

Mood was manipulated the same way as in the previous study: subjects were led to believe that they helped to complete a "Life Event Inventory" (Bless et al., 1996).

Processing motivation was manipulated using different involvement instructions. In the high involvement condition, participants were told that their university was thinking about setting up a campaign about condom use, because prior research had shown that their students did not have safe sex. Participants were told that the campaign would run in collaboration with a new brand of condoms: Flexus. Participants were told that it was very important to look carefully at the ad presented to them, because the university wanted to be certain that their campaign was effective, given the high costs associated with advertising campaigns. In the low involvement condition participants were told that another university was doing some research about the way people look at advertisements. They were asked to look at the ad in the same way as they would normally look at advertisements.

After these involvement instructions, the critical ad of condom use was presented. Dependent upon advertisement type condition, this ad was either textual or visual. The textual ad presented a number of arguments why people should use a condom. The visual ad depicted a romantic get together of two young people, no textual information was given. Both the visual as well as textual ad displayed the new brand of condoms. The ad was presented to the participants for one minute. The ads are displayed in Appendix 2.

After presentation of the ad, the dependent variable as well as a mood manipulation check and involvement check was measured. The mood manipulation check was the same as in the previous study. As done before, the Mehrabian and Russell (1974) Pleasure items were averaged for analysis (Cronbach alpha = .89). Involvement was

measured using 3 items that were derived from Mano (1997): “When looking at the folder 1) I strongly concentrated on the content of it, 2) I paid a lot of attention to the content, and 3) I did my best in understanding the message”. Answers had to be given on a 5-point scale going from strongly disagree (score 1) to strongly agree (score 5). These items were averaged for analysis (Cronbach alpha = .80). Evaluation of the new brand of condoms was measured on the same 4 7-point semantic differential items as in Study 1: positive / negative, love / hate, good / bad, and desirable / undesirable (Simons & Carey, 1998). Again, these attitude items were averaged for analysis (Cronbach alpha = .83).

6.3.Results: Manipulation checks

6.3.1. Mood manipulation

Mean scores on the mood items were higher for participants who had described a positive life event compared to subjects who had described a negative life event. This was the case before as well as after presentation of the ad ($M = 2.17$, $SD = 1.17$ versus $M = 1.15$, $SD = 1.54$ and $M = 6.60$, $SD = 1.58$ versus $M = 5.93$, $SD = 1.64$): $t(189) = 5.14$, $p < .001$ and $t(189) = 2.84$, $p < .01$. So, we can conclude that, as in Study 1, our mood manipulation was successful.

6.3.2. Involvement manipulation.

Participants’ involvement ratings were higher in the high involvement condition compared to the low involvement condition ($M = 3.97$, $SD = 0.76$ versus $M = 2.89$, $SD = 0.95$): $t(188) = 8.70$, $p < .001$.

6.4.Results: Evaluation of Flexus Condoms

For reasons of simplicity we will discuss evaluation on Flexus condoms for each advertisement type separately.

The results of the omnibus ANOVA are displayed in Table 1.

Source of Variation	Sum of Squares	DF	Mean Square	F	p
Ad type (AT)	8.83	183	1.05	8.40	.01
Processing Motivation (PM)	2.04	183	1.05	1.94	.17
Mood (M)	6.36	183	1.05	6.06	.02
AT x PM	1.27	183	1.05	1.21	.28
AT x M	0.01	183	1.05	0.01	.95
PM x M	3.56	183	1.05	3.39	.06
AT x PM x M	3.51	183	1.05	3.35	.06

Table 1: 3-way ANOVA results of Study 2

6.4.1. Textual Advertisement Type.

Figure 1 displays mean evaluation scores as a function of involvement level and mood condition for the textual advertisement type. No main effect of Mood ($F(1, 90) = 2.18, p > .10$) nor a main effect of Involvement was found ($F(1, 90) = 2.24, p > .10$). As expected, the interaction effect did reach significance: $F(1, 90) = 4.74, p < .05$. Planned comparisons show that, consistent with expectations, the effect of Mood on product evaluations is not significant when involvement is high ($F < 1: M = 3.20, SD = 1.11$ and $M = 3.37, SD = 1.02$). When involvement is low however, it is found that evaluations are more positive when subjects are in a good compared to a bad mood ($M = 3.37, SD = 1.30$ versus $M = 2.45, SD = 1.41$): $F(1, 90) = 6.36, p = .01$.

Additional planned comparisons showed that evaluations in the high involvement condition (when affect priming AND cognitive tuning was assumed) were significantly more positive than evaluations of the condition where no mood effects were expected (the low involvement, negative mood condition): $F(1, 90) = 7.19, p <$

.01. Moreover, mean evaluations of conditions where mood effects were expected as a result of either affect-as-information (low involvement, positive mood condition), affect priming (high involvement, positive mood condition) or cognitive tuning (high involvement, negative mood condition) did not differ significantly from each other ($F < 1$), suggesting mood effects in these three conditions.

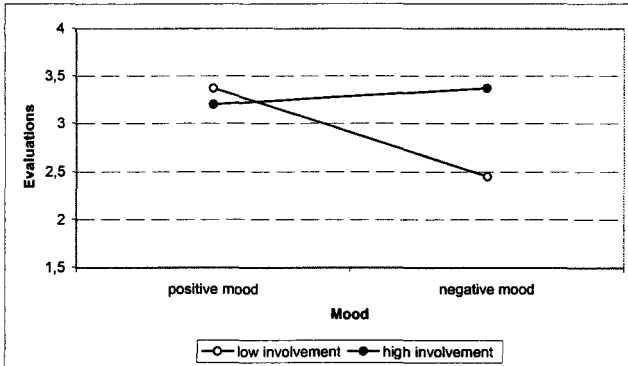


Figure 1 Mean Evaluation Scores as a Function of Mood and Involvement for the Textual Ad Type

6.4.2. Visual Advertisement Type.

Figure 2 displays mean evaluation scores as a function of involvement level and mood condition in the visual advertisement type. A significant main effect of Mood was found: $F(1, 93) = 4.73, p < .05$. Participants evaluated the brand of condoms more positive when in a good ($M = 3.71, SD = 0.83$) compared to a bad ($M = 3.35, SD = 0.78$) mood. No effect of Involvement was found ($F < 1$). Importantly, the interaction effect was not significant: $F < 1$. This suggests that, as expected, when people don't have any message arguments available to elaborate on, their evaluations do not become more positive when in a negative mood. As expected, evidence for affect priming (high involvement condition) and affect-as-information (low involvement condition) was found, but not for cognitive tuning.

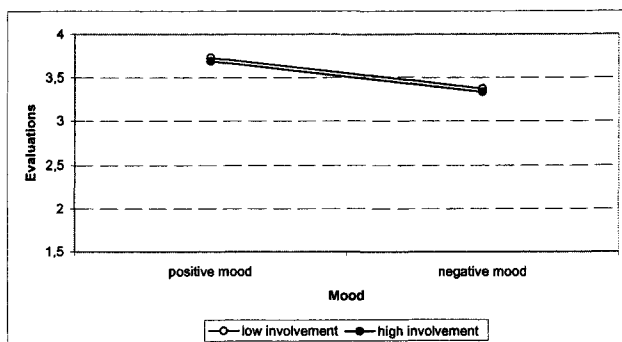


Figure 2 Mean Evaluation Scores as a Function of Mood and Involvement for the Visual Ad Type

6.5. Discussion

As expected, when processing motivation was low, we found that the new brand of condoms was evaluated more positive when our participants were in a positive compared to in a negative mood. This was the case both when our participants were confronted with a textual (including relevant message arguments) or with a visual (with no message arguments included) ad type. This result is consistent with the affect-as-information hypothesis that predicts mood-congruent evaluations under conditions of low processing involvement.

Interestingly, and as expected, we found no difference in evaluations between mood conditions when our participants were highly motivated and when they were presented a textual ad type. In addition, the evaluation scores in both mood conditions were as high as those obtained in the positive mood condition when processing motivation was high, suggesting that we indeed did find mood effects in both our mood conditions. This finding suggests that there are two mechanisms responsible for this “null”-finding: an affect priming mechanism operating when mood is positive, and a cognitive tuning mechanism operating when mood is negative. The affect-priming mechanism deals with a spread of activation towards those constructs that are similarly valenced (Bower, 1981), resulting in more positive evaluations, while the cognitive tuning mechanism results in increased processing motivation, leading to an increased elaboration of arguments. Since we are dealing with a negative schema that

elicits negatively valenced evaluations (under baseline conditions), an increased elaboration of related arguments should enhance these evaluations. After all, if one carefully considers the pros and cons of condom use, one has to conclude that it is a positive product after all.

Both affect-priming and cognitive tuning mechanisms seem to operate under conditions of high processing motivation. Although both mechanisms ultimately lead to the same outcomes, they both are expected to be structurally different: affect priming deals with a spread of (affect laden) activation, while cognitive tuning deals with systematic elaboration of arguments under conditions of negative mood. These two different mechanisms lead to different outcomes when no message arguments are available to elaborate on. The affect priming hypothesis predicts a spread of activation towards related, similarly valenced mental constructs, *regardless* of presented message arguments, while the cognitive tuning account predicts that evaluations will be more positive based on the message arguments that are presented to them. Hence, when there are no message arguments available to elaborate on (or when message arguments are not sufficiently persuasive), evaluations will not be more positive. This is exactly what we found if we presented our participants a visual, argument-free ad: under conditions of positive mood, evaluations were more positive compared to when mood was negative.

In sum, when one wants to advertise a service or product that has some negative connotations, one should take into account consumers' motivation to process the advertised message. If consumers are likely to be only slightly motivated (as is often the case when consumers are for instance watching the commercial block in between a movie), one should advertise in a "positive atmosphere". In contrast, when consumers are expected to be highly motivated to process your message (as when you advertise a new car to automobile freaks), both positive as well as negative "atmosphere" can enhance evaluations. If managers however choose for a "negative atmosphere" (for example a commercial after the daily news or after a sad movie), they have to make sure that they have sufficient and convincing message arguments available.

Although we inferred from our results that affect-as-information had occurred under low processing motivation conditions, and affect priming under high processing motivation conditions, these were only post hoc assumptions. Unfortunately, we did not take any process measures into consideration. So strictly speaking, we were not able to discriminate between affect-priming and affect-as-information mechanisms (both predict the same outcomes, namely *mood-congruent judgments*). Affect priming influences attitudes indirectly through its effect on valenced thoughts (i.e. an indirect effect). This means that a positive mood will influence the proportion of positive thoughts that people will have, and path analysis (e.g. Baron & Kenny, 1989) should indicate that mood has an indirect effect on people's evaluations through the thoughts that they have. That is, increased happiness is associated with an increased positivity in thoughts, and an increased positivity in thoughts is associated with an increased favorability in evaluations. In contrast, affect-as-information predicts that positive mood has an impact on attitudes that is unmediated by thoughts (i.e. a direct effect). That is, positive mood will have no impact on the proportion of positive thoughts that people have, *despite* having an effect on people's evaluations. Also, path analysis should indicate that mood will have a direct effect on attitudes that is unmediated by thoughts. This structural distinction between affect priming and affect as information was examined by Petty, Schumann, Richman, and Strathman (1993). They indeed found that positive mood under low processing motivation had a direct effect on consumers' evaluation, while positive mood under high processing motivation had an indirect effect on evaluations. One of the purposes of the third study was to make this structural distinction between affect-as-information and affect-priming.

Although not supported by the results of our visual ad type, we can still not definitely exclude the possibility that the "null"-effect in our high processing motivation and textual ad condition was due to processing motivation on its own, and not to different mood-mechanisms (affect-priming and cognitive tuning). After all, we did not find a pure effect of mood in this condition. This would mean that the effects that we found in our high elaboration condition were due to a more systematic elaboration of message arguments as a result of a mere increase in processing motivation in both positive and negative mood conditions. This would mean that our effects are not due to mood, but to increased cognitive elaboration by itself. To exclude this possibility, we again need to take into account some process measures, to find out whether or not

our mood manipulation has an (indirect) effect on consumers' evaluations. Both affect-priming as well as cognitive tuning are expected to lead to an indirect effect of consumers' mood on their evaluations, by influencing the thoughts people have while looking at the ad, while an increased motivational account would not lead to any effect of mood on consumers' evaluations. In our third study we will further investigate the assumed presence of both affect-priming and cognitive tuning under conditions of high elaboration, and we will take into account some process measures (e.g. the positivity of participants' thoughts) to distinguish between a mood-based or an involvement-(motivational)based account.

Another purpose of our next study was to generalize our results from induced moods to consumers' felt affect. While moods are defined as stimulus unspecific and low in intensity (see for example Luomala & Laaksonen, 2000), an affective reaction is per definition caused by a specific stimulus (e.g. an ad or a commercial) and is usually higher in intensity than a mood state. Effects of ad-elicited affect most often resemble effects that are derived from mood research (see for example Bagozzi et al., 1999). An additional purpose of the third study is to replicate our effects that we obtained in Studies 1 and 2 with ad-elicited affect instead of mood.

7. Study 3

7.1. Introduction

Our third study was designed to further investigate the effects of felt affect on the evaluation of a product category that has negative connotations. The product category of interest in the present study is meat. In recent years, most European countries, including Belgium, suffered from meat crises that generated a lot of negative publicity in the mass media. Major meat-health related issues included BSE, growth hormone abuse, preventive antibiotic residues, pathogens, classical swine fever, and a major dioxin crisis. As a result, consumer trust in fresh meat decreases, and fresh meat consumption heavily declined (for a discussion see Verbeke, 2001; Verbeke & Ward, 2001). These consumer concerns were also obtained from a free elicitation procedure that we used to check negativity of the mental schema of meat: people had more

negative than positive thoughts when asked about meat-associations. They associate meat with hormone abuse, fat, dioxins, etc. . Positive beliefs (that were less frequently given) were mostly associated with “good taste”.

The purpose of this third study is to further test our assumption (already partially supported in the first studies) that there are two mechanisms responsible for mood effects under conditions of high processing motivation: affect priming (if mood is positive) and cognitive tuning (if mood is negative). If affect priming and cognitive tuning are responsible for the observed mood effects when processing motivation is high, then we should observe an indirect effect of participants' felt affect on their evaluations, mediated by their positivity of thoughts (see for example Cacioppo & Petty, 1981). When mood indeed has an effect on evaluations when processing motivation is high, it is expected that both positive affect (affect priming hypothesis) AND negative affect (cognitive tuning hypothesis) will influence the proportion of positive thoughts that people will have, and a mediation analysis should indicate that mood has a direct effect on people's evaluations through the thoughts that they have. In contrast, if our results of Studies 1 and 2 are solely driven by processing motivation (for instance because they were instructed to think harder about the messages presented to them), no effect of felt affect (neither indirect or direct) is expected on participants' evaluation.

Opposed to the prior two studies, we will approach consumers' affective state by inducing ad elicited affect instead of mood. While we acknowledge that both affective states (mood and ed elicited affect) are not perfectly comparable (see for example Isen, 1984 an the Introduction part of the present dissertation), we would like to argue that both lead to comparable affective valence effects. We are moreover convinced that this alternative operationalization will increase the generazibility of the results that are obtained in these studies.

If our results of our first two studies are valid, then we should again observe more positive evaluations when mood is positive compared to when mood is negative (i.e. affect-as-information). But when processing motivation is sufficiently high we expect no difference between evaluations in the positive and negative mood condition: when mood is positive, we expect that positive affect will spread towards related positive

constructs, making evaluations more positive (i.e. affect priming). At the same time, negative affect will enhance message scrutiny, such that elaborations in the negative mood condition will also become more positive (i.e. cognitive tuning).

7.2. Participants, Design, and Procedure

Participants were 76 volunteers subjects who were recruited at a major shopping mall in Ghent. They were offered a soft-drink while filling in the questionnaire.

Participants were randomly assigned to a 2 Tonality (emotional versus informational ad) by 2 Valence (positive versus negative ad) full factorial between subjects design. They were received in groups up to 4 by the experimenters, who had some tables available at the shopping mall.

Participants were presented an advertisement promoting a new (fictitious) meat quality label (“Excellent”). After they had read the ad, the ad was taken away by the experimenter, and subjects were asked to fill in the questionnaire containing our dependent measures. All 4 ads were created by a professional copywriter / advertising agency.

We used the tonality of the ad to operationalize our participants’ processing motivation (see further). Tonality was manipulated by using an informational versus an emotional advertising strategy. Although both ads used the same number and similar arguments, the emotional ad focused on more “emotional” aspects by using a large picture (either positive or negative in affective valence, depending upon the condition). The informational ad was more attribute-oriented by focusing the attention on the arguments presented: instead of a vivid picture, a more static and neutral logo was used. Following Chaudhuri and Buck (1995), who found considerable processing differences between emotional and informational ads, we argued that the emotional ad would elicit a more heuristic processing style (i.e. a decrease in processing motivation), while the informational ad would elicit a more systematic and detailed

processing style (i.e. an increase in processing motivation). The ads are showed in Appendix 3.

Affective valence was manipulated using different headlines (“‘Excellent’ controls for potentially harmful substances” versus “‘Excellent’ garanties tasty and healthy meat”), and formulating the same arguments in different affectively valenced ways. Moreover, in our emotional condition, we used a positive versus a negative valenced picture (see Appendix 3).

7.3. Dependent Measures

After ad presentation, our dependent variables were measured.

First of all, an affect manipulation check was included in participants’ questionnaire. This measure asked about how subjects felt after looking at the ad. Items were 6 7-point bipolar items that were derived from Mehrabian and Russel (1974): happy / unhappy, pleased / annoyed, satisfied / unsatisfied, contended / melancholic, hopeful / despairing, relaxed / bored. These items were averaged for analysis (cronbach alpha = 0.81). The items ranged from -3 to 3.

Ad evaluations were measured on 4 7-point semantic differential items (ranging from -3 to +3): positive / negative, love / hate, good / bad, and desirable / undesirable (Simons & Carey, 1998). These items were averaged for analysis (Cronbach alpha = 0.80).

We also measured our participants’ thoughts that they had while reading the ad by using Cacioppo and Petty’s Thought Listing Technique (Cacioppo and Petty, 1981). Participants were instructed to list all the thoughts they had while they were looking at the ad. Afterwards they were asked to indicate whether they considered each thought as positive (“write a ‘+’ in the corresponding column”), negative (“write a ‘-’ in the corresponding column”), or neutral (“write a ‘0’ in the corresponding column”). On the basis of these thought listings we calculated each participants’ “Positivity of

Thoughts"-rating. This final measure was derived by taking the ratio of positive thoughts (as was indicated by our participants themselves) to the total number of thoughts.

7.4. Results

7.4.1. Manipulation check

In general, our positive affective ad elicited more positive feelings compared to our negative ad: $t(69) = 2.76, p < .01$ ($M = 1.38, SD = 1.40$ versus $M = 0.69, SD = 0.94$). This means that our Valence manipulation was successful.

7.4.2. Evaluation of the ad

Figure 3 shows mean ad evaluation scores as a function of Valence and Tonality. Multivariate analysis of variance on our evaluation scores shows a significant interaction effect of Valence and Tonality: $F(1, 69) = 8.81, p < 0.01$. Planned comparisons show that this interaction is due to mood-congruent evaluations in the emotional ad condition ($F(1, 68) = 3.01, p = 0.08$) and to mood-incongruent evaluations in the informational ad condition ($F(1, 68) = 3.93, p = 0.05$). When our participants were confronted with an emotional ad, so when processing motivation was expected to be low, positive affect led to positive evaluations while negative affect led to less positive evaluations ($M = 1.00, SD = 0.98$ versus $M = 0.18, SD = 1.54$). The opposite pattern was found for our informational ad, where processing motivation was expected to be high: when affect was positive, evaluations were more negative than when affect was negative ($M = 0.18, SD = 1.84$ versus $M = 1.16, SD = 1.32$). Nor the main effect of Valence ($F(1, 69) < 1$), nor the main effect of Tonality ($F(1, 69) < 1$) was significant.

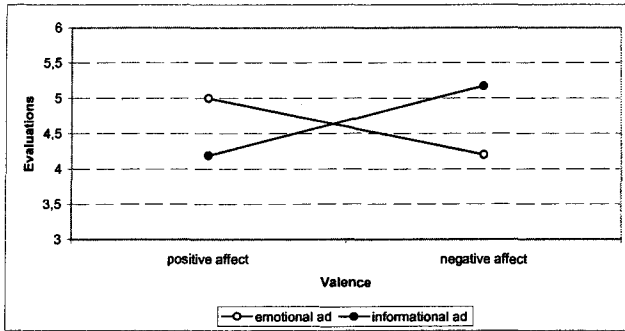


Figure 3: Mean Evaluation Scores as a Function of Valence and Tonality

7.4.3. Mediation of Evaluations by Positivity of Thoughts

The goal was to test whether positivity of thoughts mediated consumers' evaluations under different conditions of felt affect. We hypothesized that under conditions of high processing motivation (informational ad), evaluations are indirectly influenced by felt affect, through a mediation of the positivity of people's thoughts. Under conditions of low processing motivation (emotional ad), no such mediation is expected, and a direct effect of felt affect on people's evaluations is assumed.

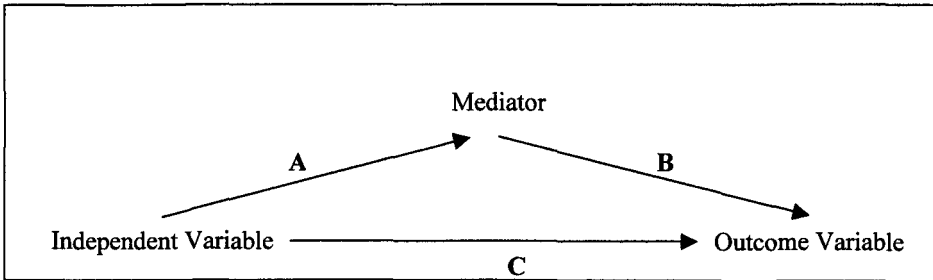
Baron and Kenny's (1986) mediation analysis was used to test this hypothesis. Their mediation model assumes a three-variable system such that there are two causal path feedings into the outcome variable (consumers' evaluations in our case, see Figure 4): the direct impact of the independent variable (felt affect in our study), Path C, and the impact of the mediator (positivity of people's thoughts in the present study), Path B. There is also a path from the independent variable to the mediator (Path A).

A variable functions as a mediator when it meets the following conditions: (1) variations in levels of the independent variable significantly account for variations in the presumed mediator (i.e. Path A), (2) variations in the mediator significantly account for variations in the dependent variable (i.e. Path B), and (3) when Paths A and B are controlled, a previous significant relation between the independent and dependent variables is no longer significant. If the latter criterion is not completely met, we are dealing with a partial mediation.

For each stage of the mediation analysis we estimated a separate regression equation. We did this separately for our informational (high processing motivation assumed) and our emotional (low processing motivation assumed) ad.

The outcomes of the different steps are also visually presented in Figure 5A. For our

Figure 4: Mediation Model



informational ad, we found a significant effect of felt affect on participants' evaluations (i.e. path C): $B = 0.55$, $p = 0.001$. This is consistent with Baron and Kenny's first criterion. We also found, consistent with the second criterion (i.e. path A), a significant relationship between our participants' felt affect and their positivity of thoughts: $B = 0.31$, $p = 0.08$. We only found a partial mediation, since both felt affect (i.e. path C) AND positivity of thoughts (i.e. path B) had an effect on participants' evaluations: $B = 0.40$, $p = 0.007$ and $B = 0.48$, $p = 0.002$ respectively. An additional indirect test of this mediation effect is given by Sobel (1982). As in Figure 4, the path from the independent variable to the mediator is denoted as A and its standard error is S_A ; the path from the mediator to the dependent variable is denoted as B and its standard error is S_B . The exact formula, given multivariate normality for the standard error of the indirect effect or AB is the square root of $B^2S_A^2 + A^2S_B^2 + S_A^2S_B^2$. According to Sobel's test, the mediation effect of our results is near to significant: $t(29) = 1.63$ and $p = 0.10$.

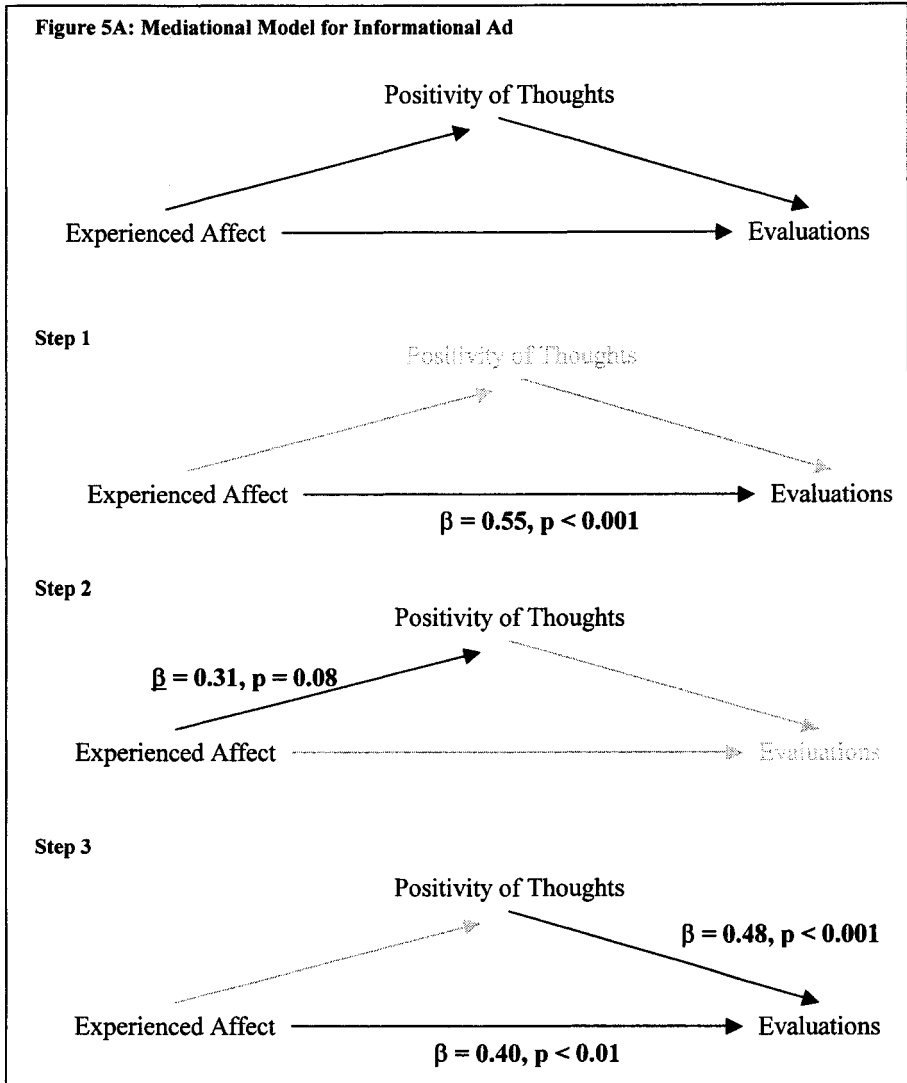
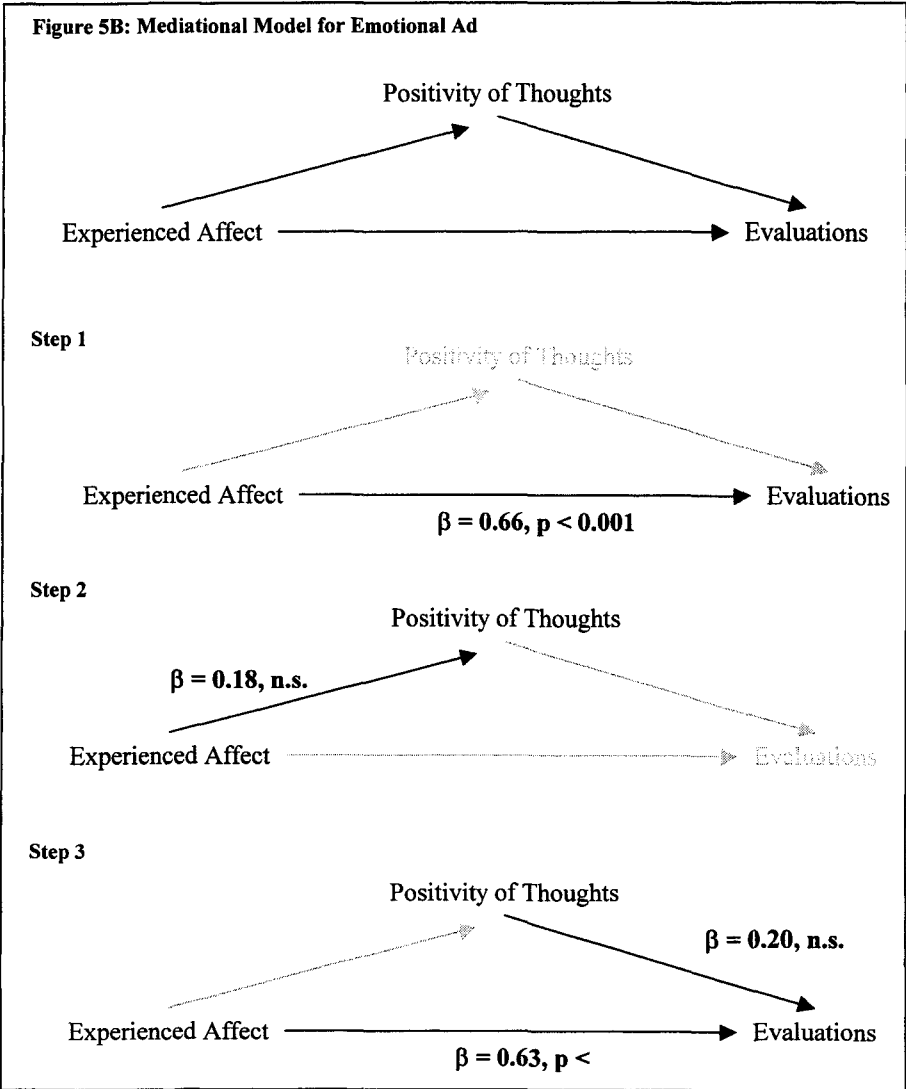


Figure 5B shows the outcomes of our mediation analysis for our emotional ad. We found a direct effect of participants' felt affect on evaluations (path C) ($B = 0.67, p < 0.001$), but the effect of affect on positivity of thoughts ($B = 0.18, p > 0.25$) is not significant. This finding excludes the possibility that felt effect indirectly influenced participants' evaluation of the ad via positivity of thoughts when an emotional ad was presented to them. The latter finding suggests instead a direct influence of affect on evaluations.



7.5. Discussion

As expected, and consistent with the results of our previous studies, we found that under conditions of low processing motivation (emotional ad), evaluations of the ad

were more positive when the surrounding affect was also positive. Also, for our low processing motivation condition, we found no mediation of positivity of thoughts on participants' evaluations: participants' felt affect was taken as direct information for the judgment to be made. Hence, when our ad was emotional, evaluations of the new quality label of meat were more positive when the affect elicited by the ad was positive compared to negative. Moreover, affect in the ad did not affect our participants' thoughts.

In contrast, when processing motivation was high, we found the opposite result: more positive evaluations when the ad elicited negative affect compared to positive affect. Hence, mood-incongruent judgments were obtained. A mediation analysis moreover showed that there was an indirect effect of consumers' felt affect on their evaluations, mediated by their valenced (positive) thoughts. When an emotional ad was used, evaluations of the meat label were more positive when the ad used a negative approach compared to a positive one. Moreover, both positive AND negative affective cues seemed to affect people's thoughts in a positive way.

These results provide evidence for the dual role of affect under conditions of different conditions of processing motivation, as already mentioned by some researchers in the field of persuasive communication. For example, Forgas (1992, 1995) has recently proposed a multiroute model of the impact of affect on judgment (the affect infusion model, or AIM). In the AIM, several information-processing modes are described. Two of the modes address when affect has an impact on judgment, and two address when affect does not have an impact. Specifically, Forgas notes that affect can have an impact on judgments in two ways. In what Forgas calls "heuristic processing", affect influences judgment because people "use their affect as short cut to infer their evaluative reactions to the target". In what he calls "substantive processing", affect influences judgment "through its selective influence on attention, encoding, retrieval, and associative processes (Forgas, 1995, p.40). In essence, these two processing modes map nicely to what Petty concluded on the basis of his 1993 research (Petty et al., 1993), namely that affect can influence judgments under low-processing motivation conditions by serving as a peripheral cue, and under high-elaboration conditions by biasing thinking.

Unexpectedly, we found mood-incongruent judgments in our high processing motivation conditions. On the basis of our assumptions however, we expected no difference in evaluation scores between our positive and negative affect condition. This is because we expected that in our positive affect condition positive affect would prime related positive material, resulting in more positive evaluations (i.e. affect priming hypothesis). At the same time, we expected that negative affect would lead to a more elaborate evaluation of our presented arguments, which would also result in more positive evaluations (i.e. a cognitive tuning hypothesis). In reality, we only found evidence for our cognitive tuning hypothesis, that is: only when felt affect was negative we found more positive evaluations.

One possible explanation for this effect is that we measured attitudes towards the ad (A_{ad}) and not, as in our previous studies, attitudes towards the brand (A_b). As is evident from the literature, there is not necessarily a one-to-one relationship between A_{ad} and A_b , so it may not be completely correct to treat A_{ad} the same way as A_b . So it may be that our observed results are not due to persuasive effects, but are simply caused by temporary advertising effects. While some authors suggest a one-way causal flow from A_{ad} to A_b (the so called excitation transfer hypothesis, see Gardner, 1985), others have argued that there is no relationship at all between A_{ad} and A_b (the independent influences hypotheses, see Howard, 1977). While a likeable (read positive) ad is often associated with more positive brand attitudes (for a review, see for example Geuens, 1997), a disliked ad (read negative affective ad) can sometimes lead to positive brand evaluations (e.g. Batra and Stayman, 1999). In the literature, there are a number of explanations formulated for this "law of extremes" (Moore and Hutchinson, 1985; Ray and Batra, 1983; Aaker and Bruzzone, 1985, Batra and Stayman, 1990): (1) a negative ad catches the attention and increases information processing without transferring the negative affect to evaluation of the brand, (2) after a certain amount of time one forgets the bad impression one had of the ad while product information is remembered (this is the so called sleeper-effect), and (3) an emotional ad distracts attention away from the message, leading to a decrease in cognitive elaboration and consequently, a decrease in counterargument production. While this theorizing can account for our results under conditions of high processing motivation, it still does not explain our observed differences between high and low processing motivation conditions. Research suggests moreover that the nature of the

relationship between A_{ad} and A_b also seems to be dependent upon consumers' level of processing motivation (MacKenzie & Lutz, 1989). Although this is a very interesting topic, a careful examination of the differences between A_{ad} and A_d , is behind the scope of the present study, and would lead us too far. What we believe is important about the above argumentation is that the lack of a complete consistency between the present study and study 2 may be due to the difference in structure between A_{ad} and A_d . In the next (and final) study we will also look at A_b .

Another possible explanation for the lack of an affect priming effect in our high processing motivation condition can be that the mental schema of meat was too negative in order for positive activation to be spread towards related constructs; That is, because we were in the middle of a meat crisis, participants may have had no positive associations available connected to meat (except for "tasting good"). We collected the data from August to December 2000, and our country was only just recovering from a dioxin crisis. At the same time, there was a lot of political debate concerning BSE health-related issues, and during this time, the discovery of another BSE contaminated cow regularly reached the news. Given all this negative media attention, it is possible that our participants had no positively valenced thoughts associated with meat, such that activation could not spread itself towards similarly valenced (positive) constructs. As for negative affect (cognitive tuning): careful consideration of the pros and cons (as a result of increased elaboration) was very likely to result in more positive evaluations. After all, given all these crises, there was a need for more quality control with regard to meat consumption. As for our next meat study, we waited until the media fuss concerning meat related issues had cooled down, such that a number of positive meat-related associations could be expected.

8. Study 4

8.1. Introduction

The purpose of our fourth and last study was to replicate the findings of our third study, and to try to find some evidence for affect priming under conditions of high processing motivation (in which we did not succeed in our Study 3).

Our first study was almost identical to Study 3, except for the fact that we waited until the worst part of the meat crisis was over. We conducted this research from August to December 2001.

We also measured participants' attitudes towards the new meat label ("Excellent"), instead of only the attitude towards the ad.

In this study, we also wanted to make a distinction between affect that is diagnostic for the evaluation, and affect that is not diagnostic for the evaluation to be made. In our prior studies, we only looked at the valence of the affect, not to its diagnosticity. Recently, Pham (1998) pointed out that the degree of relevance of the affect has a considerable impact on consumers' subsequent decision process. He found that consumers with a consummatory motive (e.g. reading a novel for pleasure) were more influenced by their feelings when making a decision compared to consumers who had instrumental motives (e.g. reading a tax manual to prepare tax return). This means that, because subjects with a consummatory motive are primarily concerned with their affective experience and, consequently, find feelings toward the target very relevant they also take into account their feelings when making evaluations. In contrast, subjects who have instrumental motives are much less concerned with their affective experience and thus find feelings toward the target less relevant. Our purpose is to take a closer look at these "relevance effects". We therefore included a condition with affective pictures that were related to meat – a good looking and tasting steak (positive affect) and a patient in the hospital, presumably as a consequence of unhealthy meat (negative affect) – and a condition with pictures that are unrelated to meat – a picture of a happy family (positive affect) and a picture of a bloody

laboratory instrument (negative affect). The respective ads are included in Appendix 4. Note that the ads that we used in Study 3 were the non-diagnostic ones (happy family and laboratory instrument). We expected that, in general, our diagnostic ads would be more effective than our non diagnostic ads.

8.2.Participants, Design and Procedure

Participants were 154 volunteer subjects (only people who are responsible for making purchases) that were recruited at the entrance of a large supermarket in Ghent. They were offered a soft-drink while filling in the questionnaire.

Participants were randomly assigned to a 3 Tonicity (Informational, versus Emotional / Diagnostic, versus Emotional Non Diagnostic Ad) x 2 Valence (positive versus negative affective ad) full factorial between subjects design. In total, there were 6 different ads. They were individually approached by the experimenters who had some tables available near the entrance of the supermarket.

As in the previous study, participants were presented an ad promoting a new (fictitious) meat quality label (“Excellent”). After they had read the ad, the ad was taken away by the experimenter, and subjects were asked to fill in the questionnaire containing our dependent measures. All 6 ads were created by the same professional copywriters as in the 3rd study. The only difference was the inclusion of some diagnostic emotional ads (see above). We also increased the size of the ads a little bit, since a few participants of the previous study complained that the text of the ads was somewhat small. Ads are shown in Appendix 4.

8.3.Dependent measures

In addition to the measures that were used in the previous study (affect manipulation check (Mehrabian and Russell, 1974), Positivity of Thoughts (Cacioppo and Petty, 1981) and attitude towards the ad), we also measured participants’ attitudes towards the new meat label. This was done by using a 9-point bipolar scale ranging from -4 to

+4. Five items were included: negative / positive, disapprove / approve, bad / good, undesirable / desirable, not needed / needed. These items were averaged for analysis (cronbach alpha = 0.95).

8.4. Results

8.4.1. Manipulation check

Participants felt significantly more happy after seeing the positive ads compared to after seeing the negative ads: $t(148) = 6.45, p < 0.001$ ($M = 1.58, SD = 1.06$ versus $M = 0.30, SD = 1.34$). Importantly, we found no difference in pleasure between our diagnostic and our non diagnostic picture ads: $t(100) = 0.23, p > 0.80$. If this would have been the case, then possible differences could be ascribed to differences in strength of affective valence evoked by the different pictures.

8.4.2. Evaluation of the ad

Figure 7 shows mean ad evaluation scores for each Tonality condition and each Valence condition. A two-way ANOVA showed a main effect of Valence: $F(1, 145) = 19.20, p < 0.001$. In general, evaluations of the ad were more positive when the ad elicited positive affect, compared to when the ad elicited negative affect ($M = 1.29, SD = 1.55$ versus $M = 0.15, SD = 1.65$). The effect of Tonality was not significant ($F(2, 145) = 1.15, p > 0.30$), while the interaction effect of Valence and Tonality was near to significant ($F(2, 145) = 2.57, p = 0.11$). Closer inspection of this very weak interaction (i.e. planned comparisons) revealed that both in the emotional diagnostic as well as in the emotional non-diagnostic Tonality condition evaluation of the ad was more positive when its affective valence was positive compared to negative: $F(1, 145) = 18.27, p < 0.001$ ($M = 1.61, SD = 1.63$ versus $M = -0.29, SD = 1.77$) for the emotional diagnostic condition and $F(1, 145) = 4.12, p < 0.05$ ($M = 0.95, SD = 1.40$ versus $M = 0.06, SD = 1.54$) for the emotional non-diagnostic condition. For the informational Tonality condition however, no significant difference between affective

conditions was found ($F(1, 145) = 1.84, p > 0.15, M = 1.31, SD = 1.62$ versus $M = 0.67, SD = 1.65$). Additional planned comparisons showed that evaluations in the informational ad condition (where affect priming AND cognitive tuning is expected) were significantly more positive than evaluations of the condition where no, or negative effects of affect were expected (e.g. the emotional diagnostic, negative affect condition): $F(1, 144) = 10.30, p < 0.001$.

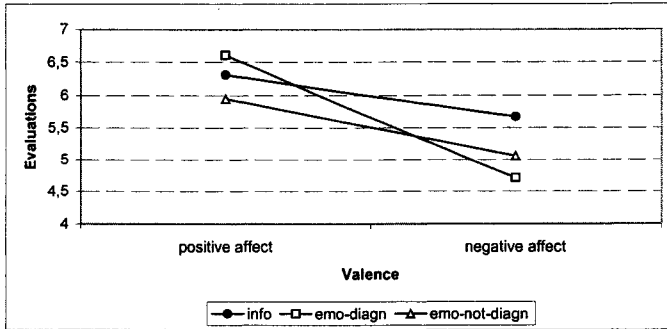


Figure 6 Mean Ad Evaluation Scores as a Function of Affect and Tonality

8.4.3. Evaluation of the brand (quality label)

Figure 8 shows mean brand evaluation scores as a function of Tonality and Valence. A two-way ANOVA showed no main effect of Valence ($F(1, 147) < 1$), and a near to significant effect of Tonality: $F(2, 147) = 2.30, p = 0.10$. In general, evaluations were more positive when the ad was emotionally diagnostic ($M = 2.55, SD = 1.36$) compared to when it was emotionally non-diagnostic ($M = 1.89, SD = 1.88, F(1, 147) = 4.58, p < 0.05$). More importantly however, we also found a significant interaction effect between Valence of the ad and its Tonality: $F(2, 147) = 2.80, p = 0.06$. Planned comparisons show that the difference in affective valence of the ad is only significant in the emotional diagnostic condition ($M = 3.04, SD = 1.08$ versus $M = 2.42, SD = 1.65; F(1, 147) = 4.90, p < 0.05$). Nor in the emotional non-diagnostic, nor in the informational Tonality condition, a significant Valence effect was obtained (both reveal $F(1, 147) < 1$).

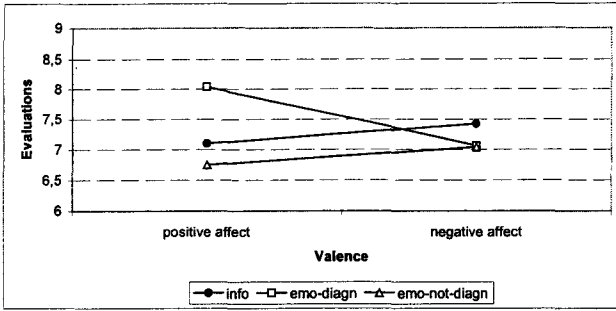


Figure 7 Mean Brand Evaluation Scores as a Function of Affect and Tonality

8.4.4. Comparison of Aad and Ab

We also wanted to compare scores of brand evaluations and ad evaluations. We therefore performed separate analysis for each Tonality condition, with Valence of the ad as between-subjects variable and Evaluation (Aad versus Ab) as within-subjects variable.

For our emotional diagnostic condition we found both a main effect of Valence ($F(1, 49) = 16.30, p < 0.001$) as well as a main effect of Evaluation ($F(1, 49) = 57.00, p < 0.001$). These effects show that in general, the positive ad was valenced more positive compared to the negative ad ($M = 1.62, SD = 1.36$ versus $M = 0.74, SD = 1.71$). Also, evaluations of the new quality label (i.e. the brand) were more positive than evaluations of the ad ($M = 2.72, SD = 1.37$ versus $M = 0.66, SD = 1.71$). The interaction effect between Valence and Evaluation ($F(1, 49) = 3.76, p = 0.05$) shows that the effect of valence is somewhat stronger for the Aad-scores.

For our emotional-non diagnostic Tonality condition we did not find a main effect of Valence ($F(1, 51) < 1$). However, we did find a significant main effect of Evaluation: $F(1, 51) = 31.05, p < 0.001$. In general, evaluations of the new quality label were far more positive than evaluations of the ad ($M = 1.90, SD = 1.88$ versus $M = 0.50, SD = 1.47$). We also obtained a significant interaction effect: $F(1, 51) = 6.44, p < 0.05$. For our Aad scores, evaluations were more positive when affect was positive compared to negative ($M = 0.95, SD = 1.40$ versus $M = 0.06, SD = 1.54$). In contrast, for our Ab

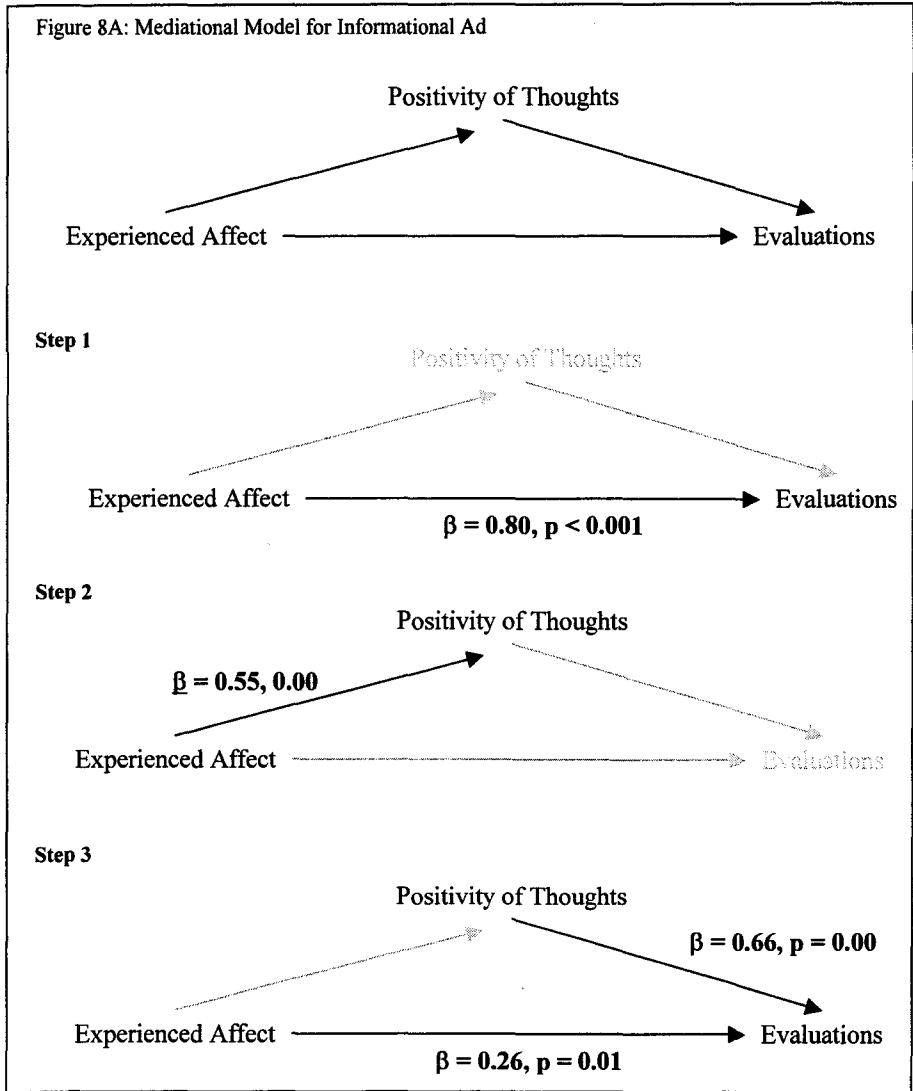
scores, evaluations were more positive when affect was negative compared to positive ($M = 1.75$, $SD = 1.95$ versus $M = 2.03$, $SD = 1.81$).

For our informational condition we found a no main effect of Valence ($F(1, 44) < 1$). But we did find a main effect of Evaluation ($F(1, 44) = 30.94$, $p < 0.001$). In general, attitudes towards the brand were more positive compared to attitudes towards the ad ($M = 2.25$, $SD = 1.36$ versus $M = 0.99$, $SD = 1.64$). More interesting however, is that we also obtain a significant interaction between Valence and Evaluation: $F(1, 44) = 4.77$, $p < 0.05$. For our Aad-scores, we found that attitudes were more positive when affect was positive compared to when it was negative ($M = 1.31$, $SD = 1.62$ versus $M = 0.67$, $SD = 1.65$). For our Ab-scores, the opposite pattern was found, that is: more positive brand evaluations if affect is negative compared to positive ($M = 2.10$, $SD = 1.25$ versus $M = 2.42$, $SD = 1.45$). These effects are very similar to the effects that we obtained for our emotional non-diagnostic condition.

8.4.5. Mediation of Positive Thoughts

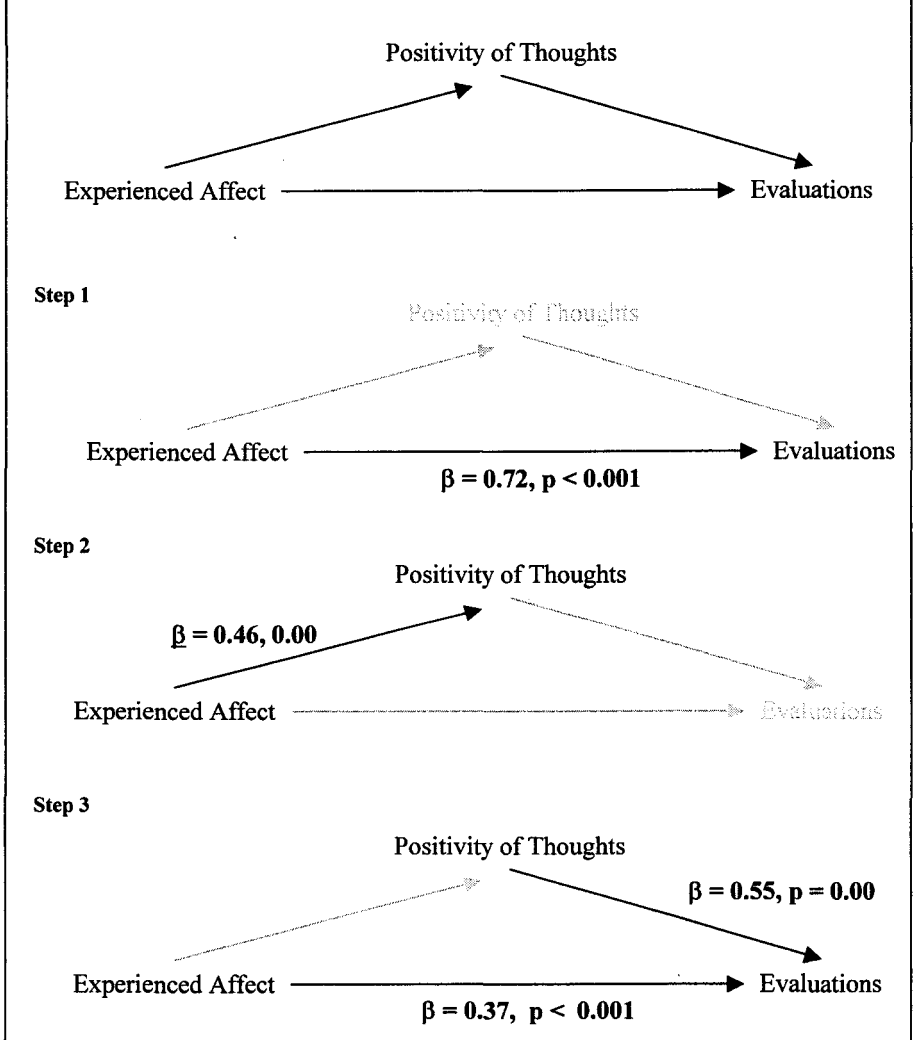
For each stage of the mediation analysis we estimated a separate regression equation. We did this separately for our three Tonality conditions: emotional diagnostic ad, emotional non-diagnostic ad, and informational ad. Figure 9A to 9C visually presents the different steps of the mediation analysis per Tonality condition.

For our emotional diagnostic ad, we found a significant effect of felt affect on participants' evaluations: $B = 0.72$, $p < 0.001$. We also found a significant relationship between our participants' felt affect and their positivity of thoughts: $B = 0.46$, $p < 0.001$. Hence, the first two criteria of Baron and Kenny's mediation model (1986) are met. In addition, both felt affect ($B = 0.37$, $p < 0.001$) as well as positivity of thoughts ($B = 0.55$, $p < 0.001$) are significantly associated with participants' evaluation of the ad. This latter result indicates that positivity of thoughts partially mediates participants' evaluations of the brand. Sobel's (1982) indirect test of mediation also confirms this effect: $t(46) = 2.57$ and $p = 0.01$.



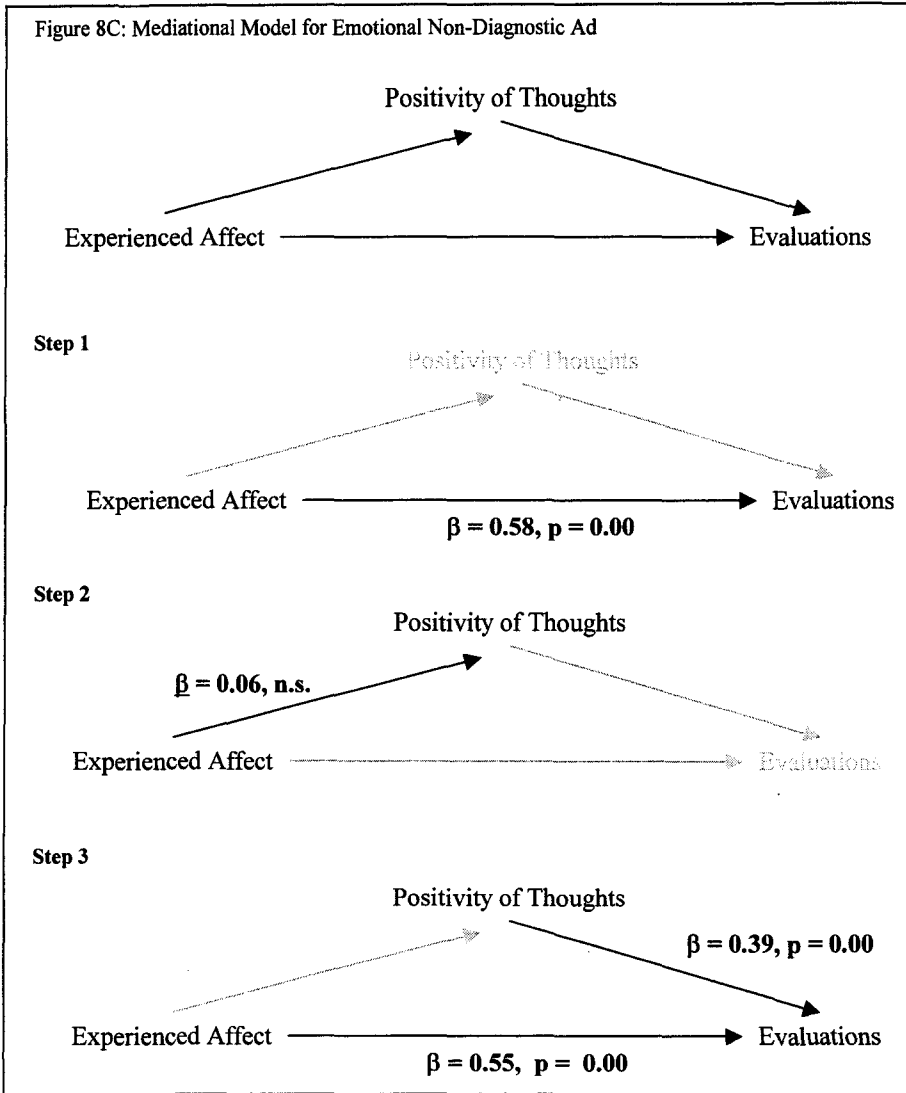
For our emotional non-diagnostic ad, we also found a significant effect of felt affect on participants' evaluation ($B = 0.58, p < .001$), but we were unable to obtain a significant relationship between participants' felt affect and positivity of thoughts. Hence, Baron and Kenny's second criterion is not met. This excludes the possibility that positivity of thoughts mediates the relationship between felt affect and ad evaluation. When a non diagnostic emotional ad is used, felt affect seems to directly affect evaluations, without affecting the thoughts that people have.

Figure 8B: Mediational Model for Emotional Diagnostic Ad



The results of our informational ad are consistent with the results that we obtained in Study 3. We found a significant effect of felt affect on participants' evaluations: $B = 0.80, p < 0.001$. This is consistent with Baron and Kenny's first criterion. We also found, consistent with the second criterion, a strong and significant association between felt affect and participants' positivity of thoughts: $B = 0.55, p < 0.001$. Also, both felt affect ($B = 0.26, p = 0.01$), as well as positivity of thoughts ($B = 0.66, p < 0.001$), are strongly linked with ad evaluations, indicating that when the ad is

Figure 8C: Mediation Model for Emotional Non-Diagnostic Ad



informational, participants' positive thoughts seem to partially mediate their evaluations. Sobel's test confirms this: $t(43) = 2.24, p = 0.02$.

8.5. Discussion

As in the previous study, we found evidence for the dual role of affect under conditions of different processing motivation. When processing motivation was

assumed to be low (as in our emotional ad condition), we found a direct effect of participants' felt affect on their evaluation. However, when processing motivation was high (as in our informational ad condition), we found an indirect effect of felt affect on evaluations, mediated by positivity of thoughts. This means that, when subjects are motivated to think about the message arguments, affect has an influence on evaluations by biasing thinking.

The results from our ad evaluation measures are consistent with our expectations: when processing motivation was sufficiently high, we found evidence for both cognitive tuning (expected to take place when felt affect was negative) and affect priming (expected to take place when felt affect was positive). That is, evaluations in both positive and negative affective conditions did not differ significantly from each other, and, more interestingly, were more positive compared to conditions where no effects of affect were expected (as was the case for the emotional non-diagnostic – negative ad condition). Together with the results of Study 3 (where we did not find evidence for affect priming), these results suggest that affect priming seems to depend upon the availability of other, similar valenced, related (associated) material. This conclusion is derived from our postulation that, since the meat crisis had subsided at the beginning of the fourth study compared to the third study, participants would have more positive associations available. This resulted in the fact that people in the second meat study were far more able than those in the third study to form positive beliefs while confronted with meat. After all, negative health-related issues were less prominent in the media landscape.

When processing motivation was low, as was the case for example in the emotional ad condition, our ad evaluation results are consistent with the affect-as-information hypothesis: affect was taken as informative for the judgment, without affecting the thoughts that participants had while looking at the ad.

An interesting, and unexpected result was obtained from the data in our emotional-diagnostic condition. In contrast with the emotional non-diagnostic condition, participants' felt affect that resulted from seeing the relevant (instead of the irrelevant) pictures in the ad, resulted in a corresponding effect on ad evaluations *that was mediated* by the positivity of participants' thoughts. This result is very similar to

affect priming, which is usually observed under conditions of high processing motivation. Note that the emotional diagnostic ad condition was assumed to result in low processing motivation, since the focus was on the ads picture. Moreover, the ad differed in nothing but the relevance of the picture from the emotional non-diagnostic ad, where we obtained the expected direct effect of felt affect on evaluations. How can this be explained? One possibility is that the relevant picture did increase subjects' processing motivation (e.g. it made them more attentive to meat, and more involved with meat related health issues), such that affect could spread itself towards related, positive concepts. This explanation resembles what can be expected from an affect priming account. Because the focus was on the visual aspect of the ad, they did not elaborate deeper on the information given, such that no cognitive tuning effect was found. This all being post hoc, it would surely be very interesting to conduct more research with regard to differences between diagnostic and non-diagnostic emotional pictures in relation to both high and low processing motivation conditions.

The results of our brand evaluation measure (evaluation of the new quality label) are a bit more equivocal than expected. But that does not mean that they are less interesting or thought provoking. They definitely promote further research into the topic. The A_b (brand evaluation) results indicate only affect-congruent evaluations when the picture in the ad is diagnostic (relevant) for the judgment to be made. That is, while there are also affect-congruent ad-evaluations observed when the picture is not diagnostic for the ad, this effect seems to generalize itself to brand evaluations *only when* the felt affect *is diagnostic* for the judgment. These results are in line with Pham's (1998) finding that especially when affect is relevant / diagnostic for the task, it will be instantiated in the decision-making process and color decisional outcomes. Although this is somewhat a different line of research, it would be interesting to try to replicate our diagnosticity findings in follow-up studies with different operationalizations and manipulations.

The effects of our A_b and A_{ad} results together suggest that there is not necessarily a rectilinear relationship between ad evaluation and brand evaluation, as is for example suggested by the "superiority of the pleasant" hypothesis (e.g. Silk & Vavra, 1974; Shimp, 1981). According to this hypothesis, the more people like the ad, the more they like the brand. The core idea is that the consumers' reaction to the commercial

will be generalized to the brand via some conditioning process (e.g. Gorn, 1982; MacKenzie & Lutz, 1982; Mitchell & Olson, 1981). Such a simple positive association between A_{ad} and A_b was obtained in our emotionally diagnostic condition, but not in our other conditions. The results of our informational ad for example, more or less resemble the “law of extremes” hypothesis, which postulates a J-shaped relationship between liking an advertisement and its effectiveness (see for example Aaker & Bruzzone, 1985). This model suggests that irritating or negatively valenced advertisements can be more effective than neutral, although less so than well-liked advertisements. One of the explanations that is provided in the literature for this J-shaped effect of advertising effectiveness, is that in some contexts, attention and processing could be stimulated (as a result of negative affect) without the negative reaction being transferred directly to the brand (see for example Aaker & Bruzzone, 1985; Moore & Hutchinson, 1983; Ray & Batra, 1983). This explanation very much resembles our cognitive tuning account under conditions of sufficient processing motivation. It is striking that we both found evidence for the “superiority of the pleasant” as for the “law of extremes” hypothesis. This suggests that, similar to the dual role of affect, there can be two routes to ad effectiveness, depending upon the audience’s processing motivation and / or diagnosticity of affect in the ad. This also may be another interesting line of subsequent research.

9. General discussion

Taken together, the results of our studies suggest that the effects of affect (mood or affect in the ad) on the evaluation of a product category that has negative connotations can not be ascribed to a single explanatory mechanism. When subjects are not very involved to process the information, they seem to rely on their current mood-state (or felt affect) while making a judgment. Moreover, under these conditions of low processing motivation, subjects’ mood (or their felt affect) seems to directly affect their judgments, without intervening with their thoughts. These findings are consistent with the affect-as-information account, which postulates that people seem to take their current feelings as informative for their judgment (e.g. Schwarz & Clore, 1983). Especially when the judgment task is ambiguous (e.g. Gorn, Pham & Sin, 2001) and /

or when processing motivation is low (Petty et al., 1993; Forgas, 1995), people seem to simply inspect the way they currently feel when they are asked to make a product or ad evaluation.

Our results showed a somewhat different pattern when our participants were highly motivated to process the ad. At first sight, we did not find any effect between our positive or negative mood conditions (see for example Study 1). Closer inspection however suggested that there were two mechanisms responsible for our mood effects: affect priming (when mood was positive) and cognitive tuning (when mood was negative). If the felt affect was positive, it seemed to spread itself towards related constructs, resulting in more positive evaluations overall (e.g. Bower, 1981). The lack of such a mood effect when positive associations are scarce (such as when one has to evaluate a meat label in the middle of a meat crisis, see study 3) provides additional evidence for an affect priming account under conditions of positive mood. At the same time, negative affect seemed to increase processing motivation, resulting in an increased elaboration of presented message arguments (see also Mackie & Worth, 1989). Elaborating harder (as a function of negative affect) on why one should wear a condom resulted in more positive product evaluations. This effect only occurred when there were sufficient message arguments available to elaborate on. When subjects were presented a visual ad (see for example Study 2), as could be expected, no effect of mood on evaluations was observed. The alternative explanation as could our “null-finding” be ascribed to the mere increase in motivation, can be excluded by the establishment of a mediation effect of positivity of thoughts on evaluations: participants’ judgments were indirectly influenced by their experienced affect, through the valence of their thoughts. This is what both affect priming as well as cognitive tuning would predict.

The observation of both affect-as-information on the one side, and affect priming and cognitive tuning on the other side, was established with a variety of negatively valenced product categories and services (blood donation, condoms and meat consumption) and under a different number of operationalizations (mood, felt affect,...). The findings are moreover consistent with a dual-process view of affective persuasion (see Petty et al., 1993; Forgas, 1995). That is, the role of affect seems to be different depending upon the processing motivation of the consumer. When

processing motivation is relatively high, positive affect influences both thoughts and evaluations, but when processing motivation is relatively low, positive mood influences evaluations but not thoughts.

A very interesting theoretical finding is the fact that we found evidence for cognitive tuning under conditions where processing motivation was sufficiently high. Our results suggest that in the case of sufficient processing motivation, feeling negative motivates one to process the information in a detailed manner, resulting in more positive product evaluations. The latter result is, to our knowledge, new and never before demonstrated in the literature. However, the fact that negative mood motivates information processing is not new, and is for example consistent with the view that negative affect signals that the situation poses a problem, and that some kind of action is needed to change the problematic situation (see for example Ottati et al. 1997). We believe that our unique finding can only be obtained by using product categories that are negative in valence, a design issue that to our knowledge, is never before encountered in other persuasion-related studies. The lack of such a cognitive tuning finding in other mainstream persuasion studies can be ascribed to the fact that prior studies purely looked at product categories that call for neutral to mildly positive associations. There could have been a cognitive tuning account present, only, resulting in the opposite effect: more negative judgments when mood is negative. This is not so surprising, since it is well documented in the persuasion literature that negative affect leads to an increase in message scrutiny. Since people put more effort into this careful consideration of message arguments, the likelihood increases that counterarguments are formulated, and that evaluations become more negative (see for example Batra and Stayman, 1990). Our results seem to indicate that this is somewhat different if the product category is associated with negative feelings and beliefs. As was also suggested by Bagozzi (1996), further elaboration on a schema that is initially negatively valenced in nature (such as blood donation) will increase the likelihood that positive associations come to mind, resulting in more positive evaluations when one is in a negative mood.

In sum, when one has to deal with product or services that have negative associations, the effects of mood depends upon a number of conditions. First, if people are not very motivated to process, it seems that positive mood, or positive affect, leads to

corresponding positive evaluations (i.e. mood-congruent evaluations). Second, if people are motivated to process (for example as when the product is very important for them), both positive and negative mood seem to enhance product evaluations. Positive mood (affect) causes a spread of activation towards related positive constructs. This makes it important that there are positive constructs available. It is assumed that this is for example not the case for very negative products (for example meat for a vegetarian). Negative mood causes a higher motivation to process, resulting in an increased message scrutiny. It is therefore important to provide strong and pervasive message arguments in this condition.

10. Practical Implications

Several practical implications follow from the present series of studies. If a marketer for example wants to promote his product that automatically activates a negative schema, for example genetically manipulated food, choosing between an informational or an emotional ad will have serious consequences. Emotional and informational ads both elicit different processing styles. If one chooses for an emotional ad, one can best use an ad that elicits positive, diagnostic, affect. In this instance, the positive affect in the emotional ad will result in more positive evaluations of the genetically manipulated food. This is because an emotional ad is less likely to call for a detailed and systematic processing. In our study, the emotional ad elicited an affect-as-information effect: with positive affect resulting in more positive evaluations and negative affect resulting in more negative evaluations. This all, without affecting people's thoughts. If an informational ad is chosen, both positive as well as negative affect can elicit more positive evaluations of the genetically modified food product. That is to say, if a number of conditions are met. If the mental schema (genetically manipulated food) is extremely negative for example, than there are no related positive associations where the positive affect can spread to (i.e. affect priming under positive mood conditions). If this is the case, one can best use negative affect. Since negative affect evokes message scrutiny (i.e. cognitive tuning under conditions of negative mood), one can best make use of strong, pervasive and very

persuasive message arguments, since these arguments color thoughts and influence judgments.

Marketers should also take into account consumers' level of involvement or processing motivation. Low involvement in the persuasion process² calls for a positive approach, since affect-as-information (typically associated with low involvement or low processing motivation) results in mood-congruent evaluations. This can for example have serious implications in the domain of ad-placement, since one can better place a commercial after a happy compared to a sad television program (e.g. the Cosby Show compared to the daily news), or in a happy compared to a neutral to negative thought evoking magazine. If one is in contrast highly involved in the persuasion process³, and at least for negatively valenced product categories, it does not seem to matter much whether one is in a positive or in a negative mood. Both seem to elicit more positive evaluations compared to a more neutral mood condition. Some considerations however: (a) make sure that the product category is not extremely negative (if one deals with positive affect; otherwise the positive affect can not be spread towards associated positive beliefs / constructs) and (b) foresee in strong and pervasive message arguments (if one deals with negative affect; since people will base their evaluations on the strength and persuasiveness of the presented arguments).

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² For example when personal interest in the product is low, or when there is very little risk associated with the purchase situation, or when an ad has insufficient informational value,...

³ As when for example the product matters a lot to the consumers, or when a very attractive promotional action is currently undertaken by a manufacturer / retailer.

discussion during this working paper seminar was very fruitful and delivered some nice additional insights.

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Appendix 1

Stimulus Material of Study 1

Bloed geven aan de universiteit: een must !

Wat?

De universiteit van Gent is van plan bloed geven vanaf het academiejaar 2000-2001 verplicht te maken voor elke voltijdse student. Dit zal inhouden dat elke student die voldoet aan de vereisten minstens 1 maal per academiejaar zal moeten bloed geven.

Waarom?

Bloed geven is zeer belangrijk. Wie bloed geeft helpt andere mensen. Wie weet kan er zelfs een leven mee gered worden. Je kan bloed geven zien als een kans om op gratis doktersbezoek te gaan. En het is nog gezellig ook. Het is een uitstekende gelegenheid om nieuwe mensen te ontmoeten. Bovendien is het zo dat alle bloedinzamelacties plaatsvinden in hygiënische situaties en onderworpen zijn aan strenge controles. Een bijkomende reden om bloed te geven is het feit dat dit steeds een goede indruk maakt op sollicitatiegesprekken.

Wie ?

Natuurlijk is niet iedereen geschikt om bloed te geven. Daarom werden enkele vereisten opgesteld. In principe kan al wie minstens 18 jaar is en gezond is bloed geven. Er zijn echter nog een aantal bijkomende voorwaarden. Zo worden homoseksuelen niet toegelaten, evenals mensen die seksuele partners hebben die tot een risicogroep voor Aids behoren. Bovendien mogen bloedgevers geen drugs gebruiken, alsook geen contraceptiva. Ook vegetariërs en bezitters van tropische diersoorten worden niet toegelaten.

Appendix 2A
Stimulus Material of Study 2

Textual Ad

Flexus condooms : een must !

Wie ?

Ben jij nog vrijgezel, heb je iemand op het oog, heb je reeds een vaste vriend/vriendin, of ben jij iemand die graag experimenteert ?

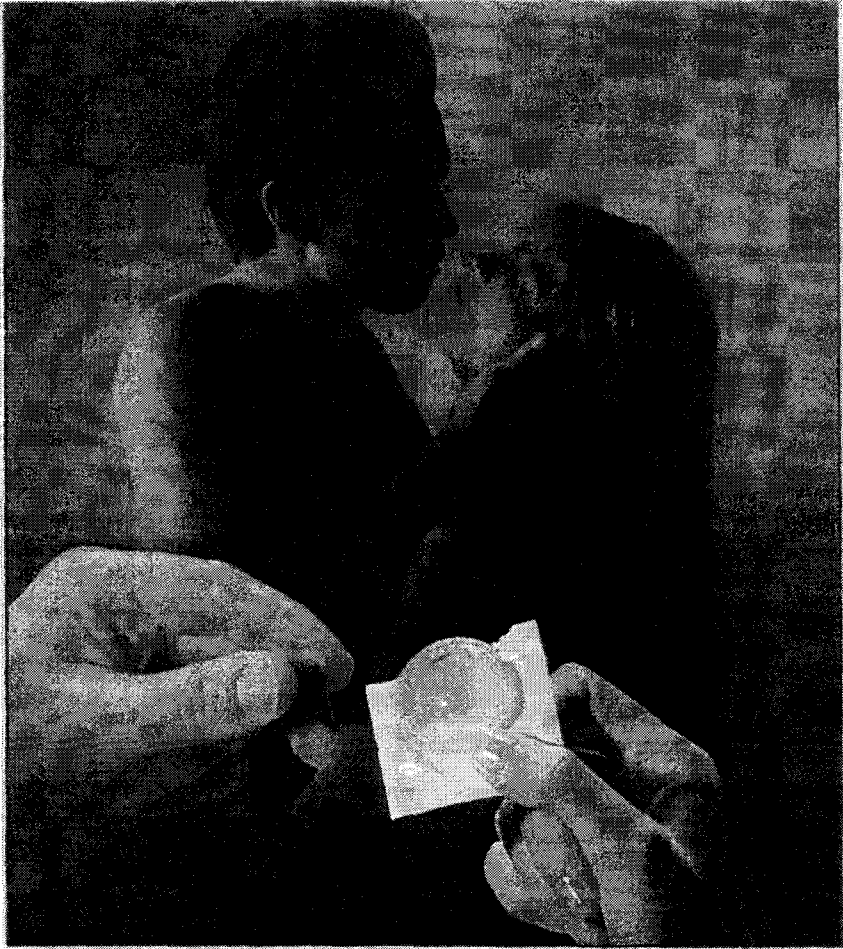
Flexus condooms zijn in elke situatie de juiste reflex.

Waarom ?

Flexus condooms beschermen je tegen AIDS. Ze kunnen lang bewaard worden, en beschermen je tegen allerlei seksueel overdraagbare ziektes. Flexus condooms zijn goedkoop en ze kunnen de angst om voor de eerste keer met iemand te vrijen, verlagen. Bovendien zijn ze een goed voorbehoedsmiddel, en beschermen ze je bij wisselende seksuele contacten. Flexus condooms kunnen het liefdesspel zelfs leuker maken.

Appendix 2B
Stimulus Material of Study 2

Visual Ad



Flexus Condooms : een must !

Appendix 3A
Stimulus Material of Study 3

Emotional Positive Ad



Excellent garandeert

lekker en gezond rundvlees!

Onze kinderen zijn de toekomst. Als ouder doet u er alles aan om hen het beste te geven. En daar maakt een gezonde voeding natuurlijk een onontbeerlijk deel van uit. Ook als u ze rundvlees geeft wilt u absolute zekerheid dat het om kwaliteitsrundvlees gaat. Dus kiest u dan zonder aarzelen voor vlees met het Excellent-label. Dan koopt u niet alleen vlees dat heerlijk maar is lekker is, maar dat ook voldoet aan de strengste eisen wat betreft kwaliteit en veiligheid.

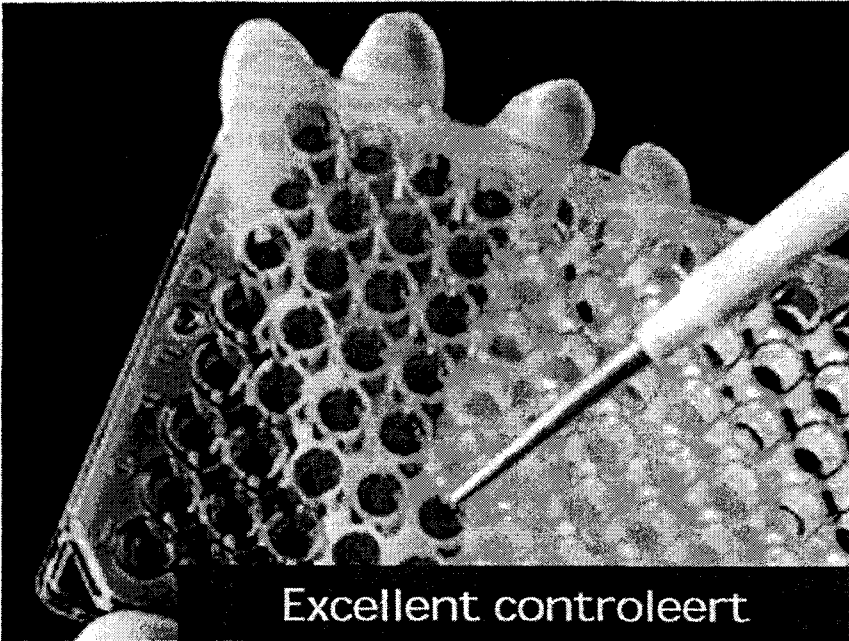
De boerderijen die Excellent-runderen kweken en de Excellent-slachterijen behoren tot de elite op het vlak van hygiëne. Ook dragen zij dier-vriendelijkheid hoog in het vaandel (weinig dieren per boerderij, gezondheid van de dieren, kwaliteitsvoeding, beperken van het leed van de dieren). Excellent werkt bovendien met een stutland controlesysteem dat nog een stuk verder gaat dan de wettelijke controles. Inbreuken op de Excellent-normen resulteren dadelijk in een levenslange schorsing van de veehouder. Let op ons label in uw winkel en geniet met een gerust gemoed van uw natuurlijk en maar stukje kwaliteitsrundvlees.



Excellent, het kwaliteitslabel voor rundvlees

Appendix 3B Stimulus Material of Study 3

Emotional Negative Ad



Excellent controleert

op schadelijke stoffen.

Bent u ook bang om uw gezondheid op het spel te zetten als u rundvlees eet? De rundvleessector heeft immers heel wat problemen gekend de laatste jaren. Via de introductie van het kwaliteitslabel Excellent bieden we u nu meer veiligheids garanties aan.

Onze controle begint reeds in de boerderij. Vismel, vlees- of beendermeel en dierlijke vetten zijn uitgestoten in het rantsoen van de runderen. Uw rundvlees wordt daarna in laboratoria gecontroleerd op afwezigheid van

dierengeneesmiddelen (antibiotica, verdovingsmiddelen en ontwormingsmiddelen) en contaminanten (zware metalen, pesticiden, PCB's en dioxine) door het VBL en het PROBO. In het slachthuis zorgen we ervoor dat de Ph-waarde (zuurtegraad) na het slachten lager blijft dan 6. De karkasselectie gebeurt hier door de cel residuen van het HGF.

Tenslotte zorgt een rijping van 7 tot 9 dagen voor een mals stukje kwaliteitsrundvlees. In 1999 weerhielden we 10% van de rundvleesproductie wegens inbreuken op de EU-richtlijnen. Vertrouw dus op Excellent!



Excellent, het kwaliteitslabel voor rundvlees

Appendix 3C
Stimulus Material of Study 3

Informational Positive Ad



EXCE

Excellent garandeert
lekker en gezond
rundvlees

Wilt u absolute zekerheid dat u kwaliteits-rundvlees op uw bord krijgt? Kies dan zonder aarzelen voor vlees met het Excellent-label. Dan koopt u niet alleen vlees dat heerlijk ma's en lekker is, maar dat ook voldoet aan de strengste eisen wat betreft kwaliteit en veiligheid. De boerderijen die Excellent-runderen kweken en de Excellent-slachterijen behoren tot de elite op het vlak van hygiëne.

Ook dragen zij diervriendelijkheid hoog in het vaandel (weinig dieren per boerderij, gezondheid van de dieren, kwaliteitsvoeding, beperken van het leed van de dieren). Excellent werkt bovendien met een sluitend controlesysteem dat nog een stuk verder gaat dan de wettelijke controles. Inbreuken op de Excellent-normen resulteren dadelijk in een levenslange schorsing van de veehouder. Let op ons label in uw winkel en geniet met een gerust gemoed van uw natuurlijk en ma's stukje kwaliteitsrundvlees.

Excellent Excellent, het kwaliteitslabel voor rundvlees

Appendix 3D
Stimulus Material of Study 3

Informational Negative Ad

EXCE

Excellent controleert op schadelijke stoffen.

De rundvleessector heeft problemen gekend de laatste jaren. Via de introductie van het kwaliteitslabel Excellent bieden we u nu meer veiligheids garanties aan.

Onze controle begint reeds in de boerderij. Vismeei, vlees- of beendermeel en dierlijke vetten zijn uitgesloten in het ranksoen van de runderen. Uw rundvlees wordt daarna in laboratoria gecontroleerd op afwezigheid van diergeneesmiddelen (antibiotica, verdovingsmiddelen en ontwormingsmiddelen) en contaminanten (zware metalen, pesticiden, PCB's en dioxine) door het VBL en het PROBO. In het slachthuis zorgen we ervoor dat de Ph-waarde (zuurtegraad) na het slachten lager blijft dan 6. De karkasselectie gebeurt hier door de cel residuen van het HGF. Tenslotte zorgt een rijping van 7 tot 9 dagen voor een mals stukje kwaliteitsrundvlees. In 1999 weerhielden we 10% van de rundvleesproductie wegens inbreuken op de EU-richtlijnen. Vertrouw dus op Excellent!

Excellent Excellent, het kwaliteitslabel voor rundvlees

Appendix 4A
Stimulus Material of Study 4

Emotional Positive Ad: Diagnostic Condition



Onze kinderen zijn de toekomst. Als ouder doet u er alles aan om hun het beste te geven. En daar maakt een gezonde voeding natuurlijk een onontbeerlijk deel van uit. Ook als u ze rundvlees geeft wilt u absolute zekerheid dat het om kwaliteitsrundvlees gaat. Dus kiest u dan zonder aarzelen voor vlees met het Excellent-label. Dan koopt u niet alleen vlees dat heerlijk smaakt en lekker is, maar dat ook voldoet aan de strengste eisen wat betreft kwaliteit en veiligheid.

De boerderijen die Excellent-runderen kweken en de Excellent-slachterijen behoren tot de elite op het vlak van hygiëne. Ook dragen zij dier-vriendelijkheid hoog in het vaandel (weinig dieren per boerderij, gezondheid van de dieren, kwaliteitsvoeding, beperken van het leed van de dieren). Excellent werkt bovendien met een strikt controlesysteem dat nog een stuk verder gaat dan de wettelijke controles. Inbreuken op de Excellent-normen resulteren dadelijk in een levenslange schorsing van de veehouder. Let op ons label in uw winkel en geniet met een gerust gemoed van uw natuurlijk en maats stukje kwaliteitsrundvlees.



Excellent, het kwaliteitslabel voor rundvlees

Appendix 4B
Stimulus Material of Study 4

Emotional Negative Ad: Diagnostic Condition



Bent u ook bang om uw gezondheid op het spel te zetten als u rundvlees eet? De rundvleessector heeft immers heel wat problemen gekend de laatste jaren. Via de introductie van het kwaliteitslabel Excellent bieden we u nu meer veiligheidsgaranties aan.

Onze controle begint reeds in de boerderij. Vis-meel, vles-of beendermeel en dierlijke vetten zijn uitgesloten in het ransoen van de runderen. Uw rundvlees wordt daarna in fabriektoestanden gecontroleerd op aanwezigheid van

dierengeneesmiddelen (antibiotica, verdovingsmiddelen en ontwormingsmiddelen) en contaminanten (zware metalen, pesticiden, PCB's en dioxine) door het VBL en het PROBO. In het slachthuis zorgen we ervoor dat de Ph-waarde (saurtegraad) na het slachten lager blijft dan 6. De karkasselectie gebeurt hier door de celresiduen van het HGE.

Tenslotte zorgt een rijping van 7 tot 9 dagen voor een mals stukje kwaliteitsrundvlees. In 1999 weerhielden we 10% van de rundvleesproductie wegens inbreuken op de EU-nichtlijnen. Vertrouw dus op Excellent!



Excellent, het kwaliteitslabel voor rundvlees

Appendix 4C
Stimulus Material of Study 4

Emotional Positive Ad: Non-Diagnostic Condition



***Excellent garandeert
lekker en gezond rundvlees!***

Onze kinderen zijn de toekomst. Als ouder doet u er alles aan om hen het beste te geven. En daar maakt een gezonde voeding natuurlijk een onontbeerlijk deel van uit. Ook als u te rundvlees geeft wilt u absolute zekerheid dat het om kwaliteitsrundvlees gaat. Dus kiest u dan zonder aarzelen voor vlees met het Excellent-label. Dan koopt u niet alleen vlees dat heerlijk maakt en lekker is, maar dat ook voldoet aan de strengste eisen wat betreft kwaliteit en veiligheid.

De boerderijen die Excellent-runderen kweken en de Excellent-slachterijen behoren tot de elite op het vlak van hygiëne. Ook dragen zij diervriendelijkheid hoog in het vaandel (weinig dieren per boerderij, gezondheid van de dieren, kwaliteitsvoeding, beperken van het leed van de dieren). Excellent werkt bovendien met een sluitend controlesysteem dat nog een stuk verder gaat dan de wettelijke controles.

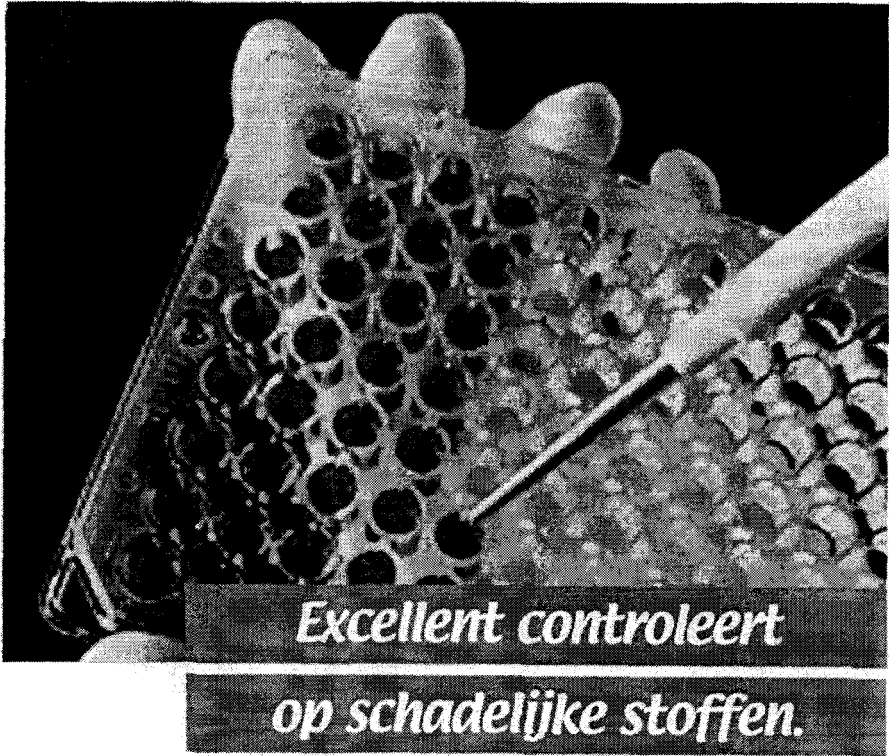
Irreukten op de Excellent-normen resulteren dadelijk in een levenslange schorsing van de veehouder. Let op ons label in uw winkel en geniet met een gerust gemoed van uw natuurlijk en maatschappelijk verantwoordelijk kwaliteitsrundvlees.



Excellent, het kwaliteitslabel voor rundvlees

Appendix 4D Stimulus Material of Study 4

Emotional Negative Ad: Non-Diagnostic Condition



Bent u ook bang om uw gezondheid op het spel te zetten als u rundvlees eet? De rundvleessector heeft immers heel wat problemen gekend de laatste jaren. Via de introductie van het kwaliteitslabel Excellent bieden we u nu meer veiligheids garanties aan.

Onze controle begint reeds in de boerderij. Vismel, vlees- of boendermeel en dierlijke vetten zijn uitgesloten in het ransoon van de rundieren. Uw rundvlees wordt daarna in laboratoria gecontroleerd op aanwezigheid van

dierengeneesmiddelen (antibiotica, verdovingsmiddelen en ontwormingsmiddelen) en contaminanten (zware metalen, pesticiden, PCB's en dioxine) door het VBL en het PROBO. In het slachthuis zorgen we ervoor dat de P₅₀-waarde (zuurtegraad) na het slachten lager blijft dan 6. De karkasselectie gebeurt hier door de cel residuen van het HGE. Tenslotte zorgt een rijping van 7 tot 9 dagen voor een mals stukje kwaliteitsrundvlees. In 1999 weerhielken we 10% van de rundvleesproductie wegens inbreuken op de EU-richtlijnen. Vertrouw dus op Excellent!



Excellent, het kwaliteitslabel voor rundvlees

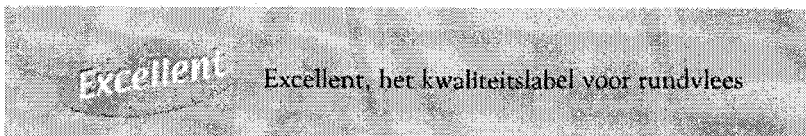
Appendix 4E
Stimulus Material of Study 4

Informational Positive Ad



Wilt u absolute zekerheid dat u kwaliteits-rundvlees op uw bord krijgt? Kies dan zonder aarzelen voor vlees met het Excellent-label. Dan koopt u niet alleen vlees dat heerlijk mals en lekker is, maar dat ook voldoet aan de strengste eisen wat betreft kwaliteit en veiligheid. De boerderijen die Excellent-runderen kweken en de Excellent-slachtingen behoren tot de elite op het vlak van hygiëne.

Ook dragen zij diervriendelijkheid hoog in het vaandel (weinig dieren per boerderij, gezindheid van de dieren, kwaliteitsvoeding, beperken van het leed van de dieren). Excellent werkt bovendien met een sluitend controlesysteem dat nog een stuk verder gaat dan de wettelijke controles. Intrekken op de Excellent-normen resulteren dadelijk in een levenslange schorsing van de veehouder. Let op ons label in uw winkel en geniet met een gerust gemoed van uw natuurlijk en mals stukje kwaliteitsrundvlees.



Appendix 4F Stimulus Material of Study 4

Informational Negative Ad



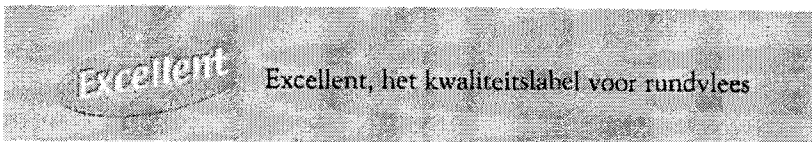
De rundveessector heeft problemen gekend de laatste jaren. Via de introductie van het kwaliteitslabel Excellent bieden we u nu meer veiligheidsgaranties aan.

Onze controle begint reeds in de hoederij.

Vismel, vlees- of beendermeel en dierlijke vetten zijn uitgesloten in het rantsoen van de runderen.

Uw rundvlees wordt daarna in laboratoria gecontroleerd op aanwezigheid van dieren-geneesmiddelen (antibiotica, verdovingsmiddelen

en ontwormingsmiddelen) en contaminaten (zware metalen, pesticiden, PCB's en dioxine) door het VBL en het PROBO. In het slachtproces zorgen we ervoor dat de Ph-waarde (zuurtegraad) na het slachten lager blijft dan 6. De karkasselectie gebeurt hier door de cel-residuen van het HKE. Tenslotte zorgt een rijping van 7 tot 9 dagen voor een maler stukje kwaliteitsrundvlees. In 1999 weerhielden we 10% van de rundvlees-productie wegens inbreuken op de EL-richtlijn. Vertrouw dus op Excellent!



Chapter 5

How Arousal Affects Consumers' Use of Persuasion Knowledge



Chapter 5

How Arousal Affects Consumers' Use of Persuasion Knowledge

1. Abstract

This study investigates the influence of consumers' state of activation (arousal) on their use of persuasion knowledge to cope with persuasion attempts. In order for persuasion knowledge to be used (Campbell & Kirmani, 2000) consumers need to have sufficient processing capacity available. Since high levels of arousal have been found to reduce processing capacity (e.g. Eysenck, 1982), we hypothesized that when consumers are highly aroused, they are less likely to use persuasion knowledge. Results of 3 studies are consistent with this prediction, and indicate that when arousal is high, consumers' are more likely to succumb to even blatant persuasive tactics.

2. Persuasion Tactics and Persuasion Knowledge

Consumers are often confronted with marketer attempts to influence their preferences or choices. Especially in a retail setting recommendations are mixed signals. To some extent they may reflect sincere and diagnostic information to help the consumer improve her outcomes. But they may also reflect ulterior motives, for example as when salespeople receive larger commissions on the products they recommend or praise. Consumer welfare would require that consumers are able to discount salespeople's words or actions to the extent that they are driven by mere ulterior motives.

The Persuasion Knowledge Model (Friestad & Wright, 1994) states that consumers cope with persuasion attempts using acquired knowledge about marketer influence tactics. Persuasion knowledge reflects what they know about the persuasive attempts of advertisers and marketers. It includes beliefs about marketers' motives, strategies and tactics; about the effectiveness and appropriateness of these attempts; and about ways to deal with these attempts (see for example Campbell and Kirmani, 2000).

Persuasion knowledge acts as a schema: it guides consumers' attention to aspects of an advertising campaign or sales presentation, it provides inferences about the agent's (i.e. for example the salesperson or the advertising firm) underlying motives, and it generates predictions about the outcome of the observed persuasion attempt. In the field of advertising for example, Kirmani and Wright (1989) and Kirmani (1990) observed that consumers make spontaneous inferences about the quality of a brand on the basis of their perceived advertising costs: moderate perceived advertising costs seem to reflect high quality products, while either extremely high or low costs are associated with products of inferior quality. According to Kirmani and Wright for example, perceived costs act as a signal of a manufacturer's advertising effort, and this in turn reflects (to a certain degree) managerial confidence in the product. Also, persuasion knowledge provides in further information about how to cope with the persuasion attempt. For example, when a consumer starts to have doubts about the salesperson's sincerity, he or she may decide to leave the store without further listening to the salesperson's persuasive talk. Or he can decide to start a discussion, and try to get a good deal either way.

The Persuasion Knowledge Model presumes moreover that people's persuasion knowledge is developmentally contingent. People learn about persuasion in many ways: from firsthand experiences in social interactions with friends, family and co-workers; from conversations about how people's thoughts, feelings, and behaviors can be influenced; from observing marketers and other persuasion agents; and from commentary on advertising and marketing tactics in the news and media (Friestad & Wright, 1994). Campbell and Kirmani (2000) moreover point out that persuasion knowledge compounds of a loose set of beliefs or intuitive beliefs, that are not

necessarily accurate. Hence, what a consumer believes to be a blatant persuasion attempt, is not always meant as such by the marketer.

3. Factors that Influence the Use of Persuasion Knowledge

Surprisingly little consumer research has addressed how and when consumers are able to use their persuasion knowledge. Campbell and Kirmani (2000) suggested that inferences about persuasion motives are influenced by at least two factors: a) their accessibility from memory, and b) the cognitive capacity available to the consumer.

3.1. Accessibility

Accessibility refers to how easily a mental construct (such as persuasion knowledge) is activated from memory (Higgins and King 1981). This ease of retrieval is influenced by factors such as: The expectations that consumers have, the strength and intensity of the association between ulterior motive and consumers' persuasion knowledge, the frequency of activation of the ulterior motive, and also the recency of activation.

One can expect that, during a sales encounter, the motive of influencing the prospective customer in order to make a sale or a commission is likely to be more accessible than other motives, for example building long-term relationships or making the prospect feel good. Consistent with this, Sujan, Bettman, and Sujan (1986) show that consumers are more likely to associate clothing salespeople with a focus on selling the product than with a focus on determining customers' needs.

Campbell and Kirmani (2000) found that increased levels of accessibility of a disguised selling motive led to heightened use of persuasion knowledge. On the basis of scenarios, their subjects had to evaluate a salesperson in a clothing store making a compliment to a customer. In one condition he made this compliment after the

customer had bought a product. In the other condition he made the same compliment before she bought the product, which should activate consumers' persuasion knowledge regarding the salesperson's ulterior motive (e.g. try to sell as much as possible). As expected, the participants evaluated the salesperson in the latter scenario as less sincere than in the former.

3.2.Cognitive Resources

Research shows that the use of persuasion knowledge also depends upon the availability of cognitive resources. In the field of person perception it is found that when people have to draw inferences about others' behavior, people first draw a correspondent inference about the behavior, and then correct this inference with information about situational constraints, such as ulterior motives (e.g. Gilbert & Malone, 1995; Gilbert, Pelham, & Krull, 1988). Whereas the first stage (making inferences on the basis of observed behavior) appears to be largely automatic, the correction stage (i.e. adjusting the inferences for additional situational influences) requires higher-order attributional processing (e.g. Winter & Uleman, 1984). It can therefore be assumed that making higher-order inferences about possible situational constraints or ulterior motives (hence, applying one's persuasion knowledge) requires an essential amount of cognitive capacity (e.g. Gilbert, Pelham & Krull, 1988). Hence, the more cognitive resources the consumer has available, the higher the likelihood that she employs persuasion knowledge when making a judgment. Campbell and Kirmani (2000) found that when their participants were cognitively "busy" (i.e. when they had to perform other simultaneous and cognitive demanding tasks), they evaluated the salesperson as more sincere compared to when they were not cognitively "busy".

Campbell and Kirmani's work is a useful starting point for investigation, but may overstate the ability of consumers to really deal with persuasion attempts. Their conclusions are based on participant's reactions to scenarios, and as such may reflect consumer theories on how they should cope with persuasion tactics rather than their actual reactions in such circumstances. Our study will contribute to this literature by testing whether persuasion knowledge is applied in a response to actually experienced

marketing tactics. We subject participants in our study to a blatant attempt to influence their preferences, and manipulate both the salience of the ulterior motive and the arousal provoking properties of background music.

4. Arousal

Arousal is defined as the level of alertness or activation, ranging on a continuum from extreme drowsiness to extreme alertness (Humphreys & Revelle, 1984). In addition, it is assumed that arousal is a non specific form of activation, meaning that both positive as well as negative forms of arousal exist (see Schachter & Singer, 1962): delight as a positive emotional state for example is associated with high levels of arousal, and anger as a negative emotional state is also associated with high levels of arousal.

Arousal has considerable effects upon the way people process information, as well as on the way evaluations are made (for a review see Bagozzi, Gopinath, & Nyer 1999). In general, an inverted U-relation is found between arousal and performance. In the early 80's, Cacioppo (1979) for example found that an acceleration of people's heart beat (as a method to induce content free arousal) led to increased levels of cognitive elaboration. By placing a capped versus uncapped magnet over a read in each subjects pacemaker, Cacioppo was able to vary heart rate (72 versus 88 beats per minute) without changing other bodily processes and without subjects' awareness that a heart rate change had occurred. Using this manipulation, Cacioppo found that increased heart rate was associated with an increased tendency for subjects to generate counterarguments in response to messages designed to elicit unfavorable cognitive responses.

In contrast, higher levels of arousal have been found to disrupt information processing (e.g. Berlyne, 1969; Zajonc, 1965). In the field of consumer behavior, Sanbonmatsu and Kardes (1988) for example showed that argument strength in an advertisement was most effective in influencing consumers' brand attitudes when they were moderately rather than highly aroused. Under conditions of high arousal,

subjects were not further able to discriminate strong arguments (for example “this pen is guaranteed to write every time”) from weak arguments (for example “this pen is guaranteed to write most of the time”): under conditions of high arousal subjects’ were equally persuaded by weak as by strong arguments in the ad.

In the literature, there is ample evidence that high arousal impairs working memory capacity (Eysenck, 1982; Humphreys and Revelle, 1984). But how does this reduced capacity affect the way consumers evaluate new products or advertisements?

5. Arousal and Persuasion Knowledge: Expectations

The persuasion knowledge model assumes that consumers’ life-long experiences provide them with ample abilities to react to persuasion attempts. We propose that conditions of normal (and presumably optimal) arousal will approach best the situation in which individual coping capability is maximal. The consumer would not only recognize the tactic, but also appropriately discount it in the formation or updating of their attitudes toward the recommended products. Increased arousal will gradually narrow down attention to those features of the situation that are apparently diagnostic for choice, and less capacity demanding (Easterbrook 1959; Pham 1996). Because using persuasion knowledge is capacity demanding (see Campbell & Kirmani, 2000), and high levels of arousal limit processing capacity, we expect that when arousal levels are high, consumers are not very likely to apply their persuasion knowledge when making evaluations. Hence, making salient an ulterior motive is not expected to influence judgments. Instead, we expect consumers to be more likely to accept the superficially diagnostic recommendation of a salesperson, without critical reflection on the underlying reasons for the advice.

More concretely, we expect that when our participants are normally aroused, they will follow the advice of a salesperson when there is no ulterior motive salient, but not when there is an ulterior motive salient (this result would be in accordance with Campbell and Kirmani’s persuasion studies). When arousal is high, they will, because of reduced processing capacities, not apply their persuasion knowledge, and

will follow the advice of the salesperson, even when an ulterior motive is made salient to them.

6. Study 1

6.1. Expectations

The purpose of this first study was to test whether higher levels of arousal would lead to a decreased use of persuasion knowledge when subjects are confronted with an ulterior motive.

6.2. Participants, Procedure and Design

116 undergraduate volunteers were asked to participate in a scientific study sponsored by a market research institute. The design was a 2 Arousal (Medium versus High) x 2 Salience of Ulterior Motive (Not Salient versus Salient) x 2 Promotion (Promoted Brand versus Not Promoted Brand) mixed subjects design. Participants were randomly assigned to one of the between-subjects conditions.

The apparent purpose of the study was to test consumers' evaluations of two German brands of lemonade presumably to be introduced soon on the local market. They were presented two cups of unknown lemonade, and were asked to taste and evaluate both of them. The two cups actually tasted almost identical. To 'facilitate their evaluation', the experimenter always told that she preferred brand X over brand Y, because of its natural taste. To avoid brand effects, preference instructions were counterbalanced across brands. Hence, Promotion (Promoted Brand versus Not Promoted Brand) is a within-subjects factor.

Arousal was a between-subjects factor, manipulated by varying the beat of otherwise identical melodies playing as background music in the test room throughout the

experiment: 30 Beats per Minute (BpM) for the low arousal condition, and 170 BpM for the high arousal condition. In a pretest ($N = 40$), we found that the faster beat induced significantly more experienced arousal than did the slower beat: $t(37) = 11.04, p < .01^1$.

Salience of the ulterior motive was manipulated by the researcher by either wearing a T-shirt of the promoted brand (Salient condition), or by wearing an unrelated T-shirt. (Not Salient Condition). Note that the experimental setting was ambiguous with regard to commercial purpose. Participants were told that it was a scientific study, sponsored by a market research institute, but they were left uncertain and uninformed about its real purpose. We expected that without the branded t-shirt, the researcher's recommendation would be seen as sincere advice. In contrast, when the researcher wore a T-shirt of the brand that she recommended, the ulterior motive of the research (influencing consumers' perceptions and preferences towards one of the brands) would become salient.

6.3. Dependent Measures

The dependent variable was evaluation of both the promoted and the non promoted brand on five 9-point bipolar items (ranging from -4 to $+4$) labeled: good / bad, like / dislike, fresh / musty, tasty / unsavory, love / hate. These items were averaged for analysis (Cronbach alpha = .89).

Also, at the end of the session, subjects were offered a can of lemonade of the brand (Trendy Orange versus Flight) that they most liked. This binomial data yielded our brand choice variable. To exclude experimenter demand effects, the cans were placed in such a position that the participants believed that the experimenter could not see their actual choice.

¹ Arousal was measured using 6 bipolar items that were derived from Mehrabian and Russell (1974): stimulated / relaxed, excited / calm, frenzied / sluggish, jittery / dull, wide awake / sleepy, aroused / unaroused. The items were averaged for analysis (cronbach alpha = 0.89).

6.4. Results

6.4.1. Evaluation scores

Figure 1a shows mean evaluation scores as a function of Promotion of the brand and Salience of the ulterior motive for the Medium arousal condition. Figure 1b shows these scores for the High arousal condition.

A 3-way ANOVA was performed with Arousal and Salience as between-subjects factors and Promotion as within-subjects factor. The results of this ANOVA are presented in Table 1.

Table 1: 3-way ANOVA results of Study 1

Source of Variation	Sum of squares	DF	Mean Square	F	p<
Arousal (Ar)	2.80	112	2.12	1.32	.25
Salience (Sa)	6.52	112	2.12	3.08	.08
Promotion (Pr)	15.34	112	0.83	18.45	.00
Ar x Sa	5.99	112	2.12	2.83	.09
Ar x Pr	0.07	112	0.83	0.08	.77
Sa x Pr	0.27	112	0.83	0.32	.57
Ar x Sa x Pr	3.51	112	0.83	4.22	.04

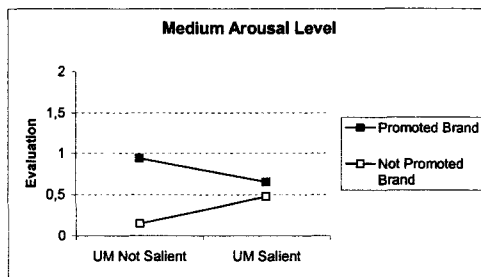


Figure 1 a: Mean Evaluation Scores of the Medium Arousal Condition in Study 1

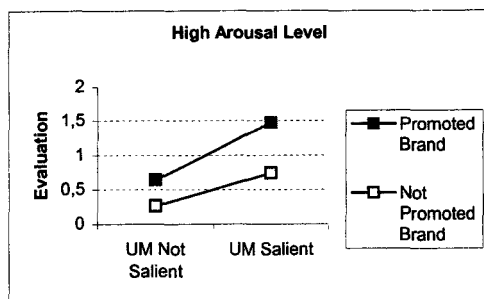


Figure 1 b: Mean Evaluation Scores of the High Arousal Condition in Study 1

We observed a strong main effect of Promotion ($F(1, 112) = 18.45, p < .001$). Evaluations of the promoted brand were significantly higher than evaluations of the non promoted brand ($M = .93, SD = 1.15$ versus $M = .40, SD = 1.30$). This means that in general, the experimenter was able to influence the participants.

The only other significant effect was a 3-way interaction ($F(1, 112) = 4.22, p < .05$) between Arousal, Salience and Promotion. Accordingly, we analyzed both simple two-way interactions.

When arousal was medium, we found that evaluations of the promoted brand were more positive than evaluations of the not promoted brand when the ulterior motive was not salient ($M = 0.94, SD = 1.05$ versus $M = 0.15, SD = 1.35; F(1, 112) = 11.74, p < .001$). This effect was not found when the ulterior motive was made salient ($M = 0.65, SD = 1.27$ versus $M = 0.48, SD = 1.27; F(1, 112) < 1$). When arousal was high, we found no significant difference between promoted and not promoted brand when the ulterior motive was not made salient ($M = 0.63, SD = 1.27$ versus $M = 0.26, SD = 1.19; F(1, 112) = 2.32, p = .13$), but when the ulterior motive was made salient, we found that evaluation of the promoted brand was more positive than the evaluation of the not promoted brand ($M = 1.47, SD = 0.82$ versus $M = 0.74, SD = 1.38; F(1, 112) = 8.84, p = .003$). These results suggest that under conditions of medium arousal, subjects followed the advice of the experimenter when the ulterior motive was not salient, but not when the ulterior motive was salient ($F(1, 112) = 3.55, p = .06$). Interestingly and as expected, when arousal was high, subjects followed the advice of

the experimenter even when the ulterior motive was salient. In this condition, the interaction between Promotion of the brand and Salience of the Ulterior Motive was not significant ($F(1, 112) = 1.07, p = .30$).

In addition, when analyses were performed for our promoted brand alone we found a significant 2 Arousal by 2 Salience interaction effect: $F(1, 112) = 7.45, p < .01$. When arousal was medium, evaluations went down when the ulterior motive was made salient compared to when it was not ($M = .65, SD = 1.27$ vs. $M = .95, SD = 1.05$). The opposite pattern was found when arousal was high: evaluations were more positive when the ulterior motive was made salient compared to when it was not ($M = 1.47, SD = 0.81$ vs. $M = .64, SD = 1.28$). For the not promoted brand, no such interaction effect was found: $F(1, 112) < 1$.

6.4.2. Choice Behavior

Consumers got to choose a can of lemonade of the brand they preferred most. A logistic regression with Salience and Arousal as well as their interaction as independent factors was performed on the binary data (1 if they picked the promoted brand and 0 if they picked the other brand) ($-2LL = 157; \chi^2 = 3.09, p = .37$). The results are shown in Figure 2. We did not find any main effect (Arousal: $p > .20$ and Salience: $p > .90$). The interaction effect was also not significant ($p > .20$).

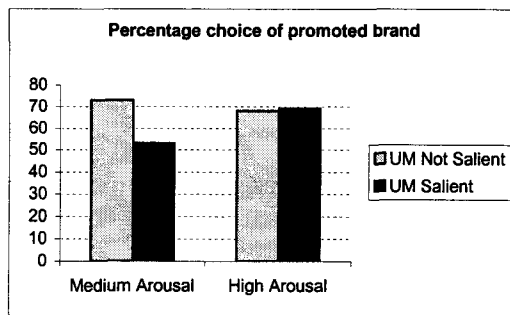


Figure 2: Percentage of Choice of Promoted Brand in Study 1

6.4.3. Choice Behavior, Reduced Data File, Explorative

Analysis

These null findings could be due to some clutter in our experimental procedure. Subjects were allowed to enter the experimental room in groups up to two, and some comments that were sometimes heard while they were picking a can of lemonade was "If you pick this one, I'll pick the other one". This is not so surprising, since it were two unknown brands, and participants presumably wanted to try both cans.

Therefore, we again ran our logistic regression, but excluded all participants that answered inconsistently (i.e. people that evaluated brand X more positive as brand Y, but actually choose for brand Y). The results of this additional analysis are shown in Figure 3 ($-2LL = 134$; $\chi^2 = 4.90$, $p = .18$). Here we find no significant main effects (Arousal: $p > .20$; Salience: $p > .50$). But our interaction effect was significant: $B = 1.60$, $p = .05$. We see in Figure 3 that, when arousal was medium, participants followed the advice of the experimenter more when the ulterior motive was not salient compared to when it was salient. However, when arousal was high, this effect was slightly in the opposite direction. This indicates again, that high arousal makes people less likely to employ their persuasion knowledge.

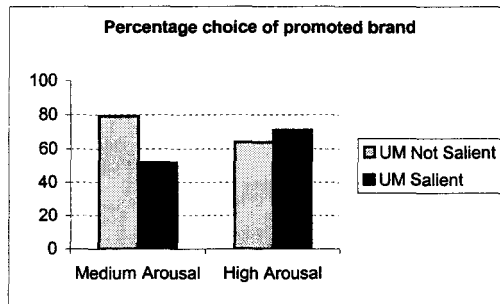


Figure 3: Percentage of Choice Data of Reduced Data File in Study 1

6.5. Discussion

As expected, we found that consumers were less likely to follow the advice of a salesperson when an ulterior motive was made salient compared to when it was not. This finding was found under conditions where participants were medium aroused. In contrast, when arousal levels were high, the opposite pattern was found: consumers were more persuaded when an ulterior motive was made salient compared to when it was not.

These findings can be explained by a reduced processing capacity account, resulting from increased arousal levels (see for example Humphreys & Revelle, 1984). According to studies done by Campbell & Kirmani (2000), consumers need sufficient cognitive resources in order for persuasion knowledge to be used. After all, use of persuasion knowledge is considered as a higher-order attribution process (see Winter & Uleman, 1984) that requires a considerable amount of cognitive resources for it to be applied successfully (Fein, 1996).

Note also that we found a considerable difference between evaluations of both salient and non salient conditions when arousal levels were high. In general, evaluations were more positive when the experimenter wore a T-shirt promoting the brand (salient condition) versus when the T-shirt was not of the promoted brand (non salient condition). It is noteworthy that this finding is not in conflict with our expectations: the T-shirt of the promoted brand can be seen as a peripheral cue (see Petty & Cacioppo, 1986). Especially when processing capacities are limited (as is the case when level of arousal is high), consumers are more likely to base their persuasion on cues that are external (peripheral) to the persuasion process. When consumers follow this “peripheral route” to persuasion, this mostly results in more positive evaluations (see Petty et al., 1991).

One problem of the present study is that we did not control for effects of our pieces of arousing music on people’s mood. Our high arousal piece of music could have

brought people in a positive mood state, while our low arousal piece of music could have brought people in a more negative mood state (or the other way around). Since we did not control for the effect of these mood states, we can not exclude the possibility that our effects were driven by mood, and not by arousal. In line with this, a large body of studies have demonstrated that people's mood states have a considerable effect on both the way that they process information as well as on the way they make evaluations (see for example Bagozzi, Gopinath, & Nyer, 1999). Therefore, it seems natural to assume that people's mood state could also have an influence on their application of persuasion knowledge.

It has been argued in the psychological literature that the processing of information by individuals in positive affective states is characterized as heuristic and less systematic: in general, it is assumed that happy individuals have either reduced processing capacity (e.g. Mackie & Worth, 1989) and / or have reduced processing motivation (e.g. Schwarz, 1990). In contrast, individuals in mildly negative affective states often seem to show a more careful and analytic type of processing (for an overview, see for example Clore, Schwarz, & Conway, 1994; Schwarz & Bless, 1991).

People that are in a good mood, for example, tend to be equally persuaded by strong as by weak arguments, suggesting that when in a good mood, one is not able to differentiate between qualitative different arguments. These findings have accordingly been interpreted as indicating that these people are less likely to engage in "systematic" (Chaiken, 1980, 1987) or "central route" processing (Petty & Cacioppo, 1986) of the content of persuasive messages. Because they appear not to elaborate the content of a message extensively, recipients in a good mood are more likely to be influenced by the use of simplifying cognitive strategies to assess message validity. Similarly, Sinclair and Mark (1995) found that happy participants who were confronted with a statistical problem were less accurate, used fewer digits in their estimates, reported least concentration and wrote less comprehensible explanations compared to their more neutral counterparts.

Translating these findings to the present study, it could have been the case that positive mood (which could have been elicited by the beat music in our high arousal condition) made people less suspicious about the ulterior motive, and made them rely

more on peripheral persuasion cues (the experimenters' T-shirt). While negative mood (in our low arousal condition?) made people more think about the persuasion attempt, resulting in an increased use of persuasion knowledge. In the second study we try to exclude this alternative explanation.

7. Study 2

7.1. Introduction

The purpose of this second study is twofold. First, we want to exclude the alternative explanation as could or effect be ascribed to the effects of mood. As discussed earlier, the high arousal condition of study 1 could have elicited positive affect, and it could have been this positive affect that led to the use of the promotional T-shirt as a peripheral cue. Also, our low arousal condition could have elicited negative affect, and it could have been this negative affect that made subjects *discount* the influence of the peripheral persuasion cue and use their persuasion knowledge instead. Therefore, in the present study, we use an arousal manipulation that is as content free as possible: the ticking of a metronome. Importantly, in a pretest, we will also control for the affect that this metronome elicits under conditions of different ticks per minute (i.e. different levels of arousal).

7.2. Expectations

So if arousal influences consumers' use of persuasion knowledge independent of mood, we should find arousal effects on the application of consumers' persuasion knowledge independent of consumers' mood state: higher levels of arousal should lead to decreased usage of persuasion knowledge.

A second aim of this study is to investigate how positive versus negative affect influences consumers' evaluation of the different brands. Consistent with the literature, we expect that evaluations of all our brands (i.e. both the promoted brand as well as the not promoted brand) will be congruent with subjects mood. That is, evaluations of products will be more positive when subjects are in a positive compared to in a negative mood state. Mood-congruency effects have been well documented in the literature (Mayer, Gashke, Braverman, & Evans, 1992; Mayer, McCormick, & Strong, 1995; Sedikides). One explanation for these mood-congruency effects stems from memory based models (e.g. Bower, 1981). The general explanatory mechanism here is that people in negative moods have more negatively toned memories in mind than do people in positive moods. When people use these mood-congruent memories as the basis for their judgments, the result is a mood-congruent judgment. Hence, for both our promoted AND our not promoted brand we expect mood-congruent judgments.

Since mood also affects consumers' processing capacity (see earlier), we also expect that mood will influence consumers' application of persuasion knowledge. Positive mood seems to be associated with a more heuristic kind of processing, while negative mood is associated with a more systematic kind of processing (see also Isen, 1984; 1987). Therefore we can generally assume that negative mood, compared to positive mood, leads to an increased use of persuasion knowledge. However, since this increased processing motivation will depend upon the actual processing resources that are available to our participants, and since the availability of cognitive resources also depends on participants' state of arousal, we expect that our results are not that clear cut. Therefore, a further examination of this plausible three-way interaction is behind the scope of the present research project.

7.3. Design and Procedure

Subjects were 132 undergraduate students (other than in Study 1) who participated on a volunteer basis. As in the previous study, they were asked to participate in a scientific study that is sponsored by a market research agency. The design was a 2

Arousal (Medium versus High) x 2 Mood (Positive versus Negative Mood) x 2 Promotion (Promoted Brand versus Not Promoted Brand) mixed subjects design.

Except for one baseline condition, we made the ulterior motive salient in every condition. This was done as in the previous study: the experimenter wore a t-shirt of the brand that was promoted. We assumed that the t-shirt should make the experimenter look more suspicious.

The procedure was identical to that used in Study 1, except for the fact that subjects were first brought in the intended mood state (hence, mood was a between-subjects factor). They were told that the Psychology department of the University was working on a "Life Event Inventory", and was still looking for positive (in the positive mood condition) or negative (in the negative mood condition) life events. Subjects were given 5 minutes time to report on one specific, recently experienced, positive or negative life event (see also Bless, Clore, Schwarz, Golisano, Rabe, & Wölk, 1996). This first part of the study was ostensibly unrelated to the remaining of the study (tasting the lemonades), and was done in a different experimental room.

Different as was done in our first study, we manipulated arousal by using the tics of a metronome. We choose for metronome tics because we believed that it was a content-free form of arousal manipulation, and it was not related to affect. In our low arousal condition, there were 25 metronome tics per minute, while in our high arousal condition there were 110 tics per minute. A pretest showed that both manipulations differed with respect to levels of arousal ($t(79) = 5.57, p < .001$), but not with respect to pleasure ($t(79) = 0.22, p > .50$).

We also included a baseline condition where we only manipulated Promotion as a within-subjects factor ("Personally I would prefer brand X over Y", see Study 1). In this baseline condition we did not manipulate mood, arousal or salience of the ulterior motive. Note that because there is no ulterior motive salient in this condition, we expect evaluations of the promoted brand to be very positive.

7.4. Dependent Measures

As in the first study, we measured evaluations of both the promoted and the not promoted brand. The same 5 bipolar items were used as before.

To avoid that people would discuss their brand choice with their confederates, we now provided coupons from which subjects had to choose from on an individual basis. They were told that they could turn in their coupons at a later time (because we ostensibly had troubles with our delivery service).

7.5. Results

7.5.1. Evaluation scores in the 2(Promotion) x 2(Arousal) x 2(Mood) condition

Table 2: 3-Way ANOVA results of Study 2

Source of Variation	Sum of squares	DF	Mean Square	F	p<
Arousal (Ar)	0.71	102	1.16	1.32	.25
Mood (Mo)	9.17	102	1.16	3.08	.08
Promotion (Pr)	12.38	102	0.94	18.45	.00
Ar x Mo	0.73	102	1.16	2.83	.09
Ar x Pr	1.77	102	0.94	0.08	.77
Mo x Pr	0.13	102	0.94	0.32	.57
Ar x Mo x Pr	0.96	102	0.94	4.22	.04

A summary of our analysis of variance is displayed in Table 2. Figures 4a and 4b moreover display Evaluation scores on the promoted and not promoted brand as a function of arousal and mood. In our medium arousal condition, we found no significant difference between the promoted and the not promoted brand $F(1, 102) =$

2.48, $p = .11$ ($M = 0.50$, $SD = 0.83$ versus $M = 0.20$, $SD = 1.24$). In our high arousal condition, we find a substantial difference between evaluation of the promoted and the not promoted brand: $F(1, 102) = 12.69$, $p < .001$. As can be seen in Figure 4b, when arousal was high, evaluations of the promoted brand were more positive compared to evaluations of the not promoted brand ($M = 0.76$, $SD = 0.71$ versus $M = 0.15$, $SD = 1.19$). These results indicate that our participants were not eager to follow the advice of the experimenter when arousal was medium (because they used persuasion knowledge as a result of the salient t-shirt). Moreover, and consistent with expectations, they did follow the advice when arousal was high, even though the ulterior motive (the t-shirt) was made salient. These findings were not caused by mood.

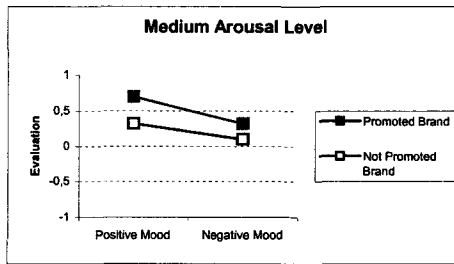


Figure 4a: Mean Evaluation Scores under Medium Arousal Levels in Study 2

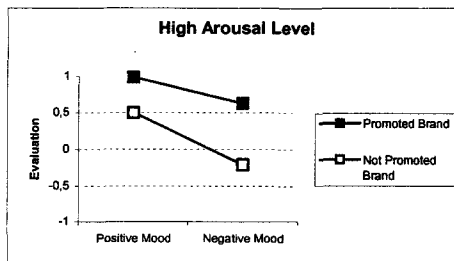


Figure 4b: Mean Evaluation Scores under High Arousal Levels in Study 2

7.5.2. Evaluation scores in the 2 (arousal) x 2 (mood) condition promoted brand condition, comparison with baseline condition

Planned comparisons (for a summary see Table 3) show that when arousal is medium, and the ulterior motive is salient, evaluations are significantly less positive compared to a baseline condition where the ulterior motive is not made salient: $F(1, 127) = 8.64, p = .003$ (see also Figure 5). This suggests that participants notice the ulterior motive and apply their persuasion knowledge when making a judgment. In contrast, when arousal is high, evaluations do not differ significantly from the evaluations in an unbiased baseline condition ($F(1, 127) = 1.88, p > .15$). Despite the salience of the ulterior motive, participants seem to evaluate the promoted brand equally well as when the advice comes from an unsuspecting source (baseline condition). This again suggests that when arousal is high, subjects do not seem to apply their persuasion knowledge.

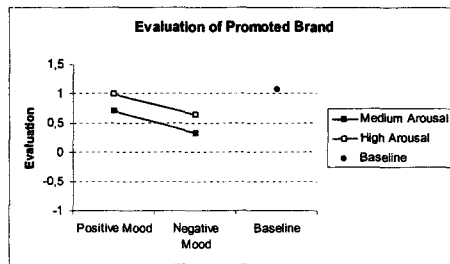


Figure 5: Mean Evaluation Scores of the Promoted Brand, Compared to Baseline Conditions in Study 2

Table 3: Specific Planned Comparisons: Mean Evaluation Scores of the Promoted Brand Compared to the Baseline Condition in Study 2

Arousal	Mood	F(1, 127)	p<
Low	Positive	2.84	.09

Low	Negative	11.48	.0009
High	Positive	< 1	.69
High	Negative	3.97	.04

7.5.3. Actual Choice Behavior

As in the previous study, a logistic regression analysis was performed on the binary choice data (1 if participants' choice was similar to the promoted brand, 0 if else). Arousal and Mood, as well as their interaction were included as independent variables ($-2LL = 123$; $\chi^2 = 16.30$, $p = .001$). The results are shown in Figure 6. We found a significant main effect of Arousal ($B = -2.16$, $p = .003$) as well as a significant main effect of Mood ($B = -1.39$, $p = .05$). Consistent with study 1 and with our evaluation data, we found that participants were more likely to follow the advice of the experimenter if arousal is high compared to when it is low, suggesting that they are less likely to use their persuasion knowledge when they are highly aroused. Also, negative mood seemed to heighten acceptance of experimenters' advice more than positive mood. The interaction was not significant.

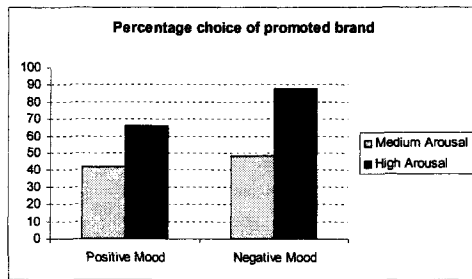


Figure 6: Percentage Actual Choice Behavior in Study 2

7.6. Discussion

Our results are consistent with the results found in the first study, and with our proposition that increased levels of arousal decrease the application of persuasion knowledge. Under conditions of increased arousal, our participants seemed to be more persuaded by the experimenter compared to when arousal levels were normal. This was the case even though the ulterior motive (wearing a T-shirt of the promoted brand) was made very salient to participants. Also, when levels of arousal were high, our participants were equally persuaded by the "sales encounter" as when this encounter reflected a sincere attempt to help participants make a decision (our baseline control condition). In contrast, when normally aroused, our participants were far less persuaded by the encounter compared to participants in the baseline condition. This latter finding suggests, as in our first study, that our manipulation of the ulterior motive (the T-shirt) had been successful in inducing consumer suspicion. Moreover, our data reflecting actual choice behavior also indicate that when an ulterior motive was made salient, our participants were more eager to follow the experimenters' advice when under high compared to under normal arousal conditions.

Our results question whether successful coping with persuasion attempts is as common as suggested by the persuasion knowledge model, and the results of Campbell and Kirmani. In their study the mere awareness that an attempt preceded a purchase appeared sufficient to cue participants to the ulterior motives of the sales person. We demonstrated that these results are not generalizable. Our participants were faced with a probably unexpected and blatant attempt to influence their preferences. Also the cue to ulterior motives was blatant and impossible to ignore. Appropriate discounting only occurred when the environmental conditions were such that arousal was optimal, and available cognitive resources at a maximum. When situationally induced arousal was high, the opposite pattern was found: consumers were more persuaded when an ulterior motive was made salient compared to when it was not. Moreover, the salient identification of the researcher with one brand added to the apparent diagnosticity of her recommendation, and strengthened preference for the recommended brand. The field setting of the experiment did not allow us to take process measures, but the reported interaction is only consistent with the inference

that in the high arousal condition available persuasion knowledge was not activated, or at least not integrated in an appropriate manner with marketer provided cues.

Since we carefully controlled for effects of affective valence (different speeds of metronome ticks did not lead to any changes in participants' affective state) and since we did not find any significant interaction effects, we can safely conclude that our persuasion knowledge results are not caused by differences in mood state. Arousal by itself seemed to have been responsible for decreased usage of participants' persuasion knowledge.

Our results are consistent with the mood-literature in the sense that we found a significant main effect of mood (for a review see for example Bagozzi et al. 1999): for both the promoted and not promoted brand we found more positive evaluations when mood was positive compared to when mood was negative. This indicates that mood seemed to have colored all judgments, independent of which brand was or was not promoted.

With regard to the effects of mood, the results of our actual choice behavior (picking one of the two brands of lemonade) seem in contraction with the data obtained from our evaluation measures. Consistent with the affective persuasion literature (see Bagozzi et al. 1999 for a review) we found that evaluations of the promoted brand (and also of the not promoted brand) were more positive when mood was positive compared to when mood was negative. In contrast, and surprisingly, the main effect of our logistic regression indicates that when mood was positive compared to negative, our participants were *less likely* to choose for the promoted brand, even though evaluations were more positive. Critical reflection however indicates that for our brand evaluation data, mood affected *all* evaluations, that is: of both the promoted *and* the not promoted brand. So, when confronted with an actual choice, negative mood seems to enhance persuasion, and seems to dilute the influence of the salient ulterior motive, somewhat comparable to the influence of increased arousal.

Further inspection of the binary choice data reveals that the difference between positive and negative mood is only significant when arousal is high. Logistic

regression performed on the high arousal data alone reveals that people choose more for the promoted brand when mood is negative compared to when mood is positive ($B = -1.38$; $p = .05$). Although there is no overall interaction effect, this effect is far from significant when we repeat the analysis for the medium arousal data ($B = -0.23$; $p > .65$). So why do people choose more for the promoted brand when they are feeling negative and while they are highly aroused? One possibility is that, in addition to arousal, negative mood reduced the capacity to process even more, such that there is less capacity available compared to the high arousal positive mood condition. This might explain the observed difference in choice data between the positive and negative mood condition. After all, negative mood has been found in the literature to motivate people to process information in a more detailed and systematic manner than do people in a positive mood state (e.g. Sinclair & Mark, 1992). Naturally, this increased systematic processing uses up processing capacities (Ellis & Ashbrook, 1988). But since increased arousal also uses up cognitive resources, we might assume that our negative mood participants were confronted with additional cognitive restraints. As a result of these decreased resources, participants could have been less able to use their persuasion knowledge, such that they were even more persuaded, than participants in the positive mood condition.

A possible alternative explanation for the results of both the first and the second study is that our results are not due to arousal by itself, but to other aspects that are elicited by the different pieces of music. For example the fast piece of music, or the fast metronome, could have induced distraction or tiredness. In that sense, our participants could have experienced problems in making a careful evaluation of the brands, or could have experienced more difficulties in filling in the questionnaires. After all, the music (or metronome) was constantly playing at a background level, and could have led to a more general form of distraction away from the task. Hence, to generalize our findings, we need to replicate our findings with a different arousal manipulation, that does not interfere with levels of participants' distraction. This was one of the purposes of our third study.

8. Study 3

8.1. Introduction

The results that we obtained in our first two studies suggest that the arousal that we induced to subjects by letting them listen to a fast piece of music (or metronome ticking) was dysfunctional with regard to participants' use of persuasion knowledge. Although we did not use any process measures, we could infer from our results that higher arousal led to decreased processing capacities, and a decreased use of persuasion knowledge.

Given the inverted U-shaped pattern of arousal, a slight increase in arousal however, is expected to lead to enhanced performance on the to be performed task. In dual task studies it is typically found that increased arousal leads to a better performance of the first (and most important) task, but to a decreased performance on the second (and less important) task (see Eysenck, 1982). Easterbrook (1959) suggests that heightened arousal produces an attention narrowing process, restricting the range of cue utilization. Primary task cues are attended at the expense of secondary task cues. This attention narrowing process results from the fact that people try to deal with the capacity limitations that result from the increased levels of arousal.

Pham (1996) proposes that the overall effect of arousal on persuasion is driven by two types of processes: (1) the selection effect, which *increases* the influence of cues perceived to be diagnostic, and (2) the representation effect, which *dilutes* the influence of cues that are capacity demanding. Pham moreover assumes that the selection effect usually preceded the representation effect.

8.1.1. The selection effect of arousal

Pham (1996) suggests that aroused consumers first try to cope with their impaired capacity by selectively processing cues that are most diagnostic for the task at the expense of less diagnostic cues. This view is consistent with findings in the arousal and performance literature in that arousal induces an attention-narrowing process (e.g. Eysenck, 1982). According to Pham's "selective processing hypothesis", first proposed by Easterbrook (1959), aroused consumers will first try to process those cues that have the highest information value at the expense of cues that have little information value.

This hypothesis can account for perseverant findings that in dual task studies the performance on the secondary task declines under high arousal, whereas performance on the primary task is unaffected or improved.

In three studies, Pham found evidence for this selection effect. When subjects are highly aroused (by letting them perform some physical exercise), he found that subjects were still very well able to discriminate the strong versus the weak arguments in an advertisement. This was only the case however, when this cue was diagnostic for subjects' evaluation process, making it relevant for participants' task. Subjects were presented with 3 different advertisements for dictionaries, with one of them the target ad. Two different kinds of cues were manipulated: endorser status (expert versus non expert) and argument strength. It was assumed that relying on endorser status when making an evaluation would require less cognitive resources than would discriminating the strong from the weak arguments. Another factor that was manipulated in Pham's studies was diagnosticity of the cue. When a cue is diagnostic, it delivers useful information for the persuasion process. In one condition for example, the target ad was embedded between 2 other ads, and argument strength was made diagnostic: the target ad differed from the filler ads in the sense that there was a difference in argument strength between (i.e. arguments were stronger) the target ad and the other ads. In another condition, endorser status was made diagnostic: the target ad differed from the others in that the status of the endorser was that of an expert instead of a non-expert (in the other conditions). Pham found that when arousal increased, participants based their evaluations on those cues that were the most diagnostic, independent whether processing of these cues required little or a lot

cognitive resources. That is, when argument strength was made diagnostic, participants were still able to discriminate the strong from the weak arguments.

8.1.2. The representation effect of arousal

Even higher levels of arousal will result in additional impairment, even though only diagnostic cues are attended to. High arousal has been found to result in lower levels of processing and a decreased elaboration of information (for an overview see Eysenck, 1982).

In his representation hypothesis Pham (1996) therefore suggests that an additional effect of (increased) arousal is to dilute the influence of capacity-demanding cues such as complex product claims. This hypothesis is consistent with Sanbonmatsu and Kardes' (1988) finding that high arousal significantly reduced the effect of claim strength on subjects' subjective assessment of the product claims. In contrast, high aroused subjects could still discriminate between expert level of endorser status. As discussed before, the latter process requires no or little cognitive resources.

In a next experiment, Pham increased arousal levels to higher levels, by adding presentation arousal to different conditions (participants were told that they would have to give a presentation afterwards). With this increased arousal, subjects were able to discriminate between endorser status (which was an effortless process), but not between the strong and the weak arguments, which is assumed to be a cognitive demanding task. This latter result supports the representation hypothesis.

8.2. Expectations

If we take into consideration both the selection and the representation effect of arousal, we can expect that a slight increase in arousal will heighten participants' use of persuasion knowledge. When an ulterior motive is made salient to our participants,

the ulterior motive can be seen as a relevant cue for the evaluation task. We can therefore expect that, according to Pham's selection effect, a slight increase in arousal will enlarge the influence of diagnostic cues, also including the ulterior motive. Because the role of the ulterior motive increases, we can expect that participants will be even less persuaded compared to conditions of normal arousal: evaluations will be less positive. If we increase arousal, we expect that arousal will become dysfunctional (as is predicted by Pham's representation effect and as is found in the previous two studies). As a result, our participants will have insufficient processing capacities available to apply their persuasion knowledge, and will instead be more persuaded by the peripheral cues that are present in the "sales encounter".

In order to investigate the effect of these different levels of arousal on consumers' use of persuasion knowledge, we use two different arousal manipulations, entered in a 2 by 2 experimental design: music (as is done in the previous studies) and presentation fear (as is done by Pham, 1996). As a result, we obtain 3 different arousal conditions: (1) low arousal (slow music and no presentation fear), (2) medium arousal (both (a) slow music and presentation fear and (b) fast music and no presentation fear), and (3) high arousal (fast music and presentation fear). It is important to note that in our previous studies, we also manipulated high arousal by playing a fast piece of music. We found that this fast music worked dysfunctional. In the present study, we try to find a fast piece of music that increases arousal, but that is not as dysfunctional as the piece of music in the previous studies (i.e. the arousal level must be significantly lower as the music pieces that were used before).

We also used a different accessibility (salience) of the ulterior motive manipulation as in the previous studies. We manipulated salience of the ulterior motive by a purportedly unrelated task in a separate booklet, handed out prior to the actual evaluation task and in a different room as were the actual evaluation task was conducted. The booklet contained three newspaper articles, and was disguised as a comprehension task of newspaper articles (as was done by Campbell and Kirmani, 2000, study 3). One of the newspaper articles was the "target" article. In the not primed condition, the target article was about imitation clothing. In the primed condition, the article was the same, but instead it described imitation electronic equipment. This article was expected to increase the accessibility of ulterior-

persuasion motives because it discussed that the local police often finds a lot of imitation equipment in a certain town (Antwerp), that is later on sold in local shops at a very low price. The actual evaluation task was about some cheap versus expensive digital cameras (see later). Many researchers that have used such a priming paradigm have shown that people's interpretation of information often depends on the particular knowledge structures (e.g. concepts and schemas) that are currently active (e.g. Higgins & King, 1981; Wyer & Srull, 1981; Yi, 1990). Hence, reading the newspaper article of imitation electronic equipment is thought to activate participants' mental schema associated with crime. As a result, they are expected to interpret subsequent information in the light of this activated knowledge. The type of interpretation given seems to depend on which of the related concepts is most accessible at the time information is processed (Srull & Wyer, 1980). Priming effects have been mostly observed when product information is ambiguous (Ha & Hoch, 1989), as is the case when a very cheap digital camera is offered to you while no obvious reason is given.

8.3. Participants, Design and Procedure

131 Undergraduate students participated in this study. They were told that the study consisted of two parts: the first part concerned a "comprehension task" where they were asked to read three newspaper articles as comprehensive as possible. The second part (ostensible unrelated to the former part) was presented as a scenario-reading exercise: participants' task was to imagine the scenario they received as good as possible. Afterwards they would have to make a product evaluation as if they were the main character in the scenario.

The design was a 2 (Salience of the Ulterior Motive: salient versus not salient) x 2 (Presentation_Arousal: having to make a presentation versus not) x 2 (Music_Arousal: Low versus High arousal) full factorial between-subjects design.

Subjects were given a scenario about a student that went on a holiday-trip. Before he left, he needed a digital camera to take along his trip. Because he needed the camera very urgent, he only had time to visit a local shop in his home town (Antwerp). The

salesperson in the shop offered him two cameras that differed not significantly in quality (as was evident from some objective features as well as from the advice of the salesperson). The brands were new and fictitious. One of the cameras was on considerable promotion. The student had to decide that day, since this promotional offer counted only until the present day.

8.4.Independent Variables

Salience of the Ulterior Motive was manipulated by letting subjects read a newspaper story about imitation electronic equipment that was found by the police in Antwerp. The newspaper article was considered as prime for the ulterior motive (as we discussed earlier). In the not salient condition the story was the same, but dealt with imitation clothing instead of imitation electronics. The other newspaper articles were used as filler articles, in order to disguise the real purpose of the study. We assumed that participants in the salient condition would infer that the promotional camera was, because of its very low price, an imitation of the real camera. This would make them more suspicious about buying the camera.

Presentation_Arousal was manipulated by telling our participants, after they read the newspaper articles, that there was a considerable chance that they would make a presentation about one of the articles (see also Pham, 1996). This presentation had to be made after the scenario-task (but was of course unrelated to reading the scenario). Hence, it can be assumed that there would be considerably more arousal during the scenario-evaluation task under conditions where subjects thought that they would have to give a presentation. Note that this manipulation did not affect comprehension of the newspaper articles in any way, since they were told about this presentation *after* they had read the articles. Hence, if we would find significant results as a result of presentation fear, these can not be ascribed to a better or a worse comprehension or elaboration of the newspaper articles. After the scenario task, subjects were told that there wasn't enough time left to give a presentation, so that this part of the study was skipped.

Presentation_Music was manipulated by speeding up a sequence of three slow songs from St-Germain. In the low arousal condition we actually lowered tempo to 30 Beats per minute, while in the high arousal condition we fastened tempo to 200 Beats per minute. Result of a pretest show that both sequences differed significantly in arousal levels: $t(171) = 8.34, p < .001$. Note that we wanted this arousal manipulation to be less in intensity than the one on our first study: we wanted this music to elicit optimal arousal, and not arousal that leads to dysfunctional processing. Therefore we compared high arousal scores with high arousal scores of the music used in the first study. We found that this St. Germain high arousal manipulation was significantly less arousing than the high arousal music that we used earlier: $t(85) = 3.40, p = .001$.

8.5. Dependent Variable

Dependent variable was participants' evaluation of the promoted camera. We used 7 bipolar 9-point differential items, ranging from -3 to +3: bad / good; undesirable / desirable; useless / useful; worthless / valuable; imperfect / perfect; ineffective / effective; I hate it / I love it. These items were averaged for analysis (Cronbach alpha = 0.77).

8.6. Results

A 3-way ANOVA was performed on participants' evaluation scores. The results are shown in Table 4. Mean evaluation scores are shown in Figure 7a and 7b. Both the main effect of Arousal_Music, as the main effect of Arousal_Presentation reached significance. Faster music was associated with more positive evaluations ($M = 1.67, SD = 0.36$ versus $M = 1.40, SD = 0.60$; $F(1, 123) = 7.52, p = 0.007$), while greater fear to make a presentation was associated with less positive evaluations ($M = 0.93, SD = 0.59$ versus $M = 1.68, SD = 0.49$; $F(1, 123) = 9.62, p = 0.002$). The main effect of Salience of the Ulterior Motive was near to significant ($F(1,123) = 2.91, p = .09$): Evaluations were slightly more positive when the ulterior motive was primed (and

salient) compared to when it was not primed ($M = 1.61, SD = 0.56$ versus $M = 1.12, SD = 0.52$). The interaction effect between Arousal music and arousal presentation was also near to significant ($F(1,123) = 2.82, p = .09$): compared to slow music, fast music lead to more positive evaluations when presentation fear was high ($M = 1.60, SD = 0.60$ versus $M = 1.16, SD = 0.60$), but not when presentation fear was low ($M = 1.73, SD = 0.62$ versus $M = 1.63, SD = 0.38$). The interaction between arousal_presentation and salience was highly significant ($F(1, 123) = 11.80, p < .001$). This interaction effect is due to the fact that when presentation fear is high, evaluations are more positive when the ulterior motive is primed (and salient) compared to when this motive is not primed ($M = 1.64, SD = 0.52$ versus $M = 1.12, SD = 0.66$); and this effect is not significant when presentation fear is low ($M = 1.60, SD = 0.60$ versus $M = 1.77, SD = 0.39$). Specific planned comparisons that deal with this latter interaction effect are shown in Table 5.

Table 4: 3-Way ANOVA results of Study 3

Source of Variation	Sum of squares	DF	Mean Square	F	p<
Arousal Music (Ar_Mus)	2.42	123	0.32	7.52	.007
Arousal Presentation (Ar_Pres)	3.09	123	0.32	9.62	.002
Salience (Sa)	0.94	123	0.32	2.91	.09
Ar_Mus x Ar_Pres	0.91	123	0.32	2.82	.09
Ar_Mus x Sa	0.01	123	0.32	0.03	.86
Ar_Pres x Sa	3.79	123	0.32	11.80	.0008
Ar_Mus x Ar_Pres x Sa	0.02	123	0.32	0.07	.79

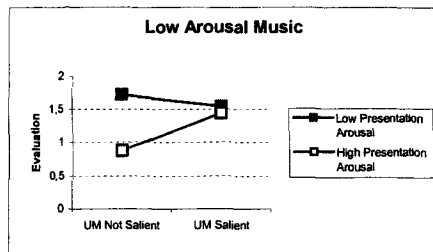


Figure 7a: Mean Evaluation Scores in the Low Arousal-Music Condition in Study 3

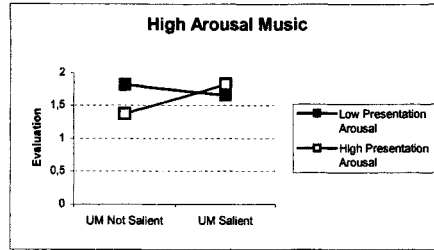


Figure 7b: Mean Evaluation Scores in the High Arousal-Music Condition in Study 3

Table 5: PLanned Comparisons of Study 3: Salient versus Non-Salient Condition

Arousal Music	Arousal Presentation	F(1, 123)	p<
Low	Low	< 1	> .50
Low	High	7.63	.006
High	Low	< 1	> .50
High	High	5.56	.01

8.7. Discussion

According to Pham’s (1996) selection effect, we expected that medium aroused consumers would be less persuaded when they are confronted with a salient ulterior motive compared to when there was no ulterior motive present. Under medium arousal conditions, people have been found to cope with their impaired processing capacities by focusing on those cues that are most diagnostic for the evaluative task. Therefore, we expected, in both medium arousal conditions, evaluations on the promoted camera to be less positive in the salient ulterior motive condition compared to the not salient ulterior motive condition. For our “fast music, no presentation fear” medium arousal condition, our mean scores were somewhat in the expected direction, but we found no statistical support for this. For our “slow music, presentation fear”

medium arousal condition we found the opposite: evaluations were more positive when the ulterior motive was primed compared to when it was not primed. This latter finding is consistent with a representation effect explanation: higher levels of arousal impair cognitive capacity, and lead to a decreased usage of persuasion knowledge. As a result, consumers will be more persuaded.

Careful consideration of this latter finding makes this result seem not so strange after all. Having to give a presentation is far more arousing than listening to a fast piece of music, so it seems logic that our participants were actually “over-aroused”, leading to a representation effect instead of the expected selection effect. So our medium (slow music, presentation fear) arousal condition turned out not so medium in arousal after all. Unfortunately, we did not perform a pretest nor a manipulation check of our presentation fear manipulation, so we do not have exact figures upon how severe the arousal induction actually was.

Also, we did not find any significant difference between our low arousal (slow music, no presentation fear) and our medium arousal (fast music, no presentation fear) arousal conditions. For both conditions we expected that mean evaluation scores would be somewhat more negative when an ulterior motive was made salient compared to when it was not. Because slight increases in arousal were expected to narrow down attention to relevant evaluative dimensions, including the salient ulterior motive, we expected that this effect would be even stronger in the medium arousal condition. For neither conditions we found any significant difference between evaluation scores in the primed and the not primed ulterior motive condition. This null-effect is unexpected, and may indicate that our priming manipulation was not successful. However, since we did find a significant priming effect in our “slow music, presentation fear” medium arousal condition, and in our “fast music, presentation fear” high arousal condition, this possibility seems very unlikely. Another possibility for the absence of any effect is that we obtained ceiling effects in both conditions: evaluations in both conditions were indeed very positive.

A possibility that is somewhat related to this latter argumentation is that priming imitation-electronic equipment did not induce any suspicion at all, because we used fictitious brand names for the digital cameras. Indeed, it is probably less bad if you

buy imitation electronic equipment from a brand that you do not know, compared to when you buy an imitation "Sony" camera for example. Therefore it is possible that our subjects did make the inference that the camera probably was an imitation one, but they did not care because it was an unknown brand ("Picture" or "Close").

One could ascribe the lack of difference between our low arousal (slow music, no presentation fear) and medium arousal (fast music, no presentation fear) condition to an unsuccessful music manipulation. This would indeed be a logical conclusion, since both conditions only differed in their music manipulation (slow versus fast manipulation). An unsuccessful music manipulation however seems very unlikely. First of all, in a pretest, we did obtain a significant difference in arousal between the fast and the slow music condition. Second, in conditions where subjects had to give a presentation, we did find a significant difference between our fast and slow piece of music. Hence, the cause for this null-effect probably lies at a different level. One possibility is that subjects are always somewhat "optimally" aroused when they enter a laboratory setting: the setting is quite new for them, and they do not really know what to expect. Therefore, it seems more than likely that being in this kind of situation induces some state of arousal. So for follow-up research it would be interesting to try to induce real "low arousal", for example by letting participants perform a relaxation exercise prior to the experimental manipulations.

Importantly, the results of our high arousal condition (fast music, presentation fear) were consistent with expectations: when arousal is severe, participants are less likely to apply their persuasion knowledge, and more likely to be persuaded by peripheral persuasion cues. Our results of our medium (slow music, presentation fear) arousal condition also pointed in this direction. When the ulterior motive was primed, subjects evaluated the promoted product more positive than when the ulterior motive was not primed. This finding is consistent with the results that were obtained in the previous two studies. The difference here is that there was no peripheral cue present *while* evaluating the target camera (such as the T-shirt while evaluating the lemonades in the prior two studies). The results obtained in our high arousal condition more or less resemble a *mere exposure effect*: subjects who had already heard of electronic equipment (by reading the newspaper article), although in a negative light, evaluated

digital cameras more positive. The mere exposure effect, where a simple repetition of objects leads to a more positive evaluation of those objects (even when subjects are not aware of prior presentation) (see for example Zajonc, 1968), is usually observed under conditions where processing motivation is limited, or where cognitive resources are constrained (for a discussion see Petty, Unnava, & Strathman, 1991).

In sum, the results obtained in our low or medium arousal conditions are not so straightforward as we expected. As we discussed earlier, one of the reasons could be that the ulterior motive that we provided to subjects (the camera is cheap because it is an imitation-made one) did not lead to real consumer suspicion. Further studies should take this plausible shortcoming into consideration. We also suspect that our low arousal manipulation did not really induce "low" arousal, but somewhat "optimal" arousal. It would be interesting to employ conditions where people would be really relaxed (very low arousal), and investigate how and when these relaxed consumers would employ their persuasion knowledge. Importantly, our high arousal conditions *did* deliver the same results as our previous studies: when an ulterior motive is made salient, highly aroused participants seem to be more persuaded by the ulterior motive. We can again conclude that arousal seems to impair processing capacity, leading to a decreased use of persuasion knowledge and to decreased suspicion.

9. General Discussion and Conclusions

Our basic proposition was that an increase in consumers' arousal would result in a decreased use of persuasion knowledge when consumers are confronted with a persuasion attempt. As a result, we expected that when we confront our participants with a persuasion attempt, they would be more likely to accept the superficially diagnostic recommendation of a salesperson, and they would be less likely to reflect critically on the underlying reasons for the advice. This assumption is based on the well-established finding in the domain of psychology that high levels of arousal limit processing capacity (Easterbrook, 1959; Eysenck, 1982; Humphreys and Revelle, 1984). Since use of persuasion knowledge is capacity demanding (Campbell and

Kirmani, 2000), we inferred that increasing levels of arousal would lead to a decreased application of useful persuasion knowledge.

The results of our three studies are consistent with this proposition. In general, we showed that an increase in participants' state of activation resulted in an increased acceptance of the salespersons' advice, *especially* under conditions where we made the ulterior motive salient.

In our first study we confronted our participants with a mixed persuasion attempt. Our participants were brought in in an ambiguous persuasion situation: they were not sure whether the experimenter was part of the academic staff (and the advice could be considered as sincere), or from a market research institute (and the advice could be considered as misleading). In general, we found that when the experimenter wore a T-shirt from the brand that she promoted, participants did not accept her advice (while they did follow the advice when she did not wear a T-shirt of the promoted brand). In the T-shirt condition, they believed that the experimenter tried to influence them. Interestingly, the opposite pattern was obtained when our participants were highly aroused: in this condition, wearing a T-shirt of the promoted brand had a beneficial effect on acceptance of the experimenters' advice. Under conditions of high arousal, the T-shirt served as a peripheral persuasion cue in our participants' evaluative process. The results of our second study replicated the findings of the first study, and moreover showed that the effect of arousal on consumers' application of persuasion knowledge is not confounded with consumers' mood state. Although the results of our third study were not as straightforward as those that we obtained in the previous studies, we again were able to show that an extensive increase in arousal led to decreased suspicion and increased acceptance of superficial (and often misleading) recommendations.

Our results are consistent with dual-process theories of persuasion such as the elaboration likelihood model (ELM, e.g. Petty and Cacioppo, 1986) or the heuristic-systematic model (Chaiken, 1980). These frameworks pose that as the amount of processing capacity available decreases, consumers are less able to diligently consider the attitudinal implications of the arguments presented in a persuasive message, and

subsequently they are more likely to process less complex information such as simple peripheral cues. Examples of such peripheral cues that have been successfully investigated in the dual-process literature are: attractiveness of the source, expertise, message length, background music,... (see for example Petty, Unnava, & Strathman, 1991 for a review). Applied to our studies, one could easily consider our branded T-shirt (Studies 1 and 2) and mere message repetition (Study 3, see our mere exposure discussion) as peripheral cues. According to dual-process theories, any variable that affects the amount of cognitive capacity available for processing a persuasive message also influences the likelihood of consumers' elaborating upon the message. Several motivational variables, such as involvement (Batra & Ray, 1986; Park & Young, 1986; Petty, Cacioppo, & Schumann, 1983; Swasy & Munch, 1985; Yalch & Elmore-Yalch, 1984) and need for cognition (Cacioppo et al., 1986), and several ability-related variables, such as message repetition (Batra and Ray, 1986; Cacioppo and Petty, 1985), time compression (Moore, Hausknecht, & Thamodaran, 1986) and distraction (Petty, Wells, & Brock, 1976) have been found to moderate elaboration likelihood. Sanbonmatsu and Kardes (1988) moreover carefully showed that physiological arousal is another variable that influences consumers' ability to elaborate upon a persuasive message: When the resources available for cognitive elaboration are reduced, consumers focus on less complex information that requires relatively little cognitive processing capacity (the nice T-shirt in the first two studies, or the mere exposure to a related topic in our last study). Our studies indeed showed that increased arousal leads to more positive product evaluations under conditions where our participants had the opportunity to attend to peripheral persuasion cues, as when our ulterior motive was made salient.

10. Practical Implications

It should be noted that our manipulation of arousal is ecologically common in retail settings, and has effects that are desirable from a marketer point of view. In-store music for example can be easily adapted to the specific sales motivation. Further research should also attempt to generalize the effect to other types of arousal inducing circumstance that are manageable by marketers (store design, crowdedness, ...), and

to other persuasion tactics (praise, friendliness, calling the customer by name, physical attractiveness, ...).

From a welfare perspective our results may induce some pessimism about consumer vulnerability. Our results show that consumers are often not able to resist or ignore an even blatant persuasion attempt. We are well aware from the fact that, from an ethical perspective, our findings have far going implications with regard to consumer exploitation. However, our results also show that "optimal arousal" is the best way to resist blatant and misleading persuasion attempt. We believe that this information is useful for governmental policy-makers, for if one wants to protect the consumer and / or if one wants to start up a governmental campaign.

11. Suggestions for further research

Note that in neither of our studies we found evidence for real discounting behavior. That is, our participants always followed the advice of the experimenter² (even though in a number conditions not statistically significant). We never found that the not promoted brand was evaluated as more positive than the promoted brand. A straightforward conclusion would be that "giving advice never hurts". From a practical viewpoint, this would be a very interesting finding. Further research is needed to look into this.

One explanation for the above finding is that our persuasion attempt was never overtly misleading: we always used somewhat ambiguous persuasion stimuli. One suggestion for follow up research would be to use an overtly misleading persuasion attempt. We could for example induce a stronger difference in tastes between the lemonades, and always promote the brand that tastes worse. If people would really make honest evaluations (without attending to peripheral stimuli and the like), they would evaluate the not promoted brand better than the promoted brand: They would make an evaluation that goes against the one of the experimenter. When arousal is high

however, consumers are less likely to use their persuasion knowledge, and as a result, more likely to follow the misleading advice of the experimenter. Such a follow-up experiment is expected to result in much stronger effects as those that we obtained in our first two lemonade studies.

Another possible explanation for the fact that we never found real discounting behavior could be that subjects really had nothing to lose if they went along with the experimenters' advice. This could have induced some kind of demand effects: they just went along with the experimenter. Things would perhaps be different if people could really lose a lot of money if they made the wrong choice. A study that involves some kind of risk would perhaps deliver more extreme results, or even some real discounting behaviors.

Another interesting line of research is the difference between intrinsic and extrinsic motivation of our participants. By letting our participants listen to fast pieces of music we induced extrinsic motivation. That is, the source of the arousal was never related to the sales encounter. It would be interesting to see whether or not the same results (or maybe more extreme results) could be obtained if people are intrinsically aroused (for example induced by the message of the salesperson).

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² I.e. the evaluations of the promoted brand were always somewhat more positive than those of the non-promoted brand.

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Chapter 6

Summary and Discussion



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1. Recapitulation

The present dissertation broadly looked at the effects of feelings on the consumers' persuasion process. More specifically, consumers' feelings were approached from their two-dimensional perspective (Russell, 1997; Watson & Tellegen, 1985), composed of a valence dimension (positive versus negative) and an arousal dimension (from drowsiness to extreme wakefulness).

Inspired by dual-process theories of persuasion (Petty & Cacioppo, 1986; Chaiken, 1980; Forgas, 1995), we investigated the multiple role of affect in consumers' persuasion process. We aimed to 1) provide further evidence for the multiple role of affect in the persuasion domain, 2) extend the (primarily psychological) findings to the domain of consumer behavior and advertising and 3) apply the acquired knowledge to consumer behavior related constructs.

In a first research paper (Chapter 2), we investigated the moderating role of affect in an advertising context. More specifically, we looked at the effects of affect on the way that people process the information in an ad in a self-referent manner (i.e. the way they process self-relevant information). We found that both ad elicited affect as well as ad recipients' mood had a significant influence on the way that people process ad information. Our results moreover indicate that negative mood acted as a motivator to process, such that under conditions of negative mood self-reference prompts could be picked up and used in consumers' evaluation process. Using mood as a processing motivator, we were also able to show that the process of self-referencing, usually found to have salutary effects on both information processing and evaluation, is an active, data driven bottom-up process, that is likely to occur only when consumers

have sufficient processing motivation available to process the information in a self-referent manner. If processing motivation is lacking, self-reference effects are not picked up, and will have no or little beneficial effects.

The second research paper (Chapter 3) discussed the dual-role of affect in the context of ambient odors. We presented our participants an ad of grapefruit juice that either smelled like grapefruit, smelled like lavender, or did not smell at all. Both lavender and grapefruit were found to elicit positive affective feelings. The results obtained from this study showed that when participants' Need for Cognition was low (and their processing motivation was also expected to be low), both the congruent (grapefruit) as well as the incongruent (lavender) scents resulted in more positive product evaluations compared to a condition where no scent was presented (neutral condition). However, when participants' Need for Cognition was high (and their processing motivation was also expected to be high), we found only enhanced evaluation effects when the surrounding odor was congruent with the advertisement. These results are congruent with dual-process models: when processing motivation is low, consumers are not very likely to engage in a thoughtful elaboration of the presented message, and will not notice (or mind?) the incongruity of the scent with the product category. When consumers are not very motivated to process, they will take their currently felt affect as informative for the judgment to be made. In contrast, when processing motivation is high, consumers will notice the incongruity with the product category, either because (un)related constructs are activated or because consumers think more elaborately about the message because of increased processing motivation. These findings have far reaching practical implications (as will be discussed later in this chapter).

In Chapter 4 we investigated the influence of affective stimuli and moods on the evaluation of product categories and services that are associated with negative feelings and beliefs. We hereby investigated the impact of positive versus negative feelings on the evaluation of a blood donation advocacy, on the use of a new brand of condoms, and – very topical – on the evaluation of a new meat quality label. Other examples of negatively valenced product categories or services are life insurances, genetically manipulated food, nuclear transportation and nuclear power, drugs, charity organizations,.... The results of four studies suggest multiple roles for affect. Under

conditions of low processing motivation, we consistently found that evaluations were more positive when affect was positive compared to when affect was negative. When processing motivation was high, our results were not so straightforward. In most cases, we surprisingly did not find any difference between positive and negative affect. Further inspection of our data, and follow-up research however indicated that there were two evaluative mechanisms at play: one for positive affect, and the other for negative affect. When affect was positive, our results suggest that positive affect influenced evaluations by activating positively related material in memory. When affect was negative we argued that negative affect motivated people even more to think about the advocated message, such that evaluations became also more positive when mood was negative. These results are consistent with a multiple process view of affect on persuasion, and extend current insights into the process.

In our last series of studies (Chapter 5) we investigated the role of affect on the way that consumers deal with (un)suspicious persuasion attempts. Based on a model that was originally formulated by Friestad and Wright (1994) we investigated the influence of affect on the way that consumers try to discount influence salespeople's persuasion attempts that could raise suspicion. According to Friestad and Wright, people cope with persuasion attempts by applying their "persuasion knowledge" (i.e. acquired knowledge that contains information about persuasion attempts, ways to deal with these attempts, the appropriateness of these attempts etc.) Contrary to the prior studies, we focused mainly on the effects of arousal instead of affective valence. While affective valence can influence people's processing motivation (as found for example in our first series of studies discussed in Chapter 2) we assumed that arousal would influence people's processing ability. More specifically, we assumed that higher levels of arousal would impair people's processing capacity (see also for example Sanbonmatsu & Kardes, 1988), such that they are less able to apply their persuasion knowledge. In three studies we indeed showed that when arousal is high (i.e. when processing ability is low), consumers are less likely to apply their persuasion knowledge, and will instead be more likely to succumb to even blatant persuasion tactics. We also found that higher arousal led to a much larger persuasive impact of persuasive message cues, such as the presence of promotional material, or the mere prior exposure to a product or a topic.

2. Conceptual Framework: More Evidence for the Multiple Roles of Affect

Our main purpose was to explore the multiple roles of affect in a consumer behavior-related and an advertising context. Based on the literature we argued that the influence of affect on the consumers' persuasion process could be threefold: 1) affect may be a motivator to process, 2) affect may be a peripheral cue, 3) affect may color consumers' thoughts while they process message arguments. In our studies, we found evidence for these three different roles, depending on consumers' motivation or ability to process information. We will briefly recapitulate these different roles of affect and discuss our findings in the light of the multiple role of affect on consumers' persuasion process.

2.1. Affect as a motivator to process

2.1.1. Motivation ...

It is well documented in the literature (see for example Petty, Unnava, and Strathman, 1991) that while people in neutral or negative moods are persuaded by strong but not by weak arguments, people in a good mood seem to be equally persuaded by both kind of arguments. These findings indicate that mood has a motivational impact on people's persuasion process. According to this motivational view of mood (see for example Isen, 1984; 1987), most people seem to act to maintain their subjective feelings of well-being. Since extensive thinking usually leads to increased feelings of distress (Janis & Mann, 1979), message recipients in a positive mood might be motivated to avoid further processing in order to maintain their mood (see also Isen, Means, Patrick, & Nowicki, 1982). According to this mood-maintenance view, people in a positive mood suffer motivational deficits: they are able to process the information in a detailed manner, but they don't want to invest effort in it.

Evidence for this motivational view of affect was found in our first series of studies (Chapter 2), concerning self-referencing. We found that under conditions where people are not very likely to process systematically, and non-salient cues are not very likely to be picked up by ad recipients, negative mood can enhance attention to and / or processing of non-salient cues, such as the self-reference prompts. That is, when our participants were not very motivated, we only found self-reference effects under conditions of negative mood, suggesting that under positive mood processing motivation was too low to pick up or to use self-reference prompts in making a product evaluation.

We also found evidence for increased processing motivation in our fourth chapter (that investigated the effects of consumers' felt affect when evaluating a product or service that calls for negative beliefs or feelings). When our participants were highly motivated to process (because of task instructions or because the ad was informational in nature), we found that negative affect induced increased processing motivation. Also, because participants elaborated more on the advocated position (associated with a negative valenced construct), they started to see "the positive out of it". That is, in some instances (e.g. see our 3rd study) negative affect lead to more positive evaluations compared to positive affect¹. Take our meat study as an example: after the recent meat crises, people had a very negative attitude towards meat (as indicated for example by decreased sales figures). When presented with a new meat label, negative mood participants (who were sufficiently motivated to process) had more positive attitudes toward the quality label compared to positive mood participants. These results can be explained by the fact that negative mood resulted in increased processing of message arguments, resulting in more positive evaluations. After all, thinking hard about a new quality label for meat makes one naturally conclude that the label has a number of advantages.

Note however that our motivation results of our Chapter 2 (self-referencing) and our Chapter 4 (negative schemata) do not seem to be very consistent at first sight. In our

¹ Note however that in most cases we did not find an objective difference between evaluations in our positive and negative affect condition when processing motivation was high. Based on a comparison with the low processing motivation conditions we must conclude that there is a dual effect of affect on evaluations when processing motivation is high, one for each affect condition. That is, affect priming (to be discussed somewhere later in this chapter) when affect is positive, and increased processing motivation when affect is negative.

self-referencing study we found enhanced motivation effects (as a result of negative affect) when consumers' processing motivation was low. In contrast, we found this motivational effect in our forth study when processing motivation was high. We argue that further research is needed to clarify this possible inconsistency. One possibility is that increased elaboration takes place in both high AND low processing motivation conditions, but is not always recognized as such. For example, under conditions of high p rocessing m otivation and negative affect ánd dealing with positive to neutral valenced product categories (as is usually the case in consumer behavior research) increased motivation may lead to increased production of counterarguments, resulting in less positive evaluations. In contrast, as we found in our forth chapter, dealing with high processing motivation, negative affect ánd NEGATIVE valenced product categories lead to increased recognition of s upporting a rguments, r esulting i n m ore positive evaluations. In both instances there is an increased processing motivation, but this is only evident in evaluations when the product category is negatively valenced. Partly consistent with this assumption is that it is shown in the persuasion literature that negative affect leads to an increase in message scrutiny. Since people put more effort into this careful consideration of message arguments, the likelihood increases that counterarguments are formulated, and that evaluations become more negative (see Batra and Stayman, 1990).

2.1.2. ... but also Ability

While we showed that affective valence influenced people's processing motivation, the results of our final research paper (Chapter 5) indicate that arousal (i.e. the second dimension of an emotion, orthogonal to affective valence) can influence consumers' processing ability. Note that both motivation ánd ability affects people's likelihood to elaborate on a message advocacy (see for example Petty & Cacioppo, 1986). One of the important distinctions is that while decreased processing motivation still enables people to scrutinize on a message (but they just don't want to), a decreased ability is more structural in nature. Decreased ability is most often the result of impaired cognitive resources (as one has to remember or attend to too much information for example). Researchers have suggested that increased levels of arousal impaired

available cognitive resources (e.g. Sanbonmatsu and Kardes, 1988). When we made our participants feel more aroused, either by exposing them to fast, arousing music, or by inducing presentation fear, they were less able to discount our experimenters' suspicious persuasion attempt. Instead, they were more likely to revert to peripheral and less taxing information processing techniques. That is, when our consumers were more aroused, they were more likely to be persuaded by peripheral message cues.

2.2. Affect as Peripheral Cue

When people are not very motivated to process, they sometimes may take their current feelings as information for their judgment (e.g. Schwarz & Clore, 1983). This heuristic has been labelled in the literature as the "How do I feel about it heuristic?". This mechanism is thought to have a direct effect on consumers evaluations, hence without influencing associated thoughts (Petty, Cacioppo, Richman, and Strathman, 1993). According to Clore, Schwarz and Conway (1994) people use their affect as information when they, amongst others, 1) lack motivation to process the presented message on a systematic way (low processing motivation), 2) when the information is complex (low processing ability) and / or 3) when there are time constraints (low processing opportunity). In this dissertation, we found extensive evidence for affect being a peripheral cue.

First, in our ambient odor study (Chapter 3), we found that when need for cognition of our participants was low, implying that processing motivation was also expected to be low, the semantic content of the odor (lavender versus grapefruit) did not matter when making an evaluation about the advertized product. Because both odors elicited pleasant feelings, both odors colored evaluations more positive compared to a control condition where no odor was presented together the ad. So it seemed that under low processing motivation conditions our participants employed an "I feel good so the product must be good" heuristic.

In our next series of studies (Chapter 4), that dealt with the effect of affect the evaluation of product / services that are associated with negative beliefs, the

peripheral influence of affect was again illustrated. In our four studies, we consistently found evidence for the fact that, under low processing motivation, participants relied on their feelings when making an evaluation. That is, despite the fact that they felt somewhat negative about the advertised product categories and services, and despite the fact that this positive affect was in contradiction with their negative affect, they consistently evaluated the products and ads more positive when they were in a positive mood, or when the ad elicited positive affect (compared to when they were in a negative mood, or when the ad elicited negative affect). Again it seemed that if motivation to process was low (either because of task instruction or because the ad was emotional in nature), participants seemed to make positive evaluations “because they just happened to feel good”.

2.3.Affect and Colored Information Processing

According to memory-based models (e.g. Bower, 1981), a spread of activation is expected towards similarly valenced constructs. Since positive memories are highly interconnected (e.g. Isen, 1987), positive mood will prime and activate more related and many unrelated positive memories, leading to 1) colored evaluations and 2) cognitive capacity constraints. According to affect priming, people suffer from capacity constraints because too much positive material is activated, resulting in a capacity overload. Petty et al. (1993) and later also Forgas (1995) argue that affect priming moreover leads to the fact that the thoughts that one has while exposed to a message are also influenced by the felt affect. Moreover, affect priming is likely to occur under conditions of high processing motivation (Petty et al., 1993).

Consistent with the affect priming hypothesis, we found that under conditions of high processing motivation, participants were sensitive to the semantics (hence memory traces) associated with a given odor (Chapter 3). This means that they noticed the difference in meaning between the odor of lavender and grapefruit, and were only influenced by that odor that was associated with the to-be-evaluated product category.

We moreover found that when people were highly motivated to process, their evaluations were significantly affected by their thoughts, which were, in turn significantly influenced by participants' felt affect. This means that affect indirectly influenced our participants' evaluation by coloring the thoughts they had while they were exposed to the ad.

3. Practical Implications

3.1. Affect in Practice: Some General Remarks

We successfully used a variety of affective stimuli throughout this dissertation. We manipulated affective valence of ads in a variety of ways: we used different kinds of emotionally laden pictures (see Chapters 2 and 3), we manipulated the emotional valence of headlines (e.g. riding a bike in the woods versus being stuck in traffic jam, see Chapter 2), we manipulated the emotional content of message arguments (see Chapter 4), we used pleasant odors surrounding an ad (see Chapter 3), we used music to make participants' more or less activated (see Chapter 5) and we manipulated our participants' mood state (see Chapters 2, 4 and 5).

Consistent with the academic literature, we found this variety of affective stimuli to have quite similar effects on consumers' evaluation. That is, with some exceptions (see for example Chapter 4), mostly affect-congruent evaluations were found. We believe in the applicability of these diverse stimuli in both an advertising as well as in a retail setting. Pleasant and/or activating music for example can be used in a retail setting to attract consumers to a given promotional aisle, or can be used in a television commercial to establish positive associations with the brand or product category. At the same time, ambient odor can be easily applied in a retail shop (some firms are experimenting with the production of technical devices to vaporize in the retail environment), affecting consumers evaluation of the shopping environment, or specific products / brands in the supermarket. Although the application of ambient odors in an advertising context is somewhat more difficult, they are successfully applied in some campaigns. The state of Utah for example, used floral scented ads to

in a tourism campaign. A car manufacturer ran an ad campaign using leader scented strips. In the field of e-marketing, some technological innovations with regard to scent distributors (to be attached to a personal computer) can be particularly interesting for advertisers and marketers. The same is true for emotional pictures and word use: they can all be easily applied in both an advertisement as well as a retail setting.

While the former stimuli can be easily manipulated by marketers, things are somewhat different for consumers' mood states. The least one can say is that it will be kind of strange, if feasible at all, to manipulate consumers' or prospects' mood state before they are exposed to a persuasion attempt (at least not in the way that we have manipulated consumers' mood, see below). Presumably, you will not make a very good impression if you would ask your consumers to write a story about a happy or a sad life event when they enter a shop. People will be astonished. We want to point out that we especially used this kind of manipulation to make our participants' mood states somewhat more extreme in order to find more extreme effects. In real life however, people are always in some kind of mood state, and it can be especially relevant for marketers if they know upfront in what kind of mood state their consumers or ad recipients are in. There are a number of situations in which one can easily predict ones' mood state. After a soccer game for instance, you can easily assume that the supporters of the winning team are in a good mood, while those of the losing team are in a bad mood. It may be evident from our results that this will have major implications if you were, for example, a beer manufacturer that advertises at the end of the game. At the same time one can also assume that, especially when it is an important game, supporters of both teams will be more or less aroused at the beginning of the game, since they are eager to know whether or not their team will win or not. Also, after viewing a tear jerker, your ad recipients will be in a bad mood, while after viewing a comedy, they will be in a good mood. Or imagine that you are watching a thriller or a horror movie, and just before the climax (Freddy Krueger is just about to make his fifth victim) the movie is interrupted for the commercial breaks. No doubt that you will still feel somewhat aroused while exposed to the commercials. Hence, the results of the present series of studies highlight the importance of ad placement. On the other hand however, and this may especially apply to a retail setting, one can influence consumers' mood state by making the shopping atmosphere more fun or exciting by playing appropriate music and / or by manipulating the colors

in the environment. For kids for example one can hire a funny clown, or foresee in a little children's fair to enhance children's and parents' mood state.

3.2. Multiple Role of Affect: Implications and Guidelines

The main purpose of this dissertation was to provide evidence for the multiple role of affect in a persuasion context. As may be evident from our discussion, we succeeded in this purpose. This finding has far going practical implications.

First, negative affect has been found to be able to motivate people to process. This can have beneficial effects when one for example wants to make ad recipients responsive to non salient ad cues (such as our self-reference cues in Chapter 2), or if one wants to stimulate additional message scrutiny.

Also, we found that high arousal limits processing ability, making people less likely to elaborate on difficult message arguments. Instead, when highly aroused, people seem to attend more to peripheral message cues, such as promotional material provided or worn by salespeople, celebrity endorsers used in ads, number of arguments given, affect in the ad, music played in the shop, colors used in the retail environment, etc. Moreover, high arousal seems to prevent people from using their persuasion knowledge, resulting in less suspicion and scepticism towards persuasion attempts.

Also, if processing motivation or ability is low, consumers seem to use their current feelings as informative for the judgment to be made. This is a quite important finding, since a lot of persuasion attempts take place under conditions of low involvement. When people are exposed to television commercials, they often do not really pay attention, and their minds most often wander away from what is happening on the screen. The same is actually true for print advertising: when reading a magazine, people are most often not interested at all in the displayed ads. We showed that under such instances of low processing motivation, people use their mood states or the affect in the ad as informative when making an evaluation. Hence, affect can be seen as a

useful peripheral persuasion cue. Note that all this will happen without affecting people's thoughts: that is, what people are really thinking (if they have ad-relevant thoughts at all) is not influenced by the affect in the ad.

In contrast, when people are motivated to process the information, the affect that they experience will color the thoughts that they have. That is, when exposed to a persuasion attempt, people in a positive mood will actually have more favorable thoughts when processing the message, and will approach the message arguments from a more positive view. Important here is, that since thoughts and beliefs are affected, it is important that the associated beliefs are consistent with the advertised product or service category. In our ambient odor study for example (see Chapter 3), affect of the odor did not have any effect when the semantics of the affect were inconsistent with the product category (i.e. when the grapefruit ad smelled like lavender). When one uses for example an informational ad (i.e. increasing motivation to process the messages), one should use emotional arguments that are in accordance with the product category: for instance, don't talk about white sunny beaches when advertising for a new sports car, since these are quite unrelated to cars. Hence, especially when processing motivation is high, marketers should take into account the meaning of the affective stimuli, and use only those stimuli that are relevant for the campaign.

It will be clear from the above argumentation that it is important for marketers to know whether or not processing motivation and ability is low or impaired. It is behind the scope of the present dissertation to provide in a full overview of different factors that can influence processing motivation and / or ability, but in the remainder of this paragraph we will shortly discuss some of these. High processing motivation can for example be the result of high *personal relevance* (resulting in increased *personal involvement*), as cosmetics being often more personally relevant for women than for men. When you watch an ad of personal computers, you will surely experience different levels of processing motivation when you are about to buy a new personal computer, versus when you are not planning to buy one at all. More easy to manipulate by marketers is *situational involvement*, which also leads to increased processing motivation. Increasing situational involvement, for example by pointing at *social pressures*, by introducing a sales *promotion*, or by increasing the *exclusivity* of

a certain brand, will make people more attentive to the (affective) campaign. In addition, when people carry *personal responsibility* for their purchases (as when they are *accountable* for their purchases) they will also be more motivated to process. Processing motivation can also be the result of *individual difference variables* such as people's need for cognition. People with a high *need for cognition* have been found to enjoy scrutinizing on message arguments. People's need for cognition can be easily determined using standardized questionnaires. In that sense, certain groups can be identified that score high or low on need for cognition. People with a relative high need for cognition are for example university students, engineers, college professors, high educated staff members,... . Processing ability on its turn is usually associated with the degree of cognitive resources one has available. The availability of cognitive resources on its turn is also dependent upon a variety of factors. One of it is the number of *simultaneous tasks* one is performing. The larger the number of tasks, the lower the available capacity. For example, while driving a car, one is less likely to carefully process the advertisements that are presented across the road. *Individual difference variables* are another factor influencing people's processing capacity. *Older people* usually have less processing capacity available compared to young people. This surely has a lot of implications when marketing to seniors.

3.3. Specific Contributions

A number of more specific practical contributions can be derived from our different studies. In the next four sections we will shortly recapitulate these different contributions.

3.3.1. Affect and Self-Referencing

Consumers are often not able or not willing to pay attention to ads or non-salient ad attributes. We found that urging consumers to relate the presented information to aspects of their self-concept is one technique to enhance message processing. Making the information in the ad self-relevant (by using textual self-referencing techniques

such as second person wording), or putting the ad recipient in the position of the scene actor (i.e. visual self-referencing) has beneficial effects on both the recall of information, as well as on product evaluations.

We moreover showed that these self-reference prompts are most likely to be picked up by ad recipients when they are sufficiently motivated to process. When people are not very likely to process the ad content, they do not recognize or process the self-reference prompts in much detail, such that referring to people's self-concept will have no or little persuasive effect. Importantly, we found that negative affect (as a processing motivator) can in such cases elevate attention to self-referencing prompts. Hence, advertisers that are experiencing very low processing efforts (for example as a result of advertising clutter) can increase the likelihood of message scrutiny by 1) increasing ad recipients' processing motivation by taking a negative approach (for example by pointing at the dangers of *not buying* your product / service) and 2) use a self-referencing perspective.

In addition, once you can assume that people are likely to pick up and process the self-reference cues, it is important to take in consideration that self-referencing is an active bottom-up process, and that it is driven by the data in the ad. That is, self-referencing is likely to induce increased message scrutiny and especially makes people attentive to new product information. This is of high relevance if one wants to promote new product features or new product benefits. Hence, under conditions where self-reference will occur, new information is more likely to be processed. Since we did not find any support for self-referencing being a schema-based process, it is not a good tool to use when one wants people to rely on past experience or on autobiographical memories.

3.3.2. Ambient Odor in a Marketing Context

We found odor to be a very effective stimulus in coloring consumers' evaluations. Pleasant odor (such as lavender or grapefruit) resulted in positive evaluations. This does not mean however that odor will have beneficial effects in all situations. When

consumers' are likely to be motivated to process the information, they will link the semantic content (such as it may be derived out of autobiographical memories) with the product category. When the semantics of the odor do not match with the product category, ambient odor will have no or little beneficial effect on consumers' product evaluations. One such application can be when consumers are at a car dealership to look at a new car (where they are expected to be very motivated to process car-related information). In this case vaporizing a pleasant floral scent in the show room will probably have no or little effect on evaluations of the cars of the dealership per se. Instead, a car related scent (for example the scent of leather) is more likely to influence consumers' evaluations.

In our study, we investigated ambient odor in an advertisement situation. This may have some complications in real life: if you include a nice smelling ad in magazine for example, the complete magazine is very likely to adopt the scent. This means that all other advertisements will smell alike, and people will not make the specific link towards your ad, which may temper the effect. In addition, other advertisers may have objections to the use of ambient odors (how would you feel if you promoted your bacon in a magazine smelling like flowers?). Creatives can be very helpful in finding a way to circumvent this disadvantage. It is probably much easier however to use ambient odor in a retail environment, where you can use a specific odor in every specific department. At the moment, special devices are being developed in order to distribute the specific amount of odor in retail settings.

3.3.3. Negative Product / Service Categories

When advertisers or marketers have to deal with products or services that have negative associations (such as life insurances, meat labels, blood donation, genetically manipulated food, ...) affect can have a different number of effects on product evaluations, again depending on consumers' processing strategy.

Under conditions where people are not very likely to motivate extensive on the information given (such as when personal relevance is low and / or the ad is emotional

in nature rather than informational) we consistently found that positive affect resulted in more positive evaluations. Hence, under conditions of low processing motivation we advise practitioners to use positive rather than neutral or negative affect in the ad.

When processing motivation and ability is sufficiently high, a different pattern appeared. Here we found beneficial effects when affect was both positive AND negative, although we assumed the explanatory mechanisms to be somewhat different. When affect is positive, positive material is assumed to be activated from memory, resulting in more positive evaluations. When affect is negative, we assumed that negative affect motivates people even more to process, resulting in increased recognition of *supporting arguments*, and as a consequence, in more positive evaluations. The latter assumption was only supported when people had the opportunity to process the message arguments (i.e. the effect was not found when a complete visual ad was used). This theorizing implies that marketers have to consider a) that the product category is not extremely negative when positive affect is used (because otherwise there simply will not be positive constructs to spread to) and b) strong and persuasive arguments are used when one deals with negative affect.

3.3.4. When Consumers Apply their Persuasion Knowledge

The results of our fifth chapter show that consumers are often not able to resist or ignore an even blatant persuasion attempt, especially when arousal levels are high. We are well aware of the fact that, from an ethical point of view, our findings have important implications with regard to the welfare of the consumer.

It is certainly not our aim to stimulate any further consumer exploitation. We would like to argue that our findings are important for policy-makers to take into account, and to guide consumers' welfare. In addition, our results also indicate that "optimal arousal" is the best way to resist blatant and misleading persuasion attempts. This may be especially useful for governmental policy-makers, when they want to protect the consumers and / or in making people more responsive and attentive to governmental

campaigns. Also marketers may use optimal arousal levels to increase message scrutiny.

4. Shortcomings of the Research and Directions for Further Research

In the present series of studies we approached emotions from their two dimensional constitution (affective valence and arousal). It may be very interesting in follow-up research to take into account the role of specific emotions. The approach we have taken in the present series of studies was that emotions that are similar with regard to the level of arousal they elicit and their affective valence are expected to have similar persuasive effects. This actually means that fear and anger, both high in arousal and negative in affective valence, would have rather similar effects. Plutchik (1980) however, who advocates a more motivational view of emotions (in terms of approach and avoidance), found anger and fear to be polar opposites: anger is more associated with approach behavior, while fear is more associated with avoidance behavior. In a related vein, and more recently, Raghunathan and Pham (1999) found both anxiety and fear (both negative emotions) to have different effects on consumers' decision making process. Further research should take into account the more specific nature of emotions.

We mostly concentrated on the evaluative effects of emotions. However, based on the literature we can also assume more behavioural effects of affective cues as a function of their multiple role in the persuasion process. In our fifth study we found in part evidence for the behavioural implications of arousal on consumers' actual brand choice. Based on the ELM (Petty & Cacioppo, 1986) discussed earlier in this dissertation we can assume that attitudes that are formed through the central route are more predictive for behavior (see for example Petty, Unnava, & Strathman, 1991 for an overview). This may lead to the fact that affect that influences consumers' persuasion via "the central route" (hence, when affect priming is the case, i.e. under conditions of high processing motivation / ability) may have a larger effect on actual behavior compared to affect that influences persuasion via "the peripheral route". It

may be interesting in further research to take into account the real behavioural effects of affective persuasion.

We did also not make a real distinction between attitudes towards the brand (A_b) and attitudes towards the ad (A_{ad}). In our forth chapter (study 4) we found some indication that both A_{ad} and A_b may not always have similar effects: for Ad the relevance the emotional picture did not really seem to matter, while this did seem to matter for A_b (a non diagnostic emotional picture did not seem to have beneficial effects on evaluations). Related to this, Park and Young (1986) demonstrated that the relationship between A_{ad} and A_b may depend upon the nature of the information processing in the ad. Broadly they found that focusing on performance attributes (they called this “cognitive involvement” had a larger effect on A_b , while focusing on image aspects (called “affective involvement”) seemed to influence A_{ad} . In follow-up studies attention has to be given to a clear distinction between A_{ad} and A_b .

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