
**Research Centre for Consumer
Psychology and Marketing**

The Influence of Need for Closure on Consumer Behaviour

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Preface

This dissertation is the result of a number of research projects that were conducted during the past five years. The different projects all deal with the influence of Need for Closure on consumer behaviour, more specifically we investigated several components of consumers' choice behaviour.

Looking back on the last five years, I am aware of the privileged position I found myself in. I have been given the chance to engage in something I really enjoy doing namely unravelling human behaviour. This dissertation would have not been possible without the help of several people surrounding me and I want to seize this opportunity to express my heartfelt gratitude.

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Samenvatting

De Invloed van Nood aan Afsluiting op Consumentengedrag

Een belangrijk onderdeel in het onderzoek naar de psychologische aspecten van koopgedrag is het onderzoek naar de beïnvloedende en voorspellende kracht van psychologische karakteristieken wat betreft beslissingen. De Nood aan Afsluiting is een individueel kenmerk dat ons kan helpen het keuzegedrag van consumenten te begrijpen. De Nood aan Afsluiting wordt gedefinieerd als het individuele verlangen naar een duidelijke, zekere en ondubbelzinnige kennis die perceptie en actie stuurt, tegenover het ongewilde alternatief nl. ambiguïteit en verwarring. Uit vroeger onderzoek blijkt dat de Nood aan Afsluiting de manier waarop iemand informatie zoekt alvorens een beslissing te nemen, beïnvloedt.

In dit doctoraat wordt de algemene invloed van de Nood aan Afsluiting op het keuzegedrag van consumenten nagegaan. Meer specifiek onderzoeken we de invloed van de Nood aan Afsluiting op verschillende stadia van het beslissingsproces van de consument. We kijken naar (1) het zoekproces naar externe informatie in termen van de hoeveelheid gezochte informatie in het algemeen en het in, buiten en tussen winkels zoeken van specifieke informatie nl. prijs en promotie, (2) de informatie verwerking inclusief aandacht en retentie, (3) de evaluatie van alternatieven voor de aankoop met de hoeveelheid gebruikte informatie en het belang van product attributen, (4) de beslissing zelf met het gebruik van beslissingsregels, (5) het resultaat van beslissingen met het vertrouwen in een beslissing en ten slotte (6) het gehele beslissingsproces in termen van de beslissingstijd.

Daarenboven onderzoeken we de relatie tussen de Nood aan Afsluiting en enkele andere karakteristieken van de consument die een invloed kunnen hebben op keuze- en beslissingsgedrag, nl. de ethische overtuigingen van de consument.

We kunnen besluiten dat de Nood aan Afsluiting de verschillende componenten van het keuzegedrag van consumenten aanzienlijk beïnvloedt.

Summary

The Influence of Need for Closure on Consumer Behaviour

An emerging aspect in the study of the psychological aspects of buying behaviour involves examining how the psychological characteristics of consumers influence or even predict what they do when they make a purchase decision. Need for Closure is an individual difference variable that shows promise to help understand the consumers' choice behaviour. The Need for Closure refers to an individual's desire for clear, definite, or unambiguous knowledge that will guide perception and action, as opposed to the undesirable alternative of ambiguity and confusion. It has been found that Need for Closure influences the way people seek and elaborate on information prior to forming various judgments or making decisions.

The present dissertation generally looks at the effects of Need for Closure on consumers' choice behaviour. More specifically, the influence of Need for Closure is investigated on several stages of the consumers' decision process. We look at (1) external information search including amount of information search in general and in-, out-of- and between store information search for a specific type of information namely price and promotional stimuli, (2) information processing including attention and retention (3) the pre-purchase alternative evaluation including amount of used information and importance of product attributes, (4) the decision itself including the use of decision rules, (5) the decision outcomes like decision confidence and (6) the whole decision process including decision time.

In addition we looked at the relation between NFCL and some other consumer characteristics that can influence choice behaviour and decision making, in particular, the ethical beliefs of the consumer.

In sum, we can conclude that Need for Closure has a considerable influence on several components of consumers' choice behaviour.

Introduction

Need for Closure and Consumer Behaviour

Introduction

Need for Closure and Consumer Behaviour

1. Introduction

An emerging aspect in the study of the psychological aspects of buying behaviour involves examining the complex relation between psychological variables as they relate to choice behaviour, in particular how the psychological characteristics of individuals influence or even predict what consumers do when they make a purchase decision. Need for Closure is an individual difference variable that shows promise to help understand consumers' choice behaviour. The Need for Closure refers to an individual's desire for clear, definite, or unambiguous knowledge that will guide perception and action, as opposed to the undesirable alternative of ambiguity and confusion. Need for Closure is a motivation to draw a conclusion quickly and terminate cognitive information processing related to the issue (Webster & Kruglanski, 1994).

The Need for Closure has widespread consequences for social-cognitive phenomena at the intrapersonal and interpersonal levels. It has been found that Need for Closure has considerable effects on the way people seek and elaborate information prior to forming various judgments or making decisions in a social context (Klein & Webster, 2000; Kruglanski, Manetti, Pierro, Atash & Webster, 1997; Kruglanski, Peri & Zakay, 1991; Kruglanski & Freund, 1983).

This relatively new concept has received much attention in psychological research (e.g. Kruglanski & Webster, 1996; Webster & Kruglanski, 1994). Consumer or marketing research has given limited attention to the Need for Closure concept (Houghton & Grewal, 2000; Houghton & Kardes, 1998).

Individual differences in Need for Closure can predict a wide variety of consumer behaviour and the development of consumer preferences. Moreover, by relating

psychological processes associated with the individual differences in Need for Closure with consumer choice or decision processes, precise, interesting and important predictions about several outcomes of the decision process can be made. Especially interesting is the fact that Need for Closure is closely linked with a general theoretical framework, therefore the mediating processes that may underlie consumer preferences or behaviours can be understood. Moreover, understanding and verifying that the processes associated with individual difference variables are active in consumer settings can help to integrate these individual difference variables in the development and empirical examination of theory in consumer psychology (Haugtvedt, Petty & Cacioppo, 1992).

Furthermore, the processes specified by Need for Closure theory can be operationalized both by way of situational and dispositional factors, which is a promising direction for future consumer research (Haugtvedt et al, 1992). Used in combination with situational variables (e.g. used as moderator variables) researchers are in a better position to understand the general principles that may underlie the consumer decision process (Bagozzi, 1993; Haugtvedt et al., 1992).

In addition, individual differences in Need for Closure can be interesting for marketers as they are useful to identify market segments and their associated behavioural patterns or preferences and to tailor communications to the needs of specific consumers. Furthermore, the growing trend of micro-segmentation is likely to increase interest in theoretically guided development of individual communications (Haugtvedt et al., 1992).

In this dissertation, a number of research papers concerning Need for Closure are integrated. This dissertation consists of four major parts. In a first part, (Chapter 1), theory and research elucidating the nature of Need for Closure, its antecedent conditions and its consequences are discussed. In the second part (Chapter 3¹) the measurement of Need for Closure is examined. In the third part (Chapters 2, 4-6), we will take a closer look at the relation between Need for Closure and consumers' choice behaviour. In the

¹ The research papers are presented chronologically. We first conducted a consumer related study (chapter 2), then validated the Need for Closure measurement instrument (chapter 3) and used this instrument in the next three consumer related studies (chapters 4-6).

fourth and final part (chapter 7), the findings of the studies are summarized and discussed, theoretical and practical implications are provided and limitations and directions for future research are outlined.

In addition to Need for Closure, we incorporate other individual characteristics in some studies, as we believe that they can broaden our understanding of the scrutinized consumer behaviour.

2. Overview of studies

The general purpose of this dissertation is to examine the influence Need for Closure has on particular consumer variables that are important for the consumers' choice process. More specifically, we attempt to (1) provide further evidence for the influence of Need for Closure on consumer choice behaviour, (2) extend the limited consumer research on Need for Closure, (3) better understand the specific influence Need for Closure has on consumer choice behaviour and (4) learn more about the nature of the consumer decision process by predicting differences in the decision process based on this 'cognitive style' variable.

In a first study (chapter 2), we look at the influence of Need for Closure on consumers decision making variables like information search, processing, decision time, use of decision rules, use of promotions, recall and consumer confidence. In a second study (chapter 3), we investigate the psychometric properties of a Need for Closure questionnaire. In a third study (chapter 4), we take a closer look at the relation between Need for Closure and the search for/use of price and promotional information. We include two other individual difference variables (perceived time pressure, perceived budget constraints) as they are proven to influence search effort for price and promotional information. In a fourth study (chapter 5), we investigate the influence of Need for Closure on the importance of product attributes. Moreover, we incorporate another individual difference variable -Need for Cognition- that has been extensively researched in consumer behaviour. In our fifth and last study (chapter 6), we examine the link

between Need for Closure, ethical beliefs, ethical ideology, Machiavellianism and political preferences.

2.1. Study 1: the Influence of Need for Closure on Consumers' Choice Behaviour

One area that holds promise for creating a better understanding of consumer choice behaviour is research on decision making, in general, and information processing, in particular and their relationship to psychological characteristics. In this study we investigate the influence of Need for Closure on a range of variables that are important in the consumer' decision process. More specifically, we focus on search and use of information, decision time, use of decision rules, use of promotions, recall and consumers' confidence in the decision in a low involvement purchase situation. A distinction is made between new and known purchase situations.

2.2. Study 2: Psychometric Analysis of the Need for Closure Scale

The purpose of this study is to validate the Need for Closure measurement instrument that will be used in further studies. We investigate the psychometric characteristics of the existing Dutch Need for Closure scale and found that –although the reliability of this scale is high- the intended five-factor structure is not completely replicated. Therefore, we developed our own version of the Dutch Need for Closure scale that is a revision and shortened version of the existing Dutch Need for Closure scale. Psychometric analyses of this new scale (unidimensionality, reliability, discriminant, convergent and nomological validity) show that the instrument is reliable and valid to measure Need for Closure in a Flemish context.

2.3. Study 3: the Influence of Need for Closure, Perceived Budget Constraints and Perceived Time Pressure on Search Effort for Price and Promotional Information in a Grocery Shopping Context

In this study, Need for Closure is introduced as a variable of individual difference that shows promise to help our understanding of consumers' effort to search for price and promotional information in the context of retail grocery shopping.

Results of our first study did not provide conclusive evidence of the influence of Need for Closure on the search/use of promotional information. Furthermore, several explanations could be put forward concerning our first study that questions the validity of our conclusions concerning the use of promotional information (e.g. experience with promotions, see chapter 2).

As the search/use of promotional information is an important part of the consumer choice process, we conduct a new study that focuses primarily on this topic. In addition to search for promotional information, we include the search for price information, as previous research gives evidence that the use of price and promotional information is influenced by several common factors. Moreover, we include two shopping related individual characteristics (perceived time pressure and perceived budget constraints) as they are proven to influence search effort for price and promotional information.

Following previous studies' research methods, we investigate both the individual relation between Need for Closure, perceived time pressure and perceived budget constraints on search effort for price and promotional information, and the relation between the three individual characteristics. In addition, we examine the influence of the interaction between the three individual characteristics on search effort for price and promotional information.

2.4. Study 4: The Influence of Need for Closure and Need for Cognition on Consumers' Importance of Product Attributes

Consumer decision-making is regarded as a set of sequential phases going from problem recognition over gathering of information and evaluating alternatives, to the actual decision to buy a specific product. Before purchase, a consumer has to choose from several choice alternatives. The alternatives are evaluated using several dimensions or evaluation criteria, originating from the consumers' experience, values and expectations. These criteria are grounded in the attributes or benefits the consumer searches for and differ in importance or influence in selecting and evaluating alternatives.

In this study, we investigate the specific influence Need for Closure on the importance of product attributes (in particular abstract versus concrete attributes) used by the consumer. In addition, we include the –extensively researched- motivational variable 'Need for Cognition'. Need for Cognition is an important variable in consumer research and has been found to influence information processing and acquisition. In addition to its perceived relevance for explaining the importance of abstract and concrete product attributes, we include this variable to demonstrate its distinction from Need for Closure.

2.5. Study 5: An Empirical Investigation of the Relationships between Ethical Beliefs, Ethical Ideology, Political Preference and Need for Closure of Dutch-Speaking Consumers in Belgium

Previous studies all concentrated on the relationship between Need for Closure and consumer decision-making and some specific components of the decision making process (e.g. information search, decision time, importance of product attributes). However, other

consumer characteristics can also be of particular interest to understand the consumers' choice process, for example, the ethical beliefs of the consumer. Consumers use their moral rules, principles and standards to guide their selection, purchase, use or selling of a good or a service. Consumers make ethical judgments and these judgments are likely to influence the consumers' acceptance or rejection of a company's products.

In this final study, we look more closely at ethical beliefs of consumers, and especially its relationship with Need for Closure is examined. We argue that Need for Closure influences ethical beliefs (and consequently choice behaviour). Furthermore, we incorporate ethical ideologies and Machiavellianism as previous research shows a significant relation between these ethical orientations and ethical beliefs. Finally, we also look at political preferences in relation to Need for Closure and ethical beliefs and ideologies, as these orientations and beliefs can influence consumer decision making, because most political parties have clear concepts relating to ethical issues. Furthermore, we argue that a relationship exists between ethical ideology and one's overall ideology (which consists of norms, beliefs and values) as expressed by the political preferences people have.

Chapter 1

Need for Closure: Theory and Research

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1. Introduction

Four important and central questions exist in the study of consumer behaviour: (1) what is the nature of motives, goals and desires that prompt consumption behaviour, (2) why do consumers buy and consume particular products, brands and services from the mass of alternatives present in their environment, (3) how do consumers think and feel about their strivings and how do they translate these pursuits into actions and (4) how can we explain the differences in consumer motives and goals across individuals and situations (Rathneswar, Mick & Huffman, 2000). In this dissertation, we concentrate on one specific motive or goal that we believe is prevalent in consumer behaviour namely Need for Closure. We hope to broaden the knowledge of the nature and consequences of consumers' motivation and in addition help to answer the previously mentioned ongoing questions. In addition, the identification and understanding of individual motives or goals that influence consumers' decision processes can help marketers and retailers to develop well-adapted and more effective strategies.

In this first chapter, we will outline a theoretical framework regarding the key construct of this thesis, the need for (non-specific) closure in order to further understand the nature of this goal that we believe influences consumer behaviour. The Need for Closure is a desire for definite knowledge on some issue. It represents a stable dimension of individual differences as well as a situationally inducible/evocable state. The Need for Closure has widespread consequences for social-cognitive phenomena at the intrapersonal, interpersonal and group levels of analysis. Those consequences derive from two general tendencies (urgency and permanence). The urgency tendency represents an individual's inclination to attain closure as soon as possible, while the permanence

tendency represents an individual's inclination to maintain closure for as long as possible. Theory and research elucidating the nature of this need, its antecedent conditions and its consequences are discussed.

2. Lay Epistemics and Human Knowledge

As we go about our daily affairs, interacting with other people or attending to our tasks, there are a variety of things we know. We might know that it is Christmas Eve, that we are out of milk, or that two and two is four. Knowledge is a necessary component of decision-making in choice contexts (Coupey & Narayan, 1996). From relatively simple activities such as buying an unhabitual soft drink brand to highly complex pursuits such as planning a round trip through Africa, knowledge is indispensable for secure decisions and reasoned actions. It serves to guide the acquisition and organization of relevant information and aid in the selection of an appropriate strategy for evaluating choice alternatives. Kruglanski (1989) outlined the lay² epistemics theory that specifies how all such knowledge comes about.

2.1.A Theory of Lay Epistemics

The theory of lay epistemics (Kruglanski, 1989; 1980; Kruglanski & Azjen, 1983) addresses the process whereby people acquire knowledge about themselves and the surrounding world. It describes the invariant principles that rule the formation and revision of beliefs in various domains of life as disparate in content as science, religion, politics and consumer behaviour.

The theory of lay epistemics suggests that knowledge is arrived at through an elaborate process of hypothesis generation and hypothesis validation in order to generate

² He emphasizes on psychological properties that lay and scientific modes of knowledge acquisition have in common.

confidence, repeated until one can achieve cognitive closure. The theory of lay epistemics provides a useful framework to study the motivational underpinnings of the processes of hypothesis generation and validation (Kardes, 1996).

The main facets of the lay epistemics theory include (1) the content element that refers to all kind of propositions and hypotheses that persons might entertain, (2) the logical element whereby beliefs are proven or disproved on the basis of relevant evidence, and (3) the motivational element that sets the knowledge construction process in motion, terminates it at a given point, and provides the base for the individual's cognitive and affective reactions to validating and/or invalidating information.

This theory is process-oriented, meaning that the same evaluation or judgmental principles are used for different evaluation or judgmental contents (Webster, 1993).

2.1.1. Psychological Properties of Knowledge

The theory of lay epistemics suggests that knowledge consist of propositions in which a person has a certain degree of confidence.

Every person has a general store of knowledge available in long-term memory (Higgins, King, & Marvin, 1982). At any given moment only a restricted portion of knowledge is accessible or available in short-term memory (Higgins & King, 1981).

For example, a consumer has confidence in the proposition or knows that 'Coca-Cola quenches my thirst,' and in some circumstances, this knowledge will be prevalent.

2.1.2. Logical Consistency or Inconsistency

Evaluation is based on the 'logical consistency' principle. People infer implications from a specific hypothesis and subsequently they test this hypothesis using evidence that is present (in the context) at that moment. If the evidence proves to be logically consistent with the implications and if no other alternative hypothesis is as consistent with this evidence, one becomes more certain about the hypothesis and one's confidence (in the

hypothesis) increases. This process is repeated until a certain amount of closure is reached (Kruglanski, 1989).

For example, if a consumer's thirst is satisfied after drinking a can of Coca-Cola (Coca-Cola hypothesis is tested and the present evidence is logically consistent with the hypothesis' implications), the confidence in his/her proposition 'Coca-Cola quenches my thirst' increases. This process resembles both operant conditioning in which a behaviour is learned or reinforced (increased confidence) by acting on an expectation that a response is followed by a stimulus (hypothesis) and the more conscious cognitive learning which holds that people deliberately use information from the world to learn through confirmed expectations (Solomon, Bamossy & Askegaard, 1999).

2.1.3. Motivational bases

Both processes (hypothesis generation and validation) require motivation and cognitive capability.

2.1.3.1. Cognitive Capability

The construction of knowledge is a complex process (Kruglanski & Webster, 1996). Kruglanski (1989) assumes that the component pieces of a hypothesis (e.g. the if-then parts) must be available in the general long-term memory store and that they must be momentarily accessible or brought to awareness. In addition, knowledge can also draw on local information from the immediate context. Furthermore, the pieces of isolated cognitive bits have to be connected into a coherent whole and these hypotheses have to be extensively tested (Kruglanski & Webster, 1996).

Consider a person whose computer crashes during an important data analysis. If that person is an expert in computer science/technology, he or she might be capable of producing numerous hypotheses to account for the computer's failure. In contrast, a computer layman will produce fewer potential explanations and possibly fails in locating

the source of the problem. Furthermore, to the extent that a particular subset of an individual's computer operation notions was recently primed (for example by a recent exposure to a web page about computer processors or by a recent consultation of a helpdesk), they are more likely to shape this person's hypothesis than alternate, less accessible notions.

2.1.3.2. Motivation: Need for Closure

Knowledge construction comprises a host of effortful activities, which poses considerable demands on resource allocation. Hence, it may well require motivation to get under way. But what kind of motivation variable is the "desire for knowledge"?

At least two answers readily suggest themselves. Knowledge can be desirable because it suggests any definite answer (whether welcome or unwelcome) or a welcome answer to a particular question.

For instance, a student may desire to know if s/he did well on a GMAT test so that s/he may be accepted to follow a specific masters degree (welcome answer), whereas the admissions officer of this masters degree may desire to simply know how well or poorly the student did so that he or she may make the appropriate admission decision (any definite answer).

In this context Kruglanski and Freund (1983) introduced the Need for Closure concept as a dimension of individual differences, which is related to a person's motivation concerning decision-making and judgment (see also Kruglanski, 1990a; 1990b; 1989). Kruglanski (1989) classified this motivation as the need to seek versus the need to avoid closure.

The dimension Need for Closure (NFCL; vs. need to avoid closure) reflects the desire for clear, definite, or unambiguous knowledge that will guide perception and action, as opposed to the undesirable alternative of ambiguity and confusion (Kruglanski, 1989). A high NFCL is a motivation to draw a conclusion quickly and terminate cognitive

processing related to the issue (Webster & Kruglanski, 1994). Such a motivation will end the hypothesis generation/testing process fairly early (Kruglanski, 1989).

Recently, Need for Closure has received considerable emphasis in the social cognition literature (e.g. Kruglanski & Webster, 1996; Webster & Kruglanski, 1994). Kruglanski and his associates conducted several experimental studies demonstrating the effect of the Need for Closure on the way people seek and elaborate information prior to forming various judgments or making decisions.

As used here, the term need is meant to denote a motivated tendency rather than a deficit. The main idea behind the NFCL theory is that subjects with a high NFCL level (high NFCL subjects) experience a negative feeling when closure is threatened or undermined and a positive feeling is evoked when closure is attained or facilitated. The motivation to avoid these negative feelings prompts activities aimed at the acquisition of closure and consequently biases the individual's choices and preferences toward closure-bound pursuits (Kruglanski & Webster, 1996).

Furthermore, Kruglanski (1989) distinguishes between several types of motivations for knowledge construction classified on two orthogonal dimensions: closure seeking versus avoidance and specificity versus non-specificity. The first distinction asks whether the individual desires cognitive closure on a topic or wishes to avoid closure and keep an open mind. The second distinction asks whether the desired or avoided closure is of a special kind or whether any closure or absence of closure will do. The two orthogonal distinctions define a 2 x 2 matrix, depicted in table 1.

Table 1: Type of Closure versus Disposition towards Closure

Type of closure	Disposition towards closure	
	Seeking	Avoidance
Non-specific	Need for non-specific closure	Need to avoid non-specific closure
Specific	Need for a specific closure	Need to avoid a specific closure

This results in a typology of four motivational orientations: the needs for non-specific and specific closure and the needs to avoid non-specific and specific closure.

2.1.3.2.1. Need for Non-Specific Closure

The need for non-specific closure represents the desire for a definite answer on some topic, any answer as opposed to confusion and ambiguity (Kruglanski, 1989). A person with a high need for non-specific cognitive closure should prefer bad news to no news when no prior belief or attitude exists, because this supplies the individual with predictability and a justification for action (Houghton & Grewal, 2000; Kruglanski & Webster, 1996).

When no initial knowledge exists, a high need for non-specific closure is likely to trigger an intense epistemic³ activity, and to end such an activity, some plausible hypothesis is generated and supported by extant evidence. In this sense, the need for non-specific closure is said to promote epistemic “freezing”⁴ (Freund, Kruglanski & Schpitzajzen, 1985; Kruglanski & Azjen, 1983; Kruglanski & Freund, 1983).

For example, a high need for non-specific closure consumer has to decide which dishes to serve at his/her first dinner party. After an intense (but short) thought process, in which one or more dishes (e.g. lasagne, vegetable pie, fish and chips) are examined, one dish is chosen and s/he decides to serve lasagne. Consequently, s/he sticks to this decision, even though some guests may prefer another dish.

Furthermore, the need for non-specific closure is characterized by four additional assumptions. The need is assumed to be (1) topic bound, (2) capable of originating from diverse possible motives, (3), aroused in specific situational contexts, and (4) essentially

³ = In order to construct knowledge

⁴ Freezing is an attempt to prevent the dissolution of attained closure. It preserves a formulated belief for future reference.

unbiased or nondirectional in its judgmental effects.

It is assumed that people do not seek just any knowledge, but only knowledge in which they have some special interest. Such interest may arise from ‘intrinsic’ curiosity concerning specific aspects of the environment (Berlyne, 1960) or from perceived ‘extrinsic’ utility of such knowledge for mastery or control over one’s outcomes (Fiske & Neuberg, 1990; Neuberg & Fiske, 1987; Weiner, 1985; Erber & Fiske, 1984; Berscheid, Graziano, Monson & Dermer, 1976; Kelley, 1971; 1967).

The need for non-specific closure could spring from heterogeneous motivational sources. One’s intrinsic interest in definite knowledge about fast cars or soccer and child rearing or cosmetics might derive from a motivation for strong gender identity; an interest in finance may derive from a motivation for security. Self-esteem and social approval concerns might elicit one’s interest in various topics (e.g. arts, world affairs; which may ultimately lead to purchasing of certain brands) and hence potentate needs for non-specific closure in the corresponding domains.

Extrinsic interest in a given knowledge could arise from different types of outcomes that such knowledge might help control. In turn, those outcomes might cater to a variety of different motives. Achievement strivings could arouse a need for non-specific closure, where knowledge is believed to facilitate excellence. A need for non-specific closure could be similarly based on power strivings or a longing for affection.

The need for non-specific closure could be aroused by various situational conditions in two categories (see further 2.4.4): (1) those implying the benefits of possessing firm knowledge on a given topic (e.g. need to make a decision or to undertake an action) and (2) those implying the costs of lacking closure on a topic of interest (e.g. need to invest time and effort in further information processing or an inability to pursue salient alternative interests).

Persons are often interested in the answer to a question without being biased towards a specific answer. For example, a computer user might wish to be informed about how new

hardware operates without leaning toward a particular mode of operation. A consumer might wish to know the acceleration capacities of different car models without being biased towards one specific type of acceleration. The 'non-specific' qualifier of the present Need for Closure concept connotes such unbiased desire for definite knowledge on some topic.

The need for non-specific closure has received considerable emphasis in the social cognition literature (amongst others, Klein & Webster, 2000; Kruglanski & Webster, 1996; Ford & Kruglanski, 1995; Kruglanski et al., 1991).

2.1.3.2.2. Need for Specific Closure

At times, persons are biased towards particular answers to their questions, which represent the need for specific closure. A need for specific closure could relate to any content-related, structural or formal feature of the answer that might appear attractive in given circumstances; for instance, to its particular contents that appear desirable or flattering (Kunda, 1986; Kruglanski & Ajzen, 1983), to its novelty (Bar-Tal & Kruglanski, 1988; Berlyne, 1960) or to its apparent creativity.

The need for specific closure has a directional influence on the epistemic process, which may guide the process towards desirable knowledge structures. For example, consider again a high need for specific closure consumer who is organizing a dinner party. S/he may have a preference for vegetable pie and hence examine possible scenarios biased towards this dish (e.g. bias towards positive reactions about vegetable pie).

Unlike the need for non-specific closure, the need for specific closure may promote freezing as well as unfreezing⁵ depending on whether current knowledge was congruent with one's particular desires. For instance, someone who entertains the possibility of being about to lose an attractive job might seek out new evidence inviting more desirable

⁵ Challenging knowledge (opposite of preserving)

conclusions, and/or be ready to accept alternative, more positive interpretations of extant evidence. Consider, the host(ess) of the dinner party who seeks alternative explanations for the large remains of the meal, besides the disliking of the chosen dish (e.g. guests were not hungry, I served too much appetizers). By contrast, a person who assumes he or she has done well on an exam might often be obstinate to contrary evidence and be quick to dismiss alternative, less optimistic interpretations of available information. The host(ess) may not consider good manners when guests congratulate him/her for a fantastic meal.

Furthermore, needs for specific closures are assumed to be topic bound in accordance with individuals' particular interests and inclinations. For example, a high school student who aspires to become an actor might care little about passing or failing a mathematics exam, whereas a fellow student who hopes to become a physicist may entertain definite preferences between the two outcomes and therefore freeze on positive information. A consumer who is interested in making a good car deal, couldn't be bothered with information about interesting motorcycle bargains, while he freezes on information about good car deals.

Need for specific closure may originate from diverse possible motives in reference to which specific features of knowledge structures may look attractive. For instance, esteem concerns might make ego-protective or ego-enhancing attributions more attractive than their alternatives (Ross & Sicoly, 1979; Miller, 1976). The need for control might induce preferences for controllable or important features of causal categories (Kelley, 1971, p. 22).

Finally, the need for specific closure may be aroused situationally (see further, 2.4.4.): the apparent desirability of a given judgment may often derive from the situational context that lends it meaning and significance. For instance, the knowledge that shoplifting has increased in a particular store may have different implications for a person's esteem if he or she happened to be the security officer or the cashier.

Various needs for specific closure have received considerable emphasis in the social cognition literature (Kruglanski, 1996; Kunda, 1990).

2.1.3.2.3. Need to Avoid Non-Specific Closure

In terms of its desired state, this need is opposite to the need for non-specific closure. The need to avoid closure may instigate intense epistemic activity where closure was “in danger” of forming. This might induce increased sensitivity to new information possibly inconsistent with the current hypothesis and/or increased tendency to generate competing alternatives to the hypothesis (Kruglanski, 1989). Furthermore, if one starts with an absence of closure, a need to avoid closure might suppress further epistemic activity that “threatens” to lead to the unwanted closure (i.e. freezing). Generally, then, the need to avoid closure may promote epistemic unfreezing.

For example, a high need to avoid non-specific closure dinner host(ess) thinks about several dishes and keeps on looking for new positive or negative information about these dishes or keeps on considering new dishes.

The need to avoid closure may often be topic bound. Thus, one might prefer to refrain from closure in regard to some issues but not to others.

The need to avoid closure could originate from diverse possible motives, for example tied with the multiple possible costs of judgmental errors. For example, error may threaten to lower self-esteem, inflict economic losses, or jeopardize one’s physical well being. If judgmental commitment entails the restriction of control over potentially desirable outcomes, control strivings could enhance the need to avoid closure. For example, the decision to accept a given job offer rules out the desirable outcomes of other potential positions.

Furthermore, the need to avoid closure can be aroused situationally (see further 2.4.4.). The perceived negative valence of closure may depend on the situational context that

lends it aversive hedonic significance. The need to avoid closure is relevant in situations where judgmental noncommitment is valued or desired.

Finally, the need to avoid closure is unbiased in its effects on the epistemic process. It may direct epistemic activity away from closure in general rather than from particular closures.

2.1.3.2.4. Need to Avoid Specific Closure

Individuals may be motivated to avoid specific closures because of the undesirable properties of such closures. Consider a high need to avoid specific closure dinner host(ess). S/he may avoid a preference for a specific dish and hence examine possible scenarios about other dishes because the choice of one dish may have negative consequences (e.g. negative reactions of the guests).

The need to avoid specific closure may occasionally represent the need for the opposite closure. For example, the need to avoid a belief that the exam results will be poor may be indistinguishable from the need to believe that they will be good. However, the need to avoid specific closure is not equivalent to the need for the opposite closure. The individual's focus of interest may differ: some persons may focus on the closure to be avoided, while they are not particularly preoccupied with its positive opposite. Others may be strongly attracted to the positive closure and not be particularly concerned about its negative counterpart. For example, an individual motivated to avoid failure, is motivated to avoid the specific closure that asserts s/he has failed on some tasks; by contrast, individuals who strive to attain success are motivated by the need for a closure that asserts that they have succeeded (Kruglanski, 1989).

The need to avoid specific closure – as the need for specific closure- may occasionally effect epistemic freezing and at other times result in epistemic unfreezing. For example, if a person's current belief represents the closure s/he would like to avoid (e.g. that one has failed an exam, that one's chosen dish was disliked), a strong need to avoid closure

would promote unfreezing (e.g. searching alternative explanations). However, when one's current notions (e.g. that one has passed an exam, that one's chosen dish was liked) do not represent a negatively valenced closure, a strong need to avoid the negatively valenced closure would promote freezing (not considering alternative explanations).

The need to avoid closure is topic bound, could be aroused situationally (see further 2.4.4.) and could stem from different possible motives (e.g. reactance, commitment, fear of rejection, fear of high places).

2.1.3.2.5. Compatibility of the Motivations

According to Kruglanski (1989), the four epistemic motivations are mutually compatible. It should be possible for an individual to desire simultaneously the various epistemic end states but not to attain them simultaneously. For instance one cannot have closure simultaneously and avoid it. Furthermore, the ends of specific and non-specific closure may occasionally conflict. For instance a need for non-specific closure might be equally satisfied by success or failure information since either disambiguates a performance outcome, while a need for specific closure might be gratified only by success information and frustrated by failure information.

One might also simultaneously desire to attain and avoid closure and wish for a specific, as well as for a generalized closure. For example, a scientist might desire cognitive closure on a problem of interest yet may experience at the same time a high fear of invalidity stemming from an anticipated criticism of the work by colleagues, inducing a high need to avoid closure. Furthermore, a request for feedback on a manuscript might be motivated by the writer's genuine interest in a colleague's opinion (representing a need for non-specific closure), as well as by a strong wish for an approving reaction (representing a need for specific closure).

Simultaneously existence of incompatible epistemic goals may engender conflict and tension presumably resolvable in the direction of the stronger of the opposing forces

(Kruglanski, 1989; Lewin, 1951; 1938). Kruglanski (1989) argues that in natural settings persons might only rarely have a singular epistemic goal and more typically might experience a mix of epistemic motivations. In such a case, the relative magnitudes of epistemic forces operative at that moment might affect the extent, direction, and outcome of information gathering. Thus, Kruglanski argues, it is important to understand the effects of each epistemic motivation separately, even if in natural circumstances it often comes blended with other motivations.

In this dissertation, the focus is on the need for non-specific closure, because stable individual differences in need for cognitive closure stem from this non-specific need (Kruglanski, 1989). In the remainder of the document we use the term ‘Need for Closure’ or NFCL to refer to the need for non-specific closure.

2.1.3.3. Social Character of Knowledge Construction

In addition to its motivated nature, the knowledge-construction process has a social character. First, people often attempt to construct socially relevant knowledge about various social entities (other persons, groups, or social categories). Furthermore, other people may often supply information that helps to construct knowledge, for example social comparison information (Festinger, 1954) or feedback that is significant/relevant for self-verification or self-enhancement motives (Swann, 1990). They may supply consensus information in instances in which consensus is desired, confirm one’s favourite hypotheses, or give evidence of one’s efficacy and control. Of course, people might obstruct rather than facilitate the attainment of desired knowledge and be occasionally the bearers of ‘bad news’. Even, then, however, they remain motivationally relevant to one’s epistemic purposes as potential sources of pertinent information (Kruglanski & Webster, 1996).

2.2. Consequences of the NFCL: the Urgency and Permanence

Tendency

The motivation toward cognitive closure may affect the way individuals process information in order to form, alter, or dissolve knowledge. Kruglanski and Webster (1996) posit two general tendencies that a high level of NFCL may lead to: the urgency tendency and the permanence tendency.

The urgency tendency refers to the inclination to “seize” on closure quickly. People with a high NFCL may perceive that they desire closure immediately. Any further postponement of closure is experienced as bothersome as the individual has an overriding sense that he or she simply cannot wait. For example, a consumer who experiences an urgency tendency is inclined to quickly choose a specific brand in order to attain a sense of closure.

The permanence tendency refers to the desire to perpetuate closure, giving rise to the dual inclination (a) to preserve, or “freeze” on past knowledge and (b) to safeguard future knowledge. Individuals with a high NFCL may thus desire an enduring closure and, in extreme cases, abhor losing closure ever again. The motivational forces behind freezing can help explain why decisions are sometimes made despite abundant contrary information (Kruglanski, 1989). Kruglanski (1989) argues that people often engage in wishful thinking, prefer to have a clear-cut, non-ambiguous answer to a problem and decrease fear of invalidity by enthusiasm in light of a certain situation which can lead to premature freezing, for example in the case of the Challenger tragedy⁶. (January, 1986) or the more recent Columbia tragedy (January, 2003)

The urgency and permanence notions both rest on the assumption that people with a high NFCL experience its absence as aversive. They may, therefore, wish to terminate this

⁶ Negative information was ignored in order to uphold the image of the ‘safe’ Challenger.

unpleasant state quickly (the urgency tendency) and keep it from recurring (the permanence tendency).

The abstract tendencies toward urgency and permanence may translate into a variety of concrete social psychological phenomena (Kruglanski & Webster, 1996). Such seizing and freezing trends may affect information processing and, indirectly, the multiple social psychological phenomena information processing may mediate (see further, 2.5). Specifically, people with a high NFCL may seize on information appearing early in a sequence and subsequently basing their judgments on the most accessible constructs (Ford & Kruglanski, 1995; Thompson, Roman, Moskowitz, Chaiken & Bargh, 1994) and freeze on it, becoming imperious to subsequent data. For example, a high NFCL consumer may decide quickly to buy the first encountered brand without considering other brands. Furthermore s/he can remain loyal to that brand without considering other options.

2.3. Crystallization Point

According to the present theory, the point that separates seizing (urgency) phenomena from freezing (permanence) phenomena occurs when a belief crystallizes and turns from a possibility to an objectively firm “fact” (Kruglanski & Webster, 1996; Kruglanski, 1989). In this case, an individual no longer doubts about his/her opinion or action, but s/he feels confident. At the moment of belief crystallization an opinion is solidified. During the pre-crystallization or knowledge formation stage, people with a high NFCL experience a discrepancy between actual and desired states (lacking and wanting closure), which results in urgent seizing to remove the discrepancy. After the crystallization, a high NFCL results in an intense freezing process. At this stage, the NFCL is gratified and hence there is no discrepancy between actual and desired states. Before that point it should be possible to observe pure seizing behaviour, which can manifest itself, for example, in increased information seeking activity (quickened pace, enhanced volume) under a high NFCL. Subsequent to the crystallization point freezing occurs, which can be

translated as a reluctance to continue information processing. In addition, seizing could dispose people to be relatively open to persuasion attempts because such attempts promise to provide the desired closure. Subsequent to crystallization, a resistance to persuasive arguments aimed at undermining one's current closure and effecting cognitive change is displayed.

For example, a high NFCL consumer who already has a brand preference for a particular product type (after the crystallization point) would seek little information when buying that product type of which the preference exists. Even more, s/he would also ignore or discount negative or incongruent information and persuasive arguments, as this information would frustrate closure. Moreover s/he is likely to maintain a positive image of a brand and s/he is unlikely to search for an alternative. On the contrary when a high NFCL consumer has no experience with a product type (before the crystallization point) and consequently has no preference, more rather than less information will be processed in order to reach some clarity regarding the available information and in order to make (subjectively) reliable and secure decisions. In addition, s/he welcomes any persuasion attempts, as this offers a quick and easy closure.

2.4.A Motivational Continuum

Whereas a need for non-specific closure is likely to vary across topics and situations, stable individual differences in such a nature may also exist (Kruglanski, 1989). It has been found that the motivation towards closure varies along a continuum anchored at one end with a high NFCL and at the other end with a low NFCL (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994). Individuals may exhibit stable personal differences in the degree to which they value closure. Such individual differences –presumably general across topics- have been identified by various authors (Houghton & Grewal, 2000; Webster & Kruglanski, 1994; Kruglanski, 1989; Rokeach, 1960; Frenkel-Brunswik, 1949) and have been explained by diverse cultural practices or norms (Hofstede, 1980) and personal socialization histories that place a premium on confidence,

“know how”, definiteness or clarity (Webster & Kruglanski, 1994). For example, Chiu, Hong, Morris and Menon (2000) found that Americans were more open-minded and had a lower need to maintain the perception of a predictable and unambiguous social reality compared to Chinese. Furthermore, we can expect that cultures that are strongly oriented to avoid uncertainty (Hofstede, 1980) can promote the motivation towards closure to emerge as the preference for clear-cut rules are advocated in these cultures.

2.4.1. Measurement of NFCL

A measure of individual differences in NFCL has been developed and its reliability and validity established (Webster & Kruglanski, 1994). The NFCL scale discriminates people with a different dispositional NFCL (Kruglanski, et al., 1997; Webster & Kruglanski 1996) and contains five subscales: (1) preference for order and structure, (2) preference for predictability, (3) tendency towards decisiveness, (4) discomfort with ambiguity and (5) close-mindedness (Kruglanski et al., 1997; Webster & Kruglanski, 1994). This measure has been translated in Dutch and validated by Cratylus (1995). Several researchers used this questionnaire (or a translation) in their research (Shiloh, Koren & Zakay, 2001; Chiu et al., 2000; Klein & Webster, 2000, study 1-2; De Grada, Kruglanski, Mannetti & Pierro, 1999, study 1-2; De Dreu, Koole & Oldersma, 1999, study 1-3; Richter & Kruglanski, 1999; Webster, Kruglanski & Pattison, 1997, study 1; Rubini & Kruglanski, 1997, study 3; Dijksterhuis, Van Knippenberg, Kruglanski & Shaper, 1996, study 1-2; Ford & Kruglanski, 1995, study 2; Webster & Kruglanski, 1994, study 1-6; Kruglanski, Webster & Klem, 1993, study 1,3; Webster, 1993; study 2).

2.4.2. Categorization of High and Low NFCL Individuals

Different researchers used different classification methods to categorize high and low NFCL subjects: (a) median split (Chiu et al., 2000; De Dreu et al., 1999, study 1-2; De Grada et al., 1999, study 1, 2; Dijksterhuis et al., 1996, study 1-2), (b) tertiles (Klein & Webster, 2000, study 1; Webster & Kruglanski, 1994, study 4), (c) quartiles (Klein &

Webster, 2000, study 2; Rubini & Kruglanski, 1997, study 3; Webster et al., 1997, study 1; Ford & Kruglanski, 1995, study 2; Webster, 1993, study 2; Kruglanski et al., 1993, study 1, 3), and (d) the above and below 15% (Richter & Kruglanski, 1999).

2.4.3. Characteristics of High and Low NFCL Individuals

2.4.3.1. High NFCL

Individuals at the high NFCL end of the continuum want clear and definite knowledge in order to avoid experiencing uncertainty or ambiguity. They may display considerable cognitive impatience or impulsivity and they may be inclined to judge on the basis of inconclusive evidence, freeze on information appearing early in a sequence, and becoming impervious to subsequent data. They will prefer to order and structure (preference for order and structure) their thoughts and ideas and display rigidity of thought, close-mindedness or shortsightedness towards alternative visions (close-mindedness) and they are reluctant to entertain views different from their own. Furthermore, they regard ambiguous answers, opinions, or evaluations as noxious (discomfort with ambiguity) and seek definite views on a wide variety of social and non-social stimuli. In addition, an urgent desire to reach closure is reflected in a decisiveness of their judgments and choices (tendency towards decisiveness). Finally, individuals motivated to obtain cognitive closure would be expected to prefer situations that are predictable and certain to those that are unpredictable and uncertain (preference for predictability) (Naccarato, Thompson & Parker, 1986; Kruglanski & Freund, 1983).

NFCL has a variety of consequences on several social and non-social phenomena (see further, 2.6).

2.4.3.2. Low NFCL

At the opposite end of the continuum, denoting a high need to avoid closure (= low

NFCL), people may value/enjoy uncertainty and be reluctant to commit to a definite opinion; in those circumstances, individuals may suspend judgment and be quick to engender alternatives to any emergent views (Webster & Kruglanski, 1994). According to the theory and previous findings, a need to avoid closure is an opposing motivation in which the individual is motivated to engage in a great deal of information processing, thus avoiding any conclusion in any given situation. Furthermore, they do not prefer to order or structure their ideas. Individuals with a low NFCL are reluctant to make a decision and they will process a lot of information in order to put off decision-making. They will not hold on to one opinion and they will always consider other possible alternatives (Webster & Kruglanski, 1994). Low NFCL subjects try to remain immune from possible criticism of any given closure. They also experience aversion in the presence of predictability as a consequence of the dullness of definite and clear-cut knowledge. Low NFCL subjects will also consider possible alternatives that question a present opinion induced in a situation. We can consequently expect that the opinion of low NFCL subjects will be more variable in different situations.

2.4.4. Antecedents of NFCL

Although NFCL may represent a dimension of stable individual differences, it may also vary as a function of the situation (Webster & Kruglanski, 1994). Although in some circumstances people may strive to attain it, in other situations they may actively avoid it or exhibit little preference for it over ambiguity.

2.4.4.1. What Conditions Induce a Motivation toward Closure?

According to Kruglanski and Webster (1996), these may be conditions that highlight the perceived benefits or desirability of closure or the costs of lacking closure. For example, NFCL should be heightened when judgment on some topic is required or an action has to be undertaken (as compared with cases in which the individual feels free to remain without opinion) because there is no hesitation to commit to a certain opinion or choice.

Another potential benefit of closure may be the ability to act or decide in time for meeting an important deadline. Closure is time-efficient because of its coherence and unitary nature. Thus the NFCL could be heightened under a specific feeling of time pressure. Time pressure has been used to induce NFCL in previous research (Chiu et al., 2000; De Grada et al., 1999; study 1; Richter & Kruglanski, 1998; Ellis, 1996; Kruglanski, Freund & Bar-Tal, 1996; Heaton & Kruglanski, 1991; Kruglanski & Webster, 1991, study 1; Sanbonmatsu & Fazio, 1990; Jamieson & Zanna, 1989; Kruglanski & Mayeseless, 1988, study 2; Freund et al., 1985; Kruglanski & Freund, 1983, study 1-3).

An alternative cost of lacking closure is the necessity to invest time in further information processing and therefore the inability to pursue salient alternative interests. If so, NFCL could be heightened under conditions that render processing difficult, laborious, or aversive and thus effortful.

Furthermore, competing interests may intensify one's NFCL (if an initial interest in the topic is present): confusion or ambiguity could be time consuming because it involves the cognitive coping with alternate possibilities. Freund et al. (1985) induced NFCL by giving instructions to form "global" evaluative impressions or judgments versus differentiated impressions or separately evaluating each of his or her characteristics. Ford & Kruglanski (1995, study 1) used cognitive load to manipulate NFCL, as did Thompson et al. (1994).

Some NFCL stimulating conditions (e.g. environmental noise and heat, Webster, 1993) may reside in the exogenous context of processing, whereas others (e.g. tedium, subjective unattractivity and dullness of a task) may relate to endogenous aspects of processing (Kruglanski, 1975). Ambient noise has already been used in several researches (Jost, Kruglanski & Simon, 1999; Doherty, 1998; Webster et al., 1997, study 2; Rubini & Kruglanski, 1997, study 1; Kruglanski & Webster, 1991, study 2-4; Kruglanski et al., 1993, study 2), as has dullness of the task (Webster, 1993, study 1, 3).

Yet, other conditions may stem from the perceiver's organismic state. For instance, people may find processing particularly arduous when in a state of fatigue. Kruglanski (1990b; 1989), Webster, Richter & Kruglanski (1996) used mental fatigue as inductor of high NFCL. Some researchers suggest that alcohol inebriation⁷ can be used as antecedent of NFCL (Lange, 1997; Webster, 1993; Kruglanski & Webster, 1991).

Finally, NFCL should also be heightened when closure is valued by significant others because possessing closure may promise to earn their esteem and appreciation. Mayeseless and Kruglanski (1987) induced NFCL by informing participants that unambiguous clear-cut opinions relate to mental concentration and intelligence, enhancing the perceived benefits of closure.

2.4.4.2. What Conditions Induce a Motivation to Avoid Closure?

The NFCL may be lowered and that to avoid closure heightened by conditions that highlight the costs of closure (e.g. high costs for judgmental mistakes) and the benefits of openness or lacking closure (e.g. immunity from possible criticisms of any given closure).

In some situations, closure costs may be made salient by "fear of invalidity" or a gnawing concern about a costly judgmental mistake, for example, when the perceiver is "outcome dependent" on the target (Fiske & Neuberg, 1990) under accountability instructions or when multiple competing hypotheses or inconsistent information are present. At times, a lack of closure might be valued temporarily as an interim stage or as a means that may ultimately reduce the likelihood of a mistake (Jones & McGillis, 1976).

⁷ In this case, information processing is presumably costly (Kruglanski & Webster, 1991)

This may seem to imply that validity concerns are necessarily at odds with those of closure. Obviously, however no one would consciously adopt a closure she or he judged invalid. In fact the very notion of subjective knowledge connotes the joint sense of closure and validity. For example, to know that Rome is the capital of Italy is to have closure on the topic and to believe it to be true at the same time. However, psychological concerns for closure and validity may arise fairly independent of each other; even more, they may pull information processing in diametrically opposed directions (Kruglanski & Webster, 1996). For example, when closure is desired, individuals may perform closure-promoting activities without sacrificing their sense of validity. They may generate fewer competing hypotheses or suppress attention to information inconsistent with their hypotheses. Both processes may promote a sense of valid closure that is uncontested by inconsistent evidence or alternative interpretations. By contrast, when validity concerns are salient, people may engage in a thorough and extensive information search and generate multiple alternative interpretations to account for known facts. Even more they could try to postpone closure and in extreme cases, to avoid it altogether. However, this is not inevitable, if a particular closure appears valid (e.g. because of the irrefutable credibility of the source), the fear of invalidity may increase the tendency to accept this closure rather than prompting its avoidance or postponement. In sum, although closure avoidance may often be induced by a fear of invalidity, this may not hold invariably.

Furthermore, in attitude measurement, the provision of an ambiguous response alternative (a “neutral” midpoint on a scale) often reduces the proportion of definite (yes/no) responses (Aronson, Brewer & Carlsmith, 1985), indicating an occasional preference for cognitive noncommitment possibly prompted by a fear of invalidity.

Several researchers used ‘fear of invalidity’ to induce the need to avoid closure. More specifically, the need to avoid closure has been operationalized in terms of (a) evaluation apprehension (it increases when required to explain or justify one’s decisions) (Kruglanski et al., 1996; Webster & Kruglanski, 1996; Heaton & Kruglanski, 1991; Kruglanski & Webster, 1991; Jamieson & Zanna, 1989; Kruglanski, 1989; Kruglanski & Mayseless, 1988; Freund et al., 1985; Tetlock, 1985; Kruglanski & Freund, 1983, study 1-3) and (b) accuracy instructions (De Dreu et al., 1999; Richter & Kruglanski, 1999;

1998; Ford & Kruglanski, 1995, study 1; Thompson et al., 1994; Kruglanski et al., 1991, study 1-2; Fiske & Neuberg, 1990; Neuberg, 1989; Kruglanski & Mayseless, 1987; Mayseless & Kruglanski, 1987, study 1-3; Neuberg & Fiske, 1987; Kruglanski & Azjen, 1983; Tetlock, 1983) . Furthermore, Boudreau, Baron and Oliver (1992) assumed that a confrontation with experts would increase concerns about judgmental validity and lower the NFCL, while confrontation with non-experts would raise the NFCL in the interest of clear-cut, easy to summarize messages.

A need to avoid closure may also arise from the unwanted constraint of prospects that a definite judgment may impose. Individuals may refrain from closure and prefer to maintain cognitive noncommitment in instances where definite self-knowledge might imply unattractive predictability and dullness or where “mystery” might be compatible with a cherished, romantic worldview (Snyder & Wicklund, 1981).

The need to avoid (or postpone) closure may arise for alternative reasons, such as when the judgmental task is intrinsically enjoyable and interesting (relative to possible pursuits) and closure threatens to terminate this pleasant activity or when the participant’s mistakes leads to potential costs for the evaluation target (Freund et al., 1985).

Furthermore, a low level of NFCL can be an advantage under conditions when no opinion or choice is required.

2.4.5. Manipulation Checks

Several authors have performed manipulation checks in order to check if the intended differences in a specific NFCL antecedent were indeed created and paralleled by different degrees of NFCL. For example, the presence of high versus low NFCL conditions has been indexed by (a) greater judgmental confidence (Doherty, 1998; Richter & Kruglanski, 1998; Rubini & Kruglanski, 1997, study 1; Webster et al., 1997, study 1, 2; Webster et al., 1996; Kruglanski et al., 1993, study 1-3; Webster, 1993, study 1-3; Kruglanski & Webster, study 2-4), (b) lesser perceived amount of thought required by the

task, (Richter & Kruglanski, 1998; Rubini & Kruglanski, 1997, study 1, 3; Webster et al., 1997, study 1, 2; Webster et al., 1996; Webster, 1993, study 1-3; Mayeseless & Kruglanski, 1987), (c) greater reported need to make a quicker judgment (Webster, 1993, study 1-3; Kruglanski & Mayeseless, 1988, study 2), (d) lesser amount of actual time spent on the task (Rubini & Kruglanski, 1997; Webster et al., 1996, study 3; Webster, 1993, study 1-3; Mayeseless & Kruglanski, 1987), (e) higher need to reach agreement with a partner (Kruglanski et al., 1993, study 2); (f) higher commitment (Kruglanski et al., 1991, study 1), (g) lesser perceived difficulty of the task (Richter & Kruglanski, 1998; Webster et al., 1997, study 1; Webster et al., 1996), (h) greater amount of perceived effort necessary to complete task (Doherty, 1998), (i) more extreme positions in favour of the community (Doherty, 1998), (k) lesser degree of uncertainty in forming an impression (Richter & Kruglanski, 1998); and (l) lesser perceived importance of the task (Mayeseless & Kruglanski, 1987, study 2).

2.5. Effects of Need for Closure: Theoretical Implications and Past Research

The urgency and permanence tendencies can operate individually and jointly to produce a broad range of judgmental effects. The NFCL concept has been investigated a considerable number of times in relation to information processing and other decision-making variables (e.g. confidence ratings) in a social context (for a review: see Kruglanski & Webster, 1996). A summary of the most relevant findings is presented in table 2.

Table 2: Summary of the Most Relevant Effects of Need for Closure

Effect	High NFCL subjects...	
Seizing	Seize upon early information and base their judgments more on pre-existing schema's or knowledge structures	Kruglanski & Freund (1983)

Effect	High NFCL subjects...	
Biased judgments	Neglect new information, dissolve alternative possibilities and freeze on their opinions	Kruglanski & Webster (1996); Ford & Kruglanski (1995); Jamieson & Zanna (1989); Kruglanski & Freund (1983)
Consensus bias	Display a bias towards consensual judgments which can translate itself amongst others in excluding the dissenters, extolling conformists and in-group favouritism	De Grada et al. (2001); Dechesne et al. (2000); De Grada et al. (1999); Doherty (1998); Shah et al. (1998); De Dreu & Koole (1997); Kruglanski et al. (1993); Kruglanski et al. (1991); Kruglanski & Webster (1991); Kruglanski & Mayeseless (1987)
Abstraction bias	Prefer using global trait terms or abstract category labels Produce messages that amongst others, contain fewer words, were more figurative and less literal	Richer & Kruglanski (1999); Rubini & Kruglanski (1997); Webster et al. (1997); Kruglanski & Webster (1996); Boudreau et al. (1992)
Extent of information processing	Are less willing to spend time and energy in processing large amounts of information (after an opinion/attitude is formed)	Houghton & Grewal (2000); Barak (1999); Houghton (1998); Kruglanski et al. (1997); Ellis (1996); Webster et al. (1996); Ford & Kruglanski (1995); Webster & Kruglanski (1994); Kruglanski et al. (1993); Kruglanski et al. (1991); Kruglanski (1990b); Jamieson & Zanna (1989)
Hypothesis generation	Produce fewer hypotheses when processing information	Kruglanski & Webster (1996); Kruglanski & Mayeseless (1988); Mayeseless & Kruglanski (1987)
Subjective confidence	Have higher confidence in their judgments	Cofrin (2000); Barak (1999); Houghton (1998); Kruglanski et al. (1997); Kruglanski et al. (1996); Webster & Kruglanski (1994); Kruglanski et al. (1993); Webster (1993); Kruglanski et al. (1991); Kruglanski & Webster (1991); Mayeseless & Kruglanski (1987)
Seeking prototypical/diagnostic information	Seek prototypical information, while low NFCL subjects search for diagnostic information that can help them discriminate amongst different categories	Kruglanski & Mayeseless (1988); Trope & Bassok (1983)
Impressional primacy	Base impression of a social target more on information presented early versus late in a sequence	Webster et al. (1996); Webster & Kruglanski (1994); Heaton & Kruglanski (1991); Freund et al. (1985); Kruglanski & Freund (1983)

Effect	High NFCL subjects...	
Anchoring	Are inclined to anchor estimations of numbers to initial values without sufficiently adapting them to additional calculations	Kruglanski & Webster (1996); Kruglanski & Freund (1983)
Mere exposure	Are more susceptible for the mere exposure effect	Kruglanski et al. (1996)
Correspondence bias	Attribute behaviour of an actor to personal inclinations, even if situational factors could evoke this behaviour, when initial cues implied a situational rather than a personal attribution	Sukel (1997); Webster & Kruglanski (1994); Webster (1993); Gilbert et al. (1988); Tetlock (1985)
Stereotypic judgments	Use more stereotypes	Chiu et al. (2000) ; Barak (1999); Schimel et al. (1999); Dijksterhuis et al. (1996); Webster & Kruglanski (1994); Kruglanski et al. (1993); Neuberg & Newsom (1993); Fiske & Neuberg (1990); Sanbonmatsu & Fazio (1990); Jamieson & Zanna (1989); Neuberg (1989); Kruglanski & Mayeseless (1988); Neuberg & Fiske (1987); Kruglanski & Freund (1983)
Construct accessibility effects	Rely primarily on the cognitive accessible construct or knowledge structures	De Grada et al (1999); Kruglanski & Thompson (1999); Tetlock (1998); Kruglanski & Webster (1996); Ford & Kruglanski (1995); Thompson et al. (1994); Webster (1993); Tetlock (1983)
Openness to persuasion	Are resistant to persuasion when prior information is present, while they are less resistant when they are lacking prior information	Kruglanski & Webster (1996); Webster & Kruglanski (1994); Kruglanski et al. (1993); Jamieson & Zanna (1989); Kruglanski & Freund (1983)
Processing style	Are more likely to use heuristics or display heuristic thoughts and engage in theory or category driven (versus data or attribute -driven) processing	Klein & Webster (2000); De Dreu et al. (1999); Kruglanski et al. (1993); Jamieson & Zanna (1989); Neuberg & Fiske (1987); Kruglanski & Freund (1983)

2.5.1. Consequences of Urgency Tendency

Research findings suggest that high NFCL participants are more likely to seize upon early information (Kruglanski & Freund, 1983) and judge abruptly based on inconclusive

evidence or few pieces of information or pre-existing schema's or knowledge structures (e.g. stereotypes), which is indicative of reluctance to process topic-relevant information extensively.

For example, a high NFCL consumer is inclined to quickly decide in favour of a well-known brand or decides in favour of the brand first encountered based on limited knowledge.

2.5.2. Consequences of the Permanence Tendency

2.5.2.1. Biased Judgments

Following their freezing tendency, high NFCL subjects neglect new information because high accessible structures (like pre-existing knowledge structures) afford immediate closure (Ford & Kruglanski, 1995) and they exhibit rigidity of thought and are reluctant to views different from their own and alternative possibilities (Kruglanski & Webster, 1996). Therefore, they freeze on their opinions (Jamieson & Zanna, 1989; Kruglanski & Freund, 1983).

For example, a high NFCL consumer neglects new -possibly negative- information about a chosen brand, does not consider other brands and sticks to this chosen brand.

2.5.2.2. Consensus and Consistency Biases

The permanence tendency may effect a bias toward consensual judgments and knowledge unlikely to be challenged by significant others. Consequently, similar-minded others should be preferred and group members who facilitate consensus instigate a positive feeling, while non-conformists or rebels and opinion deviates that jeopardize consensus trigger negative feelings (Kruglanski & Webster, 1991). Furthermore, the permanence tendency causes a preference for consistent knowledge generalizable across specific situations. Transsituational consistency can also manifest itself in the preference or use of general, abstract and definite knowledge (abstract linguistic descriptions) (Webster et al.,

1997; Kruglanski & Webster, 1996) in reference to positive in-group and negative out-group behaviours.

2.5.2.2.1. Consensus Bias

High NFCL subjects use the ‘consensus implies correctness’ heuristic in negotiations (De Dreu & Koole, 1997) and group discussions/judgments (Kruglanski et al., 1993).

A possible strategy for achieving consensus in a group is excluding the dissenters (Schachter, 1951; Festinger, 1950). Previous research demonstrated that subjects with a high (versus low) NFCL tend to reject more the deviate or critic (Dechesne, Janssen & Van Knippenberg, 2000; Doherty, 1998; Kruglanski et al., 1991; Kruglanski & Webster, 1991), extol the conformist (Doherty, 1998; Kruglanski et al., 1991; Kruglanski & Webster, 1991), exert pressures toward conformity upon one another and encourage the emergence of dominant leadership that may shape uniformity of opinions in an group (De Grada et al., 1999), take fewer competitive and more neutral turns in group interactions (De Grada, Pierro, Mannetti & Livi, 2001) and prefer agreeing (versus disagreeing) others (Kruglanski & Mayeseless, 1987).

The striving for in-group consensus lends the in-group particular attractiveness as a source of motivational gratification. This may increase the motivation for in-group protectiveness. Shah, Kruglanski and Thompson (1998) found that high NFCL increased in-group favouritism and out-group derogation.

In a consumer context, a consensus bias can be translated, for example, in an increased preference towards well-respected brands, an increased susceptibility for normative influence⁸ or a sweeping impact of aspirational reference groups.

⁸ Normative influence occurs when reference groups affect behaviour through pressure for conformity and compliance (Engel, Blackwell & Miniard, 1995).

2.5.2.2.2. Abstraction Biases

High NFCL instills the tendency towards transsituational consistency of knowledge leading to a generalized preference for abstraction. A preference for general, transsituational knowledge may also manifest itself in an increased abstraction level of linguistic descriptions (Webster et al., 1997; Kruglanski & Webster, 1996). Rubini & Kruglanski (1997) and Boudreau et al. (1992) found a preference for using global trait terms or abstract category labels when describing others displayed by high NFCL subjects. More recently, Richter and Kruglanski (1999) found that messages produced by high NFCL subjects contains fewer words, were more figurative and less literal (and hence more idiosyncratic). In addition, descriptions created by high NFCL subjects were less successfully decoded than descriptions created by low NFCL subjects (less efficient communication).

In a consumer context, a preference for transsituational consistency could lead to an increased brand loyalty or a preference for general decision criteria (usable for different products, on different occasions). Furthermore, a marketer could benefit from using more abstract communications in order to reach the high NFCL consumer. In addition, high NFCL employees are probably not the company's most efficient spokespersons as their communication skills are less efficient.

2.5.3. Consequences of Urgency and Permanence Tendencies

A seizing and freezing sequence of high NFCL subjects may (a) reduce the extent of information processing and hypothesis generation (e.g. Mayeseless & Kruglanski, 1987), (b) elevate judgmental confidence (e.g. Webster & Kruglanski, 1994; Kruglanski et al., 1993; Kruglanski & Webster, 1991; Mayeseless & Kruglanski, 1987), (c) focus the information search on prototypical rather than diagnostic evidence (e.g. Kruglanski & Mayeseless, 1988), (d) effect the use of early judgmental cues giving rise to impressional primacy, anchoring effects, use of semantic primes, mere exposure effects,

correspondence bias, stereotypic judgments and construct accessibility effects (e.g. Ford & Kruglanski, 1995; Webster & Kruglanski, 1994; Webster, 1993; Heaton & Kruglanski, 1991; Jamieson & Zanna, 1989; Freund et al., 1985; Kruglanski & Freund, 1983), and (e) influence the motivated reactions to persuasion in reaction to the presence or absence of prior information (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994; Kruglanski et al., 1993).

2.5.3.1. Extent of Information Processing

The speeded-up reliance on early cues implied by seizing and the truncation of further exploration due to freezing suggest that high (versus low) NFCL subjects should consider less evidence before forming a judgment. For example, Mayeseless and Kruglanski (1987) confirmed that the number of times high NFCL subjects operated a tachistoscope to identify barely visible digits was lower compared to control and low NFCL subjects. In later research this was confirmed: high (versus low) NFCL participants are less willing to spend time and energy in processing large amounts of information (Houghton & Grewal, 2000; Barak, 1999; Houghton, 1998; Kruglanski et al., 1997; Ellis, 1996; Webster et al., 1996; Ford & Kruglanski, 1995; Webster & Kruglanski, 1994; Kruglanski et al., 1993; Kruglanski et al., 1991; Kruglanski, 1990b; Jamieson & Zanna, 1989; cfr. Need for Cognition, see 2.7.10.).

In a related vein, Taris (2000) found that high NFCL individuals also filter positive information about the self and reinterpret information that is not self-enhancing. They use pre-existing positive self-schemata to maintain and enhance their self-esteem, thereby minimizing the amount of cognitive processing before reaching closure⁹.

Kruglanski et al. (1991) earlier found that this truncation of information processing

⁹ More specifically, he found that high (versus low) NFCL subjects believed that they belonged to the top 20% of the fathers. They believed they spent more time with their children compared to comparable fathers. Moreover, this self-enhancement was especially strongest for ambiguous, private and subjective moral behaviours (behaviours that are difficult to verify) versus unambiguous, public and objective intelligent behaviours.

occurred only after a fairly confident hypothesis was formed by the individual and not before, because this would leave the individual lacking in the desired closure. Under the latter circumstances, high levels of NFCL lead to more extensive information processing aimed at quickly forming some hypothesis in order to quickly reaching closure. More recently, Houghton and Grewal (2000) also found that high levels of NFCL result in low information seeking only if the individual has a prior attitude regarding a brand or product category. They argued that a high NFCL level could result in a brief but elaborate information search when no prior attitude about the product is present, because the person needs some information to make a decision and to reach closure. The NFCL can thus only be satisfied through abstention from information seeking in the presence of prior closure-lending notions (Kruglanski et al, 1991).

2.5.3.2. Hypothesis Generation

The seizing and freezing notions imply, in addition to a reduced extent of processing “external stimuli”, that there will be a parallel reduction in “internal” hypothesis generation. Kruglanski and Webster (1996) argue that these two processes are intimately linked: examination of external information may suggest, internally formed hypotheses, the testing of which may require, in turn, further processing or external information. Consequently, fewer competing hypotheses are generated to account for available data. Mayeseless and Kruglanski (1987) confirmed that high NFCL subjects produced fewer hypotheses about an unknown objects’ identity compared to low and control NFCL subjects. Kruglanski and Mayeseless (1988) found that low NFCL subjects appeared more sensitive to contextual cues suggesting an alternative hypothesis than high NFCL subjects. Consequently, they were more likely to prefer diagnostic rather than non-diagnostic questions capable of demarcating the hypothesis from the alternative (cfr. 2.5.3.4.).

A high NFCL consumer probably minimizes both his internal (from memory) and external (from outside sources) search to collect information. Furthermore s/he probably limits the internal evaluation process.

2.5.3.3. Subjective Confidence

Another implication of a motivation for closure is that the individual will show greater confidence in the decision, even though their judgments are less grounded in thorough explanations, as fewer competing hypothesis have been considered (Mayeseless & Kruglanski, 1987). This implication follows from Kelley's (1971) discounting principle, whereby reduction in the number of alternative hypotheses should boost an individual's confidence in each hypothesis. The lower number of competing hypotheses held by a person, the more confidence s/he may have in those hypotheses, because fewer alternatives to a given judgment may enhance their perceived plausibility, thereby enhancing the individual's confidence in them.

Overall, confidence ratings were found to vary positively as a function of NFCL (Cofrin, 2000; Barak, 1999; Houghton, 1998; Kruglanski et al., 1997; Kruglanski et al., 1996; Webster & Kruglanski, 1994; Kruglanski et al., 1993; Webster, 1993; Kruglanski et al., 1991; Kruglanski & Webster, 1991; Mayeseless & Kruglanski, 1987).

Furthermore, confidence ratings are often used in previous research as a manipulation check of the presence of the need for and to avoid closure (see 2.4.5.).

A high NFCL consumer probably overestimates the accuracy of his/her purchase decision and consequently has a higher decision confidence.

2.5.3.4. Seeking Diagnostic versus Prototypical Information

NFCL can also affect the preferred type of information. Low NFCL subjects seem to search for diagnostic information that can help them discriminate amongst different categories, while high NFCL seek prototypical information about a category (Trobe & Bassok, 1983). Kruglanski and Mayeseless (1988) confirmed this supposition.

2.5.3.5. Early-Cue Utilization

As a consequence of the urgency and permanence tendencies, high NFCL subjects base their final judgments on early or pre-existing cues rather than on later information. Because of the urgency tendency, such cues should be quickly utilized to form an initial judgment (seizing) and because of the permanence tendency, such a judgment should tend to stay fixed (freezing) rather than be altered in the light of subsequent evidence. Thus, prior expectations or prior preferences will have greater effect on attentional, perceptual and judgmental processes under high NFCL than under low NFCL (e.g. De Dreu et al., 1999; Jamieson & Zanna, 1989; Kruglanski & Freund, 1983).

According to Kruglanski and Webster (1996), this fundamental process may underlie a diverse array of phenomena that, at first glance, may appear unrelated.

2.5.3.5.1. Impressional-Primacy Effects

The magnitude of the impressional primacy effect or tendency to base impression of a social target more on information presented early versus late in a sequence (Luchins, 1957; Asch, 1946) has been found to vary positively with the NFCL (Webster et al., 1996; Webster & Kruglanski, 1994; Heaton & Kruglanski, 1991; Freund et al., 1985; Kruglanski & Freund, 1983).

In a consumer context, information presented early in a marketing communication could possibly weigh more during decision-making compared to later acquired information. Furthermore, early information can act as a reference point in regard to which later obtained information is validated.

However, Kruglanski and Webster (1996) argue that it was relatively easy for participants in these researches to downplay the late appearing evidence if motivated to do so. It is quite possible –they argue- that if the late evidence is particularly compelling

and high NFCL subjects are pressured to consider it seriously, they may change their mind more abruptly and completely compared to low NFCL subjects, manifesting a recency effect. In dynamic system terms (Vallagher & Nowak, 1997), NFCL could serve as a 'control parameter' effecting quick gravitation to "attractors" representing conclusions implied by the early and late appearing evidence. Recently, Richter & Kruglanski (1998) found that high NFCL subjects who processed information with a goal in mind -different than an impression formation goal- enhance the weight given to late instead of early information cues presumably because of its greater accessibility and the greater tendency to assimilate judgments to accessible information.

Applied to a consumer context, it means that high NFCL consumers that acquire information about detergent brands without a goal to buy detergents in mind do not overestimate the importance of the early information cues. Instead, the last accessed information dominates the purchase decision when the need for a detergent becomes apparent after information is attained.

2.5.3.5.2. Anchoring Effects

The tendency to overutilize early cues implies a disposition to keep one's estimates close to initial anchors rather than correct them in light of subsequent evidence (Tversky & Kahneman, 1974). Kruglanski and Freund (1983) found that high NFCL subjects are inclined to anchor estimations of numbers to initial values without sufficiently adapting them to additional calculations. This can lead to an overestimation of the likelihood of conjunctive events and an underestimation of the chance of disjunctive events (Kruglanski & Webster, 1996). The rationale for these predictions is straightforward: anchors define initial bases for a judgment and should be seized and frozen on under a high NFCL.

A high NFCL consumer probably accepts only a small deviation from the price s/he had in mind on forehand, instead of correcting this possible incorrect price anchor in light of the present purchase situation. Furthermore, situations or events that confirm the

accuracy of initial anchors are embraced.

2.5.3.5.3. Mere-Exposure

Repeated exposure increases the perceived plausibility of an initial hypothesis about one's evaluative reaction to the stimulus (Kruglanski et al., 1996; Smith & Zarate, 1992; Begg, Armour & Kerr, 1985; Hasher, Goldstein & Toppino, 1977).

A high NFCL consumer probably falls more prey to the mere exposure phenomenon, indicating that greater frequency of contact, even unintentional, may help to determine one's set of local referents.

2.5.3.5.4. Correspondence Bias

The correspondence bias refers to a perceiver tendency to overascribe actors' behaviour to personal inclinations, even in the presence of situational pressures that in and of themselves should be capable of eliciting behaviour (cfr. overattribution bias). Different theorists (Gilbert, Pelhman & Krull, 1988; Quattrone, 1982; Jones, 1979; Jones & Harris, 1967) have implied that the underlying mechanisms for the correspondence bias could involve the anchoring and insufficient adjustment process discussed earlier. The underadjusted causal judgment may typically reflect dispositional overattribution because inferences about personality often represent a spontaneous unintentional process of encoding behavioural information (Winter, Uleman & Cunniff, 1985; Winter & Uleman, 1984). By contrast, adjustment in light of situational constraints is cognitively effortful and may require significant motivation to engage in it. One such motivation could be the need to avoid premature closure and openly examine all available information. High NFCL subjects may limit the adjustment process and exhibit the tendency to exaggerate the correspondence bias (Sukel, 1997; Webster & Kruglanski, 1994; Webster, 1993; Gilbert et al., 1988; Tetlock, 1985).

This distinction between effortful and effortless encoding is also encountered in the persuasion knowledge model (Petty & Cacioppo, 1986) which states that when message elaboration or issue-relevant thinking is high (high motivation), only message elements relevant to the communication are influential, while more irrelevant cues like source credibility are influential during low elaboration (low motivation). Consequently, high NFCL consumers are probably inclined to consider the more effortless irrelevant cues versus the time consuming relevant message elements (cfr. Processing style, 2.5.4.1. and Need for Cognition, 2.7.10.).

2.5.3.5.5. Stereotypic Judgments

Previously formed stereotypes, prejudices or attitudes readily accessible in memory are also sources of early cues. Such stereotypical pre-existing knowledge structures or ready to use information may obstruct the use of case-specific or individuating information in the forming of social judgments. Extensive processing of case-specific information may substantially postpone closure (Kruglanski & Webster, 1996).

NFCL was found to affect (among others) a person's tendency to use stereotypes (Barak, 1999; Schimel, Simon, Greenberg, Pyszczynski, Solomon, Waxmonsky & Arndt, 1999; Dijksterhuis et al., 1996; Webster & Kruglanski, 1994; Kruglanski et al., 1993; Kruglanski & Mayseless, 1988) or render judgments in a category-based versus attribute-based fashion (Neuberg & Newsom, 1993; Fiske & Neuberg, 1990; Jamieson & Zanna, 1989; Neuberg, 1989; Neuberg & Fiske, 1987; Kruglanski & Freund, 1983). More specifically, several researchers found that high NFCL subjects were influenced by ethnic (Kruglanski & Freund, 1983, -study 3) and gender (Jamieson & Zanna, 1989) stereotypes. Finally, high NFCL triggers theory-driven versus data-driven processing (Sanbonmatsu & Fazio, 1990; Jamieson & Zanna, 1989; Kruglanski & Freund, 1983).

More recently, Chiu et al. (2000) argue that NFCL leads attributors to respond to an ambiguous social event by increasing reliance on implicit theories received from acculturation. They found that NFCL increased attribution to personal but not group

dispositions for North-American participants (North American high NFCL individuals have beliefs that people have fixed traits, $r = .31$, Levy, Stroessner & Dweck, 1998), while among Chinese participants, NFCL increased attributions to group but not personal dispositions (Chinese high NFCL individuals have beliefs that people have less fixed traits, $r = -.22$, Chiu et al., 2000). They demonstrate that the effect of NFCL differs systematically across cultures in the way predicted from the widely shared implicit theories in each culture.

High NFCL consumers probably use more stereotyping like gender roles in their purchase attitudes and decisions. Furthermore, country-of-origin or other stereotype-based cues are probably effective in persuading the high NFCL consumer.

2.5.3.5.6. Construct Accessibility Effects

A key assumption in predicting the judgmental influence of stereotypes under a high (versus low) NFCL is that such stereotypes are highly accessible in memory. High NFCL individuals may rely primarily on the cognitive accessible construct or knowledge structures as they are more likely to seize and freeze on this alternative, when making a judgment (De Grada et al, 1999; Kruglanski & Thompson, 1999; Tetlock, 1998; Kruglanski & Webster, 1996; Ford & Kruglanski, 1995; Webster, 1993; Tetlock, 1983) and in interpreting ambiguous information (Ford & Kruglanski, 1995; Thompson et al., 1994).

A high NFCL consumer probably prefers the well-known (or highly accessible) brand or sticks to the task at hand (or in mind), like for example solely buying items on the shopping list, instead of unplanned or impulse buying. Furthermore, high NFCL consumers are probably less open to point-of-purchase stimuli, if they have a particular brand in mind.

2.5.3.6. Motivated Reactions to Persuasion in Reaction to the Presence or Absence of Prior Information

Earlier research suggests that when early information or prior stereotypes are present, high NFCL subjects are less likely to use subsequent information (e.g. Jamieson & Zanna, 1989; Kruglanski & Freund, 1983). This implies that, given the presence of prior information (after crystallization), high NFCL subjects are more resistant to persuasion compared to low NFCL subjects (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994; Kruglanski et al., 1993). Furthermore, when high NFCL subjects are lacking prior information (before crystallization), they are less resistant to persuasion because the persuasion message provides them with the closure they desire (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994; Kruglanski et al., 1993). Furthermore an increased preference for a persuadable partner (change other, Festinger, 1950) when an informational base is present and an increased preference for a persuasive partner (that led participants to crystallize their opinions and consequently enhanced group consensus) when no informational base (and therefore no prior opinion was crystallized) is present (change self, Festinger, 1950), was displayed by high NFCL subjects.

High NFCL consumers with no brand attitude or brand preference in mind are probably more open to persuasion or suggestions from advertisers, retailers, opinion leaders or other credible sources.

2.5.4. Other Effects

2.5.4.1. Processing Style

Research findings suggest that individuals motivated to obtain closure are more likely to use heuristics (Klein & Webster, 2000; De Dreu et al., 1999; Kruglanski & Freund, 1983) or display heuristic thoughts (Kruglanski et al. 1993), and engage in theory or category driven (versus data or attribute -driven) processing (Neuberg & Fiske, 1987), which can

include theories and expectations based upon stereotypes (Jamieson & Zanna, 1989), while low NFCL subjects processed the message more elaborately (Klein & Webster, 2000).

Klein and Webster (2000) investigated the influence of NFCL on the processing of information contained in a persuasive message. When confronted with a message that contains both heuristic cues and systematic arguments, high NFCL subjects were expected to pursue the peripheral or heuristic route, and evaluate the message according to the simple heuristic cues associated with the message because these cues provide quick, easy closure. Individuals low in NFCL were expected to pursue the central or systematic route, and process the arguments of the message elaborately due to a relatively high motivation to engage in effortful processing. Results confirmed these hypotheses. They also found that high NFCL individuals might pursue the central route to persuasion if a heuristic cue did not provide closure or was otherwise unavailable, while low NFCL subjects always engaged in central or systematic processing, regardless of whether a heuristic cue was available.

2.5.4.2. Miscellaneous

Saroglou and Scariot (2002) found that high NFCL was negatively related to social, self-enhancing, hostile and self-defeating humour styles in a Belgian sample. They argue that humour, in general, is based on playfulness, transgression of rules and conventions, surprise and play with meaning and therefore unattractive to high NFCL subjects. Barak (1999) found that high NFCL subjects had more ethnocentric management attitudes. Furthermore, Jost et al. (1999) found that high NFCL subjects appear to be satisfied more effectively by the emergence and maintenance of shared traditional knowledge that is politically conservative, socially intolerant, anti-democratic, and system-justifying in general than by knowledge that poses a challenge to the status quo.

The reluctance of high NFCL subjects to engage in much cognitive effort is also found in other domains besides social cognition. For example, Crowson and Thoma (2001) found

that high NFCL subjects are more inclined to develop and utilize lower-level moral concepts as a function of a generalized desire to reduce uncertainty and to maintain simple cognitive structures. When faced with potential opportunities to further moral concept development, these individuals are less likely to do the cognitive work necessary to promote the transition to higher stage usage.

Finally, several sub-concepts of NFCL could influence attitudes and behaviour in a different manner. Shiloh et al. (2001) found that specific facets of the NFCL affect perceived decision difficulty through their effects on the complexity of subjective representations of the decision. More specifically, decisiveness triggered a reduction of the number of alternatives considered, while close-mindedness reduced the number of dimensions considered. However, preference for order, predictability and discomfort with ambiguity had an indirect positive effect on the number of dimensions considered through compensatory decision style. In a related vein, Logan (2001) found that decisiveness was significantly correlated with the strategy of pressing, while low NFCL subjects in general were more likely to use an integrating strategy when assisting two parties in conflict to reach consensus.

In conclusion, NFCL has been found to influence the extent of information processing, hypothesis generation, confidence ratings, use of diagnostic versus prototypical information, early cue utilization, consensus and consistency bias, reactions to persuasion, and processing style.

2.6. Separating Freezing and Seizing Tendencies

A significant boundary condition separating the effects of seizing and freezing has been hypothesized as to reside at the point of belief crystallization. According to Kruglanski and Webster (1996), precrystallization and postcrystallization periods can possibly be differentiated from each other in terms of judgmental confidence. Before crystallization, individual's confidence in their judgment should be relatively low, whereas after

crystallization, it should be higher. Furthermore, the two periods could be distinguished from each other by the intensity and extent of the informational search. Kruglanski et al. (1991) argue that initial confidence may constitute a boundary condition separating the urgency tendency underlying seizing from the permanence tendency underlying freezing. They found that in a low confidence condition, high NFCL subjects' seizing tendency manifests itself in a relatively hurried information search and in its relatively ample extent. By contrast, in the high confidence condition, high NFCL subjects' freezing tendency manifests itself via relatively retarded commencement and sparse extent of the informational search.

2.7.Relation with Other Constructs

In prior discussions of personality and social psychology, variability in individual's tendency toward close-mindedness or open-mindedness has been addressed. For example, Freud (1923) linked openness to new experiences to the trait of basic trust rooted in successful passage through the oral period. Rokeach (1960) investigated close-mindedness referring to the impact of belief systems on attitudes toward new information. Frenkel-Brunswik (1949) and Eysenck (1954) used the term intolerance of ambiguity to refer to perceptual-cognitive rigidity and emotional ambivalence. Kagan (1972) argued that uncertainty resolution is a primary determinant of behaviour, and Sorrentino and Short (1986) performed substantial research on "certainty" and "uncertainty" orientations, respectively referring to the degree to which a person "likes to stick to familiar events and traditional beliefs" (p. 340) or "attempts to integrate new events or beliefs into already existing belief systems" (p. 399).

"NFCL shares some commonality with those earlier notions, but it is also unique in major respects. The primary commonality resides in the fact that those notions too refer to the individual's prejudiced disposition and their tendency to eschew new ideas or experiences. However, unlike the NFCL concept, the earlier concepts (1) were mostly psychodynamic, (2) referred to personality typologies, (3) were linked to particular contents of beliefs, (4) were often conceived of as cognitive rather than motivational, and

(5) often emphasized the deleterious consequences of avoidance of uncertainty or the quest for certainty” (Kruglanski & Webster, 1996, p. 266).

Open and closed minds were predominantly approached with a strong psychodynamic orientation (Sorrentino & Short, 1986; Rokeach, 1960; Adorno, Frenkel-Brunswik, Levinson & Sanford, 1950). By contrast, the present theoretical analysis makes no psychoanalytic commitments. NFCL is assumed to have diverse potential antecedents. Early developmental anxieties are not the exclusive antecedents of this motivation. For instance different persons may vary in the extent to which they value judgmental confidence and clarity (Hofstede, 1980). Through cultural learning and socialization, individuals may internalise those values and come to regard their realization as a matter of personal objective. Such individuals may be high in NFCL for cultural reasons. Finally, the psychodynamic emphasis is closely linked with an implication of pathology and dysfunctionality whereby close-minded individuals are assumed to grossly distort reality in their need to avoid uncertainty. NFCL theory carries no such implication. High NFCL subjects may be correct in their judgment if the initial cue they seized and froze on was correct. On the contrary, high NACL subjects may commit errors if they too readily “unfroze” correct judgments and diluted them through excessive openness to misleading or irrelevant information.

Furthermore, the present theory highlights especially the potential situational determinants of NFCL. This notion of situational antecedence is in contrast with previous formulations of open- and close-mindedness in terms of personality typologies. Furthermore, as these formulations are impeded with psychoanalytic meanings, they are rather incompatible with situational analysis. In contrast, NFCL is determined by perceived benefits or costs of closed or open states as influenced by situational, cultural or personality factors.

The NFCL theory avoids commitment to particular belief contents and posits that the desire for closure may manifest itself equally in regard to diverse types of beliefs. On the contrary the theory of authoritarian personality (Adorno et al., 1950) and Rokeach’s work

on dogmatism (1960) incorporated significant content elements.

Furthermore, previous psychological analysis depicted close-mindedness and open-mindedness in terms of cognitive style or structure (Sorrentino & Short, 1986; Rokeach, 1960), while NFCL is a distinctly motivational construct.

Finally, Sorrentino and Short (1986), Kagan (1972) and Adorno et al. (1950) all underscore the same trend toward increased certainty or decreased uncertainty. NFCL theory on the other hand, suggests that the trend may be reversed under some conditions and that people may actually approach uncertainty if these perceived benefits and the perceived costs of certainty outweigh the perceived costs of uncertainty and the benefits of certainty.

According to Webster and Kruglanski (1994) the specific theoretical framework determining the NFCL notion, also gives it a unique significance from related individual differences variables like intolerance for ambiguity, authoritarianism and dogmatism. The latter ones are embedded in psychodynamic conceptions of personality development, while the NFCL notion is strongly wedded to a social cognition theory of lay epistemics addressed at the process whereby all human judgments are formed and modified. The function of NFCL in this process is to instigate and determine its extent and course (Kruglanski & Webster, 1996).

Kruglanski and Webster (1996) conclude that NFCL possesses acceptable discriminant and convergent validity with respect to other psychological measures (related but conceptually distinct): Authoritarianism, Intolerance of Ambiguity, Dogmatism, Cognitive Complexity, Impulsivity, Need for Structure, Fear of Invalidity, Social Desirability, Need for Affect, Need for Cognition, Intelligence, Uncertainty Orientation and Openness to Experience (previously found correlations are depicted in table 3).

Table 3: Correlations of NFCL and Other Psychological Measures

	Correlation with NFCL	Studies
Authoritarianism	.26* .10	Webster & Kruglanski (1994) Houghton & Grewal (2000)
Intolerance of Ambiguity	.29* .60* -.20*	Webster & Kruglanski (1994) Leone & Wallace (1999) Houghton & Grewal (2000)
Dogmatism	.28* .13	Webster & Kruglanski (1994) Houghton & Grewal (2000)
Cognitive Complexity	-.29*	Webster & Kruglanski (1994)
Impulsivity	.27*	Webster & Kruglanski (1994)
Need for Structure	.23* .75* .64*	Webster & Kruglanski (1994) Leone & Wallace (1999) Houghton & Grewal (2000)
Fear of Invalidity	-.21*	Webster & Kruglanski (1994)
Social Desirability	-.02	Webster & Kruglanski (1994)
Need for Affect	-.39*	Maio & Esses (2001)
Need for Cognition	-.28* -.24* -.03	Webster & Kruglanski (1994) Petty & Jarvis (1996) Houghton & Grewal (2000)
Intelligence	-.17	Webster & Kruglanski (1994)

*p<.05

2.7.1. Authoritarianism

Several aspects of Authoritarianism (Sanford, Adorno, Frenkel-Brunswik & Levinson, 1950) appear to relate in part to the NFCL (e.g. rigidity, conventionalism, and intolerance of those who violate conventional norms), whereas other aspects of Authoritarianism seem to be relatively unrelated to the NFCL (e.g. exaggerated assertion of power, superstition, projectivity, and preoccupation with sexual “goings-on”). Webster and Kruglanski (1994) found a low positive correlation ($r = .26$) between the NFCL scale and the Authoritarianism scale, suggesting that the two concepts are conceptually distinct. Houghton and Grewal (2000) found no significant correlation ($r = .10$)

2.7.2. Intolerance of Ambiguity

Intolerance of Ambiguity means that one cannot handle uncertainty (Frenkel-Brunswik,

1949). For example, people who have a high level of Intolerance of Ambiguity avoid situations where they can be confronted with new information, readily accept portrayals of people and issues in black-and-white terms and actively resist reversing their perceptions in the face of changing stimuli and information (Furnham, 1994).

Ambiguity hampers the attainment of closure so we can expect that a person who is intolerant of ambiguity should prefer closure. However, this correlation should not necessarily be high, because high NFCL subjects could care very little about ambiguity when confident opinions have been formed (e.g. known situation), whereas they would not appreciate ambiguity before they have reached a decision or an opinion (e.g. new situation). Furthermore, while high ambiguity intolerant subjects cannot handle uncertainty, high NFCL subjects can handle uncertainty if they have to, but they find it unpleasant, and will therefore try to avoid it. The Intolerance for Ambiguity concept has a much stronger negative connotation than the discomfort with ambiguity displayed by high NFCL subjects. This could explain why the correlations found in previous research vary from low negative (Houghton & Grewal, 2000, $r=-.20$) through low positive (Webster & Kruglanski, 1994, $r=.29$) to high positive (Leone & Wallace, 1999, $r=.60$).

2.7.3. Dogmatism

A dogmatic is motivated by “ a need to ward off threatening aspects of reality” (Rokeach, 1960, p 67) Dogmatism or the extent to which one’s belief systems are open or closed (Rokeach, 1960) can be related to NFCL as a NFCL may foster closed belief systems because openness to conflicting information might threaten a state of closure. However, Dogmatism also taps other constructs unrelated to the NFCL (e.g. the adequacy of the self, power and status and the alienation of people). Webster and Kruglanski (1994) found a low and positive correlation ($r=.28$) suggesting that the NFCL and Dogmatism are two distinct concepts. Houghton and Grewal (2000) found no significant positive correlation ($r=.13$).

2.7.4. Cognitive Complexity

Cognitive Complexity has been described as a capacity to interpret social behaviour in a multidimensional way or to use a greater number of dimensions in making judgments (Bieri, 1966; Kelly, 1955).

Cognitive Complexity would be negatively related to NFCL because a simplistic cognitive system for interpreting the environment may provide secure or stable closure noncontingent on specific circumstances, and hence be general across situations. However, a complex cognitive system could likewise provide closure. Conversely, the presence or absence of cognitive complexity may depend on several factors other than the NFCL, that is, the enjoyment of thinking, an aesthetic value placed on complexity or simplicity, or the intellectual capability to develop complex cognitive structures (Bar-Tal, Kishon-Rabin & Tabak, 1997). The relationship between Cognitive Complexity and NFCL was expected to be small to moderate and negative and as expected Webster and Kruglanski (1994) found a low negative correlation ($r = -.29$).

2.7.5. Impulsivity

Impulsivity has been referred to as a tendency to be impulsive, spontaneous, and careless as opposed to controlled, reflective and cautious (Tellegen, 1982).

A high NFCL may increase the readiness to accept and act on the first idea that comes to mind, that is, the tendency to be impulsive. However, impulsivity is known to depend on several factors other than NFCL such as hyperactivity (Cantwell & Baker, 1992) or psychopathology (Ron, 1989; Bregman, Leckman & Ort, 1988). Webster and Kruglanski (1994) found a low positive correlation between Impulsivity and NFCL ($r = .27$) suggesting that the concepts are related but distinct.

2.7.6. Need for Structure

The term 'Need for Structure' is a semantic precursor of the NFCL construct (Kruglanski & Freund, 1983). Need for Structure (PNS) refers to individual differences in the degree to which a simplified structure is actively sought and preferred (Neuberg & Newsom, 1993).

Items from two facets of the measure of Need for Structure (preference for order and preference for predictability) were incorporated in the development of a measure of the NFCL (Webster & Kruglanski, 1994). To the extent that this common item content is appropriate for both individual difference dimensions and the NFCL involves additional facets (tendency towards decisiveness, discomfort with ambiguity, close-mindedness), the Need for Structure seems to be subsumed by the NFCL construct.

In addition, Need for Structure stresses the possession of simple structure, whereas NFCL stresses the desire for any definite structure as opposed to ambiguity. Another difference between the PNS scale (Neuberg & Newsom, 1993) and the NFCL scale is that NFCL often replicated results obtained with situational manipulations of NFCL (via noise, fatigue or time pressure), supporting the claim that the NFCL and the various situational inductions tap the same underlying construct.

The need to structure or organize the environment can be expected to correlate with NFCL. Leone and Wallace (1999) found a high correlation between Need for Structure and NFCL ($r = .75$) but argued that they are not the same. They argued that quick attainment of closure, for example, could be enhanced by a simple structure as well as a complex structure, as long as the structures are readily accessible to the user. Consequently they argue that simple structures do not require that those structures be obtained immediately. This high correlation has been confirmed by Houghton and Grewal (2000) ($r = .64$), but not by Kruglanski and Webster (1994) ($r = .23$).

2.7.7. Fear of Invalidity

Fear of Invalidity is the fear to make judgmental errors (Thompson, Naccarato, Parker, & Moskowitz, 1992).

Fear of Invalidity can be expected to correlate negatively with the NFCL scale, because low NFCL subjects postpone their decisions out of this fear for invalidity. Especially in high involvement choices, obtaining closure quickly can mean making a judgmental mistake and thus the individual could be inclined to postpone closure (their decision). However, this indecisiveness is only one of the hypothesized manifestations of Need to Avoid Closure. In addition, Fear of Invalidity and NFCL differentially influence information search. A sense of validity is attained by high Fear of Invalidity subjects by an extensive information search. High NFCL subjects, however, can also attain validity by decreasing their informational search so they are not confronted with alternative views or inconsistent information. If the NFCL or the Fear of Invalidity takes the upper hand is different for each individual and in each situation. Consequently, a low negative correlation ($r = -.21$) was found in previous research (Webster & Kruglanski, 1994).

2.7.8. Social Desirability

Webster and Kruglanski (1994) found no correlation between NFCL and the Crowne-Marlow Social Desirability Scale ($r = -.02$).

2.7.9. Need for Affect

Maio and Esses (2001) found a relation between NFCL and Need for Affect. More specifically they found that the need to approach affect or emotions is negatively correlated with NFCL ($r = -.39$). In other words high NFCL subjects are less inclined to embrace their emotions.

2.7.10. Need for Cognition

The Need for Cognition (NFC) refers to the extent to which one engages in and enjoys thinking (Cacioppo & Petty, 1982). One can argue that NFC is based on the desire for knowledge and therefore similar to the NFCL. However, NFCL and NFC are related but also differ in two ways, the desired end state and the influence on information processing.

For high NFC subjects, the activity of thinking or knowledge as such is a desired end state, while a high NFCL subject enjoys the end-state of thinking (i.e. closure) that is the instant the decision is made. The activity of thinking or gaining knowledge can help high NFCL subjects to reach their desired end-state (closure), but is not enjoyed. High NFCL subjects experience a NFCL and therefore try to make quick decisions by limiting their knowledge acquisition. However, they do search some information to acquire definite, confident knowledge that is applicable in future situations.

Limited knowledge acquisition is a means to an end for high NFCL subjects, while it is an end in se for low NFC subjects who experience the need to minimize cognitive effort. Furthermore, although having closure implicates refraining from further thinking about one issue, one may refrain from thinking without necessarily attaining closure. Thus, although some correlation between NFC and NFCL can be expected it should not be very strong.

Although high NFCL and NFC subjects have different goals in mind, in some situations the influence of both individual characteristic variables on gaining knowledge can be similar. NFC has a quantitative influence on cognitive activity, that is high NFC subjects always want to process information more elaborate and effortful. NFCL however refers to a desired end state that might be obtained by either extensive processing or by limited processing. As Houghton and Grewal (2000) notice, limited processing is only the case for a high NFCL subject who has already reached a decision. Before a decision is made, thinking could be very desirable because it promotes closure (keep in mind that the main goal of the high NFCL subject remains to reach closure by making a quick decision using definite and confident knowledge). In this case, NFCL and Need for Cognition have

similar effects on processing: they both promote the acquisition of knowledge. However, when a decision is made, high NFCL subjects avoid new information in order to safeguard their level of closure, and therefore refrain from gaining knowledge. In this case, NFCL and Need for Cognition have opposite effects on processing: high NFCL subjects aim to limit their knowledge acquisition, while high NFC subjects want to maximize cognitive search effort.

Klein and Webster (2000) investigated whether the type of information that determines persuasion varies as a function of NFCL, and concluded that NFCL can have similar behavioural consequences as NFC, but is a distinctly different motivation. An high NFCL subject can process information via either the peripheral or central route, based on the availability of heuristic cues to satisfy closure, while the low NFC subject is unlikely to engage in central route processing unless an additional motivation (e.g. concern for accuracy) is operating simultaneously (Smith & Petty, 1996; Priester & Petty, 1995).

Furthermore, NFC is assumed to affect a processing shift from the reliance on peripheral cues to a thorough consideration of central informational contents (Petty & Cacioppo, 1986). A similar distinction has been made between the processing of information heuristically and systematically (Chaiken, Lieberman & Eagly, 1989). Kruglanski and Webster (1996) posit the question how the NFCL theory relates to the peripheral-heuristic versus central-systematic distinctions. They argue that the commonality resides in the fact that NFCL also posits conditions under which people process information briefly and superficially and others wherein they do so thoroughly and methodically. However, unlike the alternative formulations, NFCL theory does not postulate two qualitative different modes of information processing. Rather it regards the difference between brief and thorough processing as a matter of extent. Furthermore, whereas both the peripheral-central and the heuristic-systematic models may view some of the information-processing costs (produced for example by ambient noise, fatigue or time pressure) as depleting the individual's cognitive capacity, NFCL theory stresses their motivational potential in arousing the NFCL.

A low negative correlation between NFCL and Need for Cognition can be expected and was confirmed in previous research ($r = -.03$, Houghton & Grewal, 2000; $r = -.24$, Petty & Jarvis, 1996; $r = -.28$, Webster & Kruglanski, 1994).

2.7.11. Intelligence

Because high NFCL individuals often limit their information-processing activities, this may suggest a negative relationship between Intelligence and NFCL. On the other hand, NFCL may sometimes promote extensive information processing in instances in which closure is lacking. Theoretically, the relationship between NFCL and Intelligence is not readily apparent. Empirically, Webster and Kruglanski (1994) found no significant relationship ($r = -.17$).

2.7.12. Uncertainty Orientation

Another concept that seems to be similar but is actually distinct from NFCL is Uncertainty Orientation. Individual differences in the need of security have been studied a long time (Sorrentino & Short, 1986; Kagan, 1972; Rokeach, 1960; Frenkel-Brunswik, 1949). Sorrentino and Short (1986) proposed that individuals, who are uncertainty oriented, are motivated to learn new information and they incorporate this new information in situations where there is uncertainty about themselves or the surroundings. Individuals, who are certainty oriented, feel better in situations where there is little uncertainty about themselves and they avoid situations that can confront them with new or possible inconsistent information.

According to Webster and Kruglanski (1994), both UO (Uncertainty Oriented) and CO (Certainty Oriented) individuals strive to obtain closure, the latter ones by being close-minded toward new information, the former ones by being open-minded to informational novelty and inconsistency.

2.7.13. Openness to Experience

Openness to Experience is part of the big five (McCrae & Costa, 1985). Similar to the NFCL theory, the closed and open dimension is seen as relevant to a broad range of domains rather than being restricted to specific contents (e.g. fantasy, aesthetics, feelings, actions, ideas and values, McCrae, 1994; 1993; Costa & McCrae, 1992). However, Openness to Experience is essentially an individual-difference dimension to which situational considerations seem rather foreign, and it depicts a general psychological syndrome (manifest for example in artistic creativity, susceptibility to hypnosis, rich fantasy lives and unconventional attitudes), rather than the effects of a specific motivation. The motivational part of the syndrome includes need for change, sensation seeking, and intellectual understanding which are rather different from NFCL per se (Kruglanski & Webster, 1996). For instance, a high NFCL individual can exhibit openness to information (i.e. seizing) in the precrystallization phase of judgment formation; such a possibility does not seem relevant to the openness construct.

In general, NFCL theory seems both conceptually and empirically distinct from relevant alternative formulations. It appears to be more general than historical treatments of open-mindedness and close-mindedness and less committed to specific antecedents (e.g. psychosexual origins), cognitive contents (e.g. assumptions about authority) or approach-avoidance trends (e.g. towards certainty and away from uncertainty). It also highlights the effects of NFCL on the extent of processing rather than on shifts from one qualitative processing mode to another. Furthermore, it seems different from Authoritarianism, Intolerance of Ambiguity, Dogmatism, Cognitive complexity, Impulsivity, Need for Structure, Fear of Invalidity, Social Desirability, Need for Affect, Need for Cognition, Intelligence, Uncertainty Orientation and Openness to Experience.

3. Conclusion

Understanding the motivation NFCL of the consumer can provide a fuller understanding of the why and how of consumption. In this first chapter, we attempted to explain the nature of the Need for Closure motivation. In short, the theory: (a) views the NFCL as a desire for quick and confident knowledge, (b) suggests that motivation toward closure varies along a continuum from a high NFCL to low NFCL, (c) views NFCL as a variable which can vary both according to individual personality differences and situational contexts, and (d) implies that the NFCL may affect how an individual thinks, feels and acts.

We argue that NFCL is interesting for consumer researchers as well as marketers/retailers as NFCL could help explain why and how consumers buy particular products. In addition, the study of NFCL helps us to understand why goals vary across individuals and situations and how NFCL can be translated in consumer behaviour. Moreover, the fact that NFCL can vary as a function of the situation, makes it especially interesting for marketers/retailers. The understanding of NFCL can help them make more efficient strategies.

In our next chapters, we concentrate on the translation of the NFCL pursuit in specific consumer behaviours. We argue that NFCL can influence several consumer related behaviours from information processing over the attention to specific cues to the openness for persuasion attempts.

Chapter 2

The Influence of Need for Closure on Consumers' Choice Behaviour

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1. Abstract

Consumers select a decision strategy in a purchase situation that best meets their goals for that situation. One of those possible goals is to obtain closure. The dimension Need for Closure (*vs.* Avoidance) reflects the desire for clear, definite, or unambiguous knowledge that will guide perception and action, as opposed to the undesirable alternative of ambiguity and confusion. The purpose of this study is to identify the influence of NFCL on choice behaviour in a low involvement purchase situation. Both high ($N = 71$) and low ($N = 71$) NFCL subjects participate in a shopping experiment. In a simulated environment, participants were asked to choose repetitively between different brands within two low involvement product categories. We found significant differences between high and low NFCL participants with regard to the amount of information sought, the amount of information used, the decision time, use of decision rules, use of promotions, recall of brand names and the level of confidence in their decisions. Marketing implications, limitations and directions for future research are also provided.

2. Introduction

The allocation of cognitive resources (time, energy and attention) is determined by the motivation of the consumer to expend cognitive effort to an extensive information search (Mitra, 1995). Several authors concluded that individual differences in motivation influence information processing (Chaiken, Giner & Chen, 1996; Schutte & Fazio, 1995).

NFCL is one of those dimensions of individual differences that relates to a person's motivation with respect to the pre-decision cognitive search effort process, information processing and judgement (Kruglanski, 1990a, 1990b, 1989, see Kruglanski & Webster, 1996 for a review).

Consumer or marketing research has given limited attention to the NFCL concept (Houghton & Grewal, 2000; Houghton & Kardes, 1998). It is important for marketers to know if, for example, the extent to which persons seek information is influenced by their NFCL level. A different information seeking level could mean that different marketing efforts towards different consumers have to be made.

We will add to the existing research of Houghton and Collegeaus who provide initial support of the utility of NFCL in consumer judgment and decision making research by demonstrating that high NFCL subjects engage in less product specific information search for products that are important to the self (e.g. cars, television) than low NFCL subjects. We will extend their research by using products that are unimportant to the self (e.g. detergents, margarines).

Moreover, we extend the research to other variables that are important in the decision-making process and that –according to our knowledge- have not yet been examined in previous research (e.g. use of information, decision time, use of decisions rules, use of promotions, recall of product attributes). For example, different marketing approaches could be developed for subjects with different NFCL levels if research shows that different NFCL levels cause differences in decision time.

Furthermore, predicting differences in decision processes based on a ‘cognitive style’ factor like NFCL can help us understand the nature of the decision process (Haugtvedt & Petty, 1992).

The purpose of this study is to identify the influence of NFCL on choice behaviour, in general, and the extent of information seeking and usage, decision time, the use of

¹⁰ An adaptation of this research has been published in *Journal of Economic Psychology* (vol 23 (6), 2002, 703-727)

decision rules and promotions, recall of product attributes and the consumers' confidence in their decisions, in particular, in a simulated purchase situation.

3. NFCL and Consumers' Choice Behaviour

3.1. Need for Closure and Choice Behaviour

According to Bettman (1979), consumers who make a decision have a goal hierarchy, often developed constructively on the spot, specifying goals and subgoals he or she must attain. Different subsets of these goals are relevant in different situations. Individuals also have a repertoire of different strategies for solving decision problems. It can be assumed that most consumers try to select that strategy which best meets his or her goals in a particular situation, given the array of possible strategies and their advantages/disadvantages with respect to these goals. According to Kuhl (1986), motivational processes relate to the deliberate choice among goals and action alternatives (decision making). A possible goal is to obtain Closure. So it can be expected that NFCL influences different aspects of the decision making process.

4. Hypotheses

The purpose of this study is to identify the influence of NFCL on several aspects of the decision making process in a consumer context (e.g. information search, information use, decision time, decision rules, use of promotions, decision confidence and recall of product attributes) In particular, we discuss information seeking, information usage, decision time, decision rules, use of promotions, recall of product attributes and decision confidence because they play an important role in the decision-making process.

An information search precedes the reaching of each decision. An individual makes a decision based on information cues and uses a decision rule to make the decision. A possible decision rule could hold to buy the product that is in promotion as some

individuals are more inclined to buy promotion products than others. Furthermore, this information search and decision-making takes time. Individuals differ in the willingness and ability to spend time on their decision. Moreover, the time spent on decision-making can influence other decision characteristics like information search and use of promotions (Beatty & Ferrell, 1998; Putrevu & Ratchford, 1997; Kolodinski, 1990). Recall of product attributes could possibly indicate the attention that is given to the information search and the decision process (Shapiro & Krishnan, 2001; Rathneswar, Warlop, Mick & Seeger, 1997). After the decision, an individual assesses the certainty that the decision taken was the correct one to make. This opinion regarding decision confidence can influence the attitude and feelings about the decision. Moreover, decision confidence also influences loyalty. Next, we will elaborate on each of these decision-making components.

4.1. Information Search and Usage

4.1.1. Searching Information

In a purchase context, consumers have to select a specific brand between different alternatives. Consumers engage in an information search for the purpose of obtaining sufficient information cues to identify and compare alternatives. According to previous findings, a high (versus low) NFCL individual is not motivated to seek large amounts of information (Houghton & Grewal, 2000; Webster et al., 1996). Kruglanski et al. (1991) acknowledged that a difference in the amount of information sought only occurs after a fairly confident hypothesis is formed (after crystallization point¹¹). Before a confident hypothesis is generated (before crystallization point), high levels of NFCL lead to more extensive information search aimed at quickly forming some hypothesis. Translated to a consumer decision-making context, we can formulate the following hypothesis:

H1a: High NFCL subjects seek more information before than after the crystallization

¹¹ The crystallisation point differs from the belief crystallization described by Muthukrisnan (1995 which is defined as the elaboration from attribute information to benefits caused by these attributes.

point.

We also want to compare the difference in the amount of information sought between high and low NFCL subjects, taking into account the crystallization point. According to the theory, however, only high NFCL subjects experience a crystallization point. Specifically, this happens when a belief crystallises and turns from a hesitant possibility to an objectively firm “fact”. Applied to a decision-making context, this means that a decision rule is contemplated and is found satisfactory, and as a consequence this decision rule will be used for future decisions. By crystallizing a decision rule, high NFCL subjects ensure a quick and confident closure attainment in future decisions.

In a consumer purchase situation, it was found that some people adopt a certain decision rule to simplify their decision-making (Hoyer, 1984; Jacoby, Speller & Kohn, 1974). The development of habitual repetitively used decision rules helps consumers to minimise the time and energy spent on routine purchase decisions. Frequent performance of an action or frequent use of a decision rule in a specific situation, facilitates the ease of activating the mental representations of this action by situational or environmental cues. Consequently, choices characterised by automaticity are performed with minimal effort and without conscious control. Thus, the development of habitual, repetitive behaviour allows consumers to minimise the time and energy spent on mundane purchase decisions. It is reasonable to assume that, over a period of time, some low NFCL subjects will start to use the same decision rule resulting in a diminution of the cognitive load. Following this line of thinking, we assume that, in some circumstances (e.g. low involvement decisions), low NFCL subjects can also experience a point where they decide to use the same rule(s) in future decisions. However, this breaking point is not manifesting itself as a result of a negative affect experienced as a consequence of the absence of closure, but in response to a person's drive to decrease cognitive load and spent energy. The presence of this point in the decision process of low NFCL subjects does not mean that the urgency and permanence processes and their consequences manifest themselves during the decision process. In the rest of the dissertation we will use the term 'crystallization point' (C.P.) for both high and low NFCL subjects, but we keep in mind that subjects with a low

NFCL do not have a C.P. in the real sense of the word. In sum, we argue that after some time, low NFCL subjects will adopt a certain decision rule. This repetitive use of decision rules does not arise from a tendency toward urgency (high NFCL subjects) but from a tendency to diminish the time and energy spent on low involvement routine purchase decisions.

However, we argue that low NFCL subjects will not significantly diminish their information search after the C.P., they strive to avoid closure by considering a moderate amount of information before and after crystallizing their decision rule. In other words, low NFCL subjects may –especially in low involvement situations- use the same decision rules after a certain period of time, but before deciding to buy one product, they remain searching for several information attributes as to avoid quick closure.

In addition, we argue that before the C.P., high NFCL subjects will search more information compared to low NFCL subjects. To secure a confident decision, high NFCL subjects search a considerable amount of product attributes, while low NFCL subjects search less information as they try to balance their motivation to avoid closure and to minimize cognitive effort in a low involvement purchase decision. However, after the C.P., high NFCL subjects will use less information attributes compared to low NFCL subjects as they are motivated to embrace the quick and confident closure that their crystallized decision rules provide. High NFCL subjects restrict their information search to the attributes that are part of the crystallized decision rule, while low NFCL subjects search more information attributes to postpone the quick closure attained by using a crystallized decision rule. Consequently, in general high and low NFCL subjects probably search an equal amount of information. When we compare the information seeking behaviour between high and low NFCL while taking into account the C.P., we can formulate the following hypotheses:

H1b: In general, subjects with a high (versus low) NFCL will seek as much information.

H1c: Before the C.P., high (versus low) NFCL subjects will seek more information.

H1d: After the C.P., high (versus low) NFCL subjects will seek less information.

H1e: Low NFCL subjects seek as much information before as after the C.P.

4.1.2. Using Information

We distinguish between the amount of information that is searched for and that which is used because these are not necessarily the same; subjects do not use every information cue that they have at their disposal in their decision-making process. People often rely on simple heuristics or rules of thumb in making decisions instead of an extensive comparison of every alternative and every attribute (Nisbett & Ross, 1980).

We argue that high (versus low) NFCL subjects want to build a decision rule to make clear and quick decisions confidently. This means that the rule they use probably contains more information than a simple rule of thumb. However, low NFCL subjects will use less information to decide in order to reduce time and energy spent on the low involvement decision. This leads to the next hypothesis:

H1f: High (versus low) NFCL subjects will use more information to make a decision.

We can expect that the amount of information used by high NFCL subjects will be higher before (versus after) the C.P., because initially, they have not formed a confident decision rule, decision tactic or strategy. For this reason we formulate the next hypothesis:

H1g: Before (versus after) the C.P., high NFCL subjects will use more information.

Low NFCL subjects also use the same information cues and decision rules in successive decisions, but this does not necessarily mean that less information cues will be used. We can expect that when the process of 'habit' formation gradually passes (which happens by confrontation with the same problem or decision over and over again), the amount of information used to make a decision will not vary between different choices.

H1h: Before (versus after) the C.P., low NFCL subjects will use as much information.

If we assume that the information usage decreases for high NFCL subjects when the

choice process evolves, and the information use of low NFCL subjects remains the same, we can posit the following hypotheses:

H1i: Before the C.P., high (versus low) NFCL subjects will use more information.

H1j: After the C.P., high (versus low) NFCL subjects will use as much information.

4.2. Decision Time

Consumers spend time on every activity related to consumption, including search, information acquisition, selection, purchase and consumption itself. Characteristic ways of utilizing time vary greatly among individuals. The amount of time consumers are willing to spend in shopping activities, for example price comparison and information search, is meaningfully related to individual motivations. According to the NFCL theory, NFCL is a motivation to draw conclusions quickly and terminate cognitive processing related to that issue. Furthermore, it was found in previous social cognition research that high NFCL subjects decided more quickly than low NFCL subjects (Kruglanski et al., 1997; Mayeseless & Kruglanski, 1987). When we apply this to a consumer choice context, we can expect that persons, who are seeking to obtain closure, will decide more quickly which brand they will purchase. They will want to seize as quickly as possible on a solution so the desired closure is attained. Low NFCL subjects however try to avoid obtaining closure so they are inclined to postpone their decisions (Kruglanski, 1989). This leads us to the next hypothesis:

H2a: High (versus low) NFCL subjects will decide more quickly which brand they want to buy.

Moreover, we argue that –for high NFCL subjects- decision time before the C.P. will exceed decision time after the C.P. As previous research has indicated, a brief but extensive information seeking activity could take place, when no confident hypothesis is present (Houghton & Grewal, 2000; Kruglanski et al., 1991). Therefore, the decision time

could be somewhat higher before the C.P. compared to after this C.P. We have no reason to believe that low NFCL subjects will decide more quickly before or after this point. As a consequence, we argue that before the C.P., high and low NFCL subjects could spend an equal amount of time on decision-making. Therefore, following hypothesis are formulated:

H2b: Before (versus after) the C.P., high NFCL subjects will decide less quickly which brand they would like to buy

H2c: Before (versus after) the C.P., low NFCL subjects will decide as quickly which brand they would like to buy.

H2d: Before the C.P., high (versus low) NFCL subjects will decide as quickly which brand they would like to buy.

H2e: After the C.P., high (versus low) NFCL subjects will decide more quickly which brand they would like to buy.

4.3. Decision rules

The permanence tendency leads us to expect that people who seek to obtain closure will constantly use the same decision rule(s) (e.g., “I choose the product with the lowest price”), after they are certain that this is the best one for them. Variety seeking in decision strategies is very low for high NFCL subjects. This leads us to the next hypothesis:

H3: High (versus low) NFCL subjects will use the same decision rule more often in successive choice situations.

4.4. Confidence

Overconfidence can be attributed to the tendency of people to focus on information consistent with their initial beliefs and to ignore information contradictory those beliefs (Tetlock, 1983). High NFCL subjects display a tendency for close-mindedness toward

alternative visions and are reluctant to entertain views different from their own. Furthermore, they entertain a bias towards consistency, expressed as a preference for knowledge that is applicable across situations. Consequently, previous research shows that confidence ratings vary positively as a function of NFCL (Kruglanski et al, 1997; Mayeseless & Kruglanski, 1987). This leads us to the next hypothesis:

H4: High (versus low) NFCL subjects will display a higher decision confidence.

We have no reason to believe that this decision confidence will be higher/lower for high NFCL subjects before or after the C.P. We argue that high NFCL subjects display a tendency to feel more assured of all their decisions. Therefore we do not posit hypothesis incorporating the C.P.

4.5. Use of Promotions

High NFCL subjects are driven by several needs. They are biased towards closure-bound pursuits that, in turn, evoke positive feelings. In order to reach this closure, they want to base their decisions on clear, definite, unambiguous and confident knowledge that can justify their actions. In general, they also try to reduce their level of pre-decisional information processing and search by judging based on few (but not too few) pieces of information or pre-existing knowledge structures. Furthermore, their bias towards consistency and predictability makes them receptive for knowledge that is applicable across situations.

In order to satisfy these needs, they can use, for example, heuristic decision cues or rules across situations because these cues/rules hold clear, definite, unambiguous knowledge that can supply them a quick and easy closure, provided that the heuristic cue is reliable. Furthermore, heuristic decision cues provide them with relatively secure and confident decisions. Judging based on few pieces of information or pre-existing knowledge structures (like heuristic cues) also reduces the level of pre-decision information

processing. We argue that the use of promotional information may prove to be such a heuristic cue. It allows individuals to make quick decisions without an extended search process because in-store promotions are easily noticed. In addition, in the constantly changing context of grocery shopping, the strategy of seeking promotional information before purchasing can help them to bring consistency and predictability in their behavioural patterns. Furthermore, the use of sales promotions such as coupons and price reductions can make them feel like smart consumers who are economical and save money (Schindler, 1998; Mittal, 1994; Shimp & Kavas, 1984). We can argue that high NFCL subjects, who want to make confident decisions, would be prone to look for information that can give them the feeling of being competent and intelligent. In sum, we argue that high NFCL subjects will be inclined to search for and use promotional information.

On the other hand, low NFCL subjects can try to suspend judgment to preserve them from possible criticism of attained closure. In a grocery-shopping context, low NFCL subjects may be anxious to buy a wrong brand and therefore enhance their pre-decisional information search. We argue that low NFCL will not consistently use promotional information although they can search for promotional information, in addition to other product attributes, because they will more often vary the type of information that they search for before deciding in order to avoid definite decisions or strategies.

According to theory and previous research, we can argue that NFCL is likely to influence use of promotional information in a grocery-shopping context. We propose the following hypotheses:

H5a: High (versus low) NFCL subjects will use more promotional information.

Previous research also showed that high NFCL subjects are relatively more open to persuasion attempts when an informational base for an opinion was absent (versus present) because such an attempt gives them the desired closure (Kruglanski et al., 1993). A persuasive communication that offers to lower the discrepancy between actual and desired states before the C.P. should be quickly accepted, while an absence of discrepancy between the desired closure and its possession (after C.P.) should induce the tendency to maintain this pleasing state in relative permanence. This should induce a

resistance to persuasion because it requires at least a temporary unfreezing of one's mind. Marketing appeals, like promotions, could be an example of such a persuasion attempt. Consequently we can expect that consumers who seek to obtain closure will use even more promotional information when they are being lead by their urgency tendency then by their permanence tendency. We do not expect to find this difference with low NFCL subjects, as they do not differ in openness to persuasion attempts before or after the C.P.

H5b: Before (versus after) the C.P., high NFCL subjects will use more promotional information.

H5c: Before (versus after) the C.P., low NFCL subjects will not use more promotional information.

H5d: Before the C.P., high (versus low) NFCL subjects will use more promotional information.

H5e: After the C.P., high (versus low) NFCL subjects will use more promotional information.

4.6. Recall of Promotions and Brand Names

In order to comprehend information and place it into long-term memory, a person must first give attention to it. As a person allocates more capacity or attention to a stimulus, the likelihood of it being transferred to long-term memory increases (Ashcraft, 1994; Bettman, 1979). According to previous research, in new situations, high NFCL subjects engaged in more extensive information seeking aimed at forming some hypothesis to reach their goal (Houghton & Grewal, 2000; Kruglanski et al., 1991). Furthermore, to reach their goal of closure, they want to form a confident decision rule. To make better and confident purchase decisions, an adequate information search is necessary (Janis & Mann, 1977). Moreover, we argue that high NFCL subjects use more information attributes to result in a confident decision (cfr. hypothesis 1f). So we can expect that high NFCL subjects give more voluntary attention to a wide variety of product attributes or cues, especially in new situations. Accordingly, we can expect that high NFCL subjects

will have a greater recollection of these attributes. In this research, we focused on two conspicuous product attributes, brand names and promotional stimuli. This leads us to the following hypotheses:

H6a: High (versus low) NFCL subjects will recall more promotional stimuli.

H6b: High (versus low) NFCL subjects will recall more brand names.

5. Method

To test the formulated hypotheses, we used an experimental design with the NFCL level as an independent variable.

5.1. Participants, Stimuli & Procedure

In preliminary research, 289 undergraduate University students completed a questionnaire to enable measurement of their NFCL level. We deliberately examined a homogenous sample to maximise the likelihood of the theoretical predicted outcomes when they exist. For example, research showed that older consumers are more likely to process less information than younger consumers (Phillips & Sternthal, 1977) so we deliberately examined subjects of about the same age. Moreover, we chose students because they are less experienced with the choice situation and the particular products that are presented in the experiment.

We did posit an extra condition: the participants may not be extreme shopping haters or lovers¹². The former ones will decide as quickly as possible because of their dislike of

¹² We acknowledge that other individual characteristics like innovativeness, variety seeking, risk aversion etc... possibly influence the decision process. However as these general characteristics do not specifically alter the NFCL level of the subjects in this shopping situation, we are of the opinion that it's better to solely investigate the influence of NFCL on decision processes without the interfering influence of other variables. Future research can provide further insights in the interaction between NFCL and other individual characteristics and its influence on decision-making (cfr. 7.5).

shopping. Furthermore, this particular situation could alter their level of NFCL and consequently differ from their closure level obtained through the questionnaire. The latter ones will possibly postpone their decision because of their liking of shopping. Closure threatens to terminate this pleasant activity. Moreover their level of NFCL could be altered.

Following the procedure used in previous research (Kruglanski et al., 1993), participants scoring above the 75th percentile composed the sample of the high NFCL participants (N = 71) and those scoring below the 25th percentile comprised the low NFCL population (N = 71)¹³.

After a few weeks, we invited the 142 participants individually to a simulated store consisting of different unfamiliar, Dutch¹⁴ brands of two fast moving product categories. We used unfamiliar brands from a different, but neighbouring country, with the same language spoken. The reason for using unfamiliar brands is the possible influence unfamiliarity may have on the C.P. If we used familiar brands, the C.P. would already have been reached due to an existing definite decision strategy. For example, habit, loyalty or normative tactics could already exist. If known brands had been used, some participants would know more brands than other participants -even if they were not familiar with shopping for those brands-, which could distort the results. In addition, previous research suggests that brand awareness serves as a dominant tactic among inexperienced consumers presented with a brand-selection task (Hoyer & Brown, 1990).

¹³ We used quartiles instead of median split, tertiles and the above and below 15% for several reasons. First of all, the use of quartiles ensures that real effects between high and low NFCL participants are identified, as all included participants are real high and low NFCL consumers as opposed to median split and tertiles. In median split, for example, the group identified as high NFCL consumers are actually median to high NFCL consumers. Second, the use of quartiles does not result in a large loss of participants compared to the use of the above and below 15%. We adopted the middle course between maximizing the identification of real high and low NFCL consumers and minimizing the loss of participants.

¹⁴ The brands were Dutch (and not Flemish) for several reasons. The brands were mostly unknown -which was required-, we chose those brands that are not sold in Belgium and that are -according to our knowledge- hardly shown on TV advertising. Moreover the brand names didn't sound foreign (because this could lead to country-of-origin effects) and finally the text on the package (ingredients, nutritional value, ...) was comprehensible for the subject.

When there are no known brands available, the decision-maker must resort to searching other selection criteria (e.g. packaging, ingredients, price).

The product categories used were detergents and margarines. Preliminary research showed that most of the participants show low involvement and low experience with these product categories. The choice of low involvement products is driven by several reasons: (1) the influence of high involvement on information processing, (2) the ease of measurement of choice behaviour components and (3) the possible influence of high involvement on NFCL level.

Many authors have noted the strong relation between involvement and information processing (Pechmann & Esteban, 1993; Mittal, 1988; Allen & Madden, 1985; Petty & Cacioppo, 1979). As involvement increases, consumers have greater motivation to comprehend the salient information and they will tend to produce increasingly elaborate meanings during the comprehension stage of information processing to avoid a judgmental mistake. Under high involvement conditions, people may desire to suspend judgement or avoid premature closure. Possible differences between high and low NFCL subjects concerning their information search and use, could be lowered because both high and low NFCL could want to search and use a lot of information in order to avoid judgmental mistakes for this important decision. As a consequence, we limited the presented products to low involvement products.

Following the same rationale, we limited our research to non-durable products (detergents and margarines). The amount of searched or used information can be heightened for durable goods versus non-durable goods and therefore possible difference between high and low NFCL subjects could be cancelled out.

This restriction to low involvement (and non-durable) consumer goods also means that the information processing and decision rules are more easily measured because they are less complex. As a consumer involvement level increases, so does the depth of information processing. Previous research suggests that in low involvement conditions, consumers will minimize the cognitive effort involved in reaching a decision (Bettman, Luce & Payne, 1998). Consumers will not devote a lot of attention to many different information attributes. The amount of attributes a high involvement product is evaluated

on, only complicates the measuring of the choice behaviour.

Another reason for using low involvement products is the following: the need to obtain closure may be lowered and that to avoid closure heightened by conditions that highlight the costs of closure and the benefits of openness. In some situations, closure costs may be made salient by “fear of invalidity” or a gnawing concern about a costly judgmental mistake (when the perceiver is “outcome dependent” of the target (Fiske & Neuberg, 1990). Under these conditions, people may desire to suspend judgement or avoid premature closure. These conditions are actually high involvement conditions. So high involvement products would lower the normal NFCL level a person has. This would lead to an unwanted side effect in the results: the NFCL level measured by the questionnaire before the decision would not be the same as the NFCL level during the choice behaviour.

In total 16 different brands of margarines and 18 different brands of detergents were displayed (for pictures of the brand, see appendix). The specific brands that are used are also illustrated in the appendix (table A). To imitate a real-life purchase situation and to test hypotheses 5a-5e, we attached promotions¹⁵ to approximately 30% of the brands (see appendix Table B for specific promotions). The assignment of promotion type to a brand occurred randomly, and each brand had no more than one type of promotion. In addition, the promotions were randomly assigned to different brands for different subjects.

Each participant was randomly assigned to one of two experimenters who conducted the actual experiment. The experimenters were unaware of the NFCL level of each of the participants. After a short introduction, participants were asked to imagine themselves in a shopping situation in which they needed to buy detergents and margarines. They were instructed to take as much time as they needed but on the other hand to behave as they normally behave in a shopping situation. Participants chose the brand they would purchase in a specific product category (detergents or margarines). The specific product

¹⁵ We used the following promotions: Price-discounts, Premiums, Contests, Bonus packs, Store points and Saving Campaigns, because these are most common in a market place context.

category the participants were confronted with first was randomised. The search and decision time was timed (using a VCR). After having made their choice, the participants were interviewed. We asked for an explanation about why they had chosen that particular brand, what information they searched for, what information they had taken into account or used to make the decision and whether or not they were certain about their decision (see further). Self-written reports were used, in line with several previous research methodologies (Urbany, Dickson & Sawyer, 2000; Leong, 1993; Hoyer, 1984), because these allow participants to describe their choice process in their own terms. The use of retrospective verbal reports has been questioned by some researchers (Nisbett & Wilson, 1977), as they argue that individuals have no insight in their own cognitive processes and therefore are unable to provide valid reports. Although such approaches are not ideal, they have proven useful in describing consumer decision processes (Leong, 1993; Rip, 1980; Wright & Rip, 1980).

Next, the chosen brand was taken away, and the participants were asked to make another brand choice. This scenario was repeated six times for each product category, fully standardised and video/audio-taped. This repetition allows the participants to get used to the brands and to reach a C.P. We took the chosen brands away after each choice to eliminate habit tactics. We believed that, because of the low involvement of the product categories, the motivation to think about the reasons for purchase would be very low. The participants had to make 6 brand decisions. We can imagine that this repetitive process was not very pleasant for the participants. If we had left their first choice of product on the shelf, we believe that a lot of the participants would always have chosen the same product, due to the ease of this tactic in the face of the possible annoyance of repeating the decision process over a short space of time. In real life situations, however, when several days often separate different shopping trips, the participants may not always necessarily feel compelled to choose the same brand¹⁶. We believe the participants would not have behaved in a realistic manner if they had had the convenience of being able to reselect their brand of first choice.

¹⁶ We do acknowledge that margarines and detergents are often bought habitually. However, in case of our student sample, we believe that brand habits are less prevalent (more price driven choices).

The same procedure was then repeated for the other product category. As a manipulation check, we measured the NFCL level and involvement of the participants again after the choice sequence. At the end of the experiment, the subjects were asked to name the promotional stimuli and brand names they recalled.

All participants were low involved towards detergents and margarines ($M=1.79$, $SD=1.29$). All but ten participants had the same NFCL level before the experiment ($M=154.95$, $SD=28.21$) as after the experiment ($M=150.32$, $SD=30.56$) ($r=.87$, $p<.01$). Before the experiment the level of NFCL ranged from 99 to 218, while after the experiment the lowest score was 75, while the highest score was 216.

In the analysis, we assigned the ten 'doubtful' cases to the NFCL group to which they belonged after the experiment, because we believe that this last measure is more likely to resemble the real NFCL score of the participant at the time of the experiment than the measure taken some time before the experiment. The NFCL scores of the remaining participants did not significantly change during the experiment ($t(131)=-1.162$, n.s.).

The total length of an individual assessment ranged from 15 to 30 minutes. Subjects were debriefed when the results of the study were known (after two weeks).

5.2. Measurement of Independent and Dependent Variables

The independent variable is the NFCL, with 2 levels: high and low NFCL. We used the Dutch translation (Cratylus, 1995) of the NFCL 42-item self-assessment measure developed by Kruglanski and Webster (1996). The measure contains five subsets of items that are related to a person's motivation to make a decision as quickly as possible, the desire to avoid ambiguity and confusion, and unwillingness to elaborate on information very carefully. The specific subsets are (I) preference for order and structure, (II) preference for predictability, (III) tendency towards decisiveness, (IV) discomfort with

ambiguity, (V) close-mindedness. We also included a questionnaire that measures the subject's lover/hater level towards shopping.

Respondents rated themselves according to their agreement with the statements contained in the measure on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Statements in the assessment, and the sub-attribute they are intended to measure, include: "I hate to change my plans at the last minute" (order), " I don't like situations that are uncertain" (predictability); "I tend to struggle with most decisions" (decisiveness); "I dislike it when a statement could mean many different things" (ambiguity), "Even if I decided something, I still consider other opinions" (close- mindedness).

Following previous research the scores on the five subsets of each individual were summed in order to obtain a general NFCL score (e.g. Shiloh et al., 2001; Chiu et al., 2000; Klein & Webster, 2000).

The dependent variables are: (a) the amount of information searched, (b) the amount of information used, (c) the time it takes a subject to choose between the different brands, (d) the use of decision rules, (e) the decision confidence (f) the openness to promotional stimuli (g) the purchase of promoted brands, (h) the memory of promotions and (i) the memory of brand names. Two experimenters assessed all dependent measures independently by means of the video/audio-taped interviews of each participant. Disagreement was resolved by discussion.

To measure the first two dependent variables, we asked participants which product cues they looked for before making each choice, and summed the number of information cues sought (e.g. the response "I looked at/for the price, the colour of the package and the smell of the detergent" was coded as 3 information cues). In the same manner, we asked which information cues were actually used to make the decision and summed these also (e.g. "I decided based on the price and smell" was coded as 2 information cues).

To determine the use of decision rules, we asked participants to describe the criteria they used (e.g. "I chose the product with the lowest price that had a lemon smell too"). We

measured the number of times that a participant used the same decision rule in successive choices, for example if a participant used the decision rule 'lowest price' five consecutive times, a score of 5 was assigned to this rule. The range of scores for each decision rule varied between 1 and 6.

To determine a participant's decision confidence, the participants were asked if they were sure/certain of their choice of that specific brand (yes/no question), or if they would easily have chosen another one. We assigned a score of 1 to a participant certain of their choice and a score of 2 to an indecisive participant. This process was repeated for each decision (6 decisions per person, per product).

5.3. Crystallization Point

To determine the C.P. for each participant, we looked at the content of the decision rules that were used to make a choice¹⁷. According to the theory, participants with a high NFCL will generate several hypotheses or decision rules before this point. Once they have reached their C.P. however, they will be prone to using the same decision rule(s) over and over again in future decisions. We therefore looked at the content of the decision rules used by each individual (without considering their NFCL level) and determined the C.P. as that moment when he or she began to use the same decision rule(s) systematically until the last choice had been made. We assigned each participant experiencing such a point a score ranging from 1 to 6, according to the specific run of the product selection process during which the C.P. manifested itself. If such a point did not occur, we assigned score '6' to the participant. For example, a participant, when making his first product choice, chooses a product based on the price (e.g. "lowest price") and the package of the product (e.g. "convenient package"). In making his second choice he chooses a product based on the smell (e.g. "lemon smell") and the package (e.g.

¹⁷ We established crystallization point at the time the opinion was solidified (as suggested in NFCL theory, see chapter 1, 2.3.) instead of using the previously used boundary of judgmental confidence (see chapter 1,

“convenient package”), then from the third until the sixth (last) run of the experiment for that product category, he always uses price (e.g. “lowest price”) as a decision rule¹⁸. This participant would thus be assigned the participant score 3, meaning that from the third turn until the last turn, the same decision rule was used, in this case “lowest price”.

In short, we determined that a C.P. occurred at the moment, or run of the experiment, when a participant began to use the same decision repeatedly until the last selection decision, and assigned the participant that score that reflected the specific decision turn at which the C.P. manifested itself. When determining this point, we found that, as could be expected, not all participants experienced this point. Most of those participants were low NFCL participants (Detergents: high (1), low (19); Margarines high (4); low (10)).

6. Results

As a preliminary check, a MANOVA was conducted on the data to test the relationship between the six dependent variables together and NFCL (high/low). The analysis yielded significant results (detergents: $F(1,140) = 5.08$, $p < .001$; margarines: $F(1,140) = 4.64$, $p < .001$) and the observed power was high for both detergents (.992) and margarines (.985).

6.1. Information Search and Usage

6.1.1. Searching Information

To measure the number of information cues that were sought by a participant, we averaged the number of cues that a participant looked for over the number of decisions taken. We examined the amount of information searched, and found that, as expected (H1b), the amount of information explored did not differ between high and low NFCL

2.7.). Judgmental confidence was used to separate pre- and post-decision phases, while we want to divide pre- and post-fixed decision rules phases.

¹⁸ Some participants always used more than one decision rule to make his/her decision. We considered each decision rule used to determine the crystallization point. For example, a participant is assigned score 3 if s/he continually uses both “lowest price” and “convenient package” from the third until the last run.

participants (Detergents $t(140) = .41$, n.s.; Margarines $t(140) = -1.41$, n.s.).

We also took into account the C.P. as according to the theory, before this point the high NFCL participants have a need to search for a lot of information to assure themselves that they are making the right choice, while after this point, they would pursue less information. We found that high NFCL participants seek more information before the C.P. than after the C.P. (Detergents $t(69) = -4.99$, $p < .001$; Margarines $t(66) = -6.04$, $p < .001$) (H1a). As expected, this difference was not found with low NFCL participants (Detergents $t(51) = -1.43$, n.s.; Margarines $t(60) = -1.33$, n.s.) (H1e).

Table 1. Amount of Information Cues that are Searched in each Turn.

	DETERGENT			MARGARINE		
	High NFCL	Low NFCL	T-value	High NFCL	Low NFCL	T-value
Searched cues	2.45(b) (.77)(c)	2.39 (.84)	.41 (142)(d)	2.14 (.66)	2.27 (.72)	-1.41 (142)
Searched cues Before C.P. (a)	2.89 (.94)	2.15 (.79)	3.72*** (142)	2.71 (.83)	2.29 (.94)	2.78** (142)
Searched cues After C.P.	2.33 (.94)	2.12 (.92)	1.23 (120)	2.05 (.85)	2.15 (.78)	-.68 (126)
T-value	-4.99*** (69)	-1.43 (51)		-6.04*** (66)	-1.33 (60)	

(a) C.P. = C.P.

(b) Mean values

* $p < .05$ ** $p < .01$ *** $p < .001$

(c) Standard Deviations

(d) Number of participants

We investigated whether this search pattern differed between high and low NFCL participants according to the phase of the crystallization process they were at. Inspection of the data revealed that high NFCL participants search for more information than low NFCL participants before the C.P. (Detergents $t(140) = 3.72$, $p < .001$; Margarines $t(140) = 2.78$, $p < .01$) (H1c). In contradiction with our expectations, high (versus low) NFCL participants did not pursue less information after the C.P. (Detergents $t(118) = 1.23$, n.s.; Margarines $t(124) = -.68$, n.s.) (H1d).

6.1.2. Using Information

Another important aspect of product selection behaviour is the amount of information that was actually used to make a decision. To measure the number of information cues used by a participant, we averaged the number of cues that a participant used over the number of decisions made. Consistent with predictions, high NFCL participants used more information than low NFCL participants did overall (Detergents $t(140)= 3.2$, $p < .01$; Margarines $t(140)= 2.32$, $p < .05$) (H1f) and before (Detergents $t(140)= 3.45$, $p < .01$; Margarines $t(140)= 2.36$, $p < .05$) the C.P. (H1i). Contrary to our expectations, after the C.P. there was a difference in information usage between high and low NFCL participants, although this difference was only significant for one product category (Detergents $t(118)= 2.15$, $p < .05$; Margarines $t(124)= 1.78$, n.s.) (H1j).

Table 2. Amount of Information Cues that are Used in each Turn.

	DETERGENT			MARGARINE		
	High NFCL	Low NFCL	T-value	High NFCL	Low NFCL	T-value
Used cues	2.34(b) (.58) (c)	1.99 (.68)	3.2* (142) (d)	2.13 (.54)	1.90 (.56)	2.32* (142)
Used cues before C.P. (a)	2.51 (.71)	2.07 (.82)	3.45** (142)	2.28 (.66)	2.01 (.73)	2.36* (142)
Used cues after C.P.	2.17 (.71)	1.88 (.71)	2.15* (120)	2.01 (.66)	1.83 (.48)	1.78 (126)
T-value	-3.52*** (69)	-1.51 (51)		-2.51** (66)	-1.48 (60)	

(a) C.P. = C.P.

(b) Mean values

* $p < .05$ ** $p < .01$

(c) Standard Deviations

(d) Number of participants

We hypothesised that the use of information would differ according to the stage of the crystallization process a high NFCL participant was actually in, while the stage of crystallization process of a low NFCL participant would not influence the amount of information used. Results indicated that high NFCL participants use more information before (versus after) they have a crystallised decision rule (Detergents $t(69)= -3.52$, $p < .001$; Margarines $t(66)= -2.51$, $p < .01$.) (H1g), while participants with a low NFCL use as much information at the beginning as at the end of the experiment (Detergents $t(51)= -1.51$, n.s.; Margarines $t(60)= -1.48$, n.s.) (H1h).

Because the independent variable remained the same in the different hypotheses, we analysed the data again using multivariate analysis (MANOVA) with the NFCL as the independent variable and the information cues that were searched and used before and after the C.P. as dependent variables. A MANOVA is preferred to a series of a p separate ANOVA's for the following reason: when the multivariate null hypothesis is true, the MANOVA is a single test, which protects the type I error rate to be simply α , whereas a series of p ANOVAs increases the likelihood of a type I error beyond α (Iacobucci, 2001). The MANOVA analyses yielded significant results (see further) so we can argue that the separate t-tests are valid. We chose to rapport these separate tests to make it easier for the reader to distinguish between the different hypotheses.

In the case of detergents, we found significant results ($F(1,120)=5.196$, $p < .01$, power = .964). The explained variances for the individual dependent variables were fairly good for two dependent variables (amount of information cues searched before C.P., $R^2 = .11$, amount of information cues used before C.P., $R^2 = .08$). The R^2 for the dependent variable 'amount of information used after C.P.' was rather low, but significant ($R^2 = .04$). The dependent variable 'amount of information cues searched after the C.P.' had a very low R^2 (.01), but NFCL had no significant influence on this dependent variable.

In the case of margarines, we found significant results ($F(1,126)=4.44$, $p < .01$, power = .93). The explained variances for the individual dependent variables were fairly good for two dependent variables ('amount of information cues searched before C.P.', $R^2 = .06$, 'amount of information cues used before C.P.', $R^2 = .05$). The R^2 for the other two dependent variables was low but NFCL didn't have a significant influence on these variables ('amount of information searched after C.P.', $R^2 = .03$; 'amount of information cues used after the C.P.', $R^2 = .01$).

6.2. Decision Time

To measure the subjects' decision time, we averaged the decision time over the six choices. A t-test performed on the data yielded as expected a difference in decision time

between subjects with different NFCL levels. The results indicated that high NFCL subjects decided more quickly which brand they would like to purchase compared to low NFCL subjects and this for both product categories (Detergents $t(140) = -2.16, p < 0.05$; Margarines $t(140) = -2.26, p < 0.05$) (H2a). During the choice process, we observed that high NFCL subjects took as much time as low NFCL subjects in their first choice turns. Thus, before the C.P., high NFCL subjects decided as quickly (or slowly) as low NFCL subjects (detergents $t(140) = .05, n.s.$, margarines $t(140) = .03, n.s.$) (H2d). As a consequence the overall difference in decision time is the result off the difference in decision time after the C.P. (detergents $t(118) = -2.35, p < .05$, margarines $t(124) = -3.21, p < .01$) (H2e).

We hypothesized that the stage of the crystallization process a high NFCL participant was actually in would influence the decision time, while for low NFCL participants, there would be no difference in decision time before and after the C.P.. We found that high NFCL subjects decided more slowly before compared to after the C.P. (detergents $t(69) = -6.39, p < .001$; margarines $t(66) = -6.03, p < .001$) (H2b). Contrary to our expectations we found that these differences also exist for low NFCL subjects (detergents $t(51) = -4.06, p < .001$; margarines $t(60) = -2.90, p < .01$) (H2c).

Table 3. Amount of Decision Time Spent.

	DETERGENT			MARGARINE		
	High NFCL	Low NFCL	T-value	High NFCL	Low NFCL	T-value
Decision time	34.85 (b) (15.74) (c)	37.65 (13.73)	-2.16* (142) (d)	31.78 (20.66)	35.48 (15.71)	-2.26* (142)
Decision time before C.P. (a)	47.65 (34.69)	47.31 (42.61)	.05 (142)	43.72 (35.77)	43.53 (45.0)	.03 (142)
Decision Time after C.P.	22.04 (12.44)	27.98 (15.26)	-2.35* (120)	19.83 (9.32)	27.43 (16.59)	-3.21** (126)
	-6.39*** (69)	4.06*** (51)		-6.03*** (66)	-2.90* (60)	

(a) C.P. = C.P. (c) Standard Deviations
 (b) Mean values (d) Number of participants
 * $p < .05$ ** $p < .01$ *** $p < .001$

Next, as time spent on decision-making can influence other decision characteristics like information search (Beatty & Ferrell, 1998; Putrevu & Ratchford, 1997; Kolodinski, 1990), we will discuss the two dependent variables decision time and information search together. We believe, this combination will help us to learn more about the information processing/acquisition pattern of high and low NFCL subjects.

According to consumer behaviour literature, it can be assumed that consumers select the approach that best meets his or her goals for that situation. According to the NFCL theory, a high NFCL subject's prior goal is generating a firm and confident problem solving method. To make a confident purchase decision, an efficient informational search has to be gone through. Also, in previous research it was found that to obtain this closure, high NFCL subjects not only will try to work as quickly as possible but also as effective as possible (Kruglanski et al., 1991). Literally, an effective search means that as much information is searched in as little time as possible. Effectiveness increases when the amount of searched cues increases and the time decreases. Consequently, we expect that high NFCL subjects will search more information to decide which brand they want to buy, in less time, compared to low NFCL subjects. In other words, high NFCL subjects will work more effective than low NFCL subjects. As our results showed that high and low NFCL subjects search as much attributes, but that low NFCL subjects take more time compared to high NFCL subjects, we can interpret these results as a confirmation of our expectations. High NFCL will work more effectively. Moreover, we statistically measured the difference in effectiveness of the search process and found it to be significant (Detergents $t(140) = 2.26$, $p < .05$; Margarines $t(140) = 2.07$, $p < .05$). This difference was also significant before (detergents $t(140) = 5.09$, $p < .001$; margarines $t(140) = 2.24$, $p < .05$) and after the C.P. (detergents $t(118) = 2.60$, $p < .01$; margarines $t(124) = 3.38$, $p < .001$).

However, these results can also be interpreted as follows: high NFCL subjects process each attribute less in depth compared to low NFCL subjects. Depth of processing is the amount of search or processing (determined by the amount of time) that is devoted to each attribute. Our results show that, even though high NFCL subjects search as much

information as low NFCL subjects, they spend less time on the search process, which possibly means that each attribute gets less attention. In sum, we could argue that high NFCL subjects process/search more effectively, but less in-depth. However, this conclusion seems to contradict our recall results (see further). We found that high NFCL subjects recall more brand names, which could indicate that more voluntary attention is given to these product attributes. As a person allocates more capacity or attention to a stimulus, the likelihood of its being transferred to long-term memory increases (Ashcraft, 1994; Bettman, 1979). These results suggest that high NFCL subjects process some attributes more in-depth. In sum we could conclude that high NFCL search more effectively which means they both search more in less time and they process attributes more in-depth. Low NFCL subjects on the other hand work less effectively, meaning they search less attributes in more time and process less in-depth. This confirms previous research. According to Ozanne, Brucks & Grewal (1992), besides varying the breadth of information search (the amount of different information attributes searched for; Moorthy, Ratchford & Talukdar, 1997), people can also vary their information search depth (how much time they spent on each search attribute) in order to manage their cognitive search effort. We could argue that low NFCL subjects, especially in low involvement conditions, try to reduce their search effort in order to minimize the energy they put in this decision by decreasing their depth of information search.

During the experiment we noticed that some participants constantly picked up products under consideration possibly to see/read/inspect the available information. We examined if this behavioural pattern was different for high and low NFCL subjects. We observed the search pattern of the subjects and found that high NFCL subjects picked up more products than low ones but this difference was only significant for one product category (Detergents $t(140) = 2.14$, $p < .05$; Margarines $t(140) = 1.77$, $p < .1$). We argue that picking up the products under consideration could facilitate this intense information acquisition displayed by high NFCL participants. By picking up the products the information is seen more clearly and quickly and therefore, the search process can progress more rapidly. To elaborate on these findings, we looked more closely at the pre and post crystallization phase of the decision process. We found that high NFCL picked up more products before

C.P. for both product categories (detergents $t(140)=2.602$, $p<.05$; Margarines $t(140)=2.86$, $p<.01$) and after the C.P. for detergents (detergents $t(118)=2.71$, $p<.01$; margarines $t(124)=1.203$, ns) compared to low NFCL subjects.

We argue that high NFCL subjects would also pick up more products in the beginning of the experiment, when all products were unknown. As the experiment proceeds, most products have been inspected and moreover, a definite and confident decision rule is formed, which consequently leads to a smaller amount of attributes to be used and/or that need to be checked. In case of low NFCL subjects, we argue that –as they do not differ in attribute use before and after the C.P., they would not pick up more products in the different crystallization phases. As expected, high NFCL subjects picked up more products before compared to after the C.P. (detergents $t(69)=3.42$, $p<.001$; Margarines $t(66)=3.17$, $p<.01$), while this difference was not found with low NFCL subjects except in case of detergents (detergents $t(51)=3.22$, $p<.01$; margarines $t(60)=-.34$, ns). In case of detergents, several explanations can be put forward. Subjects possibly lowered their picking up behaviour towards the end of the experiment because most products have been inspected and because all detergents brands were more alike. For example, in case of the detergents, several brands were similar except for one attribute (e.g. 'lemon' or 'extra hygiene'). While, in case of margarines, the brands were all dissimilar.

6.3. Decision Rules

To test for whether high NFCL participants rely on the same decision rules more frequently, we measured the number of times that a participant used the same decision rule in successive runs of the product selection process. We found that, after one or a few decisions had been made, high NFCL participants used mostly the same decision rule(s) for successive decisions. Low NFCL participants, however, displayed a more variable pattern of decision rule usage, even though they began to use the same choice tactic(s) near the end of the experiment (Detergents $t(140)=3.07$, $p<.01$; Margarines $t(140)=2.39$, $p<.05$) (H3).

This result can also be explained by the differences in the incidence of the C.P. for high and low NFCL participants. The crystallization process with both high and low NFCL participants has the same outcome: repeat use of the same decision rule(s). If high NFCL participants reach this outcome earlier in the choice sequence, we can easily predict that the amount of successive occasions on which a choice tactic is used will be higher for high NFCL participants than for low NFCL participants. We tested this assumption and found that the 'C.P.' did in fact occur earlier in the sequence of decision making occasions with high (versus low) NFCL participants (Detergents $t(140) = -2.46$, $p < .01$; Margarines, $t(140) = -4.85$, $p < .001$)

Table 4. Number of Successive Turns in which the Same Decision Rules are used and Decision Confidence

	DETERGENT			MARGARINE		
	High NFCL	Low NFCL	T-value	High NFCL	Low NFCL	T-value
Decision rules	3.8 (a) (1.30) (b)	3.2 (1.27)	3.07** (142) (c)	3.6 (1.49)	3.0 (1.22)	2.39* (142)
Confidence	4.51 (1.64)	3.62 (1.92)	2.96** (142)	4.38 (1.68)	3.53 (1.90)	2.80** (142)

(a) Mean of number of turns

(c) number of participants

(b) Standard Deviations

* $p < .05$ ** $p < .01$

6.4. Decision Confidence

The participants were asked whether or not they were certain of their decision. We coded 'certain' as 1 and 'uncertain' as 2, and summed the number of times a participant indicated he/she was certain. This score ranged from 0 to 6. It was hypothesized that certainty would vary positively with NFCL level. Consistent with previous research, we found that high NFCL participants indicated that they were confident in their decision on more occasions than low NFCL participants (Detergents $t(140) = 2.96$, $p < .01$; Margarines $t(140) = 2.80$, $p < .01$) (H4).

6.5. Use of Promotions

To test the promotion hypothesis, we looked at two aspects of promotion use: the presence of a promotion attached to the chosen brand and the reason for choosing that particular brand. We made a distinction between those two aspects because we wanted to account for the fact that not all brands with attached promotions are chosen because of this promotion. It could easily happen that a brand is chosen because of other benefits, while the attached promotion is not essential or even not noticed.

6.5.1. Attached Promotion

In order to test the hypotheses, we summed the amount of chosen products that had promotions attached. The data confirmed that –in general- high NFCL subjects chose more brands with attached promotions compared to low NFCL subjects but only for detergents (detergents $t(140)=2.35$, $p<.05$; margarines $t(140)=.157$, ns).

Contrary to our expectations, we found that before the C.P., high NFCL subjects chose less products with attached promotions compared to low NFCL subjects (detergents $t(140)=-2.96$, $p<.01$; margarines $t(140)=-3.80$, $p<.001$), while after the C.P., opposite results were found indicating that high NFCL were more prone to buy promotion products compared to low NFCL subjects (detergents $t(118)=3.54$, $p<.01$; margarines $t(124)=2.82$, $p<.01$).

Furthermore, high NFCL subjects were less prone to buy promotion products before than after the C.P. (Detergents, $t(69)=-5.75$, $p<.001$; Margarines $t(66)=-3.09$, $p<.01$), while no differences were found for low NFCL subjects (Detergents, $t(51)=-1.01$, n.s.; Margarines $t(60)=1.42$, n.s.).

6.5.2. Reason for Choice

We asked subjects after each decision which cues were actually used to make the decision. We summed the amount of turns a participant cited ‘attached promotion’ as reason for chose. We found that –in general- high NFCL consumers chose promotion products deliberately because of the attached promotion as much as low NFCL subjects (detergents $t(140)=-.29$, ns; margarines $t(140)=1.60$, ns).

Contrary to our expectations, we found that before the C.P., high NFCL subjects cited less the promotion as reason for their choice compared to low NFCL subjects in case of detergents (detergents $t(140)=-2.5$, $p < .05$; margarines $t(140)=-.59$, ns), while after the C.P., no differences were found for detergents, while a small difference was found for margarines (detergents $t(118)=.34$, ns; margarines $t(124)=1.68$, $p < .1$)

Table 5. Use of Promotions and Promotion as Reason for Choice.

	DETERGENT			MARGARINE		
	High NFCL	Low NFCL	T-value	High NFCL	Low NFCL	T-value
Use of promotion	3.45 (a) (1.22) (b)	2.99 (1.14)	2.35* (142) (c)	3.85 (1.19)	3.82 (.93)	.157 (142)
Use of promotion before C.P.	1.17 (1.12)	1.84 (1.55)	-2.96** (142)	1.50 (1.22)	2.15 (1.37)	-3.80*** (142)
Use of promotion after C.P.	2.35 (1.27)	1.57 (1.08)	3.54** (120)	2.35 (1.32)	1.7 (1.25)	2.82** (126)
T-value	-5.75*** (69)	1.01 (51)		-3.09** (66)	1.42 (60)	
Promotion as Reason choice	1.89 (d) (1.56)	1.97 (1.87)	-.29 (142)	2.34 (1.74)	1.89 (1.61)	1.16 (142)
Promotion as Reason choice Before C.P.	.75 (.79)	1.28 (1.62)	-2.5* (142)	.99 (.95)	1.09 (1.29)	-.59 (142)
Promotion as Reason choice after C.P.	1.17 (1.32)	.94 (1.27)	.34 (120)	1.33 (1.43)	.93 (1.21)	1.68 (126)
T-value	-2.28* (69)	-.24 (51)		-1.67 (66)	-.08 (60)	

(a) Mean of amount of chosen products

(b) Standard Deviations

* $p < .05$ ** $p < .01$ *** $p < .001$

(c) number of participants

(d) means of amount of turns

Furthermore, high NFCL subjects indicated promotion less as choice reason before than after the C.P. (Detergents $t(69) = -2.28$, $p < .05$; Margarine $t(66) = -1.67$, $p = .1$), while again no differences were found for low NFCL subjects (Detergents $t(51) = -.24$, n.s.; Margarine $t(60) = -.08$, n.s.).

6.6. Recall of Promotions and Brand Names

After the experiment had ended, the subjects were asked –without seeing the store set-up– if they remembered any promotion or brand name. Contrary to our expectations, investigation of the data yielded that high NFCL subjects did not recall more promotions than low NFCL subjects for both product categories (Detergents $t(140) = .11$, n.s.; Margarine $t(140) = .48$, n.s.). On the other hand, the memory of brand names did differ between high and low NFCL subjects. High NFCL subjects recalled more brand names than low NFCL subjects (Detergents $t(140) = 2.96$, $p < .01$, Margarine $t(140) = 2.18$, $p < .05$).

Table 6. Amount of Brand Names and Promotional Stimuli Recalled.

	DETERGENT			MARGARINE		
	High NFCL	Low NFCL	T-value	High NFCL	Low NFCL	T-value
Recall of brand Names	2.31(a)	1.52	2.96**	2.38	1.82	.218*
Recall of promotional stimuli.	(1.63)(b)	(1.54)	(142)(c)	(1.39)	(.93)	(142)
	1.9	1.87	.11	2.28	2.15	.48
	(1.49)	(1.53)	(142)	(1.65)	(1.51)	(142)

(c) Mean of amount of recalled attributes

(c) number of participants

(d) Standard Deviations

* $p < .05$ ** $p < .01$

A summary of the findings can be found in table 7.

Table 7. Summary of Findings

Hypothesis		t(Detergents/ Margarines)
1a. Before (versus after) the C.P., high NFCL subjects seek more information	✓	-4.99***/-6.04***
1b. High (versus low) NFCL subjects seek as much information	✓	.41/-1.41
1c. Before (versus after) the C.P., low NFCL subjects seek as much information	✓	-1.43/-1.33
1d. Before the C.P., high (versus low) NFCL subjects seek more information	✓	3.72***/2.78
1e. After the C.P., high (versus low) NFCL subjects seek less information	X	1.23/-.68
1f. High (versus low) NFCL subjects use more information	✓	3.20*/2.32*
1g. Before (versus after) the C.P., high NFCL subjects use more information	✓	-3.53***/-2.51**
1h. Before (versus after) the C.P., low NFCL subjects use as much information	✓	-1.51/-1.48
1i. Before the C.P., high (versus low) NFCL subjects use more information	✓	3.45**/2.36*
1j. After the C.P., high (versus low) NFCL subjects use as much information	X	2.15*/1.78
2a. High (versus low) NFCL subjects decide more quickly which brand they want to purchase	✓	-2.16*/-2.26*
2b. Before (versus after) the C.P., high NFCL subjects decide less quickly which brand they like to purchase	✓	-6.39***/-6.03***
Hypothesis		t(Detergents/ Margarines)
2c. Before (versus after) the C.P., low NFCL subjects decide as quickly which brand they like to purchase	X	-4.06***/-2.9**
2d. Before the C.P., high (versus low) NFCL subjects decide as quickly which brand they like to purchase	✓	.05/.03
2e. After the C.P., high (versus low) NFCL subjects decide more quickly which brand they like to purchase	✓	-2.35*/-3.25**
3. High (versus low) NFCL subjects will use the same decision rule more often in successive choice situations	✓	3.07**/2.39*
4. High (versus low) NFCL subjects will be more certain of their decisions.	✓	2.96**/2.80**
5a. High (versus low) NFCL subjects use more promotional information	X	2.35*/.16
5b. Before (versus after) the C.P., high NFCL subjects use more promotional information	X	-5.75***/-3.09**
5c. Before (versus after) the C.P., low NFCL subjects use as much promotional information	✓	-1.01/1.42
5d. Before the C.P., high (versus low) NFCL subjects use more promotional information	X	-2.96**/-3.80***
5e. After the C.P., high (versus low) NFCL subjects use more promotional information	✓	3.54**/2.82**
6a. High (versus low) NFCL subjects will recall more promotional stimuli	X	.11/.48
6b. High (versus low) NFCL will recall more brand names	✓	2.96**/2.18*

*p < .05 **p < .01 ***p < .001

✓ Hypothesis is confirmed

X Hypothesis is rejected

7. Discussion

7.1. Interpretation of Results

Our results provide substantial evidence that NFCL influences the search for information, information usage, usage of decision rules, decision confidence and brand name recall in a consumer context.

7.1.1. Information Search

The information search pattern that precedes decision-making differs for high and low NFCL subjects. We found that in general, high NFCL subjects search for as much information as low NFCL subjects (hypothesis 1b), but when we take into account the crystallization process, the search process seems to be more complicated. The number of cues sought for did differ between high and low NFCL subjects, but only when a confident decision rule had not yet been reached (hypothesis 1c). As in previous research, high NFCL subjects appear to pursue a lot of information when they are confronted with new situations. Once they have formed a decision rule in which they are confident however, they diminish their search for information (hypothesis 1a). Low NFCL subjects however, seek to obtain approximately the same amount of information with every choice they are confronted with (hypothesis 1e). This can possibly be explained by choice uncertainty (which alternative should I choose?) that a person experiences. Previous research suggests that choice uncertainty increases the need to intensify the search for information (Ozanne et al., 1992; Crawford, 1974; Lanzetta & Driscoll, 1968). Before high NFCL subjects reach their C.P., they experience a lot of subjective uncertainty, and consequently increase their information search. Possibly, low NFCL subjects constantly experience the same level of uncertainty.

Contrary to previous research, subjects with a high NFCL did not seek less information after the C.P. compared to low NFCL subjects (hypothesis 1d). This can be explained by a 'floor effect'. After the C.P., high NFCL subjects pursue little information because of their attained closure and certainty. Low NFCL subjects may always search for little information despite their uncertainty, because their primary goal is, most likely, to minimise their cognitive effort. Presumably, it is not possible for high NFCL subjects to look for less information than low NFCL subjects, because the amount of information searched by low NFCL subjects is already very small.

7.1.2. Information Use

High NFCL subjects used more information than low NFCL subjects, in general and before the C.P. (hypothesis 1f, hypothesis 1i). This should not be surprising when we keep in mind that high NFCL subjects are committed to making high quality or reliable decisions, and that using many cues can heighten the perceived quality of a decision (Punj & Staelin, 1983; Bettman, 1979). When few information cues are used, important information may be neglected and decision makers may arrive at a suboptimal choice, whereas the use of more cues is more likely to lead to an optimal choice, as more information is considered and processed more thoroughly (Lee, Herr, Kardes & Kim, 1999). After they have determined which decision rule(s) to use in later decision-making, the amount of product attributes that they want to compare decreases, because they have already determined the most important of these to use in the decision rule (hypothesis 1g). The amount of information cues used is still higher (for one product category) compared to low NFCL subjects because they use a confident decision strategy, which consequently means, they use more cues (in contradiction to hypothesis 1j).

Low NFCL subjects probably do not feel the urge to make an objectively confident and high quality decision; they seem to choose what feels right for them at that moment. Low NFCL subjects always base their decisions on few decision rules, which expresses itself in the number of cues used (hypothesis 1h).

7.1.3. Decision Time

High NFCL subjects want to end their decision process as quickly as possible so the desired closure is attained. Consequently, high NFCL subjects decided more quickly which brand they would like to purchase compared to low NFCL subjects (hypothesis 2a). However, during the choice process, we observed that high NFCL subjects took as much time as low NFCL subjects in their first choice turns (hypothesis 2b). As Houghton and Grewal (2000) and Kruglanski et al. (1991) already found, high NFCL subjects

engage in a short but extensive information search before the C.P. in order to assess/evaluate possible closure attainers. This information search takes time, which could explain why no difference was found between high and low NFCL subjects before the C.P. Furthermore, this also explains why we did find that high NFCL subjects decided more slowly before compared to after the C.P. (hypothesis 2d). After this point, a confident and definite decision strategy is developed; consequently search is diminished, which decreases the amount of time necessary to make the decision. Thus, after the C.P., when a confident and definite decision strategy is developed, high NFCL took less time to decide which brand they would like compared to low NFCL subjects (hypothesis 2c). Contrary to our expectations we found that the crystallization processes influence decision time for low NFCL subjects (hypothesis 2e). However, this could easily be explained by the habitual, repetitive decision rule use displayed by those subjects. In order to diminish cognitive load, low NFCL subjects could start to use the same decision rule, which can result in a decrease in decision time. Furthermore, as task familiarity increases during the experiment, subjects' procedural task knowledge also increases which could lead to a reduction of decision time.

7.1.4. Decision Rules

Another important difference between subjects with high and low NFCL is their use of decision rules. High NFCL subjects use the same decision rules more frequently in successive product selections than low NFCL subjects (hypothesis 3). This does not mean that they use less information, but that they always use the same product attributes to compare the products, while low NFCL subjects apply different decision rules.

7.1.5. Confidence

High NFCL subjects have more confidence in their decision than low NFCL subjects (hypothesis 4). This is not surprising, because the primary goal of high NFCL subjects is to obtain closure. This closure is attained by reaching a confident decision strategy. Low

NFCL subjects are more influenced by their feelings on the spur of the moment and, consequently, they are not so certain of their decisions. If the situation were different, the choice of a low NFCL subject would also probably be different. This is not in contradiction with previous research: overconfidence can be attributed to the tendency of people to focus on information consistent with their initial beliefs and to ignore information contradictory those beliefs (Tetlock, 1983) as high NFCL intend to do.

This overconfidence is not always founded. In previous research it was found that high NFCL subjects are not open for new information when they have their confident hypothesis. Applied to a consumer purchase context, we can expect that when a new product with new and possible interesting attributes is introduced in the market, high NFCL subjects would not consider this product. In that case, the costs of closure emerge: their choice tactic is not the most valid one anymore, another one (accounting for the new attribute) could be better.

7.1.6. Use of Promotions

We argued that heuristic decision rules like the use of promotional information could facilitate the attainment of closure because of their clear, definite, unambiguous and confident content, quick and easy use, consistency and predictability across situations. Low NFCL will vary more the type of information that they search for/use before deciding in order to avoid definite decisions or strategies. The data confirmed that –in general- high NFCL subjects chose more brands with attached promotions compared to low NFCL subjects but only for detergents (hypothesis 5a). To test the promotion hypothesis more validly, we looked at the reason for choosing that particular brand. Because of the rather large amount of promotions attached to the brands, we came to doubt if measuring the presence of promotion with the chosen products really indicates if a consumer is more prone to buy promotions. S/he could easily choose the brand for other benefits without even noticing or valuing the promotion. We think the ‘reason for choice’ would be a more valid measurement. If a consumer indicates that s/he deliberately chose the brand because of the promotion, we have a stronger case for promotion proneness.

Contrary to our expectations, we did not find a difference between high and low NFCL subjects. We found that –in general- high NFCL consumers chose promotion products deliberately because of the attached promotion as much as low NFCL subjects (hypothesis 5a).

Furthermore, we expected that high NFCL subjects would be more prone to search/use promotional information when an informational base for an opinion was absent (versus present) because such an attempt gives them the desired closure (Kruglanski et al., 1993). We did not expect to find this difference with low NFCL subjects. Contrary to our expectations, we found that high NFCL subjects were less prone to buy promotion products before than after the C.P. (hypothesis 5b) while, as expected, no differences were found for low NFCL subjects (hypothesis 5c). Moreover, these same results were found when we looked at the reasons for choice. High NFCL subjects indicated promotion as reason for choice to a lesser degree before compared to after the C.P., while no differences were found for low NFCL subjects.

As a consequence of the increase of promotion proneness for high NFCL subjects and the status quo for low NFCL subjects during the experiment, we found a difference in promotion proneness between high and low NFCL subjects before and after the C.P. Before the C.P., high NFCL subjects chose less products with attached promotions compared to low NFCL subjects (hypothesis 5d) while after the C.P., opposite results were found indicating that high NFCL were more prone to buy promotion products compared to low NFCL subjects (hypothesis 5e). The same results were found for reason for choice before the C.P. We found that before the C.P., high NFCL subjects cited less the promotion as reason for their choice compared to low NFCL subjects. After this point no differences were found for high and low NFCL subjects.

Possibly high NFCL subjects do not regard marketing efforts like promotions as persuasion attempts. Consequently we could not expect to find differences for high NFCL subjects. Furthermore, high NFCL subjects could possibly seek for other –more confident- decision strategies in their pre-crystallization phase compared to the ‘use of promotion’ decision strategy. They possibly do not believe in the ‘smart shopper’ label

that use of promotions sometimes stands for (Schindler, 1998; Mittal, 1994; Shimp & Kavas, 1984).

However, another explanation could account for these results without compromising our original propositions (that promotional information can indicate smart shopper). We argued that –when no informational base was present- high NFCL would be more open for persuasion attempt like promotions. In case of our choice situation, subjects were ignorant. They did not have any experience with the offered brands, nor were they experts in buying detergents and margarines. However, some subjects could be acquainted with some offered promotions through experience with for example grocery shopping and therefore have a preformed opinion about these promotions. This opinion rules out the ‘no information base present’ condition of the pre-crystallization phase in case of the promotions. In this case we can make valid conclusions concerning search and use of unknown product attributes, but no valid conclusions can be drawn about the use of known promotions. Again we like to stress that the pre-existing knowledge of some of the promotions by some of the subjects, does not influence the validity of the results concerning search and use of attributes. Because of the unknown brands and the selection of consumers inexperienced with the purchase of detergents/margarines, we argue that our subjects did experience a pre-crystallization phase.

This explanation does not compromise our original hypothesis that high NFCL use more promotion information compared to low NFCL subjects. It highlights however, that it could be difficult to find subjects who are inexperienced with promotional information. In sum, we argue that we cannot make valid conclusions on the use of promotional information before and after the C.P.

7.1.7. Recall

We argued that high NFCL subjects give more voluntary attention to a variety of product attributes or cues compared to low NFCL subjects because, in order to make better and confident purchase decisions, they engage in a more adequate information search and

because they use more attributes to form their decision. We found that brand names were more easily recalled by high compared to low NFCL subjects. Contrary to our expectations, investigation of the data yielded that high NFCL subjects did not recall more promotions than low NFCL subjects for both product categories.

This differential impact of NFCL on recollection of brand names and promotional stimuli can be explained as follows. When a brand name is a low frequency word (e.g. an unknown brand), the following scenario evolves. Because uncommon, low frequency words are relatively difficult to encode, they tend to induce extensive processing aimed at distinctively and meaningfully encoding the words in relation to contextual information (Meyers-Levy, 1989). We can expect that if the brand name is not encoded, it cannot be remembered afterwards. According to previous research, high NFCL subjects engaged in more extensive information seeking aimed at quickly forming some hypothesis to reach their goal (Kruglanski et al., 1991). Consequently, attributes like brand names –even if they are unknown- should be encoded. Low NFCL subjects on the other hand use less attributes and they are possibly more reluctant to enhance cognitive load by encoding relatively difficult –unknown- brand names compared to high NFCL subjects. This could explain the difference in recollection for unknown brand names between high and low NFCL subjects.

Most consumers however, have experience with the attached promotional stimuli. Consequently, we can argue that even though low NFCL subjects did not experience this extensive information seeking process and even though they used –in general- less information than high NFCL subjects, it is not surprising that they did remember as much promotional stimuli as high NFCL subjects. These promotional stimuli are most likely represented in their long term memory and consequently, only a minimal amount of attention (by seeing them in the store) will be sufficient for later recollection. In case of unknown brand names, a greater amount of attention is required to result in later recollection.

Another possible explanation is the low emotional involvement of the decision. In low involvement conditions the cognitive demands required by an elaborate decision-making process are such that consumers will devote the needed capacity as well as the time, to a limited selection of the products or attributes. It is possible that consumers –both high and low NFCL- will not devote attention to promotional stimuli, while high NFCL subjects do attend to the brand names. Brand names are often used as confident decision strategies (Meyers-Levy, 1989). Research indicates that a failure to achieve an adequate degree of attention can reduce learning. As a consequence, differences in recollection between high and low NFCL subjects only exist for brand names.

Another possible explanation is the involuntary attention given to promotional stimuli. According to Bettman et al. (1998), two major influences on the selectivity of attention are important, namely current goals (voluntary attention) and surprising, novel, threatening or otherwise perceptually salient aspects of the choice environment (involuntary attention). When consumers are confronted with a choice situation, we can expect that they will start scanning the different presented brands right away, to see if they recognize any brand name. Next, they will scan the other product cues (e.g. promotional cues) to compare different brands on. Meyers-Levy (1989) acknowledges that brand names serve different roles than other product attributes. They found that brand names are used to eliminate alternatives. It is possible that high NFCL subjects give more voluntary attention to different brand names and promotional stimuli than low NFCL subjects do because of their confidence goal. We can also expect however that involuntary attention is given to promotional stimuli, by both high and low NFCL subjects because of their perceptual salience. This involuntary attention can reduce the difference in recollection between high and low NFCL subjects that would normally be perceived.

7.2. Discussion of Results

Most of the results above can be explained by the NFCL theory presented above. The most important factor in the NFCL theory is that people with a high NFCL experience the

absence of closure as aversive. This negative feeling leads to all sorts of actions to terminate the situation. High NFCL subjects confronted with a new situation will immediately begin searching for a lot of information to enable them to take a clear and confident decision for their choice problem. Picking up a lot of products can help them accelerate their information acquisition. However, this short but extensive information search prevents them from minimizing their decision time at that point; the search for a confident decision rule takes time. However, they do engage in an effective, in-depth information search, denoting searching as much attributes as possible in as little time as possible without sacrificing the depth of processing of each attribute. When they make a decision at that time, they use a lot of attributes to compare products because they are not certain whether they are using the right decision rule(s). We could expect their motto to be 'the more information I use, the better/ higher quality the decision will be'. This also means that, because they use so much information, they are more likely to have confidence in their decision at that time. As a consequence of this short intense, in-depth information-seeking phase on one hand, and the use of several different decision rules on the other hand, some product attributes (like brand names) are stored in their memory.

When a particular choice has to be made repeatedly, people with a high NFCL form confident and definite decision rules that can be used in future. We can expect that they will form more than one rule on which to base their decision, because the quality of the decision has to be of a high standard. However, they will use less information cues than the first time(s) they had to make that choice. Therefore, they do not need to pick up as much brands as before to scan all possible interesting product cues. They settle for a compromise between making a high quality decision and not spending too much time and energy on processing large amounts of information. They believe that the resulting decision rules let them make high quality decisions, while they don't have to process too much information and waste too much time. They will compare the products only on those attributes that are necessary according to their decision rule(s); consequently, they seek less information than before. Moreover, the emotional burden of the absence of closure is translated in the enhanced speed of their decisions. However, they still engage in an effective, in-depth information search. Finally, they are still certain that they have

made the right decision, because it is based for them, on firm decision rules.

Low NFCL subjects, on the other hand, can be characterised by a more 'easy going' style. When they are confronted with a new situation, they seek and use a particular amount of information that satisfies them. This amount of information is not large because they do not want to spend much energy in making a low involvement decision. Thus they do not pick up a lot of products. Consequently, it takes a considerable but not large amount of time. Furthermore, they focus their attention less on specific attributes, which causes less in-depth processing, and ultimately it results in a smaller recollection of some attributes. As the choice sequence in the experiment progresses, they start to use the same decision rules on succeeding occasions, because this makes decision-making easier, but this does not influence the amount of information they pursue or use. They do not use much information at the beginning of the sequence and they do not use much information at the end of the sequence. Consequently their decision time does not alter during the experiment. The only thing that changes is that they begin to use the same information on which to base their decision.

In previous research, it was found that uncertainty surrounding a choice increases the intensity of an information search. In this case, the low NFCL subjects experience much uncertainty and yet still do not seek a lot of information. We can temper this contradiction as follows: every person has different goals in a choice situation. The information processing system is influenced by those goals. The most important goal for high NFCL subjects is to obtain and retain their feeling of closure. Maximising the perceived accuracy of or confidence in their decision, and therefore increasing their feeling of certainty, can help to obtain this goal. Perhaps the most important goal for low NFCL subjects is minimising the cognitive effort involved in reaching a decision, while considering the uncertainty they experience as not bothersome.

That search patterns of subjects differ according to NFCL comes not as a surprise. Literature suggests that individual differences influence information search and utilisation. For example, Engel, Blackwell and Kollat (1978) suggest that individual

cognitive differences in search and processing behaviour exist, as well as differences in tolerance for discrepant information and for perceived risk. Howard (1977) also concludes that there is a wide range of individual differences in search behaviour and processing capacity is related to what he terms "cognitive style" traits.

Our results are in line with previous research. According to Bettman et al. (1998), choice behaviour is influenced by a person's goal, the complexity of the task, the context, the way a choice is asked and the representation of the choice possibilities. In our study, the only factor that differed between the subjects was their goal (the motivation to obtain or avoid closure). In line with this previous research (Bettman et al., 1998) we can conclude that a choice among several options depends critically on the goals of the decision-maker (e.g. the motivation to obtain or avoid closure).

Furthermore, in prior consumer literature, two theories concerning choice behaviour patterns are often presented: the rational choice theory and the information processing theory. These two patterns resemble the different choice strategies that high and low NFCL subjects use.

According to the rational choice theory, a consumer is a rational decision-maker with well-defined preferences. This theory is applicable when people are familiar and well experienced with their preferred object. Prior preferences will be retrieved from memory and used depending on their accessibility (Feldman & Lynch, 1988). This choice pattern resembles that of a high NFCL subject after the C.P.

An alternative theory, the information processing approach, endorses that consumer preference formation happens on the spot, such as when they have to make a choice. A defensible set of values is constructed instead of the uncovering of values that are already present (Gregory, Lichtenstein & Slovic, 1993). Preferences will often be highly context dependent. Decision approaches are developed when needed, so processing will be highly sensitive to the local problem structure. This implies that processing approaches may change as consumers learn more about problem structure during the course of making a decision. This choice pattern resembles more that of a low NFCL subject.

The difference in effectiveness of information search process for high and low NFCL can be the result of individual differences of high and low NFCL subjects in visual information search. Visual information search can be categorized in two types of behaviour: goal-directed search (consumers are motivated to use a stored search routine to gather information more efficiently) and exploratory search (consumers lack the motivation or experience needed to search efficiently) (Bettman et al., 1998). The former resembles high NFCL behaviour, while the latter seems to resemble low NFCL behaviour. High NFCL subjects seem to search in an effective way, giving attention to a lot of information cues that they find relevant for their goal, in a short amount of time, because they want to make a quick and confident decision. Low NFCL subjects, on the other hand, seem to explore the possibilities more at ease and give attention to a small range of information cues because they tend to minimize their cognitive effort in low involvement situations. Jacoby, Jaccard, Currim, Kuss, Ansari, and Troutman. (1994) propose that high and low NFCL subjects possibly use two different information acquisition strategies. This difference can possibly result in different strategies of coping with uncertainty and reducing risk. According to Bauer (1960), consumer behaviour reflects an individual's reaction to the perceived risks as associated with purchase. Perceived risk is a function of the 'consequences' (particularly the negative consequences) that might result from a behaviour and of the 'uncertainty' of these consequences. As a concept, uncertainty plays a key role in many theories of human judgement, learning, and decision-making (Bettman, Johnson & Payne, 1991). The strategy, which a consumer may adopt to reduce the risk, can vary between consumers. Jacoby et al. (1994), found different subjective-uncertainty-reduction patterns that may reflect stable individual styles. A possible style factor that may affect uncertainty reduction is the information-acquisition strategies used by individuals. Some search patterns may lead to faster uncertainty reduction. Two major strategies are found to characterise a large number of individuals (Jacoby, Jaccard, Kuss, Troutman & Mazurski, 1987). Furthermore, in previous research, it has been postulated that high and low NFCL subject possibly use these two different information acquisition strategies (Jacoby et al. 1994). A high NFCL subject possibly identifies the information property most important to him and then selects information about various options for that property. This is repeated for the

second most important property and so on. A low NFCL subject, however, possibly scans all the information on the properties of one option, and this process is continued for each option. In a low involvement choice condition, consumers usually compare the products on few attributes. Once a high NFCL subject has determined which attributes he finds important in a specific product category, he could compare the different brands very quickly. A low NFCL subject however could spend a lot of time by exploring a range of product attributes, which he will probably not all use in his final decision process.

The relation between NFCL and risk or uncertainty reduction strategy does not mean that NFCL is related to uncertainty orientation¹⁹. According to Webster and Kruglanski (1994), both certainty and uncertainty-oriented individuals strive to have cognitive closure (see chapter 1, 2.7.12.).

7.3. Theoretical Implications

This study may provide a fuller theoretical understanding of the influence of NFCL on choice behaviour.

First, we extended previous research on NFCL by investigating information use, decision time, decision rules, use of promotions and recall of product attributes. Previous research and NFCL theory suggested that these variables could be influenced by NFCL but no study so far was dedicated to entangle the specific relation between these variables and NFCL.

Secondly, we investigated NFCL in a consumer context. Few researchers preceded us (Houghton & Grewal, 2000; Houghton & Kardes, 1998), while several consumer

¹⁹ Sorrentino, Short and Raynor (1984) describe uncertainty-oriented people as those who have been rewarded for resolving uncertainty, and are affectively charged to do so. Certainty-oriented people are described as those whose conditioning has led to the development of schemas for safe and familiar situations and who are affectively charged not to deal with uncertainty. Sorrentino and Roney (1986) and King and Sorrentino (1988) linked uncertainty orientation to individual differences in information processing, involvement, and persuasion in a variety of uncertainty producing contexts.

variables are influenced by this individual difference characteristic.

Finally, the differences between high and low NFCL subjects in relation to their decision process help us to understand the nature of decision processes (Haugtvedt & Petty, 1992). Through this research, we learned that different tendencies (e.g. urgency and permanence) have differential consequences on decision processes or that goals can have a differential impact on consumer behaviour according to the situation (e.g. high NFCL in new and known situations).

In sum, we provided a first glance at the impact NFCL could entail in a consumer decision-making context and extend the knowledge of the nature of the decision process.

7.4. Practical Implications

Previous research suggests that in a low involvement sequence the consumer does not have a strong preference for acquiring and processing information. The possibility that consumers simply do not care enough about many decisions to engage in information seeking and processing is important, because it implies that concern about carefully communicating information regarding product attributes may be largely wasted. Our research suggests however that some people (e.g. high NFCL subjects) do value valid information. Consequently, communicating information remains important.

The amount and type of search (effort) expended by a group of consumers is an important determinant of the appropriate marketing strategy for that group. The identification of individual characteristics that possibly influence this allocation of resources can help marketers to develop well-adapted marketing approaches, strategies. The results concerning search patterns show us that high (versus low) NFCL subjects pursue more information when they are confronted with a new situation. This first confrontation with a product happens when a new product or product line is introduced in the market or when consumers enter a new life phase which makes them needy for other products (for

example, diapers and baby food for young parents, groceries for students, house, garden and kitchen gear for newly weds or people who since recently live alone, cars for young people, diet food for overweight adolescents...). Therefore, marketers should consider giving attention to convenience aspects of their product or service in their marketing efforts, when they are introducing a new product or brand. For example, if the information on the package is clearly readable and the most important information is present and visible from a distance, the possibility of quickly scanning this alternative is enhanced. Consequently we can expect that high NFCL subjects would have a more positive attitude or feeling towards that product, and would therefore be more inclined to buy it. Providing an abundance of important information can thus target high NFCL subjects.

Another possible use is the development of different information displays. High NFCL consumers will probably value an easy information display so the acquisition of information is more efficient and less time-consuming. Low NFCL on the other hand could also benefit from this clearly readable, visible product packages and displays containing the most important information. They seek a considerable but not too large amount of information, varying the type of information from decision to decision. Moreover, they also try to minimize cognitive load in low involvement decisions in which case, the clearly readable, visible displays can be of good use.

A possible problem with using NFCL marketers could encounter is the lack of knowledge of the NFCL level of a specific customer. However, as NFCL level can also vary as a function of the situation (Webster & Kruglanski, 1994), marketers could identify closure heightening or lowering shopping situations and adjust their marketing efforts according to these situations. For example, we can expect that the time pressure and mental fatigue that goes together with a quick shopping trip Friday evening after a wearying workweek enhance the shoppers' NFCL level. Consequently, marketers could adapt their information displays or the amount of information they offer in accordance with the high NFCL level of the shoppers. On the other hand, other more relaxing and enjoyable situations like Saturday afternoon family shopping could lower the NFCL level of the

customers. Again, marketers could adapt their efforts towards these low NFCL customers by adapting the amount or type of information offered.

7.5. Limitations and Directions for Future Research

Some limitations can be noted. Accountability, or the need to justify decisions to others, can have important effects on consumer decisions (Shafir, Simonson & Tversky, 1993) as well as on the NFCL level of the subjects. Especially important in this research is the fact that accountability motivates complex information processing requiring considerable effort, and encourages decision makers to engage in cognitive activities that prompt high-quality decision making (Lee et al., 1999). Increased accountability leads consumers to search for good reasons to justify their choice or behaviour (Simonson, 1989). When accountability is high, an individual should be especially concerned about the possibility of overlooking a desirable or attractive alternative or selecting a sub-optimal option, and of being considered unfavourably by others. To avoid this, the individual feels the need to examine a large set of alternatives, rather than committing prematurely to one option. However, we have no reason to believe that people with a high NFCL or low NFCL would be more influenced by this external pressure source to take responsibility for their choices or to justify their decisions. The need for social desirability does not differ with High or low NFCL (Webster & Kruglanski, 1994). If the amount of information sought or used is increased by the need for justification, there is no reason to believe that either high or low NFCL subjects would be more impressionable. Thus in this case the differences found in this study cannot be explained by accountability.

Accountability can also decrease the NFCL level of the subjects (Kruglanski, 1989). Earlier research showed that the costs of premature closure were elevated when subjects were required to explain or justify their decisions (Webster et al., 1996; Kruglanski, 1989; Kruglanski & Freund, 1983; Tetlock, 1983) and consequently it decreases the NFCL. Previous research shows that the NFCL is lower when the costs of closure are highlighted (Kruglanski & Webster, 1996). If this is the case, we have no reason to

believe that this decrease would be limited to high or low NFCL subjects. Our results showed that NFCL scores did not change significantly (increase or decrease) during the experiment except for ten subjects.

Another limitation, which should be noted, is the reliance on self-assessment reports to measure the amount of information that is researched and used to make a decision. The amount of information sought can be measured by several other measurements such as the information display board (IDB, Bettman & Jacoby, 1976) and questionnaires (Lee et al., 1999; Moorthy et al., 1997; Putrevu & Ratchford, 1997; Beatty & Smith, 1987). However, self-assessment reports are also used in several studies to measure the extent of information seeking and usage (Urbany et al., 2000; Leong, 1993). We did not use questionnaires or IDB because these contain a list of all possible cues that could have been used or searched for. We did not want to prompt the subjects to recall all sorts of cues they could have used in their decision making, and so tempt them to provide a false self-assessment report. For this reason, we also asked subjects not to look at the products when answering questions about their information search and usage. However, we cannot avoid the possibility of a high NFCL subject reporting using or searching for more information cues than he or she actually did. Instead we have to keep in mind that high NFCL subjects are intrinsically motivated to make confident decisions. In other words, they do not want to use or search for a lot of information for any social goal, but rather he or she will want security and confidence for him or herself and therefore, high NFCL subjects would not be inclined to 'please' the experimentators by adding to the amount of cues they allegedly searched for.

Prior literature has addressed the effect of time pressure when consumers are forced to choose (e.g. Svenson & Maule, 1993). We assumed that our subjects did not act under time pressure because we did not give instructions that they had to choose quickly. On the other hand, it is possible that the subjects perceived that they were under time pressure. Some reasons could be that they had a meeting after the experiment, that they didn't like the observation by two people or the fact that they had to choose a brand, whether they wanted to or not. This time pressure could alter the level of NFCL a person

has in normal circumstances. However, this could not distort the results, because the level of NFCL for high and low NFCL subjects would be heightened. This means that the overall NFCL differences between the subjects remain.

Next, subjects seem to be forced to follow a context dependent decision strategy, as subjects are taken away during the experiment. On the other hand, when we look at the content of the decision rules that were used by the subjects, we can argue that a subject that does not want to change his strategy does not have to. For example, when someone wants to make decisions using the decision rule 'lowest price' or 'largest package', he can keep on doing this even though products are taken away.

Even more, we can argue that this context dependence of the decisions confirms the strength and consistency of the different behavioural patterns of high and low NFCL. Because the results still manifest themselves in situations that restrict the high NFCL 'real' behavioural pattern. On the other hand, we can also argue that this context dependence resembles the reality of the store's assortment dynamic, in real life shops there are in most cases different brands or varieties in the shop.

A possible explanation for the disconfirmation of our promotion hypothesis could be that we did not take into account the importance of the used decision rules. Consumers who cited promotions as their only reason for choice were put into the same category as consumers who cited several other reasons in addition to the promotion. Future research could investigate further the puzzling promotion results.

Some other suggestions for future research can be made. Our results suggest that high NFCL subjects always use the same decision strategy because of their tendency toward freezing of the decision making process. So it can also be expected that, once they have made a decision to buy a specific brand, they will keep on buying this brand (providing it matches their expectations with respect to quality). In our experiment, we took away the chosen brands in order to avoid 'unnatural' habit tactics. This setting prohibits us to examine brand loyalty. Future research can investigate if indeed high NFCL display more brand loyalty compared to low NFCL subjects.

As mentioned before, before and after the C.P., high NFCL subjects search more or as much information in less amount of time, possibly indicating that they search more effective but less in-depth. However, memory data suggest that high NFCL subjects work process some attributes more in-depth than low NFCL subject resulting in a high recall of for example brand names. Further research can investigate if high NFCL subjects process more or less in-depth than low NFCL subjects.

Moreover, we can argue that high (versus low) NFCL subjects will not always search more information before the C.P. In some cases, for example, when the choice set contains one dominant choice alternative, high NFCL subjects will quickly put a stop to further information search as they are not motivated by information in itself but by the result (i.e. attaining closure) information search can entail. We can argue that an easy solution to a problem will quickly stop the information search. Furthermore, we can wonder if high NFC subjects would persist their information search if a problem were unsolvable. In addition, what happens when a decision can be made without information gathering? Future research can help answering these questions.

Further research can further investigate the search for promotional information. We found rather peculiar, unexpected results. We argued that heuristic decision rules like promotional information could facilitate the attainment of closure because they provide clear, definite, unambiguous, confident, quick, easy, consistent and predictable knowledge. Low NFCL subjects on the other hand could vary more the type of information they search for in decision context. When we looked at our 'reason for choice' data, we did not found a difference between high and low NFCL subjects. Furthermore, our hypotheses concerning use of promotional information before and after the C.P. were contradicted. However, we acknowledge that our present research possibly did not capture the use of promotional information before and after the crystallization point very well. However, the fact remains that we could not confirm that high NFCL subjects use more promotional information compared to low NFCL consumers. We believe that further research that solely focuses on the use of promotional information

could help us to explain these puzzling results. As more than 70 percent of purchasing choices are made in-store (Hartnett, 1997) and promotional efforts are one of the most popular instruments used by manufacturers and retailers to influence the purchase decision process, we argue that extending promotion information research with the NFCL concept could be helpful to provide a fuller theoretical understanding of the use of promotional information in addition to identifying which individual characteristics are relevant in the shopping environment, which in turn could contribute to more effective retailing strategies.

Further, the recognition/recollection of brand names is an important aspect in the consumer choice process. We found that high NFCL remembered more brand names than low NFCL subjects did. Consequently, high NFCL subjects could experience greater brand awareness in a subsequent choice situation. Brand awareness is an important determinant of choice behaviour (Hoyer & Brown, 1990) so possible differences in brand awareness between high and low NFCL subjects should be investigated.

Furthermore, the recollection of other product attributes apart from brand names and promotions would also probably differ for high and low NFCL subjects. However, it is not clear which specific attributes high NFCL subjects would recall more. High NFCL subjects could have a higher recollection of all attributes. Possibly high NFCL subjects limit their attention to important attributes like promotion, prices and brands as these attributes allow quick decisions. Instead of systematically concentrating on a limited amount of product attributes, low NFCL subjects could attend to a broader spectrum of attributes. Further research could elaborate on this.

In prior consumer research it was found that the same individuals might use a variety of different strategies when making decisions. There are four primary aspects that characterise choice strategies: the total amount of information processed, the selectivity in information processing (whether the same amount of information is processed for each alternative), the pattern of information processing (by alternative (brand) or by attribute) and whether the strategy is compensatory or non-compensatory. We examined the first

aspect only, and found that high and low NFCL subjects differed in the amount of information processing undertaken (Bettman et al., 1998). It could be interesting to determine whether high and low NFCL subjects differ in terms of the other aspects.

Finally, an individual could possibly process one attribute more thorough than others. We could not differentiate the specific time that is devoted to each attribute because we replicated a real shopping environment. Subjects were confronted with all the brands at the same time. Several attributes of different brands were immediately visible (e.g. price, package, promotional information). Consequently we could not distinguish how much time a subject devoted to each attribute. Future research can determine which specific attributes (if any) are more thoroughly processed. Moreover, a distinction could be made between different attributes (e.g. concrete versus abstract), as high and low NFCL subjects could have different preferences for different types of attributes.

8. Conclusion

The extent to which consumers seek and use information prior to decision making, spend time during decision making on the one hand, and the way in which they use decision rules and promotions, experience confidence regarding their decisions, and recollect product attributes, on the other hand, may have important consequences in many everyday situations. It can be helpful to identify the psychological variables that influence these different components of the decision making process. One of those factors is NFCL (Kruglanski, 1990a, 1990b, 1989). High and low NFCL subjects have different goals in a purchase situation, which is translated into different decision-making processes. In particular, high NFCL subjects use more information cues to make a decision, decide quicker, use the same decision rules more frequently in successive decision making situations, are more confident in their decisions and recollect more brand names than subjects with a low NFCL. They also seek more information, take more time to decide, pick up more products and are less prone to choose promotions when they are confronted with a situation for the first time. In experienced, known situations, however, they are more promotion prone and decide more quickly compared to low NFCL subjects.

APPENDIX

- Pictures of the used brands
- Table A: Brand Names and Prices (Belgian Francs) of Margarines and Detergents
- Table B: Promotions attached to the Products

Pictures of the used brands
Detergents

Margarines

Table A. Brand Names and Prices (Belgian Francs) of Margarines and Detergents.

Brand Name Margarine	Price	Brand Name Detergent	Price
BLUE BAND	38	ALBERT HEYN GEEL	38
BLUE BAND + (met extra calcium)	39.5	ALBERT HEYN GROEN	38
BONA	46	ALBERT HEYN ORANJE	38
BOOBY	28	CASA ULTRA ACTION	49
EDAH MARGARINE	21	CASA CITROEN	32
EUROSHOPPER	23	CASA ULTRA	49
GOLDEN REGEN	18	DUBRO CITROEN	46
LATTA	46	DUBRO EXTRA HYGIENE	62
PLANTEN	43	EDAH	29
RILANTO	23	EDAH EXTRA HYGIENE	54
SENSE	49	EDAH GEEL	28
SENSE LIGHT	49	EDAH GROEN	28
SENSE ZONNEPOND	52	EUROSHOPPER	17
VOLLE POND	38.5	FEZZA	16
WAJANG	46	HEMA	38
24	39.5	LODALINE	20
		LUX	45
		SUPERAFWAS	19

Table B. Promotions attached to the Products Price-discounts, Premiums, Contests, Bonus packs and Store points

Type of Promotions	Specific Promotion	Amount of Promotions
Price Discounts	-10 fr	1
	-5, fr	2
Contest	Dial number to win price	1
Store Points	+ 30 points	1
Bonus Packs	10% extra volume	1
Saving Campaign	Saving Campaign for Towels (Detergents) or Service (Margarines)	1
Premiums	Free gift (Bal for Margarine and Jojo for Detergents)	1

Chapter 3

Psychometric Analysis of the Need for Closure Scale

Chapter 3

Psychometric Analysis of the Need for Closure Scale

1. Abstract

In this study, we investigate the psychometric characteristics of the Dutch 42-item NFCL scale. We found that –although the reliability of this scale is high- the intended five-factor structure is not completely replicated. We present a revised and shortened version of the Dutch NFCL scale that is the 25-item NFCL scale. Psychometric analyses of this scale (unidimensionality, reliability, discriminant, convergent and nomological validity) show that the instrument is reliable and valid to measure NFCL in a Flemish context.

2. Introduction

2.1. Advantages of NFCL Measure

Webster and Kruglanski (1994) developed an individual-difference measure of the NFCL. They argue that this measurement will offer three distinct advantages. First, it affords a desirable cross validation of previous, situational inductions of this motivation. Theoretically, individuals who score high on the NFCL measure should exhibit the same judgmental patterns to those put under NFCL through situational manipulations. A comparison of results from this NFCL measure and situational inductions represents a rigorous cross validation test of the NFCL construct. If both dispositional and situationally induced NFCL elicit the same predicted behavioural patterns, the entire underlying theory or ‘nomological’ network’ (Cronbach & Meehl, 1955) in which this measure is embedded is validated.

Secondly, the development of an individual-difference measure allows a further exploration of the various subjective manifestations of the NFCL. Construction of a specific NFCL scale

affords the opportunity for a more differentiated and complex conceptualisation of ways in which the NFCL may be subjectively experienced. So beyond its methodological significance (e.g. cross validation of NFCL construct), an individual-difference measure represents an opportunity for theoretical refinement.

Finally, an individual-difference measure of the NFCL enables the allocation of individual variance to an individual differences main effect and to the person-situation interaction, reducing error variance and enhancing the statistical power for assessing situational effects (cfr. Eysenck, 1954).

2.2. Subscales of NFCL Measure

Webster and Kruglanski (1994) argued that NFCL is a latent variable manifest through different aspects (Carver, 1989). They identified five major aspects assumed to broadly represent the universe of the construct and generated diverse items corresponding with those aspects. The items in the five different subsets are intended to tap diverse assumed manifestations of the NFCL in accordance with the underlying theory (Kruglanski, 1990a; 1990b; 1989).

Webster and Kruglanski (1994) argue that theoretically, persons with a high NFCL should desire definite order and structure in their lives and abhor unconstrained chaos and disorder. Accordingly, one subset of items they have selected assessed the extent to which individuals professed a preference for order and structure in their environment (e.g. “I think that having clear rules and order at work is essential for success”). They included five items in this group that are taken from a previous instrument based on the lay epistemics theory (Kruglanski, 1989) referred to as the Personal Need for Structure Scale (Thompson et al., 1992). In total, this need for order and structure (NFS) subscale contains 10 items.

A second item subset pertained to the affective discomfort occasioned by ambiguity that results from an absence of closure (e.g. “ I’d rather know bad news than stay in a state of

uncertainty”). High NFCL subjects would experience no closure situations as aversive, as their motivation is frustrated. The discomfort with ambiguity (IAM) subscale contains 8 items.

A third subset of items tapped the urgency striving for closure in judgment and decision making (e.g. “I usually make important decisions quickly and confidently”). They assumed that persons with a high NFCL would experience an urgent desire to reach closure, reflected in a decisiveness of their judgments and choices. Three items in this group were taken from the Personal Fear of Invalidity scale of Thompson et al. (1992). The tendency towards decisiveness (D) subscale contains 6 items.

The fourth and fifth item subsets are related to the desire for secure and stable knowledge, assumed to increase under high NFCL. A secure knowledge is one that can be relied on across circumstances and that is unchallenged by exceptions or disagreements.

More specifically, the fourth item subset tapped the transsituational consistency implication of secure knowledge, affording predictability to future contexts (e.g. “I don’t like to go into a situation without knowing what I can expect from it”). This subset also contains several items from the Personal Need for Structure Scale (Thompson et al., 1992). In total, the need for predictability (NFP) subscale contains 10 items.

The fifth and last item subset tapped the close-mindedness that the desire for secure closure may induce, that is, an unwillingness to have one’s knowledge confronted (and thus rendered insecure) by alternative opinions or inconsistent evidence (e.g. “I do not usually consult many different opinions before forming my own view”). In total, the close-mindedness (CLM) subscale contains 8 items.

In sum, Webster and Kruglanski (1994) developed a 42-item NFCL questionnaire that consists of five subscales: need for structure (NFS), need for predictability (NFP), tendency towards decisiveness (D), discomfort with ambiguity (IAM) and close-mindedness (CLM).

2.3. Previous Research

2.3.1. Supporting Studies

2.3.1.1. Psychometric Properties of the NFCL Scale

Webster and Kruglanski's (1994) results supported the five-factor pattern in two different samples. They hypothesized a one-factor model that included a specification of correlated errors, that is, shared domain-specific variance within each of the five subsets²⁰. In other words, they expected to find support for a model specifying a single coherent construct with five facets. Their hypothesized model provided the best fit with the data compared to other competing models²¹ (Sample 1 (N=281): $\chi^2 = 1097.00$, $df=661$, $\chi^2/df= 1.66$; GFI=. 87; sample 2 (N=172): $\chi^2 = 1335.40$, $df=661$, $\chi^2/df= 2.02$; GFI=. 76). Furthermore, they found a high reliability ($\alpha=. 84$) and test-retest reliability ($r=. 86$) for two different samples. These results support their hypothesis that the NFCL assesses a single latent variable –proposed by the lay epistemics theory- potentially manifest in various ways. Furthermore, the high test-retest reliability shows that the NFCL construct tapped by the scale is relatively stable.

2.3.1.2. NFCL and known groups validity

Furthermore, Webster and Kruglanski (1994) identified two groups (conventional versus artistic personality type, Holland, 1970) that were assumed to a priori differ in their NFCL in order to test the known groups validity of the NFCL scale. They found that the NFCL scale discriminated between the two groups of individuals for whom a difference in dispositional NFCL may be plausibly assumed to exist.

²⁰ They expected greater interitem correlation within each of the five facets because items were generated as part of five general domains.

²¹ Competing models were the following: a model specifying five correlated or five orthogonal factors that correspond to the five domains within which items were generated and a single-factor model that did not include correlated errors within item domains.

2.3.1.3. Replication of Studies using Situationally Induced NFCL

Furthermore, with their individual difference measure Webster and Kruglanski (1994) replicated various NFCL effects, previously operationalized by situational induction, (e.g. primacy effects in impression formation (Heaton & Kruglanski, 1991; Freund et al., 1985; Kruglanski & Freund, 1983), correspondence bias (Jones, 1979) and resistance to persuasion (Kruglanski et al., 1993).

2.3.1.4. NFCL and Other Relevant Tests

According to Webster and Kruglanski (1994) the specific theoretical framework underneath the NFCL notion, gives it a unique meaning vis-à-vis related individual difference variables (cfr chapter 1, 2.7).

Webster and Kruglanski (1994) conclude that their results suggest that the NFCL scale reliably assesses the NFCL construct. In addition it seems to capture the single latent variable proposed by the lay epistemics theory. Furthermore, the high test-retest reliability indicates that the individual differences construct tapped by the scale is relatively stable. Besides, known groups and nomological validity are demonstrated. Finally, scale-based replications of previous effects obtained through diverse situational inductions of the NFCL obtained similar results.

2.3.1.5. Dutch Translation of the NFCL Scale

Cratylus (1995) validated a Dutch translation of the English 42-item NFCL scale and suggest that the structure of their Dutch revision of the NFCL scale resembles the original English NFCL scale structure. They also indicated that the internal validity of the NFCL scale is reasonable ($\alpha = .76$) and that the reliability of one subscale (CLM) is unsatisfactory ($\alpha = .48$).

2.3.2. Critiques on the NFCL Scale

More recently, a debate on the psychometric properties of Webster and Kruglanski NFCL scale is instigated (Kruglanski et al., 1997; Neuberg, Judice & West, 1997; Neuberg, West, Judice & Thompson, 1997). Specifically, Neuberg and his colleagues have indicated that inter-item homogeneity for the NFCL is weak and the confirmatory factor analysis suggests that the NFCL scale is not a unidimensional instrument. Therefore, Neuberg and colleagues argue that the summation of the subscales for the purpose of reporting a total NFCL score is inappropriate.

In their response, Kruglanski et al. (1997) assert “the use of the total score of a multidimensional instrument is perfectly legitimate if the underlying theory permits it, which is certainly true in the NFCL case” (Kruglanski et al., 1997, p. 1009). They also argue that the use of aggregated scores of a multidimensional scale has precedence (Carver, 1989; Snyder & Gangestad, 1986). Furthermore, the fact that the NFCL scale has confirmed many unobvious predictions that have evolved from the theory of lay epistemics and that the NFCL scale has shown convincing convergence with numerous alternative inducements demonstrate the validity of the scale. Therefore, Kruglanski et al. (1997) argue that the NFCL scale remains a valid instrument although it has room for refinement.

Houghton and Grewal (2000) demonstrate the utility of individual difference in NFCL in consumer psychology but they argue that the NFCL scale does not demonstrate good measurement properties and has generated controversy. Therefore, they tried to improve the quality of the individual differences scale by conducting a large-scale data collection and measure validation exercise. They propose a reduced scale (20 items) that exhibits improved psychometric properties compared to the original 42-item scale (Full scale: GFI= 0.83; CFI= 0.74; IFI= 0.74; NNFI= 0.72; RMSEA= 0.06; Reduced scale: GFI= 0.95; CFI= 0.95; IFI= 0.95; NNFI= 0.94; RMSEA= 0.04). In addition, their results establish discriminant and nomological validity of the reduced scale in relation to the full scale.

3. Present Study

We conducted two studies regarding the psychometric properties of the Dutch NFCL scale. In a first study, we investigated the reliability and validity of the Dutch 42-item NFCL scale proposed by Cratylus (1995). Results will show that –although reliability of the scale is satisfactory- the intended five-factor structure could not be replicated. In a second study, we propose and test a shortened and revised 25-item NFCL scale.

3.1. Study 1: Psychometric Analysis of the 42-Item NFCL Scale

We tested the factor structure and reliability of the existing 42-item NFCL questionnaire (Cratylus, 1995) in a first study. We used exploratory and confirmatory factor analysis. We obtained factor loadings for the full scale by confirmatory factor analysis and deleted the items with low factor loadings, high-normalized residuals and high modification indices. Furthermore, the goodness of fit index (GFI), non-normed fit index (NNFI), adjusted goodness of fit index (AGFI) and the root mean square residual (RMR) were used as indicator for the overall fit of the measurement model (Van Kenhove & Desmureaux, 1997; Bagozzi & Baumgartner, 1994). Furthermore, the reliability of the scale was assessed.

3.1.1. Respondents and Questionnaire

A homogenous group of 200 University students (81 men, 119 women) filled in the questionnaire on a 6-point²² Likert-type scale ranging from ‘I totally disagree’ to ‘I totally

²² We acknowledge that a 6-point likert scale does not contain a neutral midpoint. In this way, subjects are compelled to take up a position either towards closure or towards avoiding closure. A neutral midpoint could trigger subjects to hold a neutral opinion (e.g. central tendency effect), so that their real disposition towards closure remains undetected. However, the absence of a neutral midpoint is also a disadvantage, that is, the subjects who really have a neutral opinion are forced to take up a false position.

agree' indicating the extent to which the 42 statements were applicable for them. The questionnaire was administered on paper and in class as part of the fulfilment of their study requirements. As our aim was to retest the questionnaire that was used in the first study, we used a comparable homogenous sample of students as subjects.

Originally, the NFCL scale consists of 42 items (Webster & Kruglanski, 1994; Dutch Translation, Cratylus, 1995) of which 10 refer to need for order and structure, 10 to need for predictability, 6 to tendency towards decisiveness, 8 to discomfort with ambiguity and 8 to close-mindedness (see table 1 for the Dutch NFCL items). 16 items are reverse scored as they tap the need to avoid closure. Respondents composite NFCL score is calculated by summing across each of the individual items (after reverse scoring the appropriate items) (cfr. Kruglanski et al., 1993). Higher scores indicate a higher NFCL.

Table 1: NFCL Items of the 42-Item Scale (in Dutch).

1. Ik vind dat duidelijke regels en regelmaat op het werk (studie) van essentieel belang zijn om succes te hebben. (1)
2. Zelfs als ik iets besloten heb, overweeg ik nog andere meningen. (5)*
3. Ik word niet graag geconfronteerd met onzekere situaties. (2)
4. Ik heb een hekel aan vragen die op veel verschillende manieren beantwoord kunnen worden. (5)
5. Ik heb graag vrienden die onvoorspelbaar zijn. (2)*
6. Ik vind dat een goed geordend en regelmatig leven bij mijn aard past. (1)
7. Wanneer ik uit eten ga, ga ik graag naar gelegenheden waar ik al eerder geweest ben, zodat ik weet wat ik kan verwachten. (2)
8. Ik vind het onaangenaam als ik niet begrijp waarom een gebeurtenis in mijn leven heeft plaatsgevonden. (4)
9. Ik vind het onaangenaam wanneer iemand het oneens is met anderen. (5)
10. Ik verander mijn plannen niet graag op het laatste moment. (1)
11. Ik houd er niet van om in een situatie te komen waarvan ik niet weet wat ik ervan kan verwachten. (2)
12. Als ik ga winkelen, heb ik moeite om te beslissen wat ik precies wil hebben. (3)*
13. Wanneer ik geconfronteerd word met een probleem, vind ik gewoonlijk erg snel een goede oplossing. (3)
14. Ik houd er niet van in verwarring te zijn over een belangrijk punt. (4)
15. Ik heb de neiging om belangrijke beslissingen tot het laatste moment uit te stellen. (3)*
16. Gewoonlijk neem ik belangrijke beslissingen snel en met overtuiging. (3)
17. Ik zou mezelf als besluiteloos omschrijven. (3)*

18. Ik vind het leuk om mijn plannen op het laatste moment te veranderen. (2)*
19. Ik geniet van de onzekerheid die het met zich meebrengt om in een andere situatie terecht te komen waarvan ik niet weet wat er kan gebeuren. (2)*
20. Mijn persoonlijke omgeving is gewoonlijk rommelig en weinig geordend. (1)*
21. Bij de meeste conflicten tussen mensen zie ik gemakkelijk in wie er gelijk heeft, en wie niet. (4)
22. Ik ben geneigd te worstelen met de meeste beslissingen. (3)*
23. Ik geloof dat ordelijkheid en organisatie behoren tot de belangrijkste eigenschappen van een goede student (werknemer). (1)
24. Wanneer ik nadenk over conflictsituaties, dan kan ik me meestal wel voorstellen dat beide partijen gelijk zouden kunnen hebben. (5)*
25. Ik houd er niet van om met mensen om te gaan die onverwacht reageren. (2)
26. Ik ga het liefst om met vertrouwde vrienden, omdat ik weet wat ik van hen kan verwachten. (2)
27. Ik geloof dat ik het beste leer uit een cursus waarin duidelijk omschreven doelen en eisen ontbreken. (1)*
28. Als ik over een probleem nadenk, dan overweeg ik zoveel mogelijk verschillende meningen over het onderwerp. (5)*
29. Ik wil graag te alle tijde weten wat mensen denken. (4)
30. Ik houd er niet van als een uitspraak van een persoon op veel verschillende manieren uitgelegd kan worden. (4)
31. Het is ergerlijk om te moeten luisteren naar iemand die maar niet lijkt te kunnen beslissen. (4)
32. Ik denk dat het tot stand brengen van een consequente regelmaat me in staat stelt meer van het leven te genieten. (1)
33. Ik geniet van een duidelijke en gestructureerde manier van leven. (1)
34. Ik ga het <u>liefst</u> om met mensen wier meningen sterk van de mijne verschillen. (5)*
35. Ik vind het prettig als alles op z'n plaats staat. (1)
36. Ik vind het onaangenaam wanneer ik iemands mening of bedoeling niet begrijp. (4)
37. Als ik een probleem moet oplossen, dan zie ik vaak zo veel mogelijke oplossingen dat ik ervan in de war raak. (2)*
38. Ik zie altijd veel mogelijke oplossingen voor de problemen die ik tegenkom. (5)*
39. Ik hoor liever slecht nieuws, dan dat ik in onzekerheid blijf verkeren. (4)
40. Gewoonlijk overweeg ik niet veel verschillende meningen voordat ik mijn eigen opinie vorm. (5)
41. Ik heb een hekel aan onvoorspelbare situaties. (2)
42. Ik vind de routinematige aspecten van mijn werk (studie) onaangenaam. (1)*

(1) order/structure (2) predictability (3) decisiveness (4) ambiguity (5) close-mindedness * reverse scored

3.1.2. Analyses

Evaluating the unidimensionality of the construct tests whether the items in the questionnaire encompass the same content domain (Steenkamp & Van Trijp, 1991). Evaluating unidimensionality means that we examine whether items that are intended to measure a

common factor, actually do this. It can be defined as ‘the existence of one construct underlying a set of items’ (Steenkamp & Van Trijp, 1991, p. 286). Unidimensionality is considered to be ‘one of the most critical and fundamental assumptions of the measurement theory’ (Steenkamp & Van Trijp, 1991; Hattie, 1985).

3.1.2.1. Exploratory Factor Analysis

Previous research suggests that the NFCL items load on five underlying dimensions (Houghton & Grewal, 2000; Cratylus, 1995; Kruglanski & Webster, 1994), so we can expect to replicate this five factor structure.

First we investigated the factor structure using explorative factor analysis to test if the five-factor structure could be replicated. All analyses were performed using SPSS 11.01. A principal component analysis (with varimax rotation, cfr. Kruglanski & Webster, 1994²³) revealed no evidence for the expected five-factor structure. 11 factors (with eigenvalue exceeding value 1) explained 63,19% of the variance.

Moreover, the loadings we found were dissimilar to the ones obtained by Webster and Kruglanski (1994) and Houghton and Grewal (2000) (see table 2). For example, while Webster and Kruglanski (1994) had factor loading as low as .202 for item 9 and Houghton and Grewal (2000) found a factor loading of .262, we found a rather high loading of .525. Furthermore, our factor loadings ranged from .309 to .776, with only two items below the .40 levels, while Webster & Kruglanski loadings ranged from .202 to .783 with 6 loadings below the .40 levels. The factor loadings of Houghton and Grewal (2000) ranged from .047 to .854 with 10 loadings below the .40 levels. Furthermore, Webster and Kruglanski (1994) and Houghton and Grewal (2000) found that the subscale ‘discomfort with ambiguity’ produced low factor loadings, while we found factor loadings up to .768. They argue that these low factor loadings are indicative of a problem

²³ In concordance with Kruglanski and Webster (1994), we used varimax rotation, instead of promax rotation.

with the unidimensionality of the subscales of the full 42-item NFCL scale or the items not being representative of the domain of these five constructs.

Houghton and Grewal (2000) reduced the original 42-item scale to 20 items (four items for each subscale) in two studies. For reasons of comparability, we did the same and compared the factor loadings between the three studies. In this case our factor loadings were quite similar to those obtained by Houghton and Grewal (2000) (see table 2).

In sum, our solution demonstrated higher loadings compared to Houghton & Grewal (2000) and Webster and Kruglanski (1994) for the 42-item scale, while comparable loadings were found for the 20-item scale.

In order to further explore the factor structure of the 42-item questionnaire, we performed further analyses.

Next, we evaluated the items using two criteria: convergent and discriminant validity. Convergent validity requires a minimal standard loading (λ) of .40 with the associated construct, while the items that have a high factor loading on more than one construct (difference $< .1$) have to be removed to satisfy the discriminant validity demands (Thurstone, 1942). Thus, we removed items with standard loading smaller than .40 and items that had high factor loadings on several factors and reran the principal component analysis. In total, 22 items had to be removed. This resulted in a 20-item scale with a 6-factor structure. In total, the six components explain 61.79 % of the total variance (see table 3). Table 3 shows the varimax rotated factor structure. All loadings that exceed the .40 values are included. Furthermore, the percentage of explained variance of the factors is shown.

The components NFS, NFP, D and CLM were recognized, while the IAM component was spread over several components. Also one component was identified as a mix of NFS, NFP and CLM items. Consequently, this resulting model is unsatisfactory as the five predicted factors are not identified.

Table 2: Factor Loadings for the NFCL Scale.

	Items	Factor Loadings (N=200)(1)	WK Factor Loadings (N=281)(2)	HG Factor Loadings (N=724)(3)	Factor Loadings (N=200)(4)	HG Factor Loadings (N=724)(5)	HG Factor Loadings (N=175)(6)
Factor 1 Preference for Order	Item 33	.649	.746	.854	.828	.883	.831
	Item 35	.659	.714	.570	.695	.515	.616
	Item 32	.654	.671	.789	.794	.814	.789
	Item 06	.528	.651	.705	.793	.707	.589
	Item 20*	.768	.636	.410			
	Item 23	.751	.593	.499			
	Item 01	.744	.481	.376			
	Item 27*	.538	.478	.309			
	Item 42*	.549	.439	.372			
Factor 2 Preference for Predictability	Item 10	.682	.385	.535			
	Item 19*	.723	.724	.673	.559	.612	.235
	Item 41	.584	.620	.742	.562	.758	.707
	Item 25	.377	.571	.471	.451	.593	.536
	Item 05*	.531	.551	.450			
	Item 26	.431	.529	.543	.483	.543	.558
	Item 18*	.699	.520	.510			
	Item 11	.614	.464	.648			
Factor 3 Tendency towards Decisiveness	Item 07	.411	.373	.522			
	Item 22*	.747	.783	.762	.627	.751	.695
	Item 17*	.767	.729	.730	.707	.745	.818
	Item 16	.463	.677	.529	.765	.518	.527
	Item 37*	.542	.602	.494			
	Item 13	.419	.534	.387			
	Item 15*	.458	.518	.523	.746	.543	.533
Factor 4 Discomfort With Ambiguity	Item 12*	.410	.481	.462			
	Item 30	.638	.573	.555	.700	.535	.599
	Item 36	.586	.549	.558	.751	.583	.737
	Item 08	.696	.519	.510	.439	.523	.735
	Item 31	.488	.467	.320			
	Item 14	.309	.440	.555	.656	.561	.695
	Item 29	.721	.434	.352			
	Item 21	.768	.398	.144			
	Item 39	.700	.226	.047			
Factor 5 Close- Mindedness	Item 03	.653	.556	.556			
	Item 28*	.776	.714	.619	.746	.617	.688
	Item 24*	.418	.621	.462	.642	.471	.701
	Item 38*	.522	.612	.569	.664	.628	.585
	Item 40	.681	.494	.447			
	Item 02*	.426	.469	.478	.868	.474	.463
	Item 34*	.689	.449	.309			
	Item 04	.486	.229	.324			
	Item 09	.525	.202	.262			

(1) Present study – 42 items

(2) Webster & Kruglanski (1994) – 42 items; study 2

(3) Houghton & Grewal (2000) – 42 items; study 1

(4) present study – 20 items

(5) Houghton & Grewal (2000) – 20 items; study 1

(6) Houghton & Grewal (2000) – 20 items; study 2

Table 3: Rotated Component Matrix of the 42-Item Questionnaire (20 item solution) ($\lambda > .40$).

Item	Component					
	1	2	3	4	5	6
NFS4	.812					
NFS5	.769					
NFS7	.708					
NFS8	.696					
NFS9	.677					
NFS3		.798				
NFP6		.673				
NFP4		.671				
NFP1		.619				
IAM6		.536				
D6			.793			
D5			.741			
NFP9			.716			
IAM2			-.578			
CLM6				.789		
NFP2				.650		
NFS6				.516		
CLM8					.834	
CLM5					.779	
IAM3						.874
Percentage explained variance	15.11%	13.48%	11.59%	8.09%	7.70%	5.81%

3.1.2.2. Reliability Analysis

Table 4 provides an overview of the internal consistencies of the original five subscales and the total scales (using Cronbach's α). Cronbach's alphas are measured to indicate the degree of homogeneity of the scale and individual subscales. When we use .60 as minimal value, all subscales are consistent except IAM (range Cronbach's $\alpha = .63 - .85$). These values are reasonable especially when we take into account the homogeneity of the respondent group. Verkuyten, Masson and de Jong (1990) argue that it is difficult to obtain a satisfying amount of reliability as the respondent group becomes more homogenous. Our reliabilities were comparable to those found by Webster and Kruglanski (1994) and Houghton and Grewal (2000) (see table 4). The item-to-total construct correlations varied between 0.015 and 0.686, 14 items had a correlation lower than .20.

Table 4: Internal Consistency of the 42-Item NFCL Scale and Subscales (Cronbach's alpha, α).

	Present study	WK1 (1)	WK2 (2)	HG (3)
NFCL	.86	.84	.84	.86
NFS	.85	.82	.78	.80
NFP	.81	.78	.72	.80
D	.70	.70	.79	.75
IAM	.46	.67	.80	.63
CLM	.63	.61	.62	.62

(1) Webster & Kruglanski (1994) – Study 1

(2) Webster & Kruglanski (1994) – Study 2

(3) Houghton & Grewal (2000) – Study 1

The reliability of the remaining 20-item (6 factors) questionnaire was reasonably high ($\alpha = .77$), but as mentioned before, the factor structure did not resemble the original factor structure very well. Consequently, α coefficients of the subscales are not computed.

Neuberg et al. (1997) argue that high alphas do not provide direct evidence that the NFCL scale possesses coherence as unidimensional construct (West & Finch, 1997) because although a unidimensional scale will indeed produce a high coefficient alpha, so can a multidimensional scale (Green, Lissitz & Mullaik, 1977). Therefore Neuberg et al. (1997) look at better indicators of unidimensionality like interitem homogeneity, correlations among the scale's five facets and confirmatory factor analysis.

3.1.2.3. Interitem Homogeneity

Neuberg et al. (1997) argue that if the scale is really unidimensional, its items should be positively correlated with each other. Following Neuberg et al. (1997) we calculated the median interitem correlation for our sample. We found a rather high median interitem correlation ($r = .18$) for our sample. A minor proportion of the interitem correlations were negative (24%) suggesting some sort of unidimensionality.

3.1.2.4. Correlations between Subscales

Next, we calculated the correlations between the scale's five facets, as they have to correlate positively with each other in order for the NFCL scale to be unidimensional. We found mostly high correlations between the subscales, however two of the significant correlations were negative (see table 5). However, according to Kruglanski et al. (1997), the NFCL theory does not forbid negative correlation coefficients between the subscales of the NFCL scale. For example, close-minded people or people that experience discomfort in case of ambiguity could care very little about decisiveness as they have already formed opinions. A more direct method of assessing scale unidimensionality is confirmatory factor analysis.

Table 5: Correlations between Subscales of NFCL (42 Items).

	NFS	NFP	D	IAM	CLM
NFCL	.85**	.89**	.21**	.49**	.54**
NFS		.77**	.06	.46**	.44**
NFP			-.11	.72**	.68**
D				-.47**	-.33**
IAM					.63**

* p<.05

** p<.01

3.1.2.5. Confirmatory factor analysis

Next, we performed a confirmatory factor analysis (CFA, maximum likelihood method) using LISREL 8.50. CFA is concerned with the way in which observed measurements are mapped to particular factors (Byrne, 1998). It is most appropriately applied to measures that have been fully developed and their factor structure validated like the NFCL measure (Cratylus, 1995; Webster & Kruglanski, 1994). We seek to determine the extent to which items designed to measure NFCL (i.e. latent construct) actually do so. Five subscales of the measuring instrument represent the five factors and all items comprising a particular subscale are expected to load onto its related factor (Byrne, 1998). The CFA model hypothesized a priori that: (a) responses to the NFCL questionnaire could be explained by five factors; (b) each item

would have a nonzero loading on the NFCL factor it was designed to measure and zero loadings on all other factors; (c) the five factors would be correlated and (d) measurement error terms would be uncorrelated.

We treated the variables as if they were continuous. Two points are made in support of this strategy. First, maximum likelihood estimation is less problematic when the covariance rather than the correlation matrix is analysed; analysis of the latter can yield absolutely incorrect estimates (Jöreskog, Sörbom, Du Toit & Du Toit, 2000). Second, when the number of categories is large, the failure to address the ordinality of the data is likely negligible (Atkinson, 1988; Babakus, Ferguson & Jöreskog, 1987; Muthén & Kaplan, 1985). Bentler and Chou (1987) have argued that, given normally distributed categorical variables, “continuous methods can be used with little worry when a variable has four or more categories” (p. 88). In sum, we consider the NFCL items as continuous variables and base the analyses on the covariance matrix.

The five-factor solution²⁴ did not fit the data very well ($\chi^2= 1514.62$, $df=809$, $p< 0.001$; $\chi^2/df= 1.87$; $RMR=. 12$; $AGFI=. 70$; $TLI=. 70$). The items are again evaluated using de previously mentioned criteria (to satisfy convergent and divergent validity). Furthermore, we looked at the magnitude of the standardized residuals as large standardized residuals²⁵ signify possible multidimensionality (Steenkamp & Van Trijp, 1991). In addition we looked at the modification indices as large Mi argue for the presence of factor cross loadings (i.e. a loading on more than one factor) and error covariances²⁶ respectively (Byrne, 1998). After several iterations, we found a satisfactory five-factor model ($\chi^2 = 80.42$, $df=67$, $p=. 12$; $\chi^2/df=1.2$; $RMR= .075$; $AGFI=. 91$; $TLI=. 97$) but only 14 of the 42 items were maintained (see table 6)

²⁴ Following Webster and Kruglanski (1994), we included a specification of correlated errors that is shared domain-specific variance within each of the five facets.

²⁵ Each residual expresses the discrepancy between the observed and fitted covariance values.

²⁶ These measurement error covariances represent systematic, rather than random, measurement error in item responses and may derive from characteristics specific either to the items or to the respondents (Aish & Jöreskog, 1990).

Table 6: Remaining Items in Satisfactory Five-Factor Model.

Item	Lambda (λ)	T-value	Error variance	R ²	Composite reliability
NFS2	1.14 ^a / .84 ^b	5.31	0.52 ^a / .29 ^b	.71	
NFS8	.98 / .83	5.85	.44 / .32	.68	
NFS9	.58 / .47	9.49	1.17 / .78	.22	
NFS10	.65 / .51	9.38	1.20 / .74	.26	.74
NFP2	.70 / .54	9.10	1.22 / .71	.29	
NFP7	.74 / .68	7.97	.62 / .53	.47	
NFP10	.93 / .85	4.53	.35 / .29	.71	.72
D3	1.06 / .73	5.18	0.96 / .46	.54	
D4	.92 / .75	4.83	0.65 / .44	.56	
D5	.54 / .47	8.96	1.02 / .78	.22	.67
IAM1	.50 / .39	9.24	1.44 / .85	.15	
IAM5	.75 / .61	5.89	.95 / .63	.37	.37
CLM2	1.04 / .74	4.09	.89 / .45	.55	
CLM3	.58 / .45	9.05	1.34 / .80	.20	.32

^a unstandardized solution^b standardized solution

The confirmatory factor analysis shows that more than 50% of the items have to be removed in order to obtain a satisfactory solution and even then, the reliability of the IAM and CLM factor are still substandard. Consequently, we decided to revise the existing NFCL scale.

3.2. Study 2: Development and Validation of Shortened and Revised 25-Item NFCL Scale

Previous analyses show that the existing Dutch 42-item NFCL scale –even though internal consistency is high- does not contain the predicted five factors. As an alternative for the existing 42-item scale, we introduce a new, revised and in addition shortened 25-item NFCL scale. This scale will contain fewer items compared to the original scale as results show that a rather large amount of the items not add to the validity or reliability of the scale. Furthermore, reducing the size of the scale increases the utility of the scale: the amount of original items is rather large compared to the amount of factors. Churchill, Ford, Hartley and Walker (1980) suggest that, when possible, it is useful to use small scales in research settings to minimize respondents fatigue, thereby improving data quality. Furthermore, it has been shown that response rate decreases with an increase in the size of the questionnaire (Childers & Ferrell,

1979; Karnuk & Berenson, 1975). Bagozzi and Baumgartner (1994) argue that three to five items per unidimensional construct are optimal.

In addition, previous analysis also shows that some items have higher correlations with ‘non-associated’ subscale. Therefore we reformulated some items in order to reduce ambiguity of these items. Next, we tested this revised and shortened NFCL scale.

3.2.1. Development of the 25-Item NFCL Scale

We choose to retain five items for each factor in the revised and shortened questionnaire following the recommendation of several authors. Anderson and Gerbing (1984) argue that less than four items per construct could lead to analytical problems, and Bagozzi and Baumgartner (1994) suggest that three to five items per unidimensional construct is optimal. Thus, we reduced the NFCL scale to measure each dimension with five items, thereby providing a 25-item scale for the NFCL.

We used factor loadings (obtained in study 1) to reduce the scale to 25 items (5 items for each of the five subscales). We especially incorporated those items that according to the previous exploratory and confirmatory factor analyses, possessed sufficient convergent and discriminant validity (see above). We adopted the original items NFS8, NFS9 and D5 as these remained in both the exploratory and confirmatory factor analysis. Besides, some items were reformulated. If less than five original items possessed sufficient convergent or divergent validity according to the exploratory and confirmatory analyses, we reformulated items that displayed high factor loadings with a ‘wrong’ or meaningless factor according to the exploratory factor analysis to result in five items per factor. Therefore, four independent subjects reformulated the items individually and in addition group discussion was held. Differences in opinion were resolved and definitive phrasing of the items was chosen.

In addition to NFS8 and NFS9 (which displayed ample convergent and discriminant validity according to previous exploratory and confirmatory factor analyses), we took over items NFS4 and NFS5 as they had high loadings on the ‘structure’ factor found in the exploratory analysis

(NFS4: .81; NFS5: .77). Finally, we incorporated NFS2 as it displayed a high factor loading and total variance explained in the confirmatory factor analysis (.84; $R^2 = .71$). NFS7 also displayed a high loading in the exploratory factor analysis; we did not take over this item in the revised questionnaire, as it resembles in content highly the NFS2 item.

The final 'predictability' component consists of items NFP1, NFP2 (reformulated), NFP4, NFP6 and NFP10. Items NFP1, NFP4, NFP6 were incorporated as they had high loadings on the predictability component in the exploratory factor analysis (NFP1: .62, NFP4: .67, NFP5: .67). Furthermore, NFP10 was incorporated as it displayed a high factor loading and total variance explained in the confirmatory analysis (.85, $R^2 = .71$). Finally, to result in 5 'predictability' items we had to incorporate another item. As no other predictability item seems to possess sufficient convergent or divergent validity according to the exploratory and confirmatory analyses, we chose to reformulate item NFP2 that displayed a high factor loading (.65) with a meaningless factor that consists of items associated with several subscales according to the exploratory factor analysis. Another reason for incorporating this item instead of another predictability item was the content of the item. The predictability factor actually consists of two parts: predictability concerning situations and concerning people. As items NFP1, NFP4 and NFP7 already indicated predictability concerning situations, we choose to incorporate an item that displays predictability concerning people (as NFP5 does). As mentioned before, we reformulated the item to make it less extreme ('I like unpredictable friends' → 'I like friends that are not predictable').

The decisiveness factor contains the items D1, D2, D3, D4 and D5. According to the exploratory and confirmatory factor analysis, D5 possesses sufficient convergent and divergent validity. Furthermore, D6 had a high loading (.79) on the 'decisiveness' factor according to the exploratory factor analysis. However when we look at the content of D5 and D6 we found that the two items practically meant the same ('being indecisive' versus 'cannot make decision') and therefore could add less to the meaning of the component compared to other original items that do differ a little bit more in content. For this reason, we only incorporated item D5. We also took over items D3 and D4 as the confirmatory factor analysis showed that they had high loadings and high total explained variance (D3: .73, $R^2 = .54$; D4:

.75, $R^2=.56$). Items D1 and D2 were incorporated to result in a total of 5 items. We chose the D1 item as it described decision making in a shopping context and the D2 item as the latter indicates the speed of problem solving and decisiveness.

The ‘intolerance for ambiguity factor’ contains 5 reformulated items as previous research suggests that no items possessed ample convergent and divergent validity. The IAM component also had a very low reliability ($\alpha=.46$). We reformulated the items so they would contain less ‘predictability’ and ‘decisiveness’ content, as exploratory factor analysis showed that some IAM items were associated with these factors. Furthermore, we did not incorporate IAM3 (‘in conflict situations I can tell who is right and who is wrong’), as we believe that this item is not related to intolerance for or coping with ambiguity but is rather associated with a feeling of control over the environment.

Finally, the close-mindedness component consists of the items CLM5, CLM8 and three reformulated items. We incorporated items CLM8 and CLM5 as exploratory factor analysis indicated high loadings for these items in a ‘close-mindedness’ component (CLM8: .83; CLM5: .78). We did not incorporate CLM2 even though it displayed a high loading (.74) and total variance explained (.55) according to the confirmatory factor analysis because we believe it resembles too much intolerance for ambiguity (‘I dislike questions that can be answered in several ways’). We reformulated CLM7 to make it less extreme (‘I know many right solutions in problem situations’ → ‘I think about different solutions in problem situations’). For the same reason CLM6 (‘I prefer to deal with people with different opinions than mine’ → ‘I can learn from people with different opinions than mine’) was reformulated. CLM1 was reformulated as it resembled decisiveness (‘Even if I have made a decision, I still consider other opinions’ → ‘I usually do not change my opinion, even though others provide reasonable arguments’). We incorporated reformulated versions of CLM1, CLM6 and CLM7 instead of CLM3 and CLM4 because we believe that CLM3 is rather related to conformity (‘I dislike it when someone disagrees with members of the group’), while CLM4 is not really self-related (‘In a group conflict, both parties can be right’).

Finally, we argue that the face validity of the NFCL scale is not compromised when items are selected for deletion. The remaining items still cover the range of topics/situations addressed in the 42-item questionnaire. Table 7 gives an overview of the revised and shortened 25-item questionnaire.

3.2.2. Validation of the Shortened and Revised 25-Item NFCL Scale

3.2.2.1. Respondents

Next, a heterogeneous sample of 695 respondents indicated on a 6-point scale how applicable these items were for them. We chose a heterogeneous sample in this research as we aim to construct a questionnaire that is useful for general use across heterogeneous samples. For the period of one week, during business hours, subjects were addressed at random in a mall, at home or on the street. They were asked to voluntarily participate to an anonymous scientific study. The volunteers were handed the NFCL questionnaire (on a document case). The total duration to fill in the questionnaire ranged from 5 to 10 minutes. Afterwards, subjects were thanked gratefully for their participation. Demographic characteristics are shown in table 8.

3.2.2.2. Analyses

We used exploratory and confirmatory factor analysis to test the factor structure and reliability of the 25-item scale. We obtained factor loadings for the full scale by confirmatory factor analysis and deleted the items with low factor loadings, high-normalized residuals and high modification indices. Furthermore, the goodness of fit index (GFI), non-normed fit index (NNFI), adjusted goodness of fit index (AGFI) and the root mean square residual (RMR) were used as indicator for the overall fit of the measurement model (Van Kenhove & Desrumeaux, 1997; Bagozzi & Baumgartner, 1994). Furthermore, convergent and discriminant validity of the scale were assessed. Furthermore, the reliability of the scale was assessed. First, we started with testing the unidimensionality of the scale.

Table 7: NFCL Items of the 25-Item Scale (in Dutch).

1. Ik vind dat een geordend en regelmatig leven bij mijn aard past. (1)
2. Ik blijf meestal bij mijn mening, ook als anderen redelijke argumenten naar voor brengen. (5)
3. Ik word niet graag geconfronteerd met onzekere situaties. (2)
4. Als ik ga winkelen, heb ik moeite om te beslissen wat ik precies wil hebben. (3)*
5. Ik vind het onprettig wanneer iemands mening of bedoeling mij niet duidelijk is. (4)
6. Ik houd er niet van om in een situatie te komen zonder te weten wat ik ervan kan verwachten. (2)
7. Wanneer ik geconfronteerd word met een probleem, vind ik gewoonlijk erg snel een goede oplossing. (3)
8. Gewoonlijk neem ik belangrijke beslissingen snel en met overtuiging. (3)
9. Ik ben ervan overtuigd dat ordelijkheid en organisatie behoren tot de belangrijkste eigenschappen van een goede student (werknemer). (1)
10. Ik heb graag vrienden die niet voorspelbaar zijn. (2)*
11. Ik heb de neiging om belangrijke beslissingen tot het laatste moment uit te stellen. (3)*
12. Mijn persoonlijke omgeving is gewoonlijk rommelig en weinig geordend. (1)*
13. Ik vind dat ik veel kan leren van mensen die een andere mening hebben dan de mijne. (5)*
14. Ik houd er niet van om met mensen om te gaan die onverwacht reageren. (2)
15. Als ik over een probleem nadenk, dan overweeg ik zoveel mogelijk verschillende meningen over het onderwerp. (5)*
16. Ik houd er niet van als ik niet begrijp waarom iemand een bepaalde uitspraak doet. (4)
17. Ik vind het prettig als alles op z'n plaats staat. (1)
18. Ik wil altijd graag weten waarom mensen bepaalde beslissingen nemen. (4)
19. Ik overweeg altijd veel mogelijke oplossingen voor de problemen die ik tegenkom. (5)*
20. Ik houd er niet van als mensen uitspraken doen die op verschillende manieren geïnterpreteerd kunnen worden. (4)
21. Gewoonlijk overweeg ik niet veel verschillende meningen voordat ik mijn eigen opinie vorm. (5)
22. Ik houd niet van onvoorspelbare situaties. (2)
23. Ik geniet van een duidelijke en gestructureerde manier van leven. (1)
24. Ik zou mezelf als besluiteloos omschrijven. (3)*
25. Ik weet steeds graag direct wat mensen bedoelen wanneer ze iets zeggen. (4)

(1) order

(2) predictability

(3) decisiveness

(4) discomfort with ambiguity

(5) close-mindedness

* reverse scored

Table 8: Demographic Characteristics of the Sample

	Percent		Percent
Gender		Profession	
Men	28.3%	Full time	41.8%
Women	71.3%	Part time	13.5%
Age		Unemployed	1.0%
<20	2.6%	Housewife/husband	7.6%
20-30	19.6%	Retired	8.5%
31-40	23.2%	Student	4.3%
41-50	29.9%	Education	
51-60	13.1%	Grade school	19.4%
>60	11.2%	High school	35.4%
Living Standard		No university	33.9%
Low	19.5%	University	10.3%
Average	42.5%		
High	15.2%		

3.2.2.2.1. Exploratory Factor Analysis

First we performed an exploratory factor analysis using SPSS 11.01. We could confirm the five-factor structure using a principal component analysis (PCA) with varimax rotation (cfr. Kruglanski & Webster, 1994). In sum, the five components explain 60.7 % of the total variance. All items possess have high loadings ($\lambda > .57$) (see table 9).

Table 9: Varimax rotated factor structure of the 25-item questionnaire (λ).

Items	1	2	3	4	5
ik heb graag vrienden die niet voorspelbaar zijn (NFP2R)	.803				
ik houd er niet van in een situatie te komen waarvan ik niet weet wat ik er van kan verwachten (NFP4)	.754				
ik houd er niet van om met mensen om te gaan die onverwacht reageren (NFP6)	.739				
ik word niet graag geconfronteerd met onzekere situaties (NFP1)	.726				
ik houd niet van onvoorspelbare situaties (NFP10)	.713				
ik overweeg altijd veel mogelijke oplossingen voor de problemen die ik tegenkom (CLM7R)		.854			
als ik over een probleem nadenk dan overweeg ik zoveel mogelijk verschillende meningen (CLM5)		.794			

Items	1	2	3	4	5
ik blijf meestal bij mijn mening ook als anderen redelijke argumenten naar voor brengen (CLM1R)		.741			
gewoonlijk overweeg ik niet veel verschillende meningen voordat ik mijn eigen opinie vorm (CLM8)		.729			
ik vind dat ik veel kan leren van mensen die een andere mening hebben dan de mijne (CLM6R)		.661			
ik geniet van een duidelijke en gestructureerde manier van leven (NFS8)			.771		
mijn persoonlijke omgeving is gewoonlijk rommelig en weinig geordend (NFS4)			.694		
ik vind het prettig als alles op zijn plaats staat (NFS9)			.694		
ik vind dat een geordend en regelmatig leven bij mijn aard past (NFS2)			.693		
ik ben ervan overtuigd dat ordelijkheid en organisatie behoren tot de belangrijkste eigenschappen van een goede student (werknemer) (NFS5)			.627		
ik weet steeds graag direct wat mensen bedoelen wanneer ze iets zeggen (IAM4Ra)				.768	
ik houd er niet van als ik niet begrijp waarom iemand een bepaalde uitspraak doet (IAM5Ra)				.741	
ik houd er niet van als mensen uitspraken doen die op verschillende manieren geïnterpreteerd kunnen worden (IAM5Rb)				.736	
ik vind het onprettig wanneer iemands mening of bedoeling mij niet duidelijk is (IAM7R)				.673	
ik wil altijd graag weten waarom mensen bepaalde beslissingen nemen (IAM4Rb)				.633	
wanneer ik geconfronteerd word met een probleem vind ik gewoonlijk erg snel de goede oplossing (D2)					.769
gewoonlijk neem ik belangrijke beslissingen snel en met overtuiging (D4)					.755
ik zou mezelf als besluiteloos omschrijven (D5)					.698
ik heb de neiging om belangrijke beslissingen tot het laatste moment uit te stellen (D3)					.649
als ik ga winkelen heb ik vaak moeite te beslissen wat ik precies wil hebben (D1)					.573
Percentage explained variance	28.44	12.17	8.19	7.22	4.66

3.2.2.2.2. Reliability Analysis

An overview of the internal consistencies of the five subscales and the aggregated scale can be found in table 10 (Cronbach's α). The reliability of the scale was high ($\alpha = .88$). If we use .60 as minimum value, all subscales seem sufficiently consistent (range Cronbach's $\alpha = .75 - .87$). The values are high. The item to total correlation varied from .20 to .65; with no items displaying a correlation lower than .20.

Table 10: Internal Consistency of the 25-Item NFCL Scale and Subscales (Cronbach's alpha, α).

	NFCL	NFS	NFP	D	IAM	CLM
α	.88	.83	.87	.75	.79	.82

As high alphas do not provide direct evidence for unidimensionality (Neuberg et al., 1997), we also look at better indicators of unidimensionality like interitem homogeneity, confirmatory factor analyses and correlations among the scale's five facets.

3.2.2.2.3. Interitem Homogeneity

We found a rather high median interitem correlation ($r = .31$) for our sample. A very low proportion of the interitem correlations were negative (1.25%) suggesting some sort of unidimensionality. A more direct method of assessing scale unidimensionality is confirmatory factor analysis.

3.2.2.2.4. Confirmatory factor analysis

Next, we performed a confirmatory factor analysis (CFA, maximum likelihood method) using LISREL 8.50. We treated the variables as if they were continuous. Two points are made in support of this strategy. We refer to study 1 for an overview of these two points. In sum, we consider the NFCL items as continuous variables and base the analyses on the covariance matrix.

The five-factor solution²⁷ fitted the data well ($\chi^2 = 480.57$, $df = 247$, $p = .00$; $\chi^2/df = 1.95$; $RMR = .04$; $AGFI = .94$; $TLI = .96$). Loadings can be found in table 11.

²⁷ Following Kruglanski & Webster, we included a specification of correlated errors that is shared domain-specific variance within each of the five facets.

Table 11: Results of the Confirmatory Factor Analysis of the 25-Item Questionnaire.

Items	Lambda (λ)	T	Error variance	R ²	Composite reliability
IAM7R	.74 ^a /.63 ^b	15.69	.84 ^a /.60 ^b	.40	.795
IAM4Ra	.78/.51	17.52	1.71/.74	.26	
IAM4Rb	.81/.81	12.35	.36/.35	.65	
IAM5Ra	.76/.69	15.65	.63/.52	.48	
IAM5Rb	.99/.75	13.47	.75/.44	.56	
D1	1.05/.73	10.71	.97/.47	.53	.709
D2	.61/.55	15.6	.86/.70	.30	
D3	.58/.43	16.71	1.52/.82	.18	
D4	.66/.49	16.3	1.35/.76	.24	
D5	.84/.65	13.19	.94/.57	.43	
CLM1R	1.21/.79	12.61	.88/.37	.63	.843
CLM5	.71/.73	15.14	.45/.47	.53	
CLM8	1.03/.68	12.76	1.25/.54	.46	
CLM6R	.58/.59	17.13	.63/.65	.35	
CLM7R	.90/.81	11.7	.42/.34	.66	
NFS2	.96 ^a /.67 ^b	13.54	1.11 ^a /.55 ^b	.45	.868
NFS4	.82/.59	15.96	1.26/.65	.35	
NFS5	.82/.76	11.09	.51/.43	.57	
NFS8	1.09/.81	9.14	.62/.34	.66	
NFS9	.99/.71	14.18	.95/.49	.51	
NFP1	.95/.69	15.47	.99/.52	.48	.866
NFP2R	.98/.91	7.02	.21/.18	.82	
NFP4	1.15/.82	12.61	.62/.32	.68	
NFP10	1.08/.73	14.18	1.0/.46	.54	
NFP6	.83/.63	15.94	1.03/.60	.40	

^a unstandardized solution^b standardized solution

3.2.2.2.5. Correlations between the Subscales

The five facets of the NFCL scale have to correlate positively with each other in order to demonstrate unidimensionality. We found correlations ranging from .10 to .58 (see table 12). All correlations were positive and significant.

Table 12: Correlations between Subscales of NFCL (25 Items).

	NFS	NFP	D	IAM
NFP	.68	1		
D	.35	.32	1	
IAM	.56	.51	.26	1
CLM	.37	.34	.17	.28

3.2.2.2.6. Within-Method Convergent Validity

Convergent validity examines to what extent two different measurement instruments of the same construct correspond (Campbell & Fiske, 1959). A weak condition for convergent validity holds that the regression coefficient of each individual item is statistically significant. A stronger condition holds that the regression coefficient between an individual item and a latent variable exceeds the .50 value, provided that the overall fit of the model is acceptable (Steenkamp & Van Trijp, 1991; Hildebrandt, 1987). All 25-factor regression coefficients were statistically significant ($t > 2.58$, $p = 0.01$) and sufficiently large (lowest value = 0.51) except for D4 ($\lambda = .49$) and D2 ($\lambda = .43$).

3.2.2.2.7. Composite Reliability

The within-method convergent validity has to be reached before the reliability of the instrument is measured as a reliable measurement instrument is not per definition convergent valid (Steenkamp & Van Trijp, 1991; Bagozzi, Davis & Warshaw, 1990; Bagozzi, 1981). Table 10 provides an overview of the reliabilities of the subscales and the aggregated 25-item scale. Using .60 as minimal value, all factors seem sufficiently consistent (range Cronbach's $\alpha = .75-.87$). The reliability of the total scale was high ($\alpha = .88$) and this value exceeds the minimal value of .60 cited by Bagozzi and Yi (1988).

Another popular criterion to measure reliability is the 'composite reliability' (Bagozzi, 1980). The minimal norm for this criterion is .60 (cfr. Cronbach's Alfa, α) (Bagozzi & Yi, 1988). All values exceeded this minimal value (see table 11).

3.2.2.2.8. Discriminant Validity

The discriminant validity of the Need for Closure construct in relation to other psychological measures has been proven extensively (see chapter 1, 2.7.). In addition, we consider the discriminant validity of the five subscales of NFCL assessing that these subscales measure different manifestations of the Need for Closure concept²⁸.

Discriminant validity exists when two or more constructs measured with one or more methods, have low correlation and thus differ sufficiently. In addition, a questionnaire possesses discriminant validity if the correlation among constructs significantly differs from unity or when the χ^2 difference test indicates that two constructs are not perfectly correlated (Steenkamp & Van Trijp, 1991). This can be controlled by equating each of the ten correlations between the constructs (non-diagonal elements of ϕ) (five constructs) to 1.0 and subsequently re-estimating the model. Changes in χ^2 goodness of fit are statistically significant for all 10 comparisons ($\Delta\chi^2$ ranges from 377.8 (df=1, p=0.00) for NFP-D to 2069.2 (df=1, p=0.00) for NFP-CLM (see table 13) which indicates that the new solution statistically significantly differs from the original solution and is therefore worse. Furthermore, it indicates that the questionnaire is discriminant valid even though high correlations exist (e.g. BST-BVO: 0.44, IAM-BVO: 0.48). Correlations between the 5 factors are displayed in table 12.

²⁸ According to Kruglanski et al. (1997), the existence of five subscales is compatible with the use of an aggregated score.

Table 13: Discriminant Validity or the 25-Item Questionnaire.

	χ^2	$\Delta\chi^2$	Df	Δdf	Critical value
25-item model	480.57		247		
NFS-NFP	2024.82	1562.25	248	1	6.63
NFS-D	771.00	290.43	248	1	6.63
NFS-IAM	799.25	318.68	248	1	6.63
NFS-CLM	893.42	412.85	248	1	6.63
NFP-D	858.37	377.8	248	1	6.63
NFP-IAM	1134.54	653.97	248	1	6.63
NFP-CLM	2549.77	2069.2	248	1	6.63
D-IAM	860.44	379.87	248	1	6.63
D-CLM	768.20	287.63	248	1	6.63
IAM-CLM	1587.82	1107.25	248	1	6.63

3.2.2.2.9. Nomological Validity

To demonstrate nomological validity for the subscales of the NFCL measure, the correlations between the subscales for both the full scale and the reduced scale are examined. However, we have to keep in mind that we originally found no good solution in performing a confirmatory factor analysis for the 42-item scale. All results have to be interpreted with caution. Even more, the factor structure of the 25-item scale should differ to some extent from the factor structure we found for the 42-item scale.

We found a similar pattern of correlation coefficients between the subscales for both the full scale and the reduced scale (see table 14) except for the decisiveness factor. In the shortened and revised 25-item scale, decisiveness seemed to display other relations with the other subscales. For example, in the full scale, decisiveness is negatively correlated to discomfort with ambiguity, while a positive correlation was found with the 25-item scale. This is not unexpected, because several items were reformulated and deleted. For example, the correlation between decisiveness and need for predictability and need for structure, were not significant in the 42-item scale, while significant correlations emerge in the 25-item scale. Furthermore, negative correlations between IAM and D and between CLM and D changed into

positive correlations. These changes are improving the scale because the five subscales have to correlate positively in order to be unidimensional.

Table 14: Correlations between Subscales of NFCL (42 Items/25 Items).

	NFS	NFP	D	IAM	CLM
NFCL	.85*** ^a /. 87*** ^b	.89**/. 78**	.21**/. 41**	.49**/. 65**	.54**/. 43**
NFS		.77**/. 68**	.06/. 35**	.46**/. 56**	.44**/. 37**
NFP			-.11/. 32*	.72**/. 51**	.68**/. 34**
D				-.47**/. 26**	-.33**/. 17**
IAM					.63**/. 28**

* p<.05 ^a 42 items
** p<.01 ^b 25 items

In addition, we also investigated the correlation between the subscales across the two scales. We found non-significant to low correlations of the appropriate subscale of the reduced scale with the associated subscale of the full scale (e.g. decisiveness in the reduced scale is slightly correlated with decisiveness in the full scale). The correlation coefficients range from .05 to .22. Again, we can explain this by the reformulating that we performed.

In addition, we performed a second-order confirmatory factor analysis to obtain maximum-likelihood estimates for the impact of each sub construct on NFCL. We found that the pattern of maximum-likelihood estimates of the γ coefficients is similar for the full and the reduced scale (table 15) except for the decisiveness factor. We can conclude that the reduced scale behaves to some extent like the full scale, keeping in mind that several items were reformulated.

In sum, we can conclude that the results of the study show that the reduced scale exhibits improved psychometric properties compared to the 42-item scale. The results establish unidimensionality, reliability and discriminant, convergent and some nomological validity of the reduced scale. Furthermore, we argue that the utility of the shortened NFCL scales exceeds the utility of the original scale. Therefore, in further research, we will use the 25-item NFCL scale (except in study 2, see 3.1.2.5.).

Table 15: Maximum Likelihood Estimates of γ Coefficients for the 42- Item and 25-Item NFCL Scales.

Coefficients ^a	Second-order factor	Second order factor
	Analysis 42-items N=200	Analysis 25 items N=695
γ_1 (structure)	.66 (.57)**	.87 (.25)**
γ_2 (predictability)	.86 (.25)**	.78 (.39)**
γ_3 (decisiveness)	-.01 (1.0)	.41 (.84)**
γ_4 (ambiguity)	1.01 (-.02)**	.65 (.58)**
γ_5 (close-mindedne	.82 (.33)**	.43 (.82)**
Goodness of fit	114.13	594.39
Df	72	252
NNFI	.89	.95
SSMR	.08	.06
AGF	.87	.92

^a N= sample size. Standard errors in parentheses.

**p<.01

4. Conclusion

We tested the psychometric characteristics of the existing 42-item NFCL scale. Results show that –even though the scale possesses sufficient reliability- the factor structure and individual reliabilities of some subscales do not hold.

We revised and shortened the original scale. The factor structure of this revised scale resembled the original factor structure (Webster & Kruglanski, 1994). In sum, the new instrument consists of 25 of the original 42 NFCL items and measure five conceptually different and correlated latent variables. Our results show that this revised questionnaire is unidimensional, convergent, discriminant and nomological valid and in addition reliable.

Chapter 4

The Influence of Need for Closure, Perceived Budget Constraints and Perceived Time Pressure on Search Effort for Price and Promotional Information in a Grocery Shopping Context

Chapter 4

The Influence of Need for Closure, Perceived Budget Constraints and Perceived Time Pressure on Search Effort for Price and Promotional Information in a Grocery Shopping Context

1. Abstract

Need for Closure is introduced as a variable of individual difference that shows promise to help the understanding of a consumers' effort to search for price and promotional information in the context of retail grocery shopping. Specifically, Need for Closure, perceived time pressure and perceived budget constraints are examined. We found Need for Closure, perceived time pressure and perceived budget constraints to be important determinants of search effort for price and promotional information (e.g., searching for coupons, looking for in-store promotions, switching shops to find lowest prices and comparing unit prices). Moreover, no relation exists between the three precursors. Future research, theoretical and managerial implications are discussed.

2. Introduction

In Belgium, 69.9% of purchasing decisions are made in-store (De Pelsmacker, Geuens & Van den Bergh, 2001). It is not surprising that organizations want to understand and influence this decision process. Understanding the purchasing decision process of existing and potential customers is essential in designing an effective marketing program that generates sales. Besides product characteristics, price and promotional efforts are amongst the most popular instruments used by manufacturers and retailers to influence this process. Moreover, many studies have shown that price and sales promotions have a

significant impact on consumers' decision-making process (e.g. Mela, Gupta & Lehman, 1997; Papatla & Krisnamurthi, 1996; Blattberg, Eppen, & Lieberman, 1981).

In this study, we will explore the relationship between NFCL and search effort for promotional and price information. More specifically, we address the NFCL and other shopping related individual characteristics that have been found to influence this search effort (e.g., perceived time pressure, perceived budget constraints). This study can provide a fuller theoretical understanding of this cognitive search effort and the specific variables that might affect search effort as we add a new variable (NFCL). Moreover, it can help retailers understand which individual characteristics are relevant in the shopping environment, which in turn could contribute to more effective retailing strategies. If individuals with high NFCL display more cognitive price and promotion search behaviour, retailers could benefit from the use of marketing efforts that are specific towards these customers as compared to the low NFCL consumers.

3. Search effort and determinants

Shopping at multiple supermarkets for obtaining better buys is one way of information search for groceries. However, many consumers have a limited time budget, whereas the mental and physical costs of shopping have increased. An alternative to active shopping of price specials at multiple stores is to shop vigilantly within one's regular store; searching for, and under certain circumstances, stockpiling price specials. Recent evidence stated that some store-loyal consumers tend to 'lie-and-wait' and make large purchases of items with a special price at their own stores (Urbany et al., 2000; Bucklin & Lattin, 1992; Walters, 1991; Walters & Mc Kenzie, 1988). In contrast, Urbany and colleagues (2000) found that managers in the grocery sector underestimate consumers' in-store search for specials, and stockpiling as a response to price promotions. Several authors have examined this price information search for groceries.

Carlson and Gieseke's (1983) model of search for groceries contains the number of stores as a measure of active price search. Clearly, this assumes that consumers that do shop in a

larger number of stores do so primarily in the interest of finding lower prices, and ignores the occurrence of store switching due to reasons of convenience and variety seeking.

Urbany, Dickson and Kalapurakal (1996) presented and tested a comprehensive model of the costs and benefits of the search for groceries, using a combination of several constructs (price and promotion comparison across different stores, search and response to price specials). Putrevu and Ratchford (1997) subsequently criticized their model.

Contrary to the descriptive model of Urbany et al. (1996), who do not precisely explain how the variables in their model should be related both to search and to one another, Putrevu and Ratchford (1997) provide a specific analytical model that shows precisely how determinants of search relate to the search for groceries. They defined search as ‘the consumers’ perceived level of search undertaken when grocery shopping’ (p. 472), and measured the construct of price search by combining nine self-evaluated sub-constructs, as previously identified in comprehensive interviews: comparing unit prices, comparing the attributes of brands, searching for in-store promotions, seeking coupons, looking for advertised specials, checking price tags, discussing grocery shopping with friends, searching for newspaper evaluations of grocery products and shopping at multiple supermarkets.

In our study, we will use several measures of price and promotional search behaviour derived from previous research. As our objective is to understand price and promotional search effort, we selected those sub-constructs of Putrevu and Ratchford (1997) that are related to ‘searching for a lower price’: searching for coupons, looking for advertised specials, searching for in-store promotions, comparing unit prices and checking price tags within the same store and switching stores to find the lowest price.

4. Search effort and precursors

Putrevu and Ratchford (1997) suggest that, in contrast with past research (Dickson & Sawyer, 1990; Hoyer, 1984; Olshavsky & Granbois, 1979), consumer behaviour is not careless, but that the search for groceries or ‘the consumers’ perceived level of search

undertaken when grocery shopping' (p. 472) is generally responsive to economic incentives. Several studies have already identified a number of variables as precursors of an active information search for groceries: economic returns, search costs, human capital, surrogates (e.g. demographics) and psychosocial returns (Putrevu & Ratchford, 1997; Urbany et al., 1996; Kolodinsky, 1990; Carlson & Gieseke, 1983). Later on, we will discuss the results concerning two precursors that are important in our study: perceived time pressure (search costs) and budget constraints (economic returns).

In a shopping context, consumers have to decide how much time and energy they will spend on searching and processing information, and which particular information cues they will attend to. The allocation of these cognitive resources is determined by the motivation of the consumer to expend cognitive effort on an extensive information search (Mitra, 1995). This motivation is subject to individual differences (Bettman et al., 1998; Chaiken et al., 1996; Schutte & Fazio, 1995). For example, Verplanken, Hazenberg and Palenewen (1992) found that high Need for Cognition subjects selected more information and generated more task-related cognitive responses when confronted with new brands than low Need for Cognition subjects suggesting that high Need for Cognition subjects expended more cognitive effort on information search than low Need for Cognition subjects.

Important individual differences also exist in consumers' perceptions of time pressure and budget constraints (Solomon et al., 1999; Engel et al., 1995). Besides examining the influence of perceived time pressure and budget constraints on search effort, we will introduce another psychological characteristic (NFCL) that can help understand and predict what consumers do when they shop.

Understanding and identifying consumers who shop cautiously and exhibit a high search effort for price and promotional information versus effortless shoppers could help retailers to produce more effective retailing strategies (e.g., how to attract the attention of shoppers with different search efforts within the store). Following previous research methods, we investigate the individual relation between NFCL, perceived time pressure,

and perceived budget constraints on search effort for price and promotional information,

In addition we examine the relation between the three individual characteristics and we look at the influence of the interaction between the three individual characteristics on search effort for price and promotional information.

Furthermore, we hope to contribute to the existing literature by examining separately the constructs of price and promotional search effort, rather than combining them into one construct (cfr. Putrevu & Ratchford, 1997). We believe that we can learn more about the cognitive search efforts of consumers if we examine these concepts individually.

5. Hypotheses

Next, we will discuss separately each individual characteristic that influences cognitive search effort, thereby proposing several hypotheses.

5.1. Need for Closure and Search Effort

According to theory and previous research, we can argue that NFCL is likely to influence price and promotional search effort in a grocery-shopping context. As argued in study 2, we posit that high NFCL subjects are driven by several needs. In their aspiration of closure, high NFCL individuals are biased towards closure-bound pursuits that, in turn, evoke positive feelings. In order to reach this closure, they want to base their decisions on clear, definite, unambiguous and confident knowledge that can justify their actions. They also try to reduce their level of pre-decisional information processing and search by judging based on few pieces of information or pre-existing knowledge structures. Furthermore, they entertain a bias towards consistency and predictability, or knowledge that is applicable across situations.

In order to satisfy these needs, they can use, for example, heuristic decision cues across

situations because these cues hold clear, definite, unambiguous knowledge that can help them provide with a quick and easy closure, provided that the heuristic cue is reliable. Furthermore, heuristic decision cues provide them with relatively secure and confident decisions. Judging based on few pieces of information or pre-existing knowledge structures (like heuristic cues) also reduces the level of pre-decision information processing. We argue that the use of promotional and price information may prove to be such a heuristic cue. It allows individuals to make quick decisions without an extended search process because in-store promotions and prices are easily noticed. In addition, in the constantly changing context of grocery shopping, the strategy of seeking promotional and price information before purchasing (in- and out-of- store) can help them to bring consistency and predictability in their behavioural patterns.

Furthermore, the use of sales promotions such as coupons and price reductions can make them feel like smart consumers who are economical and save money. As suggested in previous research, consumers who look for information in fliers and magazines in order to find valuable coupons as well as other cognitive work, appreciate it more and feel they are smart and making good deals (Schindler, 1992; Schimp & Kavas, 1984). We can argue that high NFCL subjects, who want to make confident decisions, would be prone to look for information that can give them the feeling of being competent and intelligent.

In sum, we argue that high NFCL subjects will display great effort for price and promotional information. Moreover, we believe that high NFCL subjects will plan their shopping trips and expenses more than low NFCL subjects in order to add to the predictability of their shopping trip, and consequently they will collect more coupons before their shopping trip.

Low NFCL subjects can try to suspend judgment to preserve them from possible criticism of attained closure. Low NFCL subjects rather postpone judgments until they have processed as much information as possible or until time and energy are depleted. In a grocery-shopping context, low NFCL subjects may be anxious to buy a wrong brand and therefore enhance their pre-decisional information search. Low NFCL subjects can

search for price and promotional information, in addition to other product attributes. However, we argue that they will not consistently use price and promotional information because they will more often vary type of searched information before deciding in order to avoid definite decisions or strategies. Moreover, they will shop more spontaneously, without much planning, which makes them less prone to collect coupons before the shopping trip. We argue that they will generally demonstrate a lower search effort for promotional and price information compared to high NFCL subjects.

We propose the following hypotheses:

H1a. A high level of NFCL will have a positive influence on searching for coupons.

H1b. A high level of NFCL will have a positive influence on looking for advertised specials and in-store promotions.

H1c. A high level of NFCL will have a positive influence on the comparison of shops to find the lowest price.

H1d. A high level of NFCL will have a positive influence on the comparison of unit prices.

5.2. Perceived Time Pressure and Search Effort

An important individual differences determinant of external search is perceived time pressure (Iyer, 1989). Consumers spend time on every activity related to consumption, including the search, information acquisition, selection, purchase and consumption itself. Characteristic ways of experiencing and utilizing time vary greatly among individuals. Bronner (1982) stated that the demand for additional information was considerably reduced under high perceived time pressure. This suggests a greater reliance on internal memory, where information is available, as opposed to external memory where information has to be gathered (Iyer, 1989).

Several researchers found that the perception of low time pressure enhanced the level of

in-store browsing and the search for external information (e.g. price and promotional information) in a retail grocery market (Beatty & Ferrell, 1998; Schmidt & Spreng, 1996; Sprott & Miyazaki, 1995; Kolodinsky, 1990; Beatty & Smith, 1987) and enhanced multiple shopping visits (Beatty & Smith, 1987). However, in other studies, perceived time pressure did not influence comparison-shopping, and both price and promotional search effort (Putrevu & Ratchford, 1997; Urbany et al., 1996).

Based on previous research we posit the following hypotheses that address the direct relationship between enduring perceived time pressure on search effort for price and promotional information:

H2a. A high level of perceived time pressure will have a negative influence on the search for coupons.

H2b. A high level of perceived time pressure will have a negative influence on seeking advertised specials and in-store promotions.

H2c. A high level of perceived time pressure will have a negative influence on the comparison of shops to find the lowest price.

H2d. A high level of perceived time pressure will have a negative influence on the comparison of unit prices.

5.3. Perceived Budget Constraints and Search Effort

Another variable that can influence the external search is the size of the budget constraints or amount of extra money that the individual perceives s/he can spend. Previous research demonstrates a positive relationship between budget constraints and the search for lower prices (Zimmerman & Geistfeld, 1984; Stigler, 1961). Krishna, Currim and Shoemaker (1991) also found a negative impact of lower budget constraints on the involvement in promotional activity. However, Urbany et al. (1996) found no relationship between budget constraints and comparison-shopping. Carlson and Gieseke (1983) found that income had an inverted U relationship with the amount of stores that are visited

entailing that consumers with high and low incomes visit less stores than consumers with an average income.

Consistent with the position of several authors (Urbany & Dickson, 1996; Hoch, Kim, Montgomery & Rossi, 1995; Wakefield & Inman, 1993; Robert & Wortzel, 1979; Goldman, 1977), we argue that price sensitivity is larger, and making price comparisons will occur more frequently in households with more stringent budget constraints. Thus, we offer the following hypotheses involving a direct effect of budget constraints on price searching:

H3a. A high level of perceived budget constraints will have a positive influence on searching for coupons.

H3b. A high level of perceived budget constraints will have a positive influence on looking for advertised specials and in-store promotions.

H3c. A high level of perceived budget constraints will have a positive influence on the comparison of shops to find the lowest price.

H3d. A high level of perceived budget constraints will have a positive influence on the comparison of unit prices.

We also want to look at the possible relation between NFCL, perceived time pressure and perceived budget constraints. We expect no relation between the three precursors of price and promotional information.

5.4. Need for Closure and Perceived Time Pressure

Many consumers believe that they are time pressed or experience a sense of time poverty resulting from the fact that people have more options for spending their time. We argue that a high NFCL consumer could experience some time pressure from time to time but no more or less than a low NFCL consumer.

As NFCL is characterized by an enduring motivation to reach a conclusion quickly and thus terminate cognitive processing related to the issue (Webster & Kruglanski, 1994), we could expect that high NFCL can experience time pressure when engaged in grocery shopping. However, we argue that this is not necessarily the case. Wanting closure quickly and therefore deciding or shopping in a quicker pace does not necessarily mean that the high NFCL closure consumer perceives this way of behaviour as concurring with high-perceived time pressure. Moreover, high-perceived time pressure usually coincides with negative feelings after shopping (Van Kenhove & De Wulf, 2000; Dellaert, Arentze, Bierlaire, Borgers & Timmermans, 1998; Wakefield & Baker, 1998). The consumer feels s/he has to do too much in too little time and consequently cannot finish what s/he has started in a confident way. This perception could not be characteristic for high NFCL consumers in all shopping situations. They want to make confident decisions and if they were constantly under time pressure, they would feel they could not make secure and confident decisions and consequently they would experience negative feelings. We do not believe high NFCL subjects constantly experience these negative feelings when shopping for groceries.

On the other hand, we have no reason to believe that low NFCL should constantly experience a feeling of time pressure. Low NFCL subjects want to take time for making their decisions. Their weekly shopping trip helps them engender alternatives, consider other possibilities and avoid predictability. Off course, their preferred behavioural pattern (e.g. increasing information search) takes time. Consequently, no relation between low NFCL and time pressure is postulated.

One could also argue that high perceived time pressure that occurs in some situations would coincide with or lead to high levels of NFCL (Kruglanski & Webster, 1996). A high NFCL level is characterized by a more quickened pace of information search, which could help consumers under time pressure to complete their task. However, in this research, we look at an enduring perceived time pressure in grocery shopping instead of a situational felt time pressure. We look at differences in behaviour displayed by consumer who experience they are constantly under time pressure when doing their grocery

shopping, who believe that they always lack time to complete their grocery shopping. We can argue that consumers who feel time pressed when doing grocery shopping on regular basis, are more inclined to have a high NFCL specifically concerning grocery shopping. However, in our study we look at a more general level of NFCL, more specifically, the enduring motivation for attaining closure, not the specific NFCL applied to grocery shopping.

In sum, under some circumstances, time pressure could influence the level of NFCL a consumer has, but the level of NFCL a consumer has does not necessarily influence his/her perceived time pressure level. Therefore we posit the following hypothesis:

H4. In general, the level of NFCL will have no influence on perceived time pressure and vice versa.

5.5. Need for Closure and Perceived Budget Constraints

The amount of money a consumer believes s/he can spend differs between subjects. It does not necessarily relate to how much he or she actually has (Solomon et al., 1999). However, we have no reason to believe high or low NFCL subjects would experience more budget constraints. Money can have a variety of complex psychological meanings. It can be equated with success or failure, social acceptability, security, love or freedom (Solomon et al., 1999). The perception of lacking money could also stem from different origins: actual budget constraints, feeling of inferiority, etc... As reasons for budget constraint perceptions differ between subjects, so do origins for high or low NFCL levels. High and low NFCL level can stem from a motivation for security, self-esteem, self-enhancement, achievement, We argue that these specific motivations for high or low NFCL are not related to the meaning a consumer attributes to money or the origins of budget constraint perceptions.

H5. In general, the level of NFCL closure will have no influence on the perception of

budget constraints and vice versa.

5.6. Perceived Time Pressure and Perceived Budget Constraints

We have no reason to believe that perceived time pressure and perceived budget constraints should be related. The perception of time pressure could occur as a consequence of real time pressure or as a consequence of an overload of possible activities a consumer can engage in. The perception of budget constraints could stem from real money deficits or from other, more inherent characteristics (e.g. feeling of inferiority). Again, we argue that these originating factors are not related. Therefore we posit the following hypothesis:

H6. In general, the level of perceived time pressure will have no influence on the level of perceived budget constraints and vice versa.

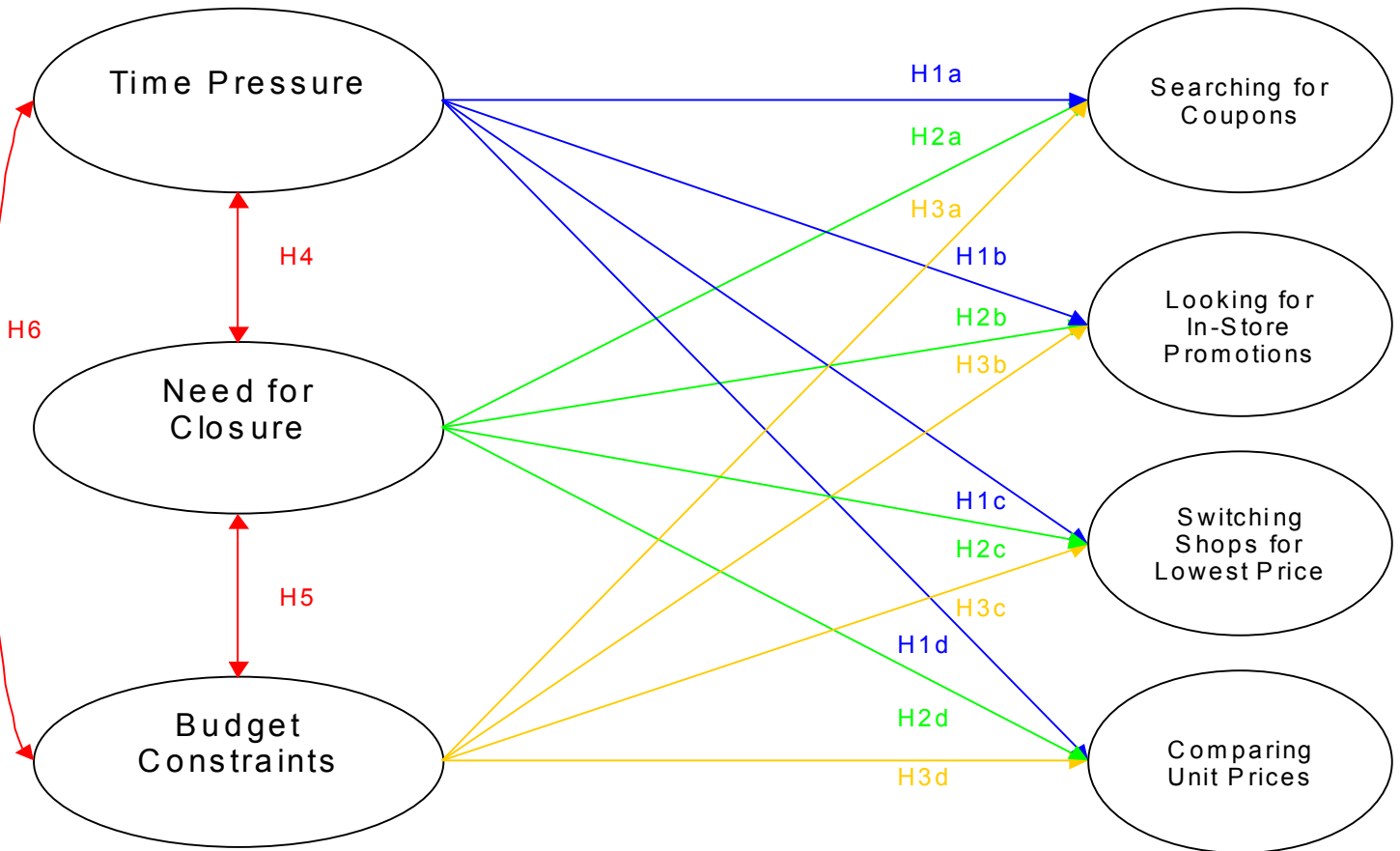
The proposed hypotheses can be found in figure 1.

5.7. Interaction Effects

Another interesting research question holds the interaction between the three individual characteristics (NFCL, perceived time pressure and budget constraints) and its influence on search effort for price and promotional information.

We hypothesed that NFCL and budget constraints will have a positive influence on search effort for price and promotional information, while perceived time pressure will have a negative influence. In addition, we want to explore if interaction effects between the predictors occur.

Figure 1: Relation between Need for Closure, Perceived Time Pressure, Perceived Budget Constraints and Search Effort for Price and Promotional Information.



6. Method

6.1. Participants and Procedure

Data were collected in the Flemish-speaking part of Belgium (= 60 percent of the total population) during March 2000 using a random-walk procedure. The sampling points

were selected on a street level. We used three criteria: residence (large town or suburb, small town, rural), living standard (low, medium, high) and age structure (< 25, 25–45, > 45). We stratified all Belgian streets according to these criteria using official governmental statistics. A stratified random sample of 80 streets was drawn from all Belgian streets.

Using a random-walk method, interviewers chose five respondents from each selected street. Questionnaires were personally delivered to the home of the sample recipients by trained interviewers, people were motivated to participate in the survey, and instructions were given. We stressed the importance of the questionnaire being completed by the person responsible for the weekly grocery shopping. The questionnaire contained different control questions about this point. The questionnaire was self-administered and was completely anonymous. To ensure a sense of anonymity, respondents were asked to put the completed questionnaire in a blank envelope, delivered with the questionnaire. On average, respondents required fifteen minutes to complete the questionnaire. Respondents received a pen as a reward for participation.

Due to a wide distribution and a strict sampling plan, we were able to achieve a geographically representative sample. A total of 400 questionnaires were delivered. One week after delivery, questionnaires were collected and respondents were thanked for their cooperation. Once more, people who had not yet completed the questionnaire were motivated to do so. After another week, outstanding questionnaires were collected.

Of the 400 questionnaires, 274 were collected. Fourteen questionnaires were incomplete and thus not used in the analysis. Another four questionnaires were rejected because the wrong person, i.e., someone not responsible for the weekly grocery shopping, completed them. A total of 256 questionnaires were used for further analysis. The effective response rate was 64 percent, which is high for a survey of this nature. Therefore, participation was excellent. To control for non-responses we used the procedure proposed by Armstrong & Overton (1977). No significant differences were found between early respondents (questionnaires collected after one week) and late respondents (questionnaires collected

after two weeks). Compared to population statistics of the Belgian (Flemish) grocery shopping population, the sample was representative in terms of age, place of residence and social class. For an overview of the characteristics of the sample, we refer to Table 1.

Table 1. Demographic Characteristics of the Sample.

Gender		Education	
Female	78.5%	Grade school or less	6.3%
Male	21.5%	Secondary school	15.0%
Age		High school/vocational	35.4%
18-25	8.2%	Some College	31.1%
26-45	48.8%	College/University	9.4%
46-65	38.7%	Other, not mentioned	2.8%
65+	4.3%	Occupation	
Composition of the household		Employed full time	51.3%
Live alone	3.5%	Employed Part time	22.7%
Live with partner	27.7%	At home (keeping house)	11.4%
Live with partner and child(ren)	55.5%	Student	1.2%
Live with child (ren) without partner	9.0%	Retired	11.8%
Other	4.3%	Unemployed	1.6%
Number of children at home		Reported Living Standard	
0	31.6%	Low	30.1%
1	26.7%	Medium	39.5%
2	28.9%	High	30.4%
3	10.5%	Residence	
4 or more	2.3%	Large town or suburb	43.8%
		Small town	34.7%
(N=256)		Rural	21.5%

6.2. Questionnaire and Measures

The questionnaire consisted of five major parts (see appendix). As our objective is to understand price and promotional search effort, we selected those sub-constructs of Putrevu and Ratchford (1997) that are related to ‘searching for a lower price’ searching for coupons (out-of-store), looking for advertised specials and in-store promotions (in-store), switching stores to find the lowest price and comparing unit prices/checking price tags for grocery products in general (see appendix for scale items).

Searching for coupons was measured by seven items with a seven-point Likert scale, looking for advertised specials in newspapers/flyers (3 items), searching for in-store promotions and sales proneness (5 items), shopping at multiple supermarkets (5 items), and comparing unit prices and price tags (4 items). While Putrevu and Ratchford (1997) combined these measures to form a single overall search measure, it is our intention to treat the different scales as separate constructs.

Perceived time pressure was assessed by five items from the Putrevu and Ratchford study (1997). Perceived budget constraints were measured by the three-item scale proposed by Van Kenhove & De Wulf (2000).

Next, 25 NFCL items were included using a seven-point Likert scale. To measure the NFCL construct, we used our revision of the NFCL self-reporting measure developed by Kruglanski & Webster (1996) (see chapter 3). Items were mixed to avoid response set errors.

Finally, some questions were asked about demographics (gender, age, number of children, employment status/professional occupation, education, place of residence, composition of household and reported living standard).

To control for common method error variance, the questionnaire consisted of different filler items. Between the different relevant parts of the questionnaire, filler items were asked about task definitions, knowledge of, and behaviour towards new shopping concepts such as automated stores (Shop 24 concept), Internet and home shopping. These questions had no intrinsic value for this research. These items were specifically included so as to avoid common method error variance.

All scales (except the NFCL scale, see chapter 3) were based on the English version; they were translated into Dutch and then back translated into English. To maintain the psychometric properties of the scales, the items were pre-tested with university students ($N_1 = 85$), then revised and tested again with another group of students ($N_2 = 94$). The

results clearly indicated acceptance of the instruments.

7. Results

Following previous research, we tested the empirical model that we put forward, using structural equation modelling. We wanted to construct the optimal model for search for promotional and price information using our specific precursors. We did not opt for MANOVA, because we concentrated on the specific relations between the variables and more specifically on the magnitude of the specific relations. Bagozzi and Yi (1988) claim that one of the relative advantages of structural equation modelling over MANOVA is a more complete modelling of the theoretical relations among the variables (p.282) (next to the opportunity to correct for measurement error and the non-restrictive equality of covariance matrixes across conditions). Furthermore, Cote (2001) argues that a true effect is possibly not picked up by (M)ANOVA because (M)ANOVA reduces the available information (converting interval data to categorical data). It is possible that (M)ANOVA would miss a relation that would be uncovered by structural equation modelling (LISREL). However, Cote (2001) argues that a researcher would need to look closely at the data to decide which approach is most appropriate. We chose structural equation modelling (SEM) in this research because we focused on the specific relations between several variables. SEM is used to test theoretical inferred models like our present model. More specifically, SEM is intended to test a presupposed (prepostulated) entity of relations between different endogenous and exogenous variables in a model. Moreover, non-observed concepts or latent variables can be entered in the model.

7.1. Measurement Model: Unidimensionality, Convergent and Discriminant validity, and Reliability

We used a two-step procedure to construct the measurement model. Because NFCL is composed of five different sub-constructs, measured by 5 items respectively, we first

conducted a secondary order confirmatory factor analysis on the variance-covariance matrix of the NFCL items. This resulted in a satisfactory model ($\chi^2 = 318.1$, $df= 197$, $\chi^2/df= 1.61$, NNFI= .96, SRMR= .048, GFI= .90 (see Table 2)) after omitting three items.

Table 2. Secondary Order Confirmatory Factor Analysis-Need for Closure.

Measure	Number of items Original	Number of items Final	Standardized loadings (min –max)	Composite Reliability
Need for Structure	5	5	.63 - .75	.82
Need for Predictability	5	4	.61 - .75	.78
Need for Decisiveness	5	5	.78 - .90	.93
Intolerance for Ambiguity	5	4	.63 - .81	.81
Close Mindedness	5	4	.77 - .88	.90
Paths	Loading	t	Error variance	R ²
Need for Structure – NFCL	.86	9.1	.25	.75
Need for Predictability – NFCL	.95	10.3	.10	.90
Need for Decisiveness – NFCL	.71	8.2	.50	.50
Intolerance for Ambiguity – NFCL	.88	13.7	.78	.22
Close Mindedness – NFCL	.78	12.8	.61	.39

Next, the resulting second order factor latent variable scores of the five NFCL sub-constructs as computed by the method proposed by Jöreskog et al. (2000) were entered as new variables together with all other independent and dependent variables in a second measurement model. This resulted in a model composed of nine constructs, measured by 37 items (Need for Closure-5 items; time pressure-5 items; budget constraints-3 items; searching for coupons-7 items; looking for advertised specials-3 items; looking for in-store promotions-3 items; sale proneness- 2 items; comparing unit prices-4 items; switching stores to find lowest price-5 items). The variance-covariance matrix was analysed again.

First, we evaluated the unidimensionality of the different constructs. This ensures that the questionnaire items cover the same content domain. It can be defined as the ‘existence of one construct underlying a set of items’ (Steenkamp & van Trijp, 1991 p. 286). It has been recognized as ‘one of the most critical and basic assumptions of measurement theory’ (Hattie, 1985, p. 139). A maximum likelihood confirmatory factor analysis using

Lisrel 8.50 was undertaken to determine if the nine-factor solution was tenable. This solution did not fit the data well. Because large standardized residuals point to possible multidimensionality (Steenkamp & van Trijp, 1991), these were carefully examined.

After different iterations, omitting a number of items and combining some constructs, a satisfactory seven-factor model was obtained (see Table 3). The constructs 'Looking for advertised specials for grocery products', 'Looking for in-store promotions' and 'sale proneness' had to be combined within one construct. This is partly in line with the conclusions of Putrevu and Ratchford (1997), who combined even more constructs, on the basis of a Cronbach's alpha analysis.

The within-method convergent validity was then assessed, which measures the degree to which two different measures of the same construct agree (Campbell & Fiske, 1959). A weak condition for convergent validity is a significant loading of each regression coefficient. A stronger condition is that the correlation between every item and the corresponding latent variable exceeds 0.50, provided that the overall fit of the model is acceptable (Steenkamp & van Trijp, 1991; Hildebrandt, 1987). All 25 loadings were statistically significant (smallest $t = 10.11$, $p < 0.01$) and sufficiently large (see Table 3 for minimum and maximum loadings).

Next, we assessed the composite reliability of the items. A set of items can be reliable without showing within-method convergence validity. A measurement instrument can have unacceptable within-method convergent validity and still be reliable. Within-method convergent validity should therefore be achieved before reliability is measured (Steenkamp & van Trijp, 1991; Bagozzi et al., 1990; Bagozzi, 1981). All of our measures exceed Bagozzi and Yi's (1988) minimum values of 0.60 (see Table 3).

Last, we verified the discriminant validity of the different latent variables. 'Discriminant validity is achieved when the correlation among constructs differs significantly from unity or when the χ^2 difference test indicates that two constructs are not perfectly correlated' (Steenkamp & van Trijp, 1991, p. 293). Each of the 7*6/2 21 off-diagonal

Table 3. Measurement Model and Structural Model.

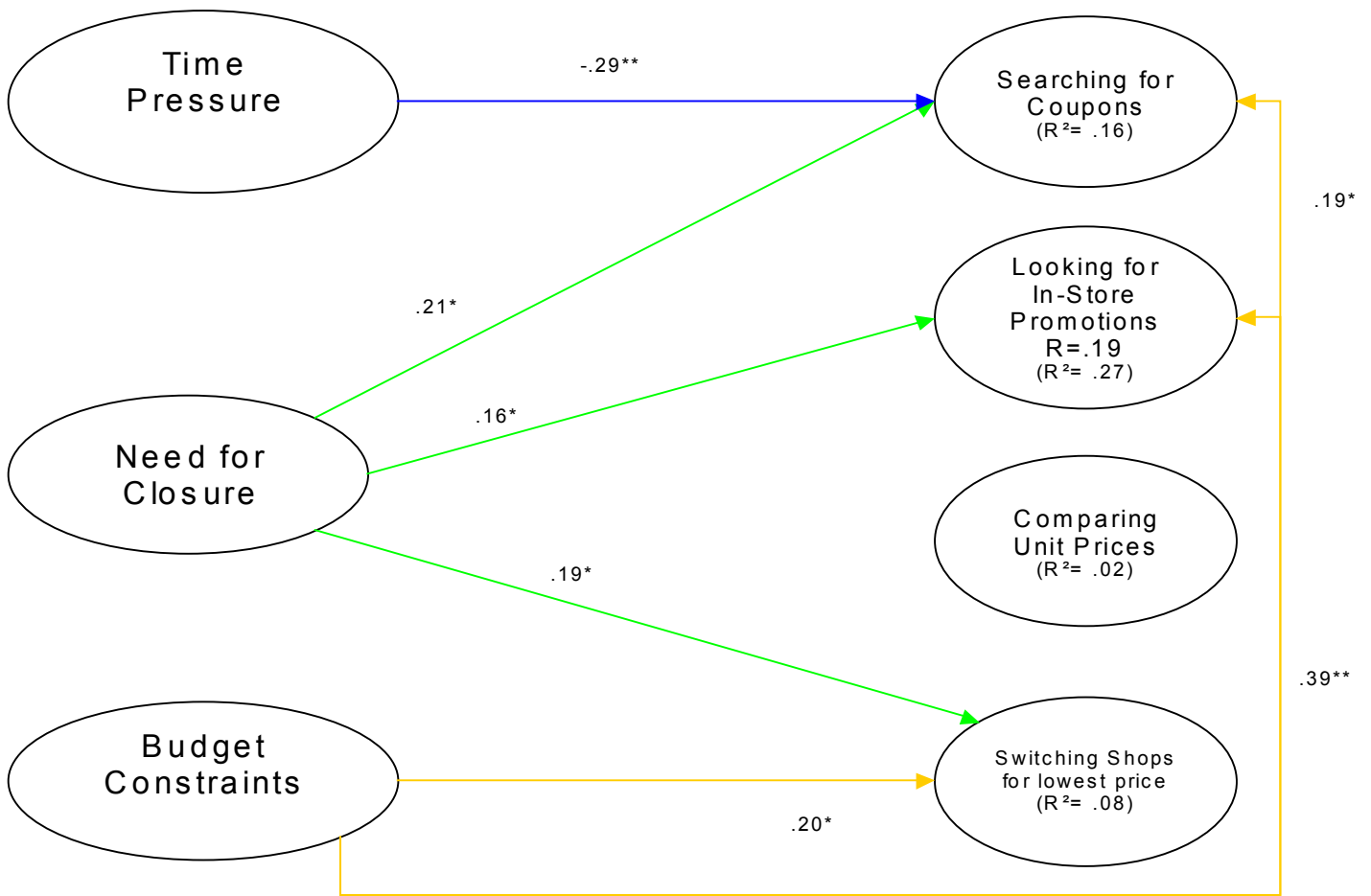
Measurement model	Number of items original	Number of items final	Standardized loadings (min-max)	Composite reliability
Measure				
Need for Closure	5	5	.68-.95	.98
Perceived time pressure	5	3	.66-.86	.94
Perceived budget constraints	3	3	.65-.83	.95
Searching for coupons	7	4	.71-.78	.95
Looking for advertised specials and in-store promotions	8	4	.62-.77	.95
Comparing unit prices	4	3	.66-.82	.94
Switching shops to find lowest price	5	3	.60-.97	.97
Structural model		Loading	Std.error	t-value
Path (From/To)				
NFCL- searching for coupons		.21	0.07	3.13
NFCL- looking specials/in-store promotions		.16	0.07	2.37
NFCL – comparing unit prices		-.08	0.07	-1.14
NFCL – switching shops/lowest price		.09	0.06	3.0
Perceived time pr.- searching for coupons		-.29	0.07	-3.99
Perceived time pr.- looking specials/in-store promotions		-.11	0.07	-1.57
Perceived time pr.– comparing unit prices		.05	0.08	0.66
Perceived time pr.- switching shops/lowest price		-.09	0.07	1.38
Perceived budg. const. - searching for coupons		0.19	0.07	2.64
Perceived budg. constr.-looking specials/in-store promotions		0.39	0.08	5.03
Perceived budg. constr.– comparing unit prices		0.12	0.08	1.54
Perceived budget constr.- switching shops/lowest price		0.20	0.07	2.94
Final Measurement model	Structural model			
$\chi^2=344.58$ df=254 $\chi^2/df=1.36$ TLI(NNFI)=0.95 SRMR=0.051 GFI=0.90	$\chi^2=519.67$ df=260 $\chi^2/df=1.99$ TLI(NNFI)=0.90 SRMR=0.11 GFI=0.86			

elements of ϕ was fixed in turn to 1.0, and the model was re-estimated. Changes in χ^2 goodness-of-fit were statistically significant for all 21 comparisons ($\Delta\chi^2$ ranging from 91.65 to 218.7, $\Delta df = 1$, $p < 0.001$).

7.2. Regression Analysis

Next, a structural equation model (maximum likelihood method, Lisrel 8.50) was run using the variables of the measurement model. This resulted in following structural model solution (Figure 2).

Figure 2: Structural Model



$\chi^2 = 519.67$
 df = 260
 NNFI = .90

SRMR = .11
 GFI = .86

* p < .05 ** p < .01

7.3. Interaction Effects

We also tested interaction effects between the three individual characteristic predictor variables. In order to test these interaction effects by means of MANOVA, we should divide the subjects in two groups for each characteristic, using for example a median split to assign subjects to the different groups. However, any split (median, three-way...) is arbitrary and results in loss of information (Iacobucci, 2001). For main effects test, dichotomising variables severely reduces power (e.g. Cohen 1983; 1978). In addition, the effect of dichotomising is far more damaging in models with interaction (Irwin, 2001). Dichotomising the continuous components of an interaction can lead to biased estimates of both the main effects and the interaction, and the bias induces type I error (e.g. Maxwell & Delaney, 1993). In addition, dichotomising can lead to significant interaction coefficients in which there is in fact no interaction and spuriously augmented main effect coefficients. According to Irwin (2001), this counterintuitive result is driven by correlations among the predictor variables and is worse the more correlated the predictors are. Consequently, we used regression analysis to test the interaction effects.

We found a significant interaction of perceived time pressure and NFCL on searching for coupons ($t=2.19$, $p<.05$), looking for advertised specials and in-store promotions ($t=2.10$, $p<.05$) and comparing unit prices ($t= 2.87$, $p<.05$) and an almost significant interaction for switching shops to find the lowest price ($t=1.80$, $p<.1$) (see table 4). No other significant (or almost significant) interactions were found.

Table 4. Regression Coefficients and R² Values of Interaction between NFCL and Perceived Time Pressure.

Dependent variable	Unstandardized Coefficients (B)	Standardized Coefficients (Beta)	t	Sig.	R ²
Searching for coupons	.250	1.123	2.185	.030	.131
Looking for advertised specials and in-store promotions	.247	1.135	2.096	.037	.023
Comparing unit prices	.335	1.542	2.870	.004	.050
Switching shops to find lowest price	.151	.985	1.803	.073	.017

8. Discussion

8.1. Interpretation and Discussion of Results

First, we will discuss the results of each predictor separately. Next, the relationship between the predictors is considered.

8.1.1. Need for Closure

We believe that high NFCL subjects would value price and promotional information because this can aid them to reach confident, secure and consistent decisions.

Our results confirmed that NFCL has a positive relationship with search effort for price and promotional information. Compared to low NFCL subjects, high NFCL subjects search more for coupons ($b = .21$, $t = 3.16$), look more for advertised specials and in-store promotions ($b = .16$, $t = 2.37$) and they shop more frequently in several stores so as to find the lowest price ($b = .19$, $t = 3.0$). We did not find a significant result for comparing unit prices ($b = -.08$, $t = -1.14$). Possibly all subjects incorporate price comparison in every shopping trip because price information is almost always used in purchase decisions (Dodds, Monroe & Grewal, 1991; Rao & Monroe, 1989).

In our introduction, we argued that high and low NFCL subjects can both search for price and promotional information, however we argued that low NFCL subjects will generally demonstrate a lower search effort for this type of information compared to high NFCL subjects. This hypothesis was confirmed.

8.1.2. Perceived Time Pressure

As expected, perceived time pressure was negatively related to the search for coupons ($b = -.29$, $t = -3.99$). Consumers who perceive their shopping time to be limited will neither

search for and collect coupons outside of the shopping environment, nor look for products for which s/he has a coupon within the store environment. This is contradictory to previous research (Bawa & Shoemaker, 1987; Blattberg, Buessing & Subrata, 1978) that found that coupon redemption behaviour and demographics (e.g., time availability) were not related.

We did not find a relation between perceived time pressure and other search effort variables (looking for in-store promotions $b=-.11$, $t=-1.57$; switching shops to find lowest price $b=-.09$, $t=-1.38$; comparing unit prices, $b=.05$ $t=.66$). These puzzling results can be understood when we keep in mind that the determinant of in-store search effort (looking for promotions and advertised specials, comparing unit prices) is a behaviour that does not require as much effort as searching, collecting and using coupons out of the store. In contrast to coupon collection before the shopping visit and the subsequent search for the matching products in the store, searching for advertised specials and promotions and comparing unit prices in the store may require less effort (Laroche, Saad, Browne, Cleveland & Chankon, 2000; Kahn & Schmittlein, 1992), while coupons inherently require a cognitive cost of ‘information searching’ (Schneider & Currim, 1991) because coupon users engage in a thoughtful process of coupon searching and sorting (Bawa & Shoemaker, 1987; Kahn & Schmittlein, 1992). Contrary to our expectations, we did not find any effect of perceived time pressure on the desire to switch shops so as to find the lowest price.

8.1.3. Perceived Budget Constraints

We found an effect of budget constraints on searching for coupons ($b=.19$, $t=2.64$). As in previous research (Laroche et al. 2000), we found that consumers with budget constraints look more for advertised specials and in-store promotions compared to the more financially secure consumers ($b=.39$, $t=5.03$). Furthermore, they burden themselves with shop switching in order to find the lowest prices ($b=.20$, $t=2.94$). Naturally, these consumers have to ensure that they do not spend their entire resources.

We did not find an effect on comparing unit prices ($b=.12$; $t=1.54$). Again we argue that, as price information is almost always used in purchase decisions (Dodds et al., 1991; Rao & Monroe, 1989), possibly all subjects (with perceived high or low budget constraints) incorporate price comparison in every shopping trip.

8.1.4. Need for Closure, Perceived Time Pressure and Perceived Budget Constraints

As hypothesized, we did not find a relation between NFCL and perceived time pressure and perceived budget constraints. High NFCL subjects want to make secure and confident decisions, which is not possible when they experience time pressure and its associated negative feelings. On the other hand, we have no reason to believe that low NFCL should constantly experience a feeling of time pressure. They want to take time for making their decisions. Both high and low NFCL subjects could experience time pressure on some occasions, but the level of NFCL is not related to perceived time pressure. Furthermore, we argued that motivations for NFCL and origins for perceiving budget constraints would not be related. High as well as low NFCL subjects can perceive budget constraints.

Finally, as hypothesized, no relation was found between perceived time pressure and perceived budget constraints. We argue that the originating factors of both characteristics are diverse and therefore they are not necessarily related.

8.1.5. Interaction Effects

We found significant interaction effects of NFCL and time pressure for three of our search effort measures. More specifically, high NFCL subjects search for coupons, look more for advertised specials and in-store promotions and compare unit prices independent of their level perceived time pressure. However, low NFCL subjects that experience a high level of perceived time pressure, lower their search effort for price and

promotional stimuli compared to low time pressed, low NFCL subjects. These results suggest that in case of two opposing motivations concerning search effort for high NFCL subjects (high NFCL prompts high search effort, high perceived time pressure urges low search effort) their NFCL probably surpasses their need for solving their experienced time pressure.

Several authors have previously suggested that the consumer does not have a strong preference for acquiring and processing information, especially for less important purchases. The possibility that consumers simply do not care enough about many decisions to assemble a set of product beliefs carefully and then evaluate them is important, because it implies that the great amount of the concern about carefully communicating information regarding product attributes may be largely wasted. Our research suggests however that some people do value valid information. More specifically, consumers with a high level of NFCL, a low perceived time pressure and high-perceived budget constraints search for some price and promotional information. Consequently, the communication of information remains important.

Previous research (Bell, Teck & Tang, 1998; Bell & Lattin, 1996; Bucklin & Lattin, 1992) also suggests a strong degree of inertia in shopping behaviour. Consumers would not switch shops in order to find lowest prices. We found, however, a strong correlation between NFCL, perceived budget constraints and the tendency to 'switch shops to find the lowest price'.

8.2. Theoretical Implications

This study may provide a fuller theoretical understanding of cognitive search effort for price and promotional information and the specific variables that might affect this search effort.

First, we extended previous research on two cognitive search effort determinants, time

pressure and budget constraints. We examined separately the constructs of in- and out-of-store price and promotional search effort, rather than combining them into one construct (cfr. Putrevu & Ratchford, 1997). This disentanglement provided us with interesting results.

We found that perceived time pressure did not influence in-store search effort for price and promotional information, confirming some previous research results (Putrevu & Ratchford, 1997; Urbany et al., 1996). However, contradictory to previous research, out-of-store coupon search effort did relate to perceived time pressure. These results indicate that perceived time pressure can differentially influence in- and out-of-store search effort for price and promotional information. We argued that out-of-store coupon search before visiting a shop requires more effort compared to in-store search behaviour and therefore, perceived time pressure could affect more these time-consuming coupon clipping activities compared to the in-store browsing activities.

Moreover, opposite results were found for budget constraints. As in previous research, consumers with limited budget, look more for in-store promotional and price information and search more for coupons. In this case, perceived budget constraints have the same influence on in and out-of-store search effort for price and promotional information.

Secondly, besides examining the influence of perceived time pressure and budget constraints on search effort, we introduced another psychological characteristic (NFCL) that helps us understand and predict what consumers do when they shop. We found high NFCL subjects are more likely to search price and promotional information. We argue that price and promotional information can provide these consumers with easy to use heuristics that help them to make quick and confident decisions.

Thirdly, we argue that examining the constructs of in- and out-of-store price and promotional search effort separately, rather than combining them into one construct (cfr. Putrevu & Ratchford, 1997), has helped us to further understand search effort. Our results suggest that, for example, comparing unit prices is differentially influenced by our

predictor variables compared to the other search effort determinants. Comparing unit prices is not influenced by the predictor variables, while the other in- and out-of-store search effort variables are influenced by all other predictors (except perceived time pressure for looking for in-store promotions and advertised specials and switching shops to find the lowest price). Possibly, consumers compare unit prices during every shopping trip, independent of individual characteristics like NFCL as price information is often used in purchase decisions (Dodds et al., 1991; Rao & Monroe, 1989).

In addition, another interesting result is that the laborious ‘switching shops to find the lowest price’ is influenced by the same predictors (NFCL and perceived budget constraints) as the less effortful in-store price and promotional search effort variable ‘looking for in-store promotions and advertised specials’.

Finally, as mentioned before, investigating the four constructs separately has helped us to understand that in- and out-of-store search effort is differentially influenced by some of our predictor variables, which in turn provides us with a fuller understanding of the consumers’ choice process.

8.3. Practical Implications

A misperception exists amongst practitioners who believe that promotion has the primary effect of winning patronage from competitors’ stores (Urbany et al., 2000; Kahn & Schmittlein, 1992; Walters & MacKenzie, 1988). Several studies report weak to nonexistent effects of promotions or pricing on store-related traffic (Bucklin & Lattin, 1992, Walters, 1991; Walters & Rinne, 1986), with the exception of products in higher price categories (Grover & Srinivasan, 1992). Because of this misperception, limited promotional resources are spent on the goal of retaining current, more loyal customers; while a vast amount of these resources are aimed at winning patronage of customers from competitors’ stores. Evidence suggests however that the segment of consumers who regularly shop at multiple grocery stores for price specials is quite small (10–15 %;

Urbany, Dickson, & Key, 1991). Price promotions may often generate incremental sales by attracting consumers' attention within the store rather than by motivating competitive store customers to come to the store on a particular occasion. Research about the in-store search effort can –besides shop switching and coupon use information- help retailers to fully understand their more loyal customers. It may be especially interesting to know if search effort towards promotional and price information is made, because manufacturers and retailers spend a large amount of money on promotional and pricing strategies. Our study identifies several characteristics that can help explain the cognitive search effort for price and promotional information.

Consumers differ in the amount of effort that they invest in shopping. Such differences are important to marketers because they influence consumers' reactions to marketing strategies. The amount and type of search efforts expended by a group of consumers is an important determinant of the appropriate marketing strategy for that group. NFCL is a variable of individual differences that influences search effort for price and promotional information. We found that high NFCL consumers are more prone to search for promotional and price information. Consequently, the question arises whether differential marketing or retailing strategies should be developed for individuals with different levels of NFCL. To develop such a marketing or retailing strategy it can be helpful to understand the psychological characteristics that characterize the Need for Closure. If we keep in mind that individuals with high NFCL want confident and quick decisions, they would probably value a simple display of information that ensures that the acquisition of information is more efficient and less time consuming. Moreover, showing these economically minded consumers that they are smart shoppers because they search for promotional and price information can create positive attitudes, particularly because high NFCL subjects want to make confident and smart decisions. Low NFCL subjects, on the other hand, could benefit from providing different types of information. A combination of both marketing/retail strategies that takes advantage of a high and a low NFCL could entail simple information displays combined with the possibility to gather other information.

Our results suggest that consumers who perceive to be time pressured will search less for promotional and price information, especially for coupons. The facilitation of coupon clipping and collecting, could possibly enhance this coupon usage, even in high-perceived time pressed situations. Another promising in-store strategy for these time pressed consumers is to use point of purchase (POP) advertising, as many retailers believe that time pressured consumers are more sensitive to this kind of advertising. A differentiation can be made between high and low NFCL time pressed consumers. High NFCL could benefit from POP displays that display clear-cut readable price and promotional information. Low NFCL subjects could value POP displays that reveal both price and promotional information and other product information that can help these consumers to differentiate between several brands. In order to satisfy both high and low NFCL time pressed consumers, retailers could create displays containing two parts: clear-cut readable price and promotional information at the top, and additional brand information in small print at the bottom.

Moreover, promotional strategies could target segments in ways that might change their felt time pressure. Retailers could underline the timesaving capacities of their stores by focusing on the benefits of their shopping environment (nearby parking space; quick service; store layout; routing; limited assortment). Consequently consumers may experience more comfortable shopping. Furthermore, they can stress the time saving value of their easy-to-use coupons that can easily be found in the store. As a result, they could develop positive attitudes towards shopping.

Consumers who perceive to have little budget are more inclined to search for price and promotional information in- and out-of-store. Retailers and marketers could stimulate positive attitudes towards their products or stores by emphasizing the money saving capacities of their brands/stores. Moreover, adding promotions, coupons or other information that signifies budgeting, could help them gain customers with stringent budgets.

Finally, retailers can enhance or reduce consumers' NFCL level, depending on which

strategy they prefer or which behavioural pattern would fit best their store characteristics. For example, stressing the difficult task of gathering information can heighten the NFCL level of the customer and consequently make them more open to limit their search to price and promotional information. If the retailer's strategies imply focusing on interesting price and promotions, increasing the NFCL level of the customer could be beneficial. On the other hand, stressing the possible intrinsic enjoyment of the search task (the shopping task) could lower NFCL level, and consequently making customers more open for a range of information in addition to price and promotional information. If the retailer's strategy is more focused on other qualities besides interesting price and promotions (e.g. creating a specific shopping experience), lowering the NFCL level could be valuable.

8.4. Limitations and Directions for Future Research

A possible threat to validity is common method variance. Asking independent and dependent variables with the same measurement instrument could artificially inflate regression coefficients. The only complete solution to this problem is the use of different measurement tools for the different constructs. Unfortunately, this was impossible in our study. Therefore, we carefully designed the questionnaire so as to avoid the problem as much as possible. As previously mentioned we used different filler items between relevant parts of the questionnaire (e.g., questions about task definitions, knowledge of and behaviour towards the Shop 24 concept, Internet and home shopping).

Although shopping enjoyment has been found to influence search activity (Putrevu & Ratchford, 1997; Schmidt & Spreng, 1996; Marmorstein, Grewal & Fiske, 1992; Kolodinsky, 1990; Beatty & Smith, 1987; Punj & Staelin, 1983), we did not include this consumer characteristic in our study. The search or acquisition of information can occur simply because of the enjoyment derived from this activity. Many consumers enjoy a lengthy search for the sake of the behaviour itself. Consumers can browse through a shop, without having a specific purchase need, but simply because this activity is 'fun' for them. This especially occurs for more significant products like personal computers and

clothing (Furse, Punj & Stewart, 1984; Claxton, Fry & Portis, 1974). Future research can explore the impact of this variable further.

Furthermore, we did not examine brand heuristics in this study. However, according to NFCL theory we can expect that high NFCL consumers are inclined to buy the same confident brand on each shopping trip, in spite of all marketers' promotional efforts. It could be interesting to further examine the use of brand heuristics versus promotion heuristics for high NFCL consumers.

Furthermore, individuals seem to have personal tendencies that favour the use of compensatory or non-compensatory decision strategies, which are based on personality traits, education, and past experiences (Zakay, 1990; Baron, 1988). It was suggested that high NFCL subjects are more likely to construct less complex decision structures (e.g. brand heuristics) and utilize more non-compensatory decision making styles (Houghton & Grewal 2000). In contrast, decision makers with a strong natural tendency towards compensatory strategies that entail vigilant coping (e.g., low NFCL subjects) will construct a more complex decision representation, considering more options and dimensions than decision makers with a non-compensatory style (Shiloh et al. 2001). We provided a first glance of this complex relationship of decision-making styles and NFCL by demonstrating that high NFCL search more price and promotional information compared to low NFCL subjects. Future research can investigate whether high NFCL subjects make decisions based predominantly on price or promotion information, while low NFCL subjects combine more product attributes and use price and promotional information as one of many product characteristics.

Furthermore, the relationship between time pressure, NFCL and search effort for price and promotional information is not straightforward. First we want to note that high as well as low NFCL subjects can perceive time pressure in a specific situation. In our research, we measured a more generic form of perceived time pressure in typical shopping trips. We did not expect or find that high or low NFCL subjects display a higher/lower general perceived time pressure for their typical shopping trips. However, in

some specific situations, high or low NFCL subjects can perceive to be more time pressured. In this case of situational perceived time pressure, high NFCL subjects can apply two contradictory strategies, they can diminish their search for coupons and other promotional and price information as a consequence of the perceived time pressure (and possibly switch to other heuristics), or they can remain searching for price and promotional information as their NFCL level prescribes. The strategy they will use depends on the goal they perceive to be most important at that time, experiencing a confident feeling of closure or resolving the time scarcity. Our interaction results suggest that high NFCL subjects remain searching for price and promotional information, independent of their perceived time pressure.

On the other hand, low NFCL subjects that perceive to be time pressured do not experience contradictory needs concerning price and promotional effort, they are less prone to search for price and promotional information with or without perceived time pressure. Our interaction results suggest that low NFCL subjects that experience a high level of perceived time pressure display lower search for price and promotional information effort compared to low NFCL, low perceived time pressure subjects.

In addition, we have to keep in mind that a certain level of time pressure could heighten the NFCL level of the low NFCL subjects, which in turn, leads again to two paradoxical desired information search strategies. Further research can help disentangle this complex relationship between NFCL, situational time pressure and the search effort for promotional and price information.

9. Conclusion

Understanding the process of making a purchasing decision in both existing and potential clients is essential in designing an effective marketing program. The search effort for promotional and price information seems to vary according to the level of perceived time pressure and budget constraints of an individual. Moreover, in- and out-of-store search effort for price and promotional information is differentially influenced by perceived time pressure and budget constraints. Furthermore, an individual's level of NFCL seems to influence search effort for price and promotional information, high NFCL subjects

display more in- and out-of store search effort for price and promotional information. We argue that these individual differences can have a considerable influence on the evaluation of marketing and retailing strategies.

APPENDIX

Scale Items: Price and Promotional Search Effort

Searching for coupons

- I cut out coupons for grocery products.*
- I use cent-off coupons for grocery products.
- I look for products for which I have a coupon.*
- Before buying a product, I check to see if I have a coupon for it.*
- I collect coupons for grocery products.
- When I receive or clip a coupon, I save it for future use.
- I pre-sort my coupons before going grocery shopping.*

Looking for advertised specials for grocery products

- I look for weekly store inserts in newspapers for grocery items.*
- I check the newspaper for advertised specials for grocery products.
- I shop for advertised specials in supermarkets.

Looking for in-store promotions

- I look for special deals inside the store before buying grocery products.
- I look for unadvertised specials offered by supermarkets.*
- I look for special displays in supermarkets.*

Sale proneness

- If a product is on sale that can be the reason for me to buy it.
- Compared to most people, I am more likely to buy brands that are on special.*

Comparing unit prices

- I compare unit prices across different package sizes.*
- I compare unit prices across brands.*
- I check unit prices of products I buy.*
- Before buying a product, I check the price.

Switching stores to find lowest price

- The money saved by finding low prices is usually worth the time and the effort.
- I will shop at more than one store to find low prices.
- I will grocery shop at more than one store to take advantage of low prices.*
- I will almost always visit more than one supermarket to find low prices.*
- I enjoy going to different entertainment spots for the sake of comparison.*

Scale Items: Perceived Time Pressure

- I find myself pressed for time when I do my grocery shopping.*
- I am in a hurry when I do my grocery shopping.*
- I have only a limited amount of time available to do my grocery shopping.*
- I try to finish my grocery shopping as quickly as possible because I have other things to do.
- I'm not having enough time to complete my weekly grocery shopping.

Scale Items: Perceived Budget Constraints

- My family budget is really tight (recoded).*
- My family income is large enough to fulfil most of my needs, wants and desires.*
- My family income is sufficient.*

* remaining scale items.

Chapter 5

The Influence of Need for Closure and Need for Cognition on Consumers' Importance of Product Attributes

Chapter 5

The Influence of Need for Closure and Need for Cognition on Consumers' Use/Importance of Product Attributes

1. Abstract

The notion that motivation influences cognition has been researched in social and personality psychology. In this respect, Need for Cognition and Need for Closure have been repeatedly researched. Need for Closure reflects the desire for clear, definite or unambiguous knowledge that will guide perception and action, as opposed to the undesirable alternative of ambiguity and confusion (Kruglanski, 1989). Need for Cognition is the tendency to engage in and enjoy cognitive efforts (Cacioppo & Petty, 1982). In this research, we investigate the specific influence Need for Closure and Need for Cognition have on the importance of product attributes used by the consumer. Results show that high NFCL subjects attach greater importance to concrete attributes compared to low NFCL subjects, while high NFC subjects find abstract attributes more important than low NFC subjects. In general, all respondents attach more importance to abstract compared to concrete attributes. Results are discussed. Theoretical, marketing implications, limitations and directions for future research are provided.

2. Introduction

The salience of specific product benefits or decision criteria plays an important role in consumer information acquisition, judgment and choices (Huffman & Houston, 1992; Park & Smith, 1989; Bettman & Sujan, 1987; Wright & Ripp, 1980; Haley, 1968).

An interesting research question holds the importance and use of concrete versus abstract product attributes in consumer decision making. Different viewpoints have been suggested.

According to Johnson and Collegeaus, the concreteness-abstractness of attributes is a predictable dimension of consumer choice processing. The use of concrete versus abstract attributes depends on the comparability of choice alternatives (Johnson, 1988; 1984). More specifically, abstract attributes are especially used when comparability of the alternatives decreases, while concrete attributes can be used for evaluating both comparable and non-comparables. The difference between attribute-based and alternative-based processing strategies for comparing product alternatives, illustrates this. An alternative based or across attribute strategy holds that consumers evaluate or consider alternatives holistically or across their descriptive attributes. Concrete attributes are combined or considered for each alternative and the resulting overall evaluations are then compared. Linear compensatory, conjunctive or disjunctive strategies are examples of alternative-based strategies. Alternative-based strategies can be used for comparable as well as non-comparable alternatives. Using an attribute-based strategy such as additive difference (Tversky, 1969), or elimination by aspects (Tversky, 1972), consumers compare alternatives directly on their descriptive attributes. Consequently, in dealing with non-comparable product alternatives, consumers abstract their representation of the choice alternatives to a level where comparability exists (i.e. where attributes overlap) to make attribute comparisons. Consequently, attribute-based comparisons become more abstract as comparability decreases.

Another viewpoint holds that abstract versus concrete attributes are used depending on the level of the activated goals. Ratneshwar (2000), for example, assumes that consumers use the highest possible level of abstraction that allows to differentiate between the alternatives that also approach the abstraction level of the activated goals. For example, the presence of high level goals, that become salient for example as a person goes through transitions in life projects (Cantor, Norem, Niedenthal & Langston, 1987), as involvement in a purchase is relatively high (Walker & Olson, 1997; Celsi & Olson,

1988) or when these goals have been frequently or recently activated in the past (Srull & Wyer, 1986), could trigger the use of abstract attributes. Graonic and Schocker (1993) also found that the context or different goals change judgments of attribute and benefit importance and consequently lead to the use of different criteria when evaluating a product.

Another possible viewpoint holds that stable individual differences influence the importance and use of concrete versus abstract attributes. Engel et al. (1995) argue that the specific attributes consumers attach importance to during their decision process depends on several determinants, for example the consumers' motivation. Recently, the notion that motivation can strongly influence cognition has won popularity in social and personality psychology. This revival is mostly grounded in extended research performed on the impact of social goals on thought processes (e.g. Gollwitzer & Bargh, 1996; Higgins & Sorrentino, 1990) and on the motivational influence on decision making (Kruglanski, 1989). Stable motives are investigated that are relevant for people's thinking and instruments are searched to measure these motives. For example, intolerance of ambiguity has been researched since the late 40's (Frenkel-Brunswick, 1949). Since then, research has been conducted on uncertainty reduction (Lanzetta & Driscoll, 1968), Need for Cognition (Cacioppo & Petty, 1982), and more recently NFCL (Kruglanski, 1992; 1990b; 1989).

In this research, we investigate two motivational forces that can influence the importance attached to a particular type of product attribute (concrete versus abstract) that is NFCL and Need for Cognition. The Need for Cognition level describes the amount of pleasure consumers experience when engaging in elaboration while NFCL is related to the motivation consumers have to engage in quick problem solving. As outlined in chapter 1, the two constructs are related but not identical.

The former line of thinking (individual differences influence the importance of used attributes) is especially interesting in choice situations, where both abstract and concrete attributes can be used in decision making (e.g. non-comparables, cfr. Johnson, 1988; 1984). In this case,

identifying individual differences that have been proven to correlate with or originating in the use of specific attribute types can predict the particular use of attribute type.

Valuing the importance of attributes lay at the foundation of important marketing decisions, because of its potential direct influence on brand choice and because they are an indication of the specific information a consumer would search when evaluating brands (Huffman & Houston, 1992; Park & Smith, 1989; Bettman & Sujan, 1987; Wright & Ripp, 1980; Haly, 1968; Myers & Alpert, 1968). Moreover, the attributes used by the consumer to evaluate several purchase alternatives can be strongly influenced by producers, marketers and retailers. Based on knowledge of the importance of an attribute, the value of this attribute can be optimised or a new attribute can be added. Attributes can serve as the basis for designing products or constructing advertising messages/strategies (Naumann, 1999); moreover, retail merchandising and promotional strategies can be developed based on those attributes (Williams & Slama, 1995). Furthermore, as time pressures of the kind consumers face everyday are likely to induce selective attention to a small subset of product features and the resulting product evaluations and choices are often based on those few features that receive attention (Wright, 1974), it is critical for marketers to understand why and how consumers selectively attend to information about particular product features and not others (Rathneswar et al., 1997). Effective communication strategies could be developed that effectively penetrate the perceptual filters of the target markets.

In this study, we hope to broaden our understanding of consumers' evaluation processes by investigating the influence of two motivational concepts (NFCL and Need for Cognition) on the importance of product attributes. In addition, we try to further demonstrate the distinction between NFCL and Need for Cognition by revealing their differential impact on the importance of product attributes.

Before we elaborate on the research procedure and hypothesis, we discuss the Need for Cognition concept and take a closer look at product attributes.

3. Need for Cognition

3.1. Definition

Cacioppo & Petty (1982) define Need for Cognition (NFC) as the individual tendency to engage in and enjoy cognitive efforts. As NFCL, this need is not a deficit, but rather a disposition, a motivated tendency or personal characteristic. Individual difference in Need for Cognition can be situated on a bipolar continuum, denoting a high NFC at one hand of the continuum and low NFC and the other hand. It is a stable (but not invariant) intrinsic motivation that can be developed or changed, rather than a real need. This motivational variable was partly developed to explain individual motivational differences in processing persuasive communications (Cacioppo & Petty, 1982). In this way, NFC is a possible operationalisation of the motivational component of the elaboration likelihood model (ELM)²⁹ that states that high NFC subjects compared to low NFC subjects process information more elaborately.

3.2. Past Research

Need for Cognition influences information processing and acquisition and is often researched in the context of persuasion and attitude change. High (versus low) NFC subjects have a high intrinsic motivation to exercise their mental abilities, are more inclined to think about information and re-examine this information to give meaning to stimuli, relations and events in their environment, generate more task-relevant thoughts, are more prone to spent time on and enjoy complex (versus simple) mental efforts, have more knowledge, perform better on general cognitive tasks, and display more extreme attitudes (Cacioppo, Petty, Feinstein & Jarvis, 1996; Petty & Jarvis, 1996; Manfredo & Bright, 1991; Verplanken, Hazenberg &

²⁹ The elaboration likelihood model of persuasion (ELM) (Petty & Cacioppo, 1980) holds that several factors (or a combination) determine the motivation and ability to think carefully: (a) the nature of the person (Cacioppo et al., 1983), (b) the personal relevance of the message (Petty & Cacioppo, 1979), (c) the presence of distractions

Palenewen, 1992) and base their attitudes on relevant thoughts like (quality of) message arguments (Petty, Gleicher & Baker, 1991; Verplanken, 1991; Cacioppo, Petty, Kao & Rodriguez, 1986; Cacioppo, Petty & Morris, 1983).

Individuals low in NFC are characterized by a low intrinsic motivation to engage in effortful cognitive tasks, they enjoy more simple forms of mental efforts and they react more to peripheral cues of the task at hand.

These individual differences are mostly grounded in prior experience, relying on accessible memories and behavioural history, and influence the acquisition and processing of knowledge concerning dilemmas or problems. The difference between high and low NFC does not result from their need to structure or give meaning to the world (Webster & Kruglanski, 1994; Neuberg & Newsom, 1993), but comes from the way one gives meaning to, takes positions towards and deals with problems (Cacioppo et al., 1996).

In addition, research shows that high NFC subjects recall more specific information at a later stadium, as they process information more elaborately (Srull, Lichtenstein & Rothbart, 1985). High NFC subjects also spent more time on attribute-based search or processing compared to low NFC subjects (Levin, Huneke & Jasper, 2000; Mantel & Kardes, 1999; Haugtvedt, Petty & Cacioppo, 1992; Lynch, Marmorstein & Weigold, 1988). High NFC subjects are also more likely to encode and store the specific attributes associated with the available options while those who are low in NFC will encode an overall impression of the various options (Mantell & Kardes, 1999). Moreover, a stronger correlation exists between message evaluation and attitude after the communication (Cacioppo et al., 1983) for high NFC subjects. The attitudes are also more persistent than the attitudes of low NFC subjects (Haugtvedt & Petty, 1992; 1989; Verplanken, 1991). In addition, a strong correlation exists between attitude and behaviour compared to low NFC subjects (Cacioppo et al., 1986; Verplanken, 1989).

during exposure with the message (Petty, Wells, & Brock, 1976) and the (d) pre-existing knowledge about the topic (Wood, 1982).

Furthermore, the message content has a moderating effect on the evaluation of the message: messages that contain facts are better evaluated by high compared to low NFC subjects (Venkatraman, Marlino, Kardes & Sklar, 1990). High NFC subjects tend to be influenced more by message-relevant thoughts or the strength or quality of message arguments rather than peripheral cues such as endorser attractiveness (Haugtvedt et al., 1992; Batra & Stayman, 1990; Haugtvedt, Petty, Cacioppo & Steidley, 1988), spokesperson credibility (Petty & Cacioppo, 1986), humour (Zhang, 1996), or the number of arguments (even weak arguments) presented (Cacioppo et al., 1983).

Finally, products are examined more analytically by high compared to low NFC subjects (Baumgartner, 1993). In addition high NFC subjects tend to make more optimal in-store purchase decisions because they tend to react to a promotion signal (e.g. feature advertisement) only when a significant price reduction is offered. Conversely, low NFC subjects react when the product appears to be on special regardless of the amount of price reduction offered (Inman, McAlister & Hoyer, 1990).

NFC is also related to a number of other phenomena like complexity of the attitude (Ahlering, 1987), complexity of attribution (Fletcher, Danilovics, Fernandez, Peterson & Reeder, 1986), perception of another man's behaviour (Lassiter, Briggs & Bowman, 1991; Lassitter, Briggs & Slaw, 1991), appreciation of effectiveness of problem solving (Heppner, Reeder & Larson, 1983), impression formation (Martin, Seta & Crelia, 1990; Ahlering & Parker, 1989) and hindsight bias (an overestimation in retrospect of the possibility to predict an event) (Verplanken & Pieters, 1988). Common in these studies is the fact that high NFC subjects are more motivated to engage in cognitive effort compared to low NFC subjects.

In sum, research implies that high (versus) NFC individuals make more carefully thought-out and specific detail-oriented judgments.

3.3. Need for Cognition Scale

A scale was developed to measure the level of Need for Cognition (Cacioppo & Petty, 1982) and subsequently revised and shortened (Cacioppo, Petty & Kao, 1984). No significant relationship was found between NFC and social desirability, while small correlations were found for NFC and dogmatism (Cacioppo et al., 1983).

Subjects can indicate their level of agreement with 18 statements on a 5-point scale. The scale has high internal consistency ($\alpha > .85$) (Berzonsky & Sullivan, 1992; Kernis, Granneman & Barclay, 1992; Miller, Omens & Delvadia, 1991; Verplanken, 1991; 1989; Venkatraman & Price, 1990; Leary, Sheppard, McNeil, Jenkins & Barnes, 1986), while test-retest reliability exceeded .88 (Sadowski & Gulgoz, 1992). Pieters, Verplanken and Modde (1987) developed a Dutch translation of the NFC scale, consisting of 15 items. This scale represents the one-dimensional structure of the English version.

3.4. Need for Closure and Need for Cognition

The Need for Cognition refers to the extent to which one engages in and enjoys thinking, while the NFCL refers to the desire for clear, definite and unambiguous knowledge. As outlined in chapter 1 (section 2.7.10), the two concepts are related but also differ in two ways, the desired end state and the influence on information processing.

The Need for Cognition is more process oriented (enjoying or engaging in a cognitive task) instead of result or goal oriented (the need for a non-ambiguous, understandable or well-organized world). The activity of thinking as such is a desired end state for high NFC subjects, while a high NFCL subject enjoys the end-state of thinking (i.e. closure) that is the instant the decision is made. In addition, the activity of thinking is one possible means for the high NFCL subject to reach their desired end state (closure). Furthermore, although having closure

implicates refraining from further thinking about one issue, one may refrain from thinking without necessarily attaining closure.

Next, NFC has a quantitative influence on cognitive activity, as high NFC subjects process information more elaborately and effortful. On the contrary, closure might be obtained by either extensive processing or by limited processing. In general, high NFCL subjects prefer to minimize processing to quickly obtain closure (Kruglanski & Webster, 1996). But as Houghton and Grewal (2000) notice, if no decision has been made, thinking could be very desirable because it promotes closure. In sum, a high NFCL subject looks like a low level NFC subject, only when they have control of a confident solution. Furthermore, a person with a high Need for Cognition should not be open-minded by definition.

In previous research a low negative correlation between NFCL and Need for Cognition was found ($r = -.03$, Houghton & Grewal, 2000; $r = -.28$, Webster & Kruglanski, 1994). Klein and Webster (2000) concluded that NFCL and NFC could have similar behavioural consequences, but is a distinctly different motivation. High NFCL subjects are expected to pursue the peripheral or heuristic route, and evaluate the message according to the simple heuristic cues associated with the message because these cues provide quick, easy closure, when confronted with a message that contains both heuristic cues and systematic arguments. On the contrary, low NFCL individuals are expected to pursue the central or systematic route, and process the arguments of the message elaborately due to a relatively high motivation to engage in effortful processing. Furthermore, if a heuristic cue did not provide closure or was otherwise unavailable, high NFCL individuals might pursue the central route to persuasion, while low NFCL subjects always engaged in central or systematic processing, regardless of whether a heuristic cue was available. On the contrary, according to the ELM, high NFC individuals are expected to always follow the central or systematic route, while low NFC individuals follow the peripheral route.

In sum, a high NFCL individual can process information via either the peripheral or central route, based on the availability of heuristic cues to satisfy closure, while the low NFC individual is unlikely to engage in central route processing unless an additional motivation

(e.g. concern for accuracy) is operating simultaneously (Smith & Petty, 1996; Priester & Petty, 1995).

Finally, Need for Cognition is assumed to effect a processing shift from the reliance on peripheral cues to a thorough consideration of central informational contents (Petty & Cacioppo, 1986, cfr. heuristic versus systematic processing, Chaiken et al., 1989). NFCL also posits conditions under which people process information briefly and superficially and others wherein they do so thoroughly and methodically (Kruglanski & Webster, 1996). However NFCL theory does not postulate two qualitative different modes of information processing, but it regards the difference between brief and thorough processing as a matter of extent. In addition, both the peripheral-central and the heuristic-systematic models may view some of the information-processing costs (produced for example by ambient noise, fatigue or time pressure) as draining the individual's cognitive capacity, NFCL theory stresses their motivational potential in arousing the NFCL.

4. Product Attributes

4.1. Definition

In broad range consumer behaviour theories (e.g. Engel et al., 1995; Howard & Seth, 1988), a product is conceived as a bundle of attributes, which are the characteristics that consumers value of products or sets of product alternatives (i.e. benefits). Lancaster (1966) assumed that the consumers derive the usefulness of a product from the physical attributes of the product. However, a large part of the product attributes are not physical as for example the attributes used to position the product. Therefore, Grunert defines an attribute as follows: “any aspect of the product itself or its use that can be used to compare product alternatives. Each alternative can (but need not) be characterized by all attributes, i.e. using one attribute does not preclude using another” (Grunert, 1989). In the remainder of this study, we follow this definition.

4.2. Use of Product Attributes

Consumers rely on various information "attributes" or characteristics of products in their product evaluations (Keller & McGill, 1994; Richardson, Dick & Jain, 1994; McQuiston & Walters, 1989; Peter & Olson, 1987; Schellinck, 1983).

Which product characteristics a consumer values, is determined by this consumers' intrinsic³⁰ and extrinsic motivation (Antonides, 1991).

In sum, consumers' choice among alternative products is based on a comparison of products in a choice set with regard to attributes, which the individual consumer believes (a) to be instrumental for need satisfaction, and (b) to discriminate between the products in question.

4.3. Importance of Product Attributes

The consumer relies on several cues or product characteristics when evaluating a product. Previous research on multiattribute choice suggests that the influence of a product attribute is determined by its relative importance (e.g. Kahn & Meyer, 1991; Bettman, 1979; Payne, 1976; Tversky, 1972). For example, in choosing among a set of cars, consumers who place a greater importance on reliability than styling would be influenced to a greater extent by the reliability of the alternatives than by the styling.

Attribute importance is a person's general assessment of the significance of an attribute for products or services of a certain type. An attribute is important when a change in perception of the attribute results in an attitude change towards the product (Jaccard,

³⁰ The intrinsic motivation linked to a certain characteristic is determined by the consumers' perception of the instrumentality or usefulness of the characteristic for satisfying consumers' needs, i.e., the extent to which the characteristic is inherently linked to consumer benefits. The extrinsic motivation is associated with the consumers' perceptions of whether the set of products available and acceptable to the consumer, i.e. 'the choice consideration set', differs with regard to the characteristic in question. In other words, the

Brinberg & Ackerman, 1986). The importance of product attributes is relative and differs between consumers (Javalgi, Belonax & Robinson, 1990).

There are four factors proposed to influence attribute importance: (1) characteristics of the message recipient, (2), characteristics of the advertisement, (3) factors that influence the response opportunity of the subjects, and (4) characteristics of the product.

A person's cultural norms, goals and values or their self-concept may influence how attention is directed. In addition, the specific meaning of the product for the consumer can also influence the importance of specific attributes.

Furthermore, directing consumers' attention to an attribute, and causing them to allocate cognitive capacity to the attribute increases the perceived importance of the attribute.

Next, response opportunity factors are those factors that determine the extent to which a person must process information about an attribute. Response opportunity is increased if information about an attribute is repeated, and the consumer is not distracted from processing the information.

Finally, the perceived quality of a brand and the relation of an attribute towards other attributes impact attribute importance.

4.4. Past research

4.4.1. Importance of Product Attributes

Many studies focus on the importance of product cues in product evaluation and choice (e.g. Cheron & Hayashi, 2001; Allen, 2000; Warrington & Shim, 2000; Keller & McGill, 1994; Prahbaker & Sauer, 1994; Hutchinson, 1986; Church, Laroche & Rosenblatt, 1985; Park, 1976; Lehman & O'Shaughnessy, 1974, Tversky, 1972; 1969). For example, the attribution-mediation approach suggest that human values do not influence product preference directly, and instead values influence the importance of product attributes that in turn guide product evaluation and purchase (Allen, 2000).

extrinsic motivation is related to the supply or availability of product alternatives, whereas the intrinsic motivation is related to the demands of the consumers (Bech-Larsen & Nielsen, 1999).

Furthermore, the importance of product attributes has also been associated with the consumers' cognitive effort in eliciting the attribute. Fazio (1986) states that the smaller the cognitive effort, the greater the influence on consumer behaviour: the top of mind attributes are the most important regarding consumers' choice. Similarly, and Ajzen (1980) postulate a connection between the order in which the consumer mentions attributes when describing an object, and the importance these attributes have for the attitude towards the object. Thus, the five to eight attributes mentioned first are labelled 'salient attributes' (Fishbein & Ajzen, 1980) and are believed to be the most important ones as regards the attitudes and behaviour of consumers.

4.4.2. Marketing Research

Because of its central role in predicting consumer choice, considerable marketing research has addressed factors that may affect an individual's assessment of attribute importance (Miller & Gintner, 1979; Anderson & Hubert, 1963). For example, Anderson and Hubert demonstrated that order of presentation of attribute information could cause a shift in assessed importance of an attribute. Accordingly, research in both theory and practice has revolved around finding reliable methods of estimating attribute importance (e.g. Jaccard et al., 1986; Srinivasan, Jain & Malholtra, 1983).

In addition, the importance of product attributes has been used as an indicator of market value (Grupp & Maital, 1998), customer value (Naumann, 1999); it is also used as a tool to redesign product lines (Page & Rosenbaum, 1987); for brand categorization (Church et al., 1985), for preference models (Wu, Day & McKay, 1988) and for market segmentation (Boote, 1981).

4.4.3. Use of Specific Attributes

A considerable amount of research has been devoted to examining what information cues consumers use most often when evaluating products. The most prevalent attributes studied include brand names (Maheswaran, Mackie & Chaiken, 1992; Dodds et al., 1991;

Rao & Monroe, 1989; Ross, 1988; Jacoby, Szybillo & Busato-Schach 1977; Olson, 1977; Peterson & Jolibert 1976; Darby & Karni 1973; Akerlof 1970), brand advertising (Milgrom & Roberts 1986), product features or appearance (Olson 1977; Nelson, 1970), price (Dodds et al. 1991; Rao and Monroe 1989; Milgrom & Roberts 1986; Wolinsky 1983; Wheatley, Chiu & Goldman 1981; Olson 1977, 1972; Wheatly & Chiu, 1977; Woodside 1974; Leavitt 1954; Scitovsky 1945), store information (Dodds et al., 1991), product/retail reputation, store names, warranties, or guarantees (Rao & Monroe, 1989; Emons, 1988; Cooper & Ross, 1985; Olson, 1977; Wheatly & Chiu, 1977) and country-of-origin (Chao 1989a, 1989b; Han & Terpstra 1988).

Most of these previous studies all focused on specific attributes, while other existing/available attributes were ignored. In this way, results can be biased towards finding significant effects for the attribute under consideration (for an example on country-of-origin, see Bilkey & Ness, 1982; see Oszomer & Cavusgil, 1991, for a review). Therefore, these results are not generalizable.

To secure the generalizability, it is important to include several product attributes, because these conditions resemble more the actual purchase situation. However, few researchers have examined several product attributes. For example, Lee and Lou (1995) found that consumers with different price schema, familiarity/knowledge and involvement levels differ in their reported importance of intrinsic³¹ versus extrinsic product attributes. Alpert and Witt (1973) found that the determination of product attributes significantly differed for six clusters or personality types. Recently, Cestre and Darmon (1998) examined the influence of different types of adopters (Rogers, 1962) on the importance of positive versus negative product characteristics. Allen (2000) looked at the mediating role of self-perception on the importance of several product attributes, thereby finding a causal relation.

³¹ Intrinsic attributes are physical attributes of a product such as gas mileage and style of an automobile, whereas extrinsic attributes are product-related, but not part of the physical product itself such as brand name, price, and country-of-origin.

4.5. Attribute Typologies

Several typologies are introduced to divide product attributes, for example product characteristics versus beneficial and imagery product attributes (Myers & Shocker, 1981); tangible versus experiential attributes (Holbrook & Hirschman, 1982); intrinsic versus extrinsic attributes (Lee & Lou, 1995; Lockshin & Rhodus, 1993; Olson, 1977; Olson & Jacoby, 1972); objective versus subjective attributes (Zeithaml, 1988); form versus function attributes (DeBono & Snyder, 1989); search, experience and credence attributes (Darby & Karni, 1973) and concrete versus abstract attributes (Johnson, 1989).

4.5.1. Abstractness versus Concreteness

Concreteness-abstractness has been a central topic of psychological research (Kisielius & Sternthal, 1984b; Taylor & Thompson, 1982; Moeser, 1974; Klee & Eysenck, 1973; Rokeach, 1973; Paivio, 1971; Paivio, Yuille & Madigan, 1968). Few marketing researchers have investigated this typology (Johnson, 1989; Hirschman & Holbrook, 1982).

4.5.2. Johnson's Hierarchical Continuum

We will follow the classification suggested by Johnson (1989). An advantage of this working frame is that it is developed to represent the total diversity of concrete and abstract product attributes and their relations. Johnson (1989) argues that attributes can be represented on a continuum ranging from concrete to abstract.

Concrete attributes like physical attributes and price are more objective, descriptive and direct aspects of the product that are immediately connected to the tangible, physical product characteristics. Abstract attributes like image, style and prestige, are more indirect and subjective and represent the product benefits.

Concrete attributes are more related to dichotome characteristics or feature (square versus non-square), while abstract attributes are more related to continuous dimensions (the degree of sweetness) (Johnson & Fornell, 1987).

The continuum of concrete to abstract product attributes is hierarchical because abstract attributes can consist of several concrete attributes. For example, the abstract attribute 'security' (in case of a car) consists of, amongst others, the concrete attributes 'airbags', 'seatbelt' and 'brakes'. A second aspect of the hierarchical structure is the fact that the amount of relevant attributes decreases when the abstraction level increases, meaning that more concrete (versus abstract) attributes can be used to describe a product. This is consistent with the 'availability-valence hypothesis' (Kisielius & Sternthal, 1984a) that describes the processing of abstract information. According to this hypothesis, abstract information is less available in memory compared to concrete information because it is less likely to be cognitively elaborated. A third aspect of the hierarchical structure holds that abstract attributes can describe a greater amount of products (Johnson, 1989).

However, a strict hierarchical vision about attributes and abstraction can be too restrictive. A strict hierarchy holds that each lower-level attribute influences only one higher-level attribute. However, some believe that concrete product attributes can influence more than one relevant abstract attribute (Rokeach, 1973). Johnson (1986) argues that the abstraction process of attributes can be found in the middle of these two extremes. For example, we can easily believe that the size of the car influences security as well as prestige and economy.

4.6. Means-end Chains

In consumer literature, an important part of the means-end framework is the distinction between concrete and abstract attributes. The goal of a means-end chain is to link presumably concrete product attributes with the consequences of those attributes and, in turn, to link these more abstract physical and emotional consequences with consumers' abstract personal values, life goals or desired end-states (Reynolds & Whitlark, 1995; Olson & Reynolds 1983; Gutman

1982; Gutman & Reynolds 1979; Vinson, Scott & Lamont 1977; Young & Feigin 1975). A means-end chain seeks to explain how a product or service selection (e.g. buying a book) facilitates the achievement of desired end states (e.g. happiness, security, accomplishment...).

In sum, means-end theory treats attributes, consequences and values as the basic content of consumer product knowledge stored in memory. The personal consequences associated with attributes provide the personal meaning of the attributes to a consumer. Consequences are the reasons why an attribute is important to someone and why it is positively or negatively valenced. Consequences in its turn derive valence and importance by their perceived ability to satisfy personal values (instrumental in achieving values central to the self). For example, as we will hypothesize later, concrete attributes can be important to high NFCL individuals because they give them a relatively quick and easy closure and consequently a positive feeling. This attainment of closure is important because it helps them satisfy higher personal values (see chapter 1).

5. Hypotheses

In the present study, we want to investigate the influence of NFCL and NFC on the importance of concrete versus abstract product attributes. We posit several hypotheses.

5.1. Need for Closure

Our first hypothesis is the following:

H1: High NFCL subjects will attach greater importance to concrete attributes compared to low NFCL subjects.

Several arguments can be raised to support our first hypothesis.

Consistent with the second aspect of the hierarchical continuum of attributes (e.g. the amount of relevant attributes decreases when the abstraction level increases), the availability-valence hypothesis (Kisielius & Sternthal, 1984a) states that abstract information is less available in

memory compared to concrete information because there is less chance for cognitive elaboration and therefore, less associative pads are formed. If less associative pads are formed, the likelihood for a consumer to consult abstract information decreases.

High NFCL subjects are more inclined to use information or knowledge that is easily retrievable from memory or more accessible because this expedites cognitive closure (De Grada et al., 1999; Kruglanski & Thompson, 1999; Tetlock, 1998; Dijksterhuis et al., 1996; Kruglanski & Webster, 1996; Ford & Kruglanski, 1995; Webster, 1993; Thompson et al., 1993; Kruglanski & Mayeseless, 1988; Tetlock, 1983). Thus high (versus low) NFCL subjects should prefer concrete information.

Furthermore, Viswanathan, Johnson and Sudman (1999) conclude that a larger amount of magnitudes³² are necessary to process abstract (versus concrete) attributes because they are more dimensional or continuous and encompass a larger amount of concrete attributes. Thus a larger cognitive effort is needed to process abstract attributes compared to concrete attributes. The additional information processing that is required when using abstract product attributes could be experienced as aversive because it postpones the desired closure. In addition, as high NFCL subjects are more inclined to judge based on inconclusive evidence in order to minimize information search, we can argue that they will attach greater importance (compared to low NFCL subjects) to concrete attributes because these are relatively more easy to process.

In addition, high NFCL subjects could be less tempted to use abstract attributes because their enhanced level of intolerance for ambiguity, for abstract attributes are more subjective and therefore could lead to more ambiguity (Johnson & Fornell, 1987).

Furthermore, consumers often use heuristic cues to simplify their decision-making processes. For example, when reevaluating a consumption object, consumers tend to apply their prior satisfaction judgments to their revaluations because doing so reduces their cognitive effort (e.g. Fiske & Neuberg, 1990; Srull & Wyer, 1986). High NFCL subjects are more inclined to

³² Categories the consumer uses to classify or save processing capacity (Park & Lessig, 1981; Park, 1978).

use stereotypical and heuristic information, both because they lower the processing of topic-relevant information (Klein & Webster, 2000; De Dreu et al., 1999; Jamieson & Zanna, 1989; Kruglanski & Freund, 1983). When motivation to engage in issue relevant thinking is low- like for example in the case of high NFCL- heuristic processing dominates and in this case, simple cues are very likely to influence judgments (Maheswaran et al., 1992). Furthermore, simple heuristic cues like brand names or prices provide diagnostic information about the attitude object itself, in this sense knowledge about simple cues like brand names can be thought of as similar to knowledge structures like stereotypes, which link a stimulus or set of stimuli to highly probable features. Furthermore, the impact of these knowledge structures decreases as relevance or importance of judgments increases –as for low NFCL- or capacity or motivation for systematic processing increases –as for high NFC- (Kruglanski & Freund, 1983).

Furthermore, we argue that concrete attributes, like for example brand name and price, can act as a stereotypical or heuristic information cue that can be used in several situations. Although previous researchers argue that high NFCL subjects in general, use more abstract information and global trait terms in describing social others (Rubini & Kruglanski, 1997; Webster et al., 1997; Boudreau et al., 1992), we argue that in the specific consumers situation that is presented to the subjects in this study (e.g. buying a blanket), the use of concrete attributes will more easily satisfy their NFCL. Abstract attributes, like for example security, can also be used in several situations (and therefore satisfying the trans-situational consistency high NFCL subjects strive for, Kruglanski & Webster, 1996), but they are more ambiguous, they are less available in memory and they imply more effort.

Finally, high NFCL subjects want order, structure and predictability in their daily lives –which concrete attributes can provide easily (Crowson & Thoma, 2001).

5.2. Need for Cognition

As the results of Viswanathan et al. (1999) and Kisielius and Sternthal (1984a) already suggest, processing abstract information requires more effort compared to processing concrete information. High NFC subjects have an intrinsic motivation to exercise their mental abilities, and they enjoy engaging in complex forms of mental efforts, while low NFC subjects have a low intrinsic motivation to engage in effortful cognitive task and prefer simple, easy and uncomplicated forms of mental effort (e.g. Verplanken, 1993; Petty et al., 1991; Cacioppo et al., 1986; Cacioppo & Petty, 1982). Furthermore, as mentioned before, the impact of simple heuristic cues like brand names or prices decrease as the capacity or motivation for systematic processing increases (high NFC) (Kruglanski & Freund, 1983). Consequently, we argue that high NFC subjects will be more inclined to accept the challenge of processing abstract attributes, as they love to engage in effortful cognitive tasks. As a result, we posit the following hypothesis:

H2: High Need for Cognition subjects will attach greater importance to abstract attributes compared to low Need for Cognition subjects.

5.3. Abstract versus Concrete Attributes

The means-end chains theory proposed by Gutman (1982) also incorporates the importance of concrete and abstract product attributes. It is argued that the instrumentality of the attribute - and thus the importance of the attribute for further choice- depends on the strength and the amount of cognitive links between the attribute, its consequences and the associated personal values. Therefore, it is argued that an abstract attribute which is directly linked to its functional consequences, is more important for the consumers' choice compared to a concrete attribute, because in this last case, the relation is mediated by an abstract attribute, as it is more instrumental to the satisfaction of the consumer needs (Gutman, 1982). On the other hand,

concrete attributes are more efficient in differentiation between products in a choice set (Reynolds, Gutman & Fiedler, 1985).

H3: In general, the abstract attributes of a product are more important compared to the concrete attributes of the product for all respondents (high and low NFCL and NFC subjects)

6. Preliminary Research: Identification of Concrete and Abstract Product Attributes

We based our choice of product under investigation on research conducted by Geistfeld, Sproles & Badenhop (1977). They investigated attributes of two different products –a blanket and a slow cooker) by dividing them in three abstraction categories. We choose the product ‘blanket’ because in Belgium, little experience exists on the slow cooker, while more experience exists for blankets. As the attributes identified by Geistfeld et al. (1977) are in English, we did not adopt the categorization blindly but we conducted a preliminary research where subjects had to categorize the translated attributes according to abstraction. Furthermore, we added other attributes (see further).

6.1. Participants, Procedure and Questionnaire

We incorporated all of the 47 attributes from the three categories identified by Geistfeld et al. (1977), as we believed that the categorization into abstract and concrete attributes could differ for the two regions. Furthermore, we went through advertisements and websites about blankets in order to identify possible attributes that are not present in the Geistfeld et al. (1977) study. In this manner, we added 10 attributes. In total 57 attributes were offered to 59 respondents (see table 1). The respondents had to categorize each attribute on a 7-point abstraction scale ranging from abstract (1) to concrete (7). We also added 1 item asking if other attributes – besides the ones in the questionnaire- are characteristic for a blanket. The additional attribute(s) also had to be categorized according to abstraction level.

Respondents received a short description of the definition of abstract and concrete attributes.

“Abstract attributes like image, style and prestige, are more indirect and subjective. They are more likely to refer to the benefits of the product. Abstract attributes are related to continuous dimensions and often consist of several concrete attributes. For example, in case of a car, the abstract attribute ‘security’ consists of some concrete attributes like ‘airbags’, ‘seatbelt’ and ‘brakes’.”

“Concrete attributes are more objective, descriptive and direct aspects of the product that are directly linked to the tangible, physical product characteristics. Concrete attributes are related to dichotomous characteristics or features, meaning the product either possesses them or not, no in between is possible.”

Table 1: 57 Attributes.

Abstract^a	Middle category^a		Concrete^a	Advertisements/ websites
-Appearance/ Attractiveness - Durability - Comfort - Security	- thickness - strength - weight - airproof - warmth -non allergen - elastic - crease resistant - does not give off fluff - absorbs transpiration - resistant to cigarette burns - resistant to stains - fireproof - insect proof - feels soft - adapted to temperatures above 60°C	- surface does not release fibers - keeps you warm - rugged feeling - wear and tear resistant - no shrinking after washing - washable by hand - dry-cleaning only - preserves shape - crack resistant - colourfast - made for temperatures below 60°C - smells good - thickness after washing - burling texture -easily cleanable	- content of fabric - thermic fabric - weaven from fibers - no weaving pattern - electric - down-filled - with lining - double stitched - size - colour - embroidered design - designed with a pattern	- waterproof -anti-fungal - washable in machine - dryable in machine - cosy - itchy - quality - practical - finely woven - handmade

^a cfr. Geistfeld et al. (1977)

6.2. Results

All 59 respondents were college students. We divided the abstraction scores (mean score for each attribute over all 59 respondents) of each attribute into four quartiles. The first quartile ($M < 4.43$) incorporates the most abstract attributes, while the fourth quartile ($M > 5.57$) hold the most concrete attributes. We choose to use quartiles instead of tertiles because we wanted to make sure only really concrete and abstract attributes were incorporated in the study.

The additional question identified another 3 attributes. However, they were only mentioned by 1 person and therefore not incorporated in the study (beautiful, synthetic sense, comforting). Furthermore we argue that the first two attributes can be attributed to two already existing categories (appearance/attractiveness and woven from fibers).

Some attributes that were categorized in the English study as concrete or middle category are not as such categorized in the present study. For example, the attributes ‘feels soft’, ‘makes you feel warm’, ‘washing by hand’, ‘dry cleaner’s only’, ‘smell good’ and ‘easy to clean’ are classified in the middle category in the English study, while they are either concrete or abstract in our study. Furthermore, the attributes ‘fiber content’, ‘thermic fiber’, ‘no weaving pattern’, ‘colour’ and ‘designed with pattern’ are classified in the middle category in our study, while they were concrete attributes in the Geistfeld et al. (1977) study.

This finding confirms our expectations that some attributes are not categorized in the same manner in two different regions and periods in time. Definitive categorization of attributes can be found in table 2.

Table 2. Means, SD and Categorization of Attributes.

	Mean (<u>M</u>)	Standard deviation	Abstract first quartile: <u>M</u> < 4.4319	Concrete Fourth quartile: <u>M</u> > 5.5741
Appearance/attractiveness	2.4576	1.8784	√	
Thickness	6.0339	1.2590		√
Durability	3.6102	1.7618	√	
Strength	4.4237	1.8023	√	
Comfort	2.3636	1.1116	√	
Weight	6.4643	0.7854		√
Security	2.4576	1.4777	√	
Airproof	5.5882	1.0987		√
Warmth	4.5000	1.7696		
Non-allergen	5.1186	1.8577		

	Mean (M)	Standard deviation	Abstract first quartile: M < 4.4319	Concrete Fourth quartile: M > 5.5741
Elastic	4.5424	1.7153		
Crease resistant	5.2373	1.5574		
Does not give off fluff	5.5085	1.6122		
Absorbs transpiration	5.1695	1.4640		
Resists cigarette burns	5.5593	1.4771		
Stain resistant	5.5370	1.2242		
fire-resistant	5.1864	1.7368		
Insect resistant	4.9310	1.6529		
Soft	3.7288	2.2501	√	
Adapted to temperatures above 60°C	5.2203	1.8010		
Content does not release fibers	5.3220	1.6235		
Gives warm feeling	3.3390	2.0729	√	
Rugged feeling	4.4407	1.9937		
Designed with a pattern	5.4915	1.8880		
Tear and wear resistant	4.2881	1.7024		
Embroided design	5.8814	1.4394		√
Minimal shrinkage after washing	5.1695	1.5882		
Colour	5.5593	2.0195		
Washable by hand	5.7797	1.2874		√
Size	6.5455	0.7154		√
Dry clean only	5.8621	1.3822		√
double stitched	6.6000	0.7097		√
Preserves shape	4.5763	1.6526		
With lining	6.4211	0.8440		√
Resistant to cracks	4.9322	1.5742		
Down filled	6.4107	0.7811		√
colour proof	4.6102	1.5868		
Electric	6.5000	0.7709		√
Made for temperatures below 60°C	5.3051	1.6739		
No weaving pattern	5.4237	1.6938		
Smells good	3.2034	2.1558	√	
Weaven from fibers	5.6102	1.5315		√
Thickness after washing	4.7797	1.8295		
Thermic fiber	5.2881	1.7125		
Burling texture	4.7966	1.8917		
Fabric content	4.8983	1.8260		
Easily washable	3.8814	1.6721	√	
Waterproof	5.0847	1.6535		
Anti-fungal	4.6441	1.7096		
Washable in machine	5.8475	1.2292		√
Dryable in machine	5.8644	1.1956		√
Cosy	1.6364	0.8685	√	
Itchy	2.9138	1.6992	√	
Quality	3.1525	1.8645	√	
practical	2.6610	1.7182	√	
Finely woven	5.3390	1.4926		
Handmade	5.4407	1.9588		

7. Main Research

The aim of the present study is to examine the influence of NFCL and NFC on the importance of concrete versus abstract product attributes. Different research methods can help us investigate this influence, for example, the construction of a task (choice or judgment) that holds different responses according to the used attribute (concrete versus abstract). However, as the construction of the above-mentioned task was not straightforward, we chose another method to investigate this interesting problem: we confronted consumers with a list of concrete and abstract attributes, which they had to rate according to importance. This introspective method has been suggested by Ericsson and Simon (1980). They argue that the information that consumers verbalize as important can be used as a reliable source of evidence of cognitive processes. Information that consumers regard as important will be used in real life situations (stipulating that both types of information permit product differentiation).

7.1. Participants and Procedure

Data were collected using a random-walk procedure. The sample consists of residents of different streets (chosen at random) in one Flemish town. Questionnaires were personally delivered to the home of the sample recipients by trained interviewers, people were motivated to participate in the survey, and instructions were given to fill in the questionnaire truthfully. The questionnaire was self-administered and was completely anonymous. A total of 400 questionnaires were delivered. One week after delivery, questionnaires were collected and respondents were thanked for their cooperation. We recovered 154 copies after one week. The response ratio was 38.5%. Omitting 5 incomplete questionnaires sets the total amount of usable questionnaires to 149. Demographics of the sample can be found in table 3.

Table 3: Demographics Characteristics of the Sample.

Gender		Education	
Female	85.1%	Grade school or less	15.6%
Male	14.9%	High school	29.3%
		Higher education, no university	47.6%
Purchase responsibility		College/University	7.5%
Always	52.3%		
Usually/often	31.5%	Age	
Sometimes	6.7%	18-25	8.6%
Rarely	4.7%	26-45	52.5%
Never	4.7%	46-65	33.5%
		65+	5.3%

Mean age of respondents was 43.31 years (SD=11.70) and 85.1% were women. 84.4 % of the participants had some form of higher education and 83.8%, were always or usually responsible for purchase of the product under consideration. Involvement in the product category had a mean score of 4.19 (SD=1.61). As indicated by the rather high standard deviation score, involvement scores varied highly between the respondents. This can be explained by the incorporation of purchase responsible and non-responsible in the study. We argue that purchase responsible are possibly more involved with the product compared to non-responsible.

7.2. Questionnaire and Measures

We used a 77 items questionnaire to investigate the impact of NFCL and NFC (independent variables) on the importance of concrete and abstract product attributes (dependent variable). We incorporated some control variables in the questionnaire: age, gender, education, involvement and purchase responsibility within the family.

7.2.1. Control Variables

The importance of specific product attributes during evaluation of several product alternatives is influenced by motivation as well as by involvement and knowledge (Engel et al., 1995). Involvement is an important determinant of choice decisions (e.g. Engel et al., 1995; Lee

1994; Celsi & Olson, 1988) and was therefore incorporated in this research using the 7-item involvement measure of Zaichkowsky (1990) modified by Mittal (1995).

We also incorporated one item to measure the purchase responsibility (RFP) within the family of the specific product under consideration. We argue that knowledge and experience could differ between responsables versus not responsables. Gender of the participants could influence the relative use of attributes (Williams, 1994) and was therefore included in the study. Furthermore, we incorporated education level and age, as Spotts (1994) found that they had a positive, respectively negative, influence on NFC. Furthermore, age and education level could possible influence the importance of product attributes.

7.2.2. Independent Variables

Need for Cognition was measured using the Dutch translation of the NFC scale ('Neiging tot nadenken schaal-NTN'; Pieters et al., 1987). The 5-point scale consists of 15 items ranging from 'totally disagree' over 'disagree nor agree' to 'totally agree'. A high total score (after reversing some scores) resulting from summing individual item scores indicates a high level of NFC.

NFCL was measured using the modified short version we created (see chapter 3) of the Dutch NFCL scale (Cratylus, 1995).

The total scores of NFCL and NFC were divided in four equal groups (quartiles). As we plan to compare high versus low NFC and NFCL, we only incorporated subjects who belonged to the highest or lowest quartile.

Reliability of the used scales was rather high ($\alpha_{\text{NFCL}} = .80$; $\alpha_{\text{NFC}} = .82$). These alpha coefficients exceeded the .70 criterion formulated by Nunally (1978).

7.2.3. Dependent Variables

A number of techniques ranging from the complex elicitation of idiosyncratic attributes or simpler picking procedures have been developed to elicitate the importance of product attributes (Bech-Larsen & Nielsen, 1999; Jaccard et al., 1986; Heeler, Okechuku & Reid, 1979). We used a method similar to the one used by Geistfeld et al., (1977) – the study we used to identify most of our attributes. Participants are offered the 27-items attribute list and have to indicate how much importance they attach to each attribute when purchasing the specific product using a 5-point Likert scale ranging from ‘very unimportant’ to ‘very important’. These 27 attributes were previously identified (highest/lowest quartile) in preliminary research (see above). We used the mean scores of the importance ratings on the abstract and concrete attributes for each respondent in further data-analyses. Reliability of the used scale was high ($\alpha_{\text{abstract}} = .82$; $\alpha_{\text{concrete}} = .80$).

7.3. Results

First, we measured the correlations between the independent variables NFCL and NFC and the covariates incorporated in the research (table 4).

A small significant negative correlation ($r = -.20$) was found between NFCL and NFC confirming previous research (Houghton & Grewal, 2000; Webster & Kruglanski, 1994). Furthermore we found that NFCL varied positively with age ($r = .22$), while NFC was higher for higher education levels ($r = .19$).

We also found that women ($r = .49$) and higher aged ($r = -.16$) subjects were more responsible for the purchase of this specific product (blanket). Furthermore, we found that purchase responsible ($r = .25$) and higher aged (near to significant) ($r = .15$) subjects were more involved with the product.

Table 4: Pearson Correlations between Independent, Dependent Variables and Covariates.

	Gender	Age	RFP	Purchase Resp.	Involv.	NFC	NFCL	ABSTR.	CONCR.
Age	.106	1							
Education	-.081	-.129	1						
RFP	.492**	-.160*	-.011	1					
Involvement	-.126	.152	.011	-.251**	1				
NFC	.090	.037	.189*	.000	-.081	1			
NFCL	-.059	.224**	-.116	-.125	.098	-.196*	1		
ABSTRACT	-.049	.061	-.075	-.126	.071	.289**	.181*	1	
CONCRETE	.028	.152	-.125	-.080	.109	.135	.271**	.609**	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Next, we measured the correlations between our dependent variables (importance of concrete and abstract attributes) and the covariates. We found no significant correlations indicating that none of the incorporated covariates are important in explaining importance of product attributes. We found one near to significant effect of age ($r = .15$), denoting that higher aged subjects find concrete attributes more important.

Interestingly, we found that high NFCL subjects attach greater importance to abstract ($r = .18$) and concrete ($r = .27$) attributes compared to low NFCL subjects, while High NFC subjects find abstract ($r = .29$) attributes more important than low NFC subjects. The correlation between NFC and the importance of concrete attributes was positive but not significant ($r = .14$).

Finally, we found a high correlation between the importance of concrete and abstract attributes ($r = .61$). Subjects who found abstract attributes important are more inclined to find concrete attributes important as well.

Next, we used analysis of variance to elaborate on these findings. We calculated the main effects separately for NFCL and NFC subjects to restrict the exclusion of respondents. If we take into account NFCL and NFC in the same analysis, we can only include those subjects that belong to the highest and lowest quartiles for both NFCL and NFC. In this case, in total, only 35 subjects could be retained. Consequently, we examined main effects separately for NFCL and NFC. In this case, 68 respondents remain in the analysis. However, we note that the

respondents used to analyse the NFCL main effects are not all the same respondents used to calculate the NFC main effect.

Using one-way manova, we found significant main effects of NFCL ($F(1,68)=4.36, p=.01$) and NFC ($F(1,68)=5.02, p=.01$) on the importance of concrete and abstract product attributes. No significant effects of covariates were found (see table 5 and 6).

Further analysis showed that especially the importance of concrete attributes was influenced by NFCL ($F(1,68)=8.85, p<.01$), while the importance of abstract attributes was not affected by NFCL ($F(1,68)=2.12, ns$). However, opposite results were found for NFC. The importance of abstract attributes was significantly influenced by NFC ($F(1,68)=10.21, p<.01$), while no effects were found for the importance of concrete attributes ($F(1,68)=2.08, ns$). Mean ratings can be found in figure 1 and 2.

Table 5: Results of Analysis of Variance for NFCL.

	Wilks Lambda	F	Significance	Effect size	Power
Intercept	.315	66.188	.000	.69	1
Involvement	.975	0.788	.460	.03	.18
Gender	.933	2.175	.122	.07	.43
Age	.989	0.351	.705	.01	.10
Education	.974	0.804	.452	.03	.18
RFP	.999	0.024	.976	.01	.05
NFCL	.875	4.357	.017	.13	.73

Table 6: Results of Analysis of Variance for NFC

	Wilks Lambda	F	Significance	Effect size	Power
Intercept	.317	65.627	.000	.68	1
Involvement	.988	0.381	.685	.01	.11
Gender	.995	0.158	.854	.01	.07
Age	.976	0.749	.477	.02	.17
Education	.999	0.035	.966	.01	.06
RFP	.960	1.281	.285	.04	.27
NFC	.859	5.024	.010	.14	.80

Figure 1: Mean Ratings of NFCL.

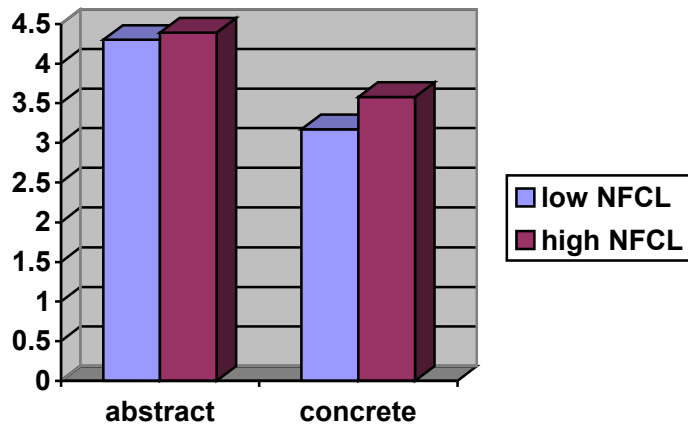
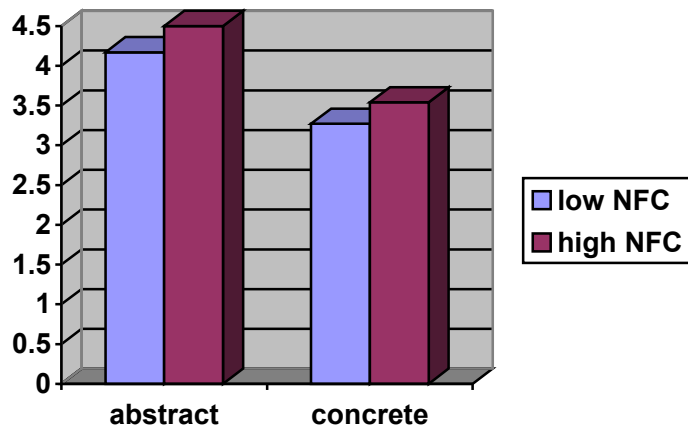


Figure 2: Mean Ratings of NFC.



We calculated interaction effects for NFCL and NFC but we have to keep in mind that the amount of subjects is rather small as noted before. A multiway manova showed no significant interaction effect between NFCL and NFC ($F(1,34)=0.81$, ns) (see table 7). As the F-value is rather small, we believe that adding subjects would not necessarily result in a significant interaction effect.

Table 7: Analysis of Variance of NFCL and NFC.

	Wilks Lambda	F	Significance	Effect size	Power
Intercept	.357	22.560	.000	.64	1
Involvement	.760	3.945	.032	.24	.66
Gender	.955	0.585	.565	.05	.17
Age	.986	0.178	.838	.01	.08
Education	.984	0.205	.816	.02	.08
RFP	.932	0.905	.417	.07	.19
NFC	.659	6.468	.005	.34	.87
NFCL	.820	2.749	.083	.18	.49
NFC*NFC	.939	0.813	.455	.06	.17

Omitting more than 50% of the subjects resulted in an overall non- but near-to significant effect of NFCL on the importance of product attributes in general ($F(1, 34)=2.75, p < .1$). However, the overall effect of NFC on the importance of product attributes remained significant ($F(1, 34)=6.47, p < .05$). The covariate involvement did significantly affect the importance of product attributes in this smaller sample ($F(1, 34)=3.95, p < .05$).

To test our third hypothesis, a paired samples t-test was performed. The importance of the two types of product attributes was compared for each respondent group (high/low NFCL and NFC) separately. We found that for each group, respondents attach significantly more importance to abstract compared to concrete attributes (see table 8).

Table 8: Paired Samples t-Tests.

	Mean abstract	Mean concrete	Mean difference	t	df	Significance
High NFCL	4.4154	3.6041	0.8113	8.923	34	<.001
Low NFCL	4.2149	3.1492	1.0658	13.692	33	<.001
High NFC	4.5023	3.5399	0.9623	12.907	33	<.001
Low NFC	4.1714	3.2796	0.8918	11.194	34	<.001

In general, all subjects attached greater importance to abstract attributes ($t(1,140)=24.143, p < .0001$)

Another interesting finding is the following. High NFCL subjects assigned higher importance values to both types of attributes compared to low NFCL subjects. Previously calculated bivariate correlations already indicated this finding. All bivariate correlations were positive and significant (see above). A univariate ANOVA indicated that this effect was significant (NFCL: $F(1,68) = 9.76, p < .01$).

In addition we performed a linear³³ regression analysis to learn the weight coefficients of NFC and NFCL on the importance of abstract ($R^2 = .16$) and concrete attributes ($R^2 = .12$). Moreover, regression analysis overcomes problems that are associated with dividing continuous data into groups (ANOVA): reduction of power for detecting main effects and spurious significance levels for interaction models (Irwin, 2001).

We found that NFC ($\beta = .34$) is more important in explaining the importance of abstract attributes compared to NFCL ($\beta = .25$), while the reverse was true for the importance of concrete attributes (NFC: $\beta = .19$; NFCL: $\beta = .31$). The interaction between NFC and NFCL was not significant for both abstract and concrete attributes. In addition, NFCL and NFC were both important in explaining both the importance of concrete and abstract attributes.

A stepwise regression analysis showed that only NFCL and NFC were significant in explaining the importance of both abstract ($R^2 = .14$) and concrete ($R^2 = .11$) product attributes. The other incorporated variables (age, gender, education, involvement, purchase responsibility) did not contribute significantly. This result confirms our argument that the significant result of involvement in the multiway manova analysis was due to the small amount of respondents.

³³ Residuals show a random pattern of big and small negative and positive deviations indicating a linear relation between the variables (De Pelsmacker & Van Kenhove, 1999)

8. Discussion

8.1. Interpretation and Discussion of Results

We investigated the influence NFCL and Need for Cognition have on the importance a consumer attaches to different types of product attributes (abstract versus concrete). We used a questionnaire that incorporated the independent variables NFCL and NFC, the dependent variables importance of concrete and abstract product attributes for a blanket (27 in total) as well as some control variables (age, gender, education, involvement, purchase responsibility) that were used as covariates in the further analyses. The attributes used in this research were identified in a preliminary research. This preliminary research was conducted following research from Geistfeld et al. (1977) and additional investigation of advertisements and websites of a blanket.

High NFCL subjects are intolerant for the ambiguous and insecure character of a non-closure situation. Therefore they feel an urge to reach their desired closure quickly and try to keep closure once they have attained it (Kruglanski & Webster, 1996). As concrete attributes are more easily available in memory, can act as heuristic cues and require less cognitive effort to process (Kisielius & Sternthal, 1984a; Viswanathan et al., 1999) and because abstract attributes are more subjective and therefore more ambiguous compared to concrete attributes, we argued that high NFCL subjects would attach greater importance to concrete attributes compared to low NFCL subjects. This hypothesis was confirmed.

We also found a significant small correlation between the importance of abstract product attributes and NFCL, but this was not confirmed in Mancova analysis. The incorporation of all respondents (correlation analysis) compared to half of the respondents (highest/lowest quartile, mancova) can be raised as possible explanation. Increasing the NFCL level, results in an enhanced importance of concrete and abstract product attributes. In other words, high NFCL consumers value both concrete and abstract attributes more than low NFCL subjects. This greater attached importance of high NFCL can also be explained by NFCL theory. High NFCL

subjects want clear and confident knowledge before making a decision. Even though they are reluctant to process ample amount of information, they are committed to make secure decisions. Consequently, we can argue that they possibly find all information they can use during decision-making more important compared to low NFCL subjects. Further regression analysis also showed that NFCL is important in explaining the use of concrete as well as abstract attributes.

Based Viswanathan et al., (1999), Kisielius & Sternthal (1984a) and NFC theory and research, we argued that high NFC subjects would attach greater importance to abstract compared low NFC subjects. Again our hypothesis was confirmed. High NFC subjects experience a highly effortful cognitive task as pleasant and therefore are more inclined to engage in this task spontaneously (Cacioppo & Petty, 1982). Regression analysis also showed that NFC is important in explaining both the importance of concrete and abstract attributes.

No significant interaction effects were found. We argued that the limited sample could explain this, however, because of the small F-value, it is unlikely that adding subjects would provide a significant interaction effect. Regression analysis confirmed the non-significance of the interaction factor.

Mancova and regression analysis showed that the included covariates had no significant impact on the importance of product attributes. In addition, linear regression analysis indicated that NFC was more important in explaining the importance of abstract product attributes compared to NFCL while, the reverse was true for concrete product attributes. In this case, NFCL explained more variance of the importance of the attributes compared to NFC.

We also argued that all respondents would attach greater importance to abstract compared to concrete product attributes. We founded this hypothesis on the Means-end chain theory (Gutman, 1982). According to the means-end chain theory, the instrumentality of an attribute and consequently its importance to the consumers' choices depends on the strength and numbers of cognitive links between the attribute, its consequences and related personal values. It argues that abstract attributes are more instrumental for satisfying needs because they are

more directly linked to the functional consequences of the product compared to concrete attributes, where this link is mediated by abstract attributes. Our results again confirmed this hypothesis. Furthermore, this result confirms Vallagher and Wegner's behaviour guidance theory (1985) that states that individuals prefer an abstract representation of behaviour (e.g. choice task), compared to a concrete representation. However, they also argue that because of the many inherent problems of the choice environment, the individual is often forced to concentrate on the concrete aspects of the task, hereby running the risk of forgetting the initial abstract intentions. Analogous, Ratneshwar (2000) also argues that, in general, abstract attributes are preferred.

8.2. Theoretical Implications

First of all, we extended the research on NFCL in a consumer context. We argued –using NFCL theory and research- that the type of information a consumer attaches importance to will differ according to the consumers' NFCL level. Our findings confirmed our expectations, which in turn validates the propositions proposed in the NFCL theory.

We also confirmed previous research on Need for Cognition by again demonstrating that high NFC individuals are more inclined to engage in cognitive effort compared to low NFC individuals.

Furthermore, we helped to broaden the distinction between NFCL and NFC by demonstrating that these two motivational variables have a different influence on the importance of specific attributes.

Next, we confirmed previous research indicating that abstract attributes are considered more important compared to concrete attributes.

Finally, we extended the research on abstract versus concrete product attributes, a dimension that can be used to categorize all existing attributes and which is incorporated in several

theories (e.g. Means-end chains, behaviour guidance theory) and research (comparability of alternatives).

8.3. Practical Implications

The results of this study could have significant implications for segmentation and positioning strategies and can add to the practice of target group marketing.

Nowadays, products are developed for specific consumers, instead of reverting to mass marketing where products were undifferentially introduced on the market. This development is a result of several factors. First of all, western economies are more confronted with mature markets. This holds (amongst others) that the competition sharpens because there is a battle for market shares. Moreover, introduction of new brands and brand extensions of existing brands in a mature market costs a lot of money. In this case, a target group marketing strategy is the best choice to try and limit failures. Secondly, the consumer is getting more demanding and sophisticated partly resulting from social and economic powers like higher spending budgets and higher education. Thirdly, new technologies can help companies to adapt products to the specific tastes of a specific target group. Fourth, the evolution in marketing service offers promotes target group marketing. For example 'special interest' magazines like 'onze tijd' make it possible to address a communication message specifically to older consumers. Furthermore, the large distribution of cable television, databases use and geomarketing make a more effective target group marketing strategy more possible (De Rijcke, 2000). In these new markets, success often depends on the creation of a packet of products and services that are tuned in to the customer.

Our study demonstrated that NFCL and NFC could influence the importance attached to specific attributes. We argue that marketers can use these motivational tendencies to segment their market and manipulate attributes to position their products according to these segments. A marketer can emphasize concrete attributes in their communications towards high NFCL consumers, in order to enhance the openness to persuasion displayed by these consumers. In

this way, segmenting markets on the basis of NFCL and NFC can increase communications effectiveness.

Furthermore, an important attribute (an attribute that is instrumental in consumer satisfaction) does not necessarily influence choice behaviour. In order to influence choice, the products in the choice set have to differ regarding this attribute (Bech-Larsen & Nielsen, 1999). For example, a consumer can attach great importance to the speed of a car but because all cars have this characteristic, it does not affect the decision /choice of the consumers. Therefore, we suggest marketers to investigate (after the importance of attribute is known) the degree to which the attribute differs from the competitor.

Finally, our findings that abstract attributes are more important for all consumers compared to concrete attributes can help marketers who do not know the NFCL or NFC level of their customers. We can argue that –in general- marketers can reach the greatest amount of customers by incorporating abstract attributes in their communications.

8.4. Limitations and Directions for Future Research

We found that subjects, who scored high on the NFCL, attached significantly more importance to all attributes, concrete as well as abstract. We argued that they possibly find all information they can use during decision-making more important compared to low NFCL subjects. Another possible explanation is the existence of response tendencies. High NFCL subjects could have an extreme response style (ERS) that results in an inclination to consistently give extreme scores to an item (in this case high scores), irrespective of the content of the item (Baumgartner & Steenkamp, 2001). A response tendency is a consequence of the interaction between dispositional and situational factors (Snyder & Ickes, 1985) and can possibly contaminate a questionnaire. A possible explanation for the relation between ERS and NFCL is the following: according to Hamilton (1968), ERS can indicate intolerance for ambiguity and this latter concept is a subscale of the NFCL construct. Future research can examine

further if high NFCL subjects find all attributes more important because of their engagement towards secure decisions or because of their fear of invalidity leading to extreme response styles.

Another limitation is the restriction to one product that we made in this research. Further analysis concerning several products or product categories is necessary to generalize our conclusions. We intended to empirically show that subjects with different motivational tendencies attach other levels of importance to product attributes. Our rather small sample and highly significant results indicate that our results are most likely valid and generalizable to other products.

Furthermore we did not incorporate familiarity and consumer knowledge in our research, while previous authors suggest that familiarity or knowledge of the product category influences the importance of attributes (Bettman & Park, 1980). However, we did incorporate purchase responsibility that correlates with product familiarity. Further research should incorporate product familiarity and/or knowledge.

Finally, our student sample in the preliminary research could possibly classify abstract and concrete attributes differently compared to our consumer sample in the main study. We did not ask our subjects in the main study to categorize the attributes according to abstractness-concreteness. However, as approximately 2/3rd of the attributes were categorized in the same manner as the Geistfeld et al. (1977) consumer study, we argue that possible differences would be small. However, in future research, sample characteristics of preliminary and main research should best be similar.

A suggestion for further research could be the relation between NFCL and the direction of comparison effect. Mantel and Kardes (1999) found that high NFC subjects were more likely to use attribute-based processing during preference formation and are more likely to be influenced by the direction of comparison (= more recently observed brand serves as object of comparison and the earlier observed brand serves as the referent, Houston & Sherman, 1995; Kardes & Sanbonmatsu, 1993; Sanbonmatsu, Kardes & Gibson, 1991; Houston, Sherman &

Baker, 1991; 1989; Tversky, 1977). The level to which message order influences judgment has been shown to be dependent on the level of message elaboration (Petty, Haugtvedt & Smith, 1995; Haugtvedt & Wegener, 1994; Haugtvedt, Wegener, & Warren, 1994). This direction of comparison effect plays an important role in the understanding of which attributes are used for comparison of products. The focal brand tends to elicit more thoughts than the less focal brand when a judgment is made between two brands (Dhar & Simonson, 1992). In this case, the shared attributes (used to describe both brands) are used independently of which brand is focal or referent, while the unique attributes (used to describe one brand but not the other) of the focal brand serve as checklist against which the referents' attributes are compared. The attributes unique to the subject are highlighted by the directional comparison process and carry the most weight in the judgment of the two brands. In this case, the directional comparison process downplays the attributes unique to the referent. Mantel and Kardes (1999) argue that because attribute-based processing is influenced by the order of comparison while attitude-based processing is not (Sanbonmatsu et al., 1991), any individual characteristic that tends to increase elaboration at the time that the brands are presented will encourage the storage and the subsequent accessibility of specific attributes. We can ask ourselves if differences in NFCL can also lead to differences in influences by the direction of comparison effect. The internal motivation to refrain from processing displayed by high NFCL subjects can influence which specific attributes are made accessible for consideration, which in turn can lead to asymmetric attribute recall and systematic product preferences. According to the direction of comparison effect, the unique attributes of the focal brand should be highlighted while the unique attributes of the referent should be downplayed during the judgment process. However, as high NFCL subjects are more inclined to downsize their mental efforts, we can expect that they will predominantly use shared attributes to make decisions. Consequently, high NFCL subjects would not be affected by the direction of comparison. However, high NFCL subjects are also more prone to use early information or pre-existing cues during decision making like for example the referent product (which is encountered first), indicating that possibly the unique characteristics of the referent brand could play an important role during judgment. On the contrary, previous research suggested that the weight given to later information cues could be higher compared to early information cues because of their greater accessibility (Richter &

Kruglanski, 1998). Future research can further investigate if high NFCL subjects display an opposite or no direction of comparison effect.

Primacy effects can influence the choice of high NFC subjects when two messages are presented, because the arguments presented early in the message are regarded as stronger arguments (Cacioppo et al., 1996; Petty & Jarvis, 1996). We can expect that these primacy effects also influence the choice of high NFCL subjects as they are more inclined to use early existing cues and semantic primes (e.g. De Dreu et al., 1999; Ford & Kruglanski, 1995). However, as our research indicated that high NFCL and NFC find different attributes more important, the type of attribute that is primed could influence the subsequent influence of this prime. Future research can investigate if high NFCL and high NFC subjects equally use abstract and concrete primes.

Engel et al. (1995) argue that the specific attributes a consumer attaches importance to when evaluating different product alternatives depends on several factors (e.g. situational factors). The ongoing controversy in psychology and marketing literature about the relative importance of personality versus situational factors as source of individual behavioural differences, leads to the interactionist approach (Hornik, 1982). This theory states that neither individual differences nor situational factors can explain differences in consumer behaviour alone. The interaction between the person and the situations contributes to behavioural differences because the individual consumer reacts to a specific situation. In this research situational differences were not incorporated. We suggest incorporating this control variable in further research. Furthermore, other variables like social class or income could be investigated because they can influence the kind of attribute a consumer attaches importance to.

Concrete goals are assumed to relate to desires to achieve ends at the level of objective product features, whereas abstract goals relate to subjective consequences at the benefit level that can be inferred from objective features (Bettman & Sujan, 1987; Johnson, 1984). Findings in previous research suggest that goals have an important guiding effect during information search and encoding because goal-relevant characteristics receive priority attention and consideration while goal-irrelevant tend to be ignored (Huffman & Houston, 1992). Because

concrete and abstract goals imply differences in scope for what is relevant, they may prompt differences in basic styles of information acquisition, for example, if information search is concentrated within a brand or attribute-based across brands. A concrete goal indicates the pursuit of a specific end at the feature level. When a consumer examines a set of brands with such a goal, he emphasizes a certain characteristic that indicates the concrete goal's fulfilment. With a concrete goal, brands may tend to be compared along the goal-relevant feature dimension in an attribute-based processing mode (e.g. Ross & Creyer, 1992). In contrast, abstract goals may prompt a person to consider a broader range of attributes for each brand (and thus implies greater effort). Furthermore, processing with an abstract goal in mind may imply a need to estimate higher-level consequences by combining lower-level pieces of attribute information (Johnson, 1984). This need to synthesize attribute information that follows having an abstract goal, implies that consumers may devote most of their search effort within brand, and collect pieces of goal-relevant information to weave together. We can expect that high NFCL subjects would predominantly have a more concrete goal in consumer situations (in addition to their closure goal), while low NFCL subject have more abstract goals in mind. For example, high NFCL could intend to buy a car with specific attribute like airbags, while low NFCL subjects could entertain the goal to buy a safe car. These two goals differ in abstraction but can result in buying the same car (if for example, security is operationalized by air bags by the low NFCL subject). However, communication should differ between these two type of customers, again, high NFCL would benefit from concrete communications, while low NFCL subject prefer more abstract ones. Furthermore, future research could investigate if the high NFCL consumer has more concrete goals in mind compared to the low NFCL consumer.

Accompanying these differences in processing style may be differences in the specificity of the information that is encoded under concrete and abstract goals. Because of a concrete goal's emphasis on an individual feature, product-related elaboration may be confined to thoughts about attribute values that are observed. On the other hand what is encoded with an abstract goal may be conceptual implications of attribute value information. With an abstract goal, a consumer is interested in a subjective benefit that is supplied by multiple objective features. Product-related elaboration may focus on synthesizing the meanings behind the relevant attribute values and deducing goal fulfilment. Peterman (1997) concludes that during

information search, the abstraction of a person's usage goal determines the breadth and directionality of product information acquisition. Information search under a concrete goal is more likely to occur across brands along particular attributes, whereas abstract goals encourage within brand processing, presumably because of a need to blend together the implications of multiple objective attributes that are relevant to the higher-level goal. Consequently, we can expect that information search for high NFCL subjects (i.e. concrete goal) is probably attribute-based, while low NFCL subjects (i.e. abstract goal) prefer within-brand processing.

If a consumer uses an attribute-based strategy to compare information or products, he requires the knowledge and use of specific attributes at the time the judgment is rendered and it also involves the use of attribute-by-attribute comparisons across brands. We can expect that as a consequence of the goal induced differences in information acquisition, qualitatively different kinds of product information are stored in memory, the literal, attribute-oriented emphasis of concrete goal processing leads to storage of information at the level of attribute values. In contrast, the brand-based processing associated with abstract goals leads to encoding at a more conceptual level. Thus, we can expect high NFCL have more knowledge of concrete attributes, while low NFCL would have more knowledge of abstract attributes or benefits. All the former expectations could be tested in future research.

Johnson (1988) concludes that the importance of the concreteness-abstractness dimension is a predictable dimension of consumer choice processing. He found that consumers use attribute-based processing on relatively abstract attributes and alternative-based processing on relatively concrete attributes to compare non-comparable alternatives. However, as mentioned earlier, high NFCL subjects could be more inclined to use attribute-based processing, while low NFCL subjects are more inclined to use alternative-based processing. We can investigate if this use of attribute versus alternative based processing is consequently used by individuals different in NFCL and NFC or if it depends on the type of attribute (abstract versus concrete).

9. Conclusion

This study confirmed that NFCL and Need for Cognition both influence the importance attached to different types of product attributes (abstract versus concrete). High (versus low) NFCL subjects find concrete attributes more important, while high (versus low) NFC subject value abstract attributes more. In addition, results revealed that abstract attributes are generally more valued compared to concrete attributes. Furthermore, our results also indicated that high NFCL subjects also attach greater importance to abstract attributes. All results are discussed in terms of NFCL and NFC theory.

Chapter 6

An Empirical Investigation of the Relationships between Ethical Beliefs, Ethical Ideology, Political Preference and Need for Closure of Dutch-Speaking Consumers in Belgium

Chapter 6

An Empirical Investigation of the Relationships between Ethical Beliefs, Ethical Ideology, Political Preference and Need for Closure of Dutch-Speaking Consumers in Belgium³⁴

1. Abstract

In recent years, Belgium has often been cited in the international press in connection with unethical practices. Consequently, the public has started to pay more attention to unethical behaviour, as it is almost daily front-page news. This study investigates the ethical judgments of the Dutch-speaking population of Belgium (60% of the total Belgian population). It is based on a representative survey of 286 respondents.

An analysis is presented of the relationships between consumers' ethical beliefs, ethical ideology, Machiavellianism, political preference and the individual difference variable 'Need for Closure'. To make international comparison possible, standard measurement tools of proven reliability and robustness are used to measure ethical beliefs (consumer ethics scale), ethical ideology (ethical positioning), Machiavellianism (Mach IV scale) and Need for Closure. The analysis finds the following. Individuals with a high Need for Closure tend to have beliefs that are more ethical as regards possible consumer actions, and score higher on idealism and lower on Machiavellianism, than those with a low Need for Closure. Furthermore, individuals with a high and low Need for Closure have different political preferences for right wing and left-wing parties. In addition, results suggest that Dutch-speaking consumers in Belgium –who are mainly 'situationists'– have similar ethical beliefs to those in other Western countries. Furthermore, a significant relationship exists between ethical ideology (based on idealism and relativism), Machiavellianism, gender and ethical beliefs.

³⁴ An adaptation of this research has been published in *Journal of Business Ethics* (2001, vol 32(4), 347-361).

Finally a significant relationship exists between political preference, ethical beliefs and ethical ideology for some political parties.

2. Introduction

Recently, many political, social and economic changes have occurred worldwide (Rawwas, 1996), such as the emergence of several capitalist countries from the former USSR, the development of the European Union, the recent Balkan crisis, and so forth. In fact, as Rawwas, Patzer and Klassen (1995, p.62) pointed out, 'these shifts created fertile soil for a variety of ethical opinions'. Recently, Belgium has been the arena of several scandals that have received international attention. The Dutroux case (paedophilia), the Agusta-Dassault scandal (fraud), the murder of Karel van Noppen (a doctor who discovered fraud involving hormones in meat), the Bende van Nijvel case (the unsolved killing of people in supermarkets), the discovery of dioxin and PCBs in meat (started in the spring of 1999 and is still ongoing), the problems with Coca-Cola (summer 1999), the Lernout & Hauspie fraud; the recent Nepal weapons crisis (august, 2002) and various other scandals, caused many Belgians to take a growing interest in, and to react against, unethical practices.

In a recent survey (n=6,450) of opinions about the most striking scandal of the last century, 34% of respondents cited the Dutroux case, 33% the Bende van Nijvel, 12% the Agusta-Dassault scandal and 8% the hormones affair (SDH, 1999). On 20 October 1996, about 300,000 people (out of a population of 10 million) demonstrated in Brussels against the unethical practices involved in the Dutroux case and the malfunctioning of the Belgian justice system. It was the largest demonstration in Brussels for many years. As a direct consequence, the government promised to reform the operation of the Belgian justice system. In addition, several new political parties and movements began to emerge. At the same time, according to Transparency International, which interviewed an international panel of chief executive officers, bankers and experts, Belgium ranks very poorly on the scale of corruption. In Europe, only Italy, Greece and the ex-communist countries of Eastern Europe rank worse (De Wit, 1999). On the underground economy, only Greece, Italy and Spain score worse than Belgium, where it comprises about 22.6% of GNP, compared with 8% - 9% in Switzerland and Austria

(Belga, 1999). Furthermore, tax avoidance is common among Belgian consumers. For example, a relatively large proportion of home construction and decoration (building, painting, and so on) is deliberately carried out without invoices to avoid value added tax and income tax.

Consequently, critical questions have been raised and a general discussion is taking place about ethics in society and business. Advertising, personal selling, pricing marketing research and international marketing are all the subject of frequent ethical controversy (Murphy & Laczniak, 1981). Business marketing, the most visible activity of a company, has tended to come under scrutiny (Laczniak & Murphy, 1981), and ethics in business and marketing is attracting increasing attention. Companies tend to be more sensitive to consumers' opinions about business ethics. This is probably due to the fact that marketing in general, and the buyer/seller dyad in particular is a place where a lot of ethical problems in business arise (Vitell & Festervand, 1987; Baumhart, 1961).

Furthermore, according to Bernstein (1985) consumers are 'out-doing big business and the government at unethical behaviour' (p. 24), concluding that there is a definite need to study the ethical decision making of consumers. Consumers are the major participant in the business process and not considering them in ethics research will likely result in an incomplete understanding of business ethics. Furthermore, a good understanding of the consumers' perception and beliefs about various ethical issues and problems in the marketplace is essential for effective marketing management (Singhapakdi, Vitell, Rao & Kurtz, 1999). It can be argued that consumers make ethical judgments and that these judgments are likely to influence the consumers' acceptance or rejection of the company's products (Hunt & Vitell, 1986). Thus a marketing manager must have a thorough understanding of any ethical differences between marketers and consumers as well as the determinants of these differences.

Moreover, Rawwas and Singhapakdi (1998) argue that unethical behaviour of consumers can be a significant cost to business. For example, shoplifting is a major problem for retailers (Cole, 1989). Theft in shops, warehouses and even production lines reduce profitability (Wegnez, 1996). Annual retail inventory shrinkage accounts for about 35 billion dollars

caused by customer shoplifting (46%), employee theft (46%) and vendor embezzlement (8%) (Ernst & Young, 1993). Nill and Shultz (1996) argue that the violation of Intellectual Property Rights (IPR) in the form of counterfeiting is emerging as one of the most troublesome problems for companies in the new millennium. Another example is the copying of computer software and CDs. According to the Business Software Alliance, about 36% of all software used in Belgium is illegal (Gazet van Antwerpen, 1998) and the (unauthorized) downloading of music from the Internet is rapidly growing (Sterk, 1999). To stress the importance of the topic, Chan, Wong and Leun (1998, p.1163) concluded that 'The understanding of consumer ethics is crucial to today's marketers and policy makers'.

In sum, as ethical behaviour is an important part of consumer behaviour and little research exist on this topic, we hope to contribute to the knowledge and understanding of consumer ethical behaviour and the marketing practice by investigating the relationship between ethical beliefs and several possible determinants (e.g. NFCL). In addition, we hope to learn more about the NFCL concept.

3. Need for Closure and Ethical Beliefs

The relationship between individual characteristics and ethical decision-making has been recognized several times (Hunt & Vitell, 1993; 1986; Knouse & Giacalone, 1992; Mayo & Marks, 1991; Ferrell & Gresham, 1985; Hegarty & Sims, 1978).

More recently, Rallapalli, Vittel, Wiebe and Barnes (1994) examined the relationship between consumers' ethical beliefs/actions and personality traits. They concluded that individual consumer ethical beliefs have important foundations in individual personality traits and motivation (e.g. need for autonomy, need for innovation, need for aggression, need for social desirability, need for achievement, need for affiliation, need for complexity, propensity for taking risks, problem solving coping style, emotion solving coping style). They also acknowledge that additional personality traits should further be examined.

A possible influencing (morals-unrelated) individual characteristic is NFCL. NFCL has been found to influence consumer decision-making, social decision making and a variety of social psychological phenomena (Vermeir, Van Kenhove & Hendrickx, 2002; Vermeir, Van Kenhove, Vlerick, & Hendrickx, 1999; Kruglanski et al., 1997). NFCL affects information processing and, indirectly, the multiple social psychological phenomena information processing may mediate. Consequently, NFCL could help determine how an ethical situation is perceived. Furthermore, considering the goals that high and low NFCL consumers aspire could help us understand how high and low NFCL consumers resolve their ethical dilemmas. For example, high NFCL consumers are motivated to avoid negative feelings that accompany a lack of closure and therefore aim at the quick acquisition of closure and bias their choices and preferences toward closure-bound pursuits. A possible closure bound behaviour is to denounce any unethical behaviour without exception. Consequently, uncertain or ambiguous situations and further information processing are shunned. Furthermore, Low NFCL consumers, on the other hand, could tend to examine particular situations more closely and therefore have different opinions towards different kinds of unethical behaviour.

4. Present Study

The purpose of this study is twofold. First, we concentrate on consumer ethics in Belgium. To our knowledge, no systematic study of consumer ethics has been undertaken in Belgium. This can be relevant in the light of the many recent scandals and the fact that Belgium is a strategically important country in Europe, as a founding member of the European Union and with Brussels as the European capital. Brussels is also the European base of many European, American and Japanese multinational companies. Belgium has two main communities: the Dutch-speaking (Flemish) and the French-speaking (Walloon). We limit this study to the Dutch-speaking (Northern) part of the country. The Dutch-speaking community is the larger group (60% of a population of 10 million), and accounts for 75% of Belgian exports.

Second, we examine the ethical ideologies of Dutch-speaking consumers in Belgium as well as their ethical beliefs regarding questionable consumer practices. We focus on the ideological types, based on idealism and relativism scales, and the degree of Machiavellianism,

determinants that have already been studied in previous articles (e.g. Chan et al., 1998; Rawwas, 1996; Rallapalli et al., 1994; Vittel, Lumpkin & Rawwas, 1991).

The present study goes beyond previous research and introduces a new variable in this area in order to discover new relationships that could open new lines of inquiry. We examine the relationship between the individual difference variable ‘Need for Closure’ and different aspects of consumer ethics. To our knowledge, this variable has never before been examined in the context of consumer ethics. Finally, we examine the relationship between consumers’ political preferences and different aspects of consumer ethics and NFCL. As most political parties have clear concepts and values relating to ethical issues, this relationship could be of particular interest.

Before presenting the hypotheses, relevant ethics terminologies and research are discussed.

4.1. Ethics Research

Consumer ethics can be defined as the moral rules, principles and standards that guide the behaviour of an individual (or group) in the selection, purchase, use, selling or disposition of a good or service (Muncy & Vitell, 1992). This acquisition, consumption and disposition of products often involve situations that have ethical content (Rallapalli et al., 1994; Vitell et al., 1991). Thus, ethics is integrally involved with all aspects of CB.

Within CB literature, there is little mention of consumer activities that fall beyond the boundaries of what is considered as normative or ethical and what little there is has typically been very narrow in scope. Most of the former studies focused on very specific and limited situations having an ethical component (Shoptlifting, Moschis & Powell, 1986; Double standards, Davis, 1979).

A large body of literature is developing concerning ethics in the marketplace; however, almost all of this research has focused on the seller side of the buyer/seller dyad (Al-Khatib, Vitell &

Rawwas, 1997). Consumers' perceptions of business and marketing practices have been surveyed (McIntyre, Thomas & Gilbert, 1999). However, most research examined ethics as they relate to business or marketing situations, while only 5% examined ethics in relation to consumer situations (Rawwas, Vitell & Al-Khatib, 1994; Murphy & Laczniak, 1981). Vitell and Muncy (1992) argue that research on ethical beliefs and ideologies of consumers has been minimal (less than 20), while business and marketing ethics have come to the forefront in recent years.

Various older studies have examined the major ethical problems confronting marketers (e.g. Hunt & Chonko, 1987- advertising executives; Chonko & Hunt, 1985 –marketing management; Hunt, Chonko & Wilcox, 1984- marketing researchers; Belizzi & Murdoch, 1981- industrial sales managers; Tybout & Zaltman, 1974- marketing researchers).

More recently research has investigated ethical beliefs and/or behaviour of managers (Chow, 2001), middle level managers (McDonald & Zepp, 1988) and public relation practitioners (Pratt, 1992); cultural differences in ethical beliefs of marketing professionals (Singhapakdi, Higgs & Rao, 1999); ethical judgments of retailers (Hu, 1999), managers (Fraedric & Ferrell, 1992), researchers (Skinner, Ferrell & Dubinski, 1988), top managers (Flannery, 1997), salespeople (Tansy, Brown, Hyman & Dawson, 1994), marketing managers (Bass & Hebert, 1995), (Davis, Johnson & Ohmer, 1998) and in organizations (Mobbs, 2002); gender differences in marketing professionals ethical judgments (Akaah, 1989); and marketing related norms of marketing practitioners (Singhapakdi, Kraft, Vitell & Rallapalli, 1995; Vitell, Rallapalli & Singhapakdi, 1993; Vitell & Singhapakdi, 1993). Recently, several researchers have investigated the ethical gaps between marketers and other groups in the society (Singhapakdi et al., 1999b).

For a more detailed discussion of these research findings, we refer the reader to the appendix (table A and table B).

4.2. Consumer Ethics Research

In the field of consumer ethics, the marketing discipline has been rather negligent and a limited, although growing, number of studies has been undertaken in the past concerning ethical beliefs and attitudes of the final consumer (e.g. consumer ethical beliefs, Rallapalli et al., 1994; Muncy & Vitell, 1992; Vitell et al., 1991; Murphy & Pridgen, 1987; Murphy & Laczniak, 1981). Six major streams of research exist in relation to consumer ethics.

First, several studies empirically examined one specific component of “unethical behaviour” (e.g. shoplifting, Filipowski, 1993; Williams, 1993; Kallis, Krentier & Vanier, 1986; Moschis & Powell, 1986; ecologically related consumption, Haldman, Peters & Tripple, 1987; Antill, 1984; consumer views about ethical issues related to gambling and lottery playing; Burns, Gillet, Reubenstein & Gentry, 1990).

Secondly, other studies investigated the perceptions or tolerance of consumers regarding several consumer and business practices (e.g. DePaulo, 1986; Davis, 1979; Wilkes, 1978). The latter studies indicate that a “double standard” exists concerning what consumers perceive to be acceptable consumer behaviour or acceptable business behaviour. Consumers tend to hold business to a higher standard than they themselves are willing to follow.

A third research stream has attempted to provide normative guidelines for consumer rights and responsibilities (e.g. Stampfl, 1979).

Fourth, recommendations are made on how business can best cope with unethical consumer behaviour and consumer abuse (e.g. Schubert, 1979).

Fifth, several authors examine consumer attitudes relative to a variety of potentially unethical consumer practices or situations and their behaviours (e.g. Tan, 2002; Vincent & Meche, 2001; Wagner & Sanders, 2001; Rallapalli et al., 1994; Watson & Pitt, 1993; Muncy & Vitell, 1992; Vitell, Lumpkin & Rawwas, 1991; Wilkes, 1978).

Finally, a sixth stream of research involves the development of theoretical models (e.g. Jones, 1991; Ferrell, Gresham & Fraedrich, 1989; Grove, Vitell & Strutton, 1989; Trevino, 1986; Hunt & Vitell, 1986; Ferrell & Gresham, 1985). Authors try to develop a conceptual and empirical basis for understanding ethical decision making by consumers. These business marketing ethics theories generally consider ethical behaviour a function of the various background variables including characteristics of the situation, organizational environment and the individual differences. In addition, theories in marketing ethics have postulated that individual ethical decision-making differs based on the personal characteristics of the decision maker (Hunt & Vitell, 1993; 1986; Muncy & Vitell, 1992; Knouse & Giacalone, 1992; Mayo & Marks, 1991; Vitell & Muncy, 1991; Ferrell & Gresham, 1985). More recently, Rallapalli et al., (1994) explored the relationship between various personality variables and consumers' ethical judgments.

4.3. Cross-Cultural Research

Vitell and Muncy (1992) caution the generalizability of research results stating that ethical beliefs differ across cultures and nationalities which might provide beneficial insights into the determinants of those ethical beliefs. Rawwas, Strutton and Lester (1996) argue that consumers from different cultures tend to view ethical issues differently. Fundamental cultural factors such as religion, national identity, loyalties, values and customs are known to be important influences on ethical decisions.

Consumer ethical beliefs and ideologies have been studied in different countries: North America (Rallapalli et al., 1994; Muncy & Vitell, 1992; Vitell & Muncy, 1992; Vitell et al., 1991), Australia (Watson & Pitt, 1993), Austria (Rawwas, 1996), China (Chan et al., 1998) and Japan (Erffmeyer, Keillor & Leclair, 1999).

Furthermore, some researchers compared ethical beliefs and/or ideologies of different cultures/countries. Al-Khatib, Dobie and Vitell (1995) compared American and Egyptian

consumers, Rawwas et al. (1996) compared ethical beliefs in US and Australia, Rawwas et al. (1994) investigated the ethical beliefs, preferred ethical ideology, and degree of Machiavellianism of consumers from Egypt and Lebanon while Rawwas et al. (1995) compared consumers' attitudes in Northern Ireland and Hong Kong. Rawwas, Patzer & Vitell (1998) also compared ethical beliefs of consumers from Ireland and Lebanon, while Singhapakdi, Rawwas, Marta & Ahmed (1999) compare the perceptions of marketing ethics situations, their attitudes toward business and salespeople, and their personal moral philosophies of Malaysian and US consumers.

Ethical beliefs, ideologies and Machiavellianism have been found to differ between different countries. For example, Rawwas et al. (1996) compared ethical beliefs in both US and Australia, two nations similar concerning long-standing political stability and economic prosperity over an extended period of time. They found differences regarding ethical beliefs between the two nations. More specifically, Australians viewed consumer actions involving passive gains at the expense of others and active gains from illegal actions as significantly less ethical than their American counterparts. The authors argue that these differences result from cultural differences across the 2 nations.

Another example is provided by Rawwas et al. (1994) who investigated the ethical beliefs, preferred ethical ideology, and degree of Machiavellianism of consumers from Egypt and Lebanon. It is indicated that consumers in Lebanon, a country that has been torn by civil unrest and terrorism, tend to be more Machiavellian, less idealistic, and more relativistic than their Egyptian counterparts. Additionally, the Lebanese consumers tend to be more accepting of questionable consumer practices.

4.4. Ethical Beliefs

To study the ethical beliefs of consumers, Muncy and Vitell (1992) developed a 'consumer ethics' scale. This scale, validated by Vitell et al. (1991), consists of questions about consumer practices that have ethical implications. Muncy and Vitell (1992) explore consumers' perceptions about situations they face as consumers and that have potential ethical content.

They extended the amount of situations investigated by either DePaulo (1987), Davis (1979) or Wilkes (1978) to get a greater insight into how consumers make judgment across a wide set of situations having ethical content. In sum, three major factors that seem to affect consumers' perceptions regarding the ethical content of unethical situations and contribute to the ethical decisions made by at least some consumers were: 1) whether the consumer was active or passive in the act (locus of the fault); (2) whether deceitful or fraudulent behaviour was involved; and (3) the degree to which direct harm occurred from the behaviour. Further analysis indicates that consumers' ethical decision making may be related to certain demographic descriptors. An overall high level of ethical concern was identified.

Overall, these consumer practices can be divided into four categories. The first category, 'actively benefiting from an illegal activity', comprises actions that are initiated by the consumer and that are almost universally perceived as illegal (e.g. giving misleading price information to a clerk for an unprimed item). In the second category, 'passively benefiting at the expense of others', consumers take advantage of a seller's mistake (e.g. getting too much change and not saying anything). In the third, 'actively benefiting from a questionable action or behaviour', the consumer is involved in an action (initiate) that may not necessarily be perceived as illegal (e.g. using an expired coupon for merchandise). In the last category, consumers perceive their actions as doing little or no harm ('no harm/no foul') (e.g. recording an album instead of buying it).

This scale has proved to be reliable and valid in several studies (e.g., Rawwas, 1996; Rallapalli et al., 1994; Muncy & Vitell, 1992). Various authors have used the consumer ethics scale in different countries for different populations (e.g. Vitell & Muncy, 1992).

4.5. Ethical Ideology

Another important topic in this study is the 'ethical ideology' of consumers. The ethical ideology model of Hunt and Vitell (1986) adapted by Smith and Quelch (1993) stresses the importance of idealism and relativism as sources of ethical discrepancies between individuals.

Idealism focuses on the intrinsic rightness of behaviour as the determinant of which behaviour is to be followed. Idealism can be defined as the degree to which the individuals assume that the desirable consequences can, with the right actions, always be obtained (Forsyth, 1980, p. 176). According to Forsyth, idealistic individuals adhere to moral absolutes when making ethical judgments. He explained that “highly idealistic individuals feel that harming others is always avoidable, and they would rather not choose between the lesser of two evils which will lead to negative consequences for other people (Forsyth, 1992, p. 462). On the contrary, the less idealistic individuals “assume that harm will sometimes be necessary to produce good” (Forsyth, 1992, p. 462). Idealisms taps whether consumers believe that acts should be judged as right or wrong, independent of how they are applied, or whether the ultimate determinant of right and wrong depends upon the outcomes produced by the action (Treise, Weigold, Conna & Garrison, 1994).

Relativism, the rejection of universal moral principles, focuses on the social consequences of behaviour. According to Forsyth (1980) relativistic individuals embrace a moral philosophy based on scepticism. “Relativists generally feel that moral actions depend upon the nature of the situation and the individuals involved and when judging others they weigh the circumstances more than the ethical principle that was violated” (Forsyth, 1992, p 462). Relativism taps the extent to which a consumer sees his or her own ethical standards as context-bound and subjective versus universal (Treise et al., 1994).

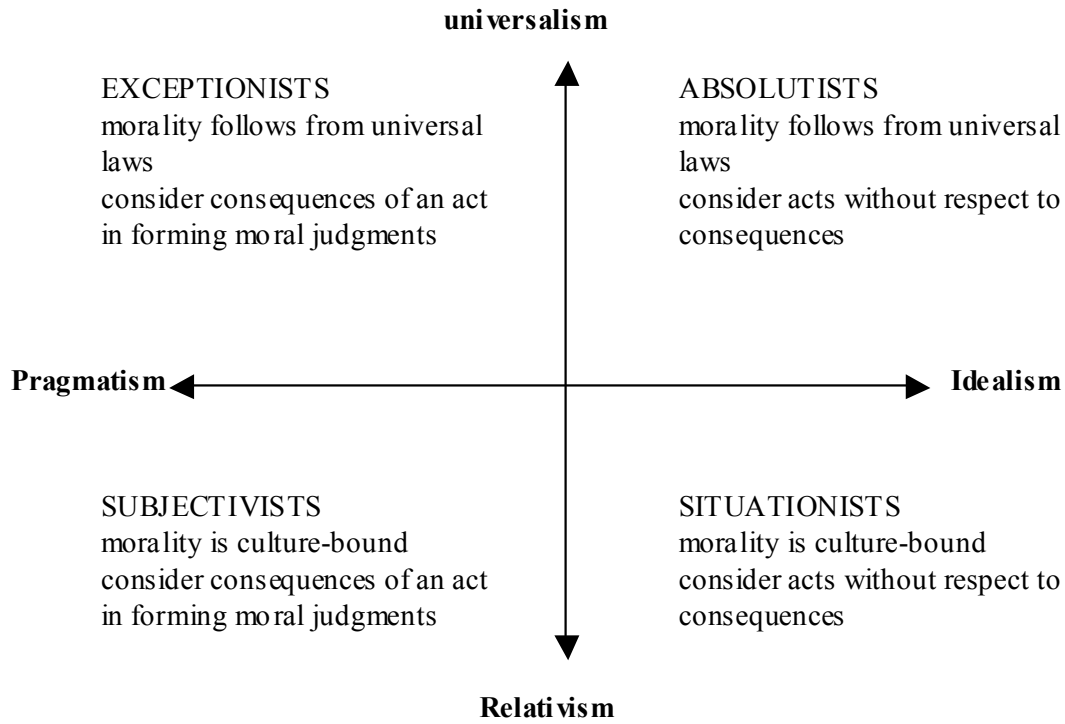
The Ethics Position Questionnaire (EPQ) developed by Forsyth (1980) consists of two scales, each containing 10 items. The first is designed to measure idealism, the second relativism. The 2 scales that make up the EPQ were found to have adequate internal consistency, were reliable over time, were not correlated with social desirability, and were not related to scores on the Defining Issues Test. The Relativism scale did correlate with scores on the Survey of Ethical Attitudes. These scales have proved to be reliable and valid in several studies (e.g., Rawwas, 1996; Vitell et al., 1991). Recently, Davis, Andersen and Curtis (2001) extend the work of Forsyth by examining the construct validity of the EPQ. They argue that a veracity factor has to be added to Forsyth’s

original dimensions but they still recognize the utility of the original two- factor structure for business ethics researchers.

Forsyth (1980) used both idealism and relativism to classify people into four different ethical types. Respondents who had high scores on both scales are considered situationists; those who are high on the idealism scale but low on the relativism scale are classified as absolutists. Respondents low on idealism but high on relativism are subjectivists, and those low on both scales are considered exceptionists. Forsyth (1980) discusses 4 ethical perspectives: (a) situationism, which advocates a contextual analysis of morally questionable actions; (b) absolutism, which uses inviolate, universal moral principles to formulate moral judgments; (c) subjectivism, which argues that moral judgments should depend primarily on one's own personal values; and (d) exceptionism, which admits that exceptions must sometimes be made to moral absolutes. The Ethics Position Questionnaire (EPQ), which assesses degree of idealism and rejection of universal moral rules in favour of relativism, was developed to measure the extent to which individuals adopt one of the ideologies.

In sum, situationists (high on both idealism and relativism) are those who reject moral rules while asking if their actions yield the best possible outcomes given the situations. They assess behaviour on the basis of its consequences in the specific situation. These consumers would use deception if it led to a better result. Most of these individuals are probably utilitarians who seek out those alternatives that generate the greatest good for the greatest number of individuals. Absolutists (high on idealism, low on relativism) believe that their actions are moral only if they yield positive consequences through conformity to moral absolutes and norms. They believe that deception is always wrong since it violates fundamental moral principles. Subjectivists (low on idealism, high on relativism) are those who reject moral rules and base their moral judgment on personal feelings about their actions. They believe that deception is a personal matter to be decided upon by the individual. Finally, exceptionists (low on both idealism and relativism) believe that conformity to moral rules is desirable but that exceptions are

Figure 1: Characteristics of four Ethical Types



permissible. They believe that if deception cannot be avoided, then it is allowable as long as long as safeguards are used (Vittell et al., 1991; Forsyth & Pope, 1984). An overview of the characteristics of these four ethical types can be found in figure 1.

4.6. Ethical ideology and ethical decision making

The importance of the two personal moral philosophies as determinant of ethical and unethical decisions was evidenced in a series of marketing ethics studies. The ethics position questionnaire has been used in several studies with several diverse subjects.

The relation between ethical positions and several attitudinal, decision and behavioural components have been investigated, more specifically, moral judgments (McIntyre, Capen & Minton, 1995; Forsyth & Pope, 1984; Hershberger, 1982; Forsyth, 1981), ethical beliefs (Rawwas, 1996), opinions about advertising practices (Treise et al., 1994), attitude towards

animal treatment (Galvin & Herzog, 1992), attitude towards potential unethical consumer practices (Vittell et al., 1991), tax evasion (Keller, 1998), allocation to treatment (Furnam & Briggs, 1993), decision making based on caring (Forsyth, Nye & Kelley, 1988), influence tactics (Rim, 1983a), relation with freedom and equality (Rim, 1983b), degree of punishment advocated (Giacalone, Fricker and Beard, 1995), cheating on a test (Forsyth, 1982) and behavioural intentions towards ethical scenarios (Eastman, Eastman & Tolson, 2001). For an extensive review of the conducted studies, we refer the reader to the appendix (table A and table B).

4.7. Machiavellianism

Another variable of interest is Machiavellianism. Hunt and Chonko (1984, p. 30) defined it as ‘a negative epithet, indicating at least an immoral way of manipulating others to accomplish one’s objectives’. The Machiavellian person is characterized by pragmatism, persuasiveness, manipulation and the belief that any means justifies desired ends (Christie & Geis, 1970). According to Vitell et al. (1991) and Christie and Geis (1970) it would be inappropriate to equate Machiavellianism with such extreme labels like ‘dishonest’ or ‘deceitful’. It is more appropriate to think of Machiavellian persons as possessing a kind of cool detachment that makes them less emotionally involved with others or with saving face in potentially embarrassing situations. Therefore, the more Machiavellian the individual, the less ethical they are and vice versa.

Several hundred studies have examined this variable, for example the degree of Machiavellianism among current future business executives (Singhapakdi & Vitell, 1990; Hunt & Chonko, 1984; Chonko, 1982; Hegarty & Sims, 1978) or the influence on organizational behaviour (e.g. Giacalone & Knouse, 1990). Vitell et al. (1991) studied Machiavellianism among consumers as did Singhapakdi & Vitell (1991), McHoskey, Hicks, Betris, Szyarto, Worzel, Kelly and Eggert (1999) and Shen and Dickson (2001). For example, Singhapakdi and Vitell (1991) reported that high machiavellians tend to score lower on deontological norms and tend to agree less with guidelines or rules as guiding principles in their behaviour than their counterparts. Shen and Dickson (2001)

studied the influence of consumers' ethnicity, cultural identification, and Machiavellianism on acceptance of unethical clothing consumption activities. They found that identification with US culture leads to more acceptance of unethical clothing consumption activities compared to Chinese culture identification. Moreover, ethnicity enhanced the influence of cultural identification on consumers' acceptance of unethical clothing consumption activities. More importantly, they found that high Machiavellian students accept more unethical behaviours than those who are less Machiavellian and that both cultural identification and Machiavellianism significantly explain variance in consumers' acceptance of unethical clothing consumption activities.

5. Hypotheses

5.1. Ethical Beliefs of Dutch-Speaking Consumers in Belgium

Significant differences were found in consumers' ethical beliefs according to the political stability and economic prosperity of their country of residence (Vitell et al., 1992). Rawwas (1996) stated that consumers in politically stable and economically prosperous countries probably reject 'questionable'³⁵ consumer practices. Research showed that American consumers, for example, are relatively ethical (Muncy & Vitell, 1992; Vitell et al., 1991), as well as Austrian consumers (Rawwas, 1996).

Based on the groups defined by Kale (1995, p. 42) and the recent OECD³⁶ figures, Belgium may be categorized among this group of political stable and economic prosper countries. Consequently, we could expect no significant differences in perception about 'questionable' consumer practices between Dutch-speaking consumers in Belgium and American consumers, for example (Muncy & Vitell, 1992; Vitell et al., 1991), or Austrian consumers (Rawwas, 1996).

³⁵ As mentioned in the consumer ethics scale of Muncy and Vitell (1992).

³⁶ The 1998 OECD (Organization for Economic Cooperation and Development) report, together with the political situation since the 1980s, make it plausible to conclude that Belgium is economically and politically stable.

This leads to our first hypothesis.

H1. Dutch-speaking consumers in Belgium will perceive ‘questionable consumer practices’ as unethical.

5.2. Ethical Ideology and Machiavellianism of Dutch-Speaking Consumers in Belgium

Several authors have studied ethical position and Machiavellianism in a consumer ethics context. For example, Vittel et al. (1991) found that overall, elderly American respondents were somewhat more Machiavellian (Christie & Geis’ scale, 1970) than the general population. In terms of ethical ideologies (EPQ scale), the largest single group (30.9%) was those who strictly conform to moral absolutes and norms (‘absolutists’), and the 2nd-largest group, the situationists, judges the ethics of a situation by its outcomes. Moreover, cultural differences in ethical position and Machiavellianism also exist. Results from Al-Khatib et al. (1995) showed that American consumers (who enjoy economic prosperity and political stability) are –in general- less Machiavellian, less relativistic and more idealistic than Egyptian consumers. Chan et al. (1998) examined the same relationships with Chinese consumers in Hong Kong and found some typical differences, as did Rawwas (1996) with Austrian consumers. This makes it useful to broaden the field of study to other countries.

Based on the results of Rawwas (1996) for Austria, we hypothesize that Dutch-speaking consumers in Belgium will score high on the scales of both idealism and relativism (and thus be mostly situationists). In line with Rawwas (1996), we hypothesize that the idealism score will be somewhat higher than the relativism score, comparable with the results for Austria.

Furthermore, a cross-cultural investigation by Al-Khatib, Vitell and Rawwas (1994) has shown that consumers in countries with similar characteristics to Austria have Machiavellianism as a low ethical standard. We expect Dutch-speaking Belgian consumers not to be different from Austrian consumers. We posit that

H2. Dutch-speaking Belgian consumers:

- a) Will score high on idealism and relativism;
- b) Are thus mainly situationists;
- c) Will give a higher score for idealism than for relativism; and have Machiavellianism as a low ethical standard.

5.3. Ethical Beliefs, Ethical Ideology, Machiavellianism and Gender

A third research topic in this study is the relationship between the ethical beliefs of Dutch-speaking Belgian consumers and their preferred ethical ideologies and Machiavellianism. Vitell et al. (1991) examined the relationship between Machiavellianism, ethical ideology, gender and ethical beliefs of elderly consumers in the United States. Vitell et al. (1991, p. 371) found that ‘one’s ethical ideology is a significant overall determinant of a consumers’ ethical beliefs’. On a univariate level, they found significant relationships between ethical ideology and both ‘passively benefiting from illegal activity’ and ‘no harm/no foul’. Gender was significant in determining beliefs on ‘actively benefiting from questionable, although not necessarily illegal, action’. Machiavellianism was a significant covariate for each category of consumer beliefs (Vitell et al., 1991).

In a study of Austrian consumers, Rawwas (1996) found a significant relationship between ethical ideology and both ‘actively benefiting from illegal activity’ and ‘no harm/no foul’. Gender was significant in determining both ‘actively benefiting from questionable action’ and ‘no harm/no foul’. He explains it in part by the fact that men tended to be somewhat more Machiavellian than did women. We expect Dutch-speaking Belgian consumers not to differ

from American or Austrian consumers. For the sake of comparison with previous studies, we include 'gender' in our analyses. We posit the following hypothesis:

H3. Ethical ideologies, Machiavellianism, and gender are determinants that will explain the ethical beliefs of Dutch-speaking Belgian consumers.

5.4. Ethical Beliefs and NFCL

Based on the above theoretical considerations and research findings, we can expect that high NFCL subjects will also have a less deviate and a more conservative, stereotype-based opinion regarding ethical behaviour. High NFCL subjects will probably try not to 'break rules ' by having deviant, anti-conservative opinions. So we can expect that they do not approve of actively benefiting of an illegal action. Furthermore, we can expect that their clear-cut opinion about actively benefiting from an illegal action will also affect their opinion about other benefiting 'less intentional' or from 'less illegal' acts because of their tendency to have stable opinions across situations. Consequently, we can expect that they do not adapt their opinion across situations or keep in mind any mitigating circumstances because of their intolerance: benefiting from an illegal action, either active or passive, is always wrong. We can summarize that:

H4. High (versus low) NFCL subjects will have more ethical beliefs

5.5. Ethical Ideology, Machiavellianism and NFCL

Machiavellianism, relativism and idealism all refer to characteristics or beliefs that individuals hold about the world. NFCL is also an individual difference characteristic but it concerns more the way in which the world is approached. NFCL is a motivational variable that describes the stylistic or habitual pattern of cognition, affect and behaviour rather than beliefs. More specifically, NFCL could influence how a person thinks, feels and acts. Consequently we

could argue that NFCL could influence a person's level of idealism, relativism and Machiavellianism.

According to previous theory and research, high NFCL subjects strive for non-deviant, conservative opinions. This suggests that high NFCL subjects will score lower on the machiavellianism scale than low NFCL subjects because 'not manipulating others to accomplish ones objectives' can be considered as a conservative and conformist opinion. This expectation does not contradict previous research that investigates the characteristics of high versus low machiavellians. It was found in previous research that the behavioural pattern that is characteristic for high NFCL subjects (intolerant of ambiguity, stable behaviour across situations) is also displayed by low Mach subjects (Moore, Ward & Katz, 1998). Furthermore, Riggio and Friedman (1982) found that Machiavellianism was positively correlated with social sensitivity while research has shown that high NFCL subjects are less sensitive to the environment (Kruglanski & Webster, 1996). Even more, Kumar (1995) found that Machiavellianism was inversely related with responsibility, while we can expect that responsibility is an important striving characteristic for high NFCL subjects.

We can also expect that high NFCL subjects will score higher on the idealism scale because 'Acting in a way that you would expect others to act towards' you can be seen as a conservative and conformist opinion. Furthermore, we argue that high NFCL subjects will score lower on the relativism scale than low NFCL subjects because relativists change their opinions about ethical behaviour across situations while high NFCL subjects prefer opinions that are stable across situations. As a consequence we can expect that absolutists will score high on NFCL while subjectivists will score low on NFCL.

Again, this expectation is in line with previous research where it was argued that subjects with a high social interest (which in turn had a high score on idealism and a low score on relativism and were called absolutists) preferred more values that included a concern for others while subjects with a low social interest (who had in turn a low score on idealism and a high score on relativism and were called situationists) preferred values that appeared to be more self-

centered (Rim, 1983a). This self-centeredness of situationists can be seen as a more deviant opinion, while concern for others is more conservative and conformist.

H5a. High (versus low) NFCL subjects will score higher on the idealism scale, and lower on the relativism and Machiavellism scale.

H5b. As a consequence of H5a, absolutists score high on NFCL, while subjectivists score low.

5.6. Ethical Beliefs, Ethical Ideology and Political Preferences³⁷

As mentioned above, several authors (Rawwas, 1996; Vitell et al., 1991) found that ethical ideology is a determinant of consumers' ethical beliefs. Because ethical ideology is part of one's overall ideology, which consists of norms, beliefs and values, we expect a relationship between ethical ideology and overall ideology as expressed by the political preferences people have. Belgium has political parties ranging from extreme left to extreme right, from conservative to progressive. Every party has a particular vision on ethical issues and values. These issues were very manifest during the election campaigns in the first half of 1999 because of the previously mentioned recent scandals and the massive reactions of large sections of the population. The extreme-right political party in Belgium (Vlaams Blok) favours the 'zero tolerance' principle, which means that even a very small crime should be punished very severely. It advocates the strict enforcement of 'law and order'. The extreme-left party (PVDA) has exactly the opposite values. For it, the rich are responsible for social inequality. It does not consider theft to be a crime if the theft is from the rich. The traditional party (CVP) favours citizenship and values based on Christian principles; it espouses traditional family values, honesty and moral authority.

We expect

H6a. A positive correlation between preferences for extreme-left political parties (PVDA) and tolerance of questionable practices;

³⁷ See Appendix for abbreviations.

- H6b. a negative correlation between preferences for extreme-right political parties (Vlaams Blok) and tolerance of questionable practices;
- H6c. a negative correlation between preferences for political parties that emphasize high moral values (CVP) and tolerance of questionable practices; and
- H6d. a significant relationship between ethical ideologies and political preferences.

5.7. Political Preferences and NFCL

Furthermore, it has already been argued in previous research that personality dimensions and individual differences proved to be stronger predictors of political preference than standard predictor variables (Caprara, Barbaranelli, & Vicino, 1999). Kimmelmeier (1997) already investigated the relationship between NFCL and political orientation among German university students. A trend analysis revealed that NFCL increased with the right-wing orientation of a party. Previous research also suggests that high NFCL subjects prefer political conservative, socially intolerant, anti-democratic knowledge. According to the NFCL theory and previous research, we can expect that high NFCL will be more oriented towards extreme, right wing parties than towards progressive left-wing parties.

H7. A positive correlation exists between NFCL and extreme right-wing political parties, while a negative correlation exists between NFCL and progressive left-wing political parties.

6. Methodology

6.1. Participants and Procedure

Data were collected during February and March 1999 using the random-walk procedure. Questionnaires were personally delivered to the respondents, people were motivated to participate in the survey, and instructions were given to fill in the questionnaire truthfully. The questionnaire was self-administered. To ensure a sense of anonymity, respondents were asked to put the completed questionnaire in a blank envelope, delivered with the questionnaire. The

questionnaire was completely anonymous. It took respondents on average 20 minutes to complete the questionnaire. Respondents received a pen as a reward for participating. Thanks to a wide distribution and a strict sampling plan, we were able to achieve a geographically representative sample. Two days after the delivery, questionnaires were collected and respondents were thanked for their cooperation.

Of the 320 questionnaires that were personally delivered to the respondents, 286 were collected. The response rate was 89.4%. Therefore, participation was excellent. Compared with the population statistics of the Belgian (Flemish) people, the sample is representative in terms of gender, age, education and profession (see table 1).

Table 1: Demographic Characteristics of the Sample.

Gender		Education	
Female	50.3%	Grade school or less	3.5%
Male	49.7%	Secondary school	16.8%
Age		High school/vocational	39.6%
16-25	20.8%	Some College	29.7%
26-45	40.8%	College/University	10.2%
46-65	28.9%	Occupation	
65+	9.5%	Employed full time	49.2%
Reported Living Standard		Employed Part time	18.8%
Low	15.5%	At home (keeping house)	9.8%
Medium	45.0%	Student	11.9%
High	39.5%	Retired	11.8%
(N=286)		Unemployed	1.6%

6.2. Questionnaire and Measures

The questionnaire consisted of five parts: a multi-item scale about consumer ethical beliefs, multi-item scales for idealism, relativism, Machiavellianism, multi-item scales for NFCL, political preference scales and questions about socio-demographic status. All scales were based on the English version; they were translated into Dutch and then back into English. To be sure of the psychometric properties of the scales, the items were pretested with university students ($N_1 = 85$), then revised and tested again with another group of students ($N_2 = 94$). The results clearly indicated acceptance of the instruments.

First, respondents were asked to rate their beliefs concerning questionable consumer practices. This consumer ethics scale, developed by Muncy and Vitell (1992) and validated by Vitell et al. (1991), consists of 20 items. These items were measured on a five-point Likert scale, ranging from one (definitely believe it is wrong) to five (definitely believe it is not wrong). A factor analysis (with varimax rotation) revealed the same four dimensions as previous studies (Rallapalli et al., 1994; Muncy & Vitell, 1992; Vitell et al., 1991). One item was removed because of poor loading (for an overview of the items used, see Appendix). Table 2 shows mean values, standard deviations and Cronbach's α for the different scales.

Machiavellianism was measured by using the Mach IV scale developed by Christie and Geis (1970) (for an overview of the items used, see Appendix). The respondents were required to indicate agreement or disagreement by using a five-point Likert scale. Cronbach's α of this scale was 0.71 (see Table 2). This compares to 0.79 of Christie and Geis (1970).

Table 2: Construct Reliability.

Construct	Number of items	Cronbach's α	Mean	Standard deviation
Ethical beliefs*				
- Actively benefiting from an illegal activity	5	0.71	1.76	0.60
- Passively benefiting	3	0.82	2.78	0.94
- Actively benefiting from questionable action	5	0.70	2.63	0.68
- No harm/no foul	6	0.76	3.91	0.66
Machiavellianism**	20	0.71	2.67	0.47
Idealism**	10	0.84	3.62	0.63
Relativism**	10	0.77	3.33	0.62
NFCL**	25	0.77	4.21	0.54

* For the items of this scale:

- 1 corresponds to 'strongly believe that it is wrong'
- 5 corresponds to 'strongly believe that it is not wrong'

** For the items of this scale:

- 1 corresponds to 'completely disagree'
- 5 corresponds to 'completely agree'

The Ethics Position Questionnaire, as developed by Forsyth (1980), contains two scales: idealism and relativism (for an overview of the items used, see Appendix). Again, respondents were asked to indicate their (dis)agreement on a five-point Likert scale. Cronbach's coefficient

α was 0.84 for the idealism scale and 0.77 for the relativism scale (see Table II). These two scales were then used to allocate each respondent to one of the four ethical positions.

To measure the NFCL construct, we used the revised and shortened 25- item NFCL self-reporting measure of the 42-item measure that Kruglanski and Webster (1996) have recently developed (see chapter 3). As in the literature (Vermeir et al., 2002; 1999; Klein & Webster, 2000, see chapter 1), we did not use the score of each subdivision, but the composite 'NFCL' score (Cronbach's $\alpha = 0.77$, see Table 2).

To measure political preferences, we asked the respondents to give their preferences for the seven most important Belgian political parties on a five-point Likert scale (ranging from very unfavourable to very favourable): AGALEV (left, environmental), CVP³⁸ (Christian democratic), PVDA (extreme left), SP (socialist), VLD (liberal), VU (nationalistic, left) and Vlaams Blok (extreme right).

7. Results

7.1. Ethical Beliefs of Dutch-Speaking Consumers in Belgium

We argued that Dutch-speaking consumers in Belgium would perceive 'questionable consumer practices' as unethical (hypothesis 1). On each of the four dimensions, respondents score as hypothesized. Dutch-speaking Belgian consumers do perceive questionable consumer practices as unethical (see Table 1). However, compared with other studies (see Table 3) in Western countries, the results are extreme on nearly every dimension: Dutch-speaking Belgian respondents score among the least ethical. Figures are most comparable to the results of Rallapalli et al. (1994) (American Undergraduate Business students). Compared with Austria (Rawwas, 1996), Dutch-speaking Belgian consumers score as being somewhat more tolerant on every dimension, especially on the 'no harm/no foul' dimension. It is interesting to set these results against the official

³⁸ CVP is now called CD&V, SP is now called SP-A, VU is now called Spirit.

figures for both countries concerning the underground economy and tax avoidance mentioned in the Introduction. The rather tolerant score of Dutch-speaking Belgian consumers on the ‘no harm/no foul’ items are consistent with the figures about illegal copying of software and CDs (also mentioned in the Introduction). Notwithstanding these higher scores than other comparable countries, we can conclude that our first hypothesis was confirmed: Dutch-speaking consumers in Belgium perceive questionable consumer practices as unethically.

Table 3: Comparison of Mean Scores* between Studies (Belgian, Austrian and American consumers).

	Rawwas (1996)	Rallapalli et al. (1994)	Muncy & Vitell (1992)	Vitell et al.(1991)	Present study
Actively benefiting from illegal activity	1.50	1.76	1.45	1.19	1.76
Passively benefiting at expense of others	2.65	2.66	1.99	1.51	2.78
Actively benefiting from questionable action	2.30	2.61	2.14	1.69	2.63
No harm/no foul	3.29	4.01	3.38	2.86	3.91

* A 5-point Likert scale was used, where 1 indicated that the action was perceived as wrong and 5 indicated that the action was perceived as not wrong.

7.2. Ethical Ideology and Machiavellianism of Dutch-Speaking Consumers in Belgium

The Ethics Position Questionnaire was used to determine the dominant ethical ideology of the Dutch-speaking Belgian respondents. The mean average score was 3.62 on the idealism scale and 3.33 on the relativism scale (see Table 4). Dutch-speaking Belgian consumers score somewhat higher on idealism than Austrian consumers (see table 4)(averaged mean score = 3.51, Rawwas, 1996), although lower than older American consumers (average mean score = 4.04; Vitell et al., 1991). On relativism, they score about the same as Austrian consumers (average mean score = 3.37; Rawwas, 1996), although higher than older American consumers (average mean score = 2.60; Vitell et al., 1991). As hypothesized (hypothesis 2c), and comparable to Austria (Rawwas, 1996),

Dutch- speaking Belgian consumers score higher on idealism than on relativism (individual differences t-test, $t = 5.317$, $df = 263$, $p=0.001$).

Table 4: Mean scores of Idealism, Relativism and Machiavellianism for Belgian, Austrian and American Consumers.

	Rawwas (1996)	Vitell et al.(1991)	Present study
Idealism	3.51	4.04	3.62
Relativism	3.37	2.60	3.33
Machiavellianism	2.93	2.55	2.67

Next, respondents were grouped into four ethical ideologies. Situationists are the largest group (60.1%), as in Austria (Rawwas, 1996, see table 5). This means a large group will use deception if this yields the best possible outcome in a situation. Of the 286 respondents, 13 (4.6%) are exceptionists, 32 (11.2%) are subjectivists and 69 (24.1%) are absolutists. These results are, however, significantly different (χ^2 -test, $\chi^2=73.99$, $df=3$, $p=0.001$) from the results found in Austria (Rawwas, 1996) because of the larger number of absolutists (+5.9%) and the smaller number of exceptionists (-6.1%) in Belgium. Is the larger number of absolutists caused by the recent events in Belgium and the reaction of part of the population? We lack longitudinal data for this hypothesis. They also differed from America (χ^2 -test, $\chi^2=123.99$, $df=3$, $p=0.001$) because of the smaller number of absolutists (-6.8%), exceptionists (-15.2%) and subjectivists (-9.4%)and the much larger number of situationists (+31.4%).

Table 5: Percentages of four Ethical Ideologies in Belgium, Austria and America.

	Vitell et al., (1991)	Rawwas (1996)	Present study
Absolutists	30.9%	18.2%	24.1%
Situationists	28.7%	61.6%	60.1%
Subjectivists	20.6%	10.0%	11.2%
Exceptionists	19.8%	10.7%	4.6%

With an average mean score of 2.67 on Machiavellianism, Dutch-speaking Belgian consumers score between Austrian consumers (average mean score = 2.93; Rawwas,

1996) and older American consumers (average mean score = 2.55; Vitell et al., 1991). Dutch-speaking Belgian consumers do indeed have Machiavellianism as a low ethical standard.

In sum we conclude that hypothesis 2 is supported. Dutch Speaking Belgian consumers score high on relativism and on idealism and are thus mainly situationists. Furthermore, they give higher scores for idealism than for realism and have a low degree of Machiavellianism.

In addition we investigated the correlation between ethical orientations and Machiavellianism. We found a negative correlation between Machiavellianism and idealism ($r = -.286$, $p < .01$) and a positive correlation between Machiavellianism and relativism ($r = .251$, $p < .01$). Furthermore Machiavellianism differed for the four ethical ideologies ($F(1,285) = 12.07$, $p < .001$). Subjectivists ($M = 3.07$) seem to have a higher level of Machiavellianism compared to the other three groups (situationists, $M = 2.66$; exceptionists, $M = 2.67$; absolutists, $M = 2.50$).

7.3. Ethical beliefs, Ethical Ideology, Machiavellianism and Gender

Multivariate analysis of covariance was performed with the four dimensions of the consumer ethics scale as dependent variables with Machiavellianism as a covariate. The purpose of this analysis was to determine whether one's ethical ideology, gender and the extent of one's machiavellianism would have any impact on one's ethical beliefs relative to various consumer practices, and whether this would vary depending upon the type of consumer practices involved. Overall, MANCOVA shows a significant relationship between ethical ideologies, gender and the four ethical beliefs, with Machiavellianism as a covariate. On a univariate level, the relationship between ethical ideologies and ethical beliefs was found to be significant for three dimensions (actively benefiting from an illegal activity, passively benefiting at the expense of others, and actively benefiting from questionable action), as Table 6 shows. For each of these dimensions, absolutists are least tolerant, subjectivists are most

tolerant, and situationists score in between, although they are significantly different from both other groups. Due to the small number of exceptionists, no significant differences were found. Gender was significant for passively benefiting at the expense of others. Men are more tolerant of this questionable behaviour than women. This can partly be explained by the fact that women score higher on the idealism scale (men 3.54 versus women 3.71, t-test, $t=2.25$, $p=0.05$), whereas men score higher on the Machiavellianism scale (men 2.76 versus women 2.57, t-test, $t=3.47$, $p=0.01$). No differences were found for relativism (men 3.54 versus women 3.70, t-test, $t=1.53$, ns).

Table 6: Results of MANCOVA Analysis – Independent Variables.

Source	F-test	Power
I. Multivariate tests		
Ethical ideology	3.42**	0.85
Gender	2.63*	0.73
Interaction	ns	
II. Univariate tests		
A. Dependent variable – Actively benefiting from illegal activity		
Ethical ideology	3.14*	0.73
Gender	ns	
Interaction	ns	
B. Dependent variable – Passively benefiting at the expense of others		
Ethical ideology	3.51**	0.78
Gender	4.29*	0.55
Interaction	ns	
C. Dependent variable – Actively benefiting from questionable action		
Ethical ideology	2.65*	0.64
Gender	ns	
Interaction	ns	
D. Dependent variable – No harm/no foul		
Ethical ideology	ns	
Gender	ns	
Interaction	ns	

* $p=0.05$

** $p=0.01$

ns = not significant

The relationship with Machiavellianism is very obvious, as it is a significant covariate for each dimension of consumer beliefs (see Table 7). These findings confirm what has been found in previous studies and support hypothesis 3.

Table 7: Results of MANCOVA Analysis – Covariates.

Source	F-test	Power
I. Multivariate tests		
Machiavellianism	10.89**	1.00
II. Univariate tests		
A. Dependent variable – Actively benefiting from illegal activity		
Machiavellianism	3.06**	0.87
B. Dependent variable – Passively benefiting at the expense of others		
Machiavellianism	20.08**	0.99
C. Dependent variable – Actively benefiting from questionable action		
Machiavellianism	11.77**	1.00
D. Dependent variable – No harm/no foul		
Machiavellianism	10.57**	0.99

* p=0.05

** p=0.01

7.4. Ethical Beliefs and NFCL

We used univariate correlation analysis to examine basic associations between each dimension of the consumer ethics scale and NFCL. We did not use univariate variance analysis because in that case, a moderate NFCL group consisting of 50% should be omitted from the analysis and therefore, a loss of information would occur (Iacobucci, 2001). In addition, dichotomising variables reduces power (Iacobucci, 2001). Furthermore, we wanted to investigate the strength and the direction of the association between the interval scaled predictor variable ‘NFCL’ and the predictive variable ‘ethical beliefs’.

The results confirm that high-NFCL subjects have beliefs that are more ethical than those of low-NFCL subjects (see Table 8). High-NFCL subjects are more likely than low-NFCL subjects to believe that actively or passively benefiting from an illegal act or questionable behaviour, and even no harm/no foul, can be considered as unacceptable behaviour. We could

also confirm that high- (versus low-) NFCL subjects score higher on the idealism scale and lower on the Machiavellianism scale. The expected difference on the relativism scale, however, was not found.

7.5. Ethical Ideology, Machiavellianism and NFCL

At the overall level, significant differences in NFCL scores exist between ethical ideologies ($F(1,285)=4.459, p=0.01$). As expected, absolutists score high on NFCL (mean value = 4.31) compared with subjectivists (mean value = 3.91, $p=0.01$). Subjectivists also differ significantly from situationists (mean score = 4.23, $p=0.01$). Because of the small number of exceptionists (mean score = 4.10), no significant differences were found between them and other groups.

Table 8: Ethical Beliefs, Idealism, Relativism, Machiavellianism and Need for Closure.

NFCL	Pearson correlations	
a. Actively benefiting from an illegal act	-0.16	**
b. Passively benefiting at the expense of others	-0.27	**
c. Actively benefiting from questionable behaviour	-0.30	**
d. No harm/no foul	-0.34	**
e. Idealism	0.26	**
f. Relativism	ns	
g. Machiavellianism	-0.21	**

** $p=0.01$

7.6. Ethical Beliefs, Ethical Ideology and Political Preferences

Finally, every respondent was asked to express his or her political preference for each of the seven most important political parties in Belgium, on a five-point Likert scale (ranging from very unfavourable to very favourable). Table 9 suggests that our hypothesis can be partially supported. A higher preference for the extreme-left party (PVDA) correlates positively with a more tolerant score for ‘actively benefiting from an illegal activity’. A higher preference for the extreme-right party (Vlaams Blok) correlates negatively with a more tolerant score for ‘no

harm/no foul'. More relationships were expected between ethical beliefs and preference for both parties. As expected, significant relationships were found for the traditional Christian party (CVP) and ethical beliefs. A negative correlation was found between preference for CVP and tolerance of *a* (actively benefiting from an illegal act) and *b* (passively benefiting from questionable behaviour). In addition, three positive correlations were found between ethical beliefs and preference for VU. This party defines itself as progressive, New Left and regional. Finally, a positive relation was found between AGALEV (left, green) and no harm/no foul.

Table 9: Ethical Beliefs and Political Preference.

		Pearson correlations					
		AGALEV	CVP	PVDA	Vlaams Blok	VLD	VU
a.	Actively benefiting from illegal activity	ns	-0.20**	0.19**	ns	ns	ns
b.	Passively benefiting at the expense of others	ns	-0.16**	ns	ns	ns	0.13*
c.	Actively benefiting from questionable action	ns	ns	ns	ns	ns	0.12*
d.	No harm/no foul	0.16**	ns	ns	-0.12*	ns	0.15*

* p=0.05

** p=0.01

The relationship between ethical ideologies, gender, Machiavellianism and ethical beliefs was discussed above. Because different significant relationships were found between ethical beliefs and political preference (see Table 9), it is worth exploring the relationship between ethical ideologies, gender, Machiavellianism and political preference.

Overall, MANCOVA shows a significant relationship between ethical ideologies and political preference, with Machiavellianism as a (non-significant) covariate (see Table 10). On a univariate level, the relationship between ethical ideologies and political preference was found to be significant for two parties (CVP and VLD), as Table 11 shows. Gender is not significant.

Absolutists score significantly higher in their preference for CVP (mean score = 3.29) than situationists (mean score = 2.72) and subjectivists (mean score = 2.75). Subjectivists score higher (mean score = 3.31) for VLD than situationists (mean score = 2.48) and absolutists (mean score = 2.80). These results are interesting because VLD (the liberal

party) and CVP (the traditional Christian party) are the largest political parties in Flanders (respectively, 23.7% and 23.3% of the votes, Financieel Economische Tijd, 1999). During the last elections (June 1999), VLD won 1.1% more of the votes, and CVP 3.2% less, than in 1995.

Table 11: Results of MANCOVA Analysis – Independent Variables.

Source	F-test	Power
I. Multivariate tests		
Ethical ideology	2.42**	0.99
Gender	ns	
Interaction	ns	
Machiavellianism (covariate)	ns	
II. Univariate tests (independent variable-ethical ideology)		
Dependent variable:		
A. Preference for Agalev	ns	
B. Preference for CVP	4.13**	0.85
C. Preference for PVDA	ns	
D. Preference for SP	ns	
E. Preference for Vlaams Blok	ns	
F. Preference for VLD	7.45**	0.99
G. Preference for VU	ns	

** p=0.01

7.7. Political Preferences and NFCL

Furthermore we expected a positive correlation between NFCL and extreme right-wing political parties, while a negative correlation could exist between NFCL and progressive left-wing political parties. Table XI suggests that our hypothesis can be partially supported. A higher preference for the extreme-right party (Vlaams Blok) correlates positively with NFCL. A higher preference for the progressive left party (Agalev) correlates negatively with NFCL. A relationship was expected between NFCL and the other left wing party (PVDA) but this was not found, possibly because of the relatively small amount of subjects that preferred the PVDA (only 7 subjects had a particular preference for this party, while the amount of subjects preferring other parties ranged from about 40 to 100).

Table 11: Need for Closure and Political Preference.

	Pearson correlations					
	AGALEV	CVP	PVDA	Vlaams Blok	VLD	VU
A. NFCL	-.14*	ns	ns	.17**	ns	ns

* p=0.05

** p=0.01

8. Discussion

8.1. Interpretation and Discussion of Results

In sum we found that, although Dutch-speaking Belgian consumers perceive questionable consumer practices as unethical, they tend to be more unethical than Austrians or Americans. Dutch-speaking Belgian consumers score low on Machiavellianism, although higher than Americans. These results have to be interpreted with caution, as cross-cultural differences in response styles could exist. Furthermore, the unethicalness of Dutch-speaking Belgian consumers should not be a problem for society providing that we do not interfere with the lives of others. Belgian consumer accepts machiavellianism (egoism) more than American consumers and somewhat less than Austrian consumers. Egoism is an acceptable behaviour when others' interests do not interfere with ours. There is nothing wrong when we look after our self-interests when deciding for example what job to accept or where to live. However, when others' interests interfere with ours, egoism is not the most desirable social behaviour.

Furthermore, to Dutch-speaking Belgian consumers, idealism is somewhat more important than relativism. It seems like Dutch speaking Belgian consumers are willing to stay sensitive to others' needs as long as group interests would not be compromised. In other words, Dutch people are willing to say the truth, keep promises, respect people and remain honest as long as such practices maximize group interests.

Sixty per cent of the population studied are situationists; that is to say, they judge a situation ethically based on the best possible outcomes considering the situation.

Depending on the situation, these individuals manipulate both relativistic and idealistic principles to reach for an ethical decision.

Apart from the cultural differences, it became clear that the findings of this study support previous investigations (Rawwas, 1996; Vitell et al., 1991) concerning ethical beliefs, ethical ideologies and Machiavellianism of Western consumers. Ethical ideologies are determinants that explain most ethical beliefs.

We found that ethical ideology of Dutch speaking Belgian consumers –as for American consumers- determines if one agrees to passively benefit at the expense of others. Furthermore, as for Austrian consumers, for the Dutch speaking Belgian consumers, ethical ideology determined if a consumer actively participates or benefits from illegal consumer activities. Unlike American and Austrian consumers, no difference was found for the ‘less unethical’ activities tapped in the no harm/no foul scale. Possibly, activities like ‘tapping a movie off the television’ and ‘recording an album instead of buying it’ are established behaviours and consequently, they are not considered to be unethical by any ethical ideology. Furthermore, the agreement with questionable behaviours like ‘stretching the truth on an income tax return’ and ‘using an expired coupon’ is determined by ethical ideology. This is an interesting result, especially when we take into account that questionable behaviours like tax evasions are common practice in Belgium. However, when we look at our results we see that more than 70% of the Dutch Speaking Belgian population are situationists or subjectivist, meaning that they are more relativistic or more context-bound, leaving them more inclined to tolerate or perform questionable behaviours.

Unlike previous research (Rawwas et al., 1996; Vitell et al., 1991), we did not find an effect of gender on ‘actively benefiting from questionable or illegal behaviour’ or ‘no harm/no foul’. We did find that men were more tolerant of passively benefiting at the expense of others like for example getting too much change and not saying anything. As found by Khazanchi (1995), women are possibly better able to recognize unethical actions than men, but the existence of statistically significant differences varies depending upon the nature of the ethical dilemma. As mentioned before, this finding can also possibly be explained by the fact that Dutch

speaking Belgian women are more idealistic compared to men and therefore they will rather not choose between the lesser of two evils which will lead to negative consequences for other people (Forsyth, 1992). Possibly, the other illegal and questionable practices tapped in the questionnaire has no direct consequences for an individual (e.g. drinking a can of soda in the supermarket without paying for it, breaking a bottle of salad dressing in a supermarket and doing nothing about it, tasting grapes in a supermarket and not buying any).

Furthermore, we found (as Vitell & al., 1991 did) that men are somewhat more Machiavellian compared to women. This finding can also explain the difference between men and women and tolerance for passively benefiting at the expense of others. Possibly the illegal actions were too 'unethical' and the questionable behaviours too 'ethical' to trigger differences between men and women, while the 'benefiting at the expense of others' behaviours were at the right level of 'unethicalness' (less extreme).

Finally, Machiavellianism was a significant covariate for each category of ethical beliefs, as in previous research (Shen & Dickson, 2001; Vitell et al., 1991). Consumers who are more machiavellianistic, and therefore, less ethical sensitive to various aspects of ethical perceptions, agree more with the participation in illegal or questionable behaviours. Furthermore, we found that machiavellianistic consumers were more relativistic (confirming previous research, Leary et al., 1986) and they were also less idealistic.

In relation to NFCL, we found that high-NFCL subjects agree more with ethical beliefs than low-NFCL subjects. They also score higher on the idealism scale and lower on the Machiavellianism scale. This confirms previous research (Singhapakdi, 1999; Vitell, Rallapalli & Singhapakdi, 1993), which found that high idealists (and thus high NFCL) subjects display more honesty, integrity and social responsibility. We could not determine a difference in relativism between high-NFCL and low-NFCL subjects. The confirmed results can be explained by NFCL theory. High-NFCL subjects wish to deal with the world in clear-cut, unambiguous terms, while low-NFCL subjects are always open to alternative views across situations. This can explain why high-NFCL subjects have less unorthodox ethical beliefs than

do low-NFCL subjects. This tendency towards clear and conformist opinions can also explain why high-NFCL subjects score higher on idealism and lower on Machiavellianism.

We were able to show that absolutists score high on NFCL, while subjectivists score low. Again, this is in line with NFCL theory. Absolutists believe that their actions are moral only if they yield positive consequences through conformity to moral absolutes and norms, while subjectivists base judgments on personal feelings (and therefore, situationally dependent) about their actions. Furthermore, high NFCL subjects feel negatively towards nonconformists or rebels and opinion deviates that jeopardize consensus. In addition, high NFCL subjects tend to reject more the deviate and extol the conformist (Kruglanski et al., 1991) and they prefer opinions consistent across situations (Kruglanski & Webster, 1996). Consequently it is not a surprise that high NFCL subjects score high on the absolutists scale. These findings are also in line with theory about the relationship between the EPQ-typology and ethical beliefs: as Vitell et al. (1991, p. 367) clearly state: “absolutists” would tend to have the most rigid ethical belief systems while “subjectivists” would have the most flexible ones’. In our study, situationists also score high on NFCL. This is rather unexpected as situationists are considering the contextual situation when confronted with questionable behaviours. However, they also try to refrain from harming others as their moral principles prescribe. Finally, nothing can be said about exceptionists because of the low number of respondents. In sum, we can argue that when a distinction has to be drawn between consumers with different ethical beliefs, the NFCL concept can be used to separate the consumers with beliefs that are more and less ethical.

A significant relationship was found between political preference and ethical beliefs. A preference for the Christian Democratic Party (CVP) coincided with a lower acceptance of ‘actively benefiting of illegal actions’ and ‘passively benefiting at the expense of others’. Furthermore, a preference for the progressive left wing party VU correlates with acceptance of no harm/no foul, actively and passively benefiting from questionable actions but not illegal actions. Finally, PVDA voters were more inclined to accept illegal actions, while Vlaams Blok voters disapproved with no harm/no fool behaviour.

Most interesting is the relationship between ethical ideology and political preference for Flanders' two largest political parties, VLD and CVP. Subjectivists were more inclined to vote for VLD, while situationists were least inclined to vote for VLD. Absolutists differed from subjectivists and situationists. Moreover, we found that absolutists were more inclined to vote for CVP, while the other groups did not differ in their preference for CVP.

Finally, high NFCL subjects were more oriented towards the extreme right wing party (Vlaams Blok), while low NFCL subjects preferred more a progressive left wing party (AGALEV). This can be explained by the NFCL theory. High NFCL subjects want clear and definite knowledge, they also are reluctant to entertain views different from their own and base their decisions on stereotypical information. These preferences are touched upon in the party program of 'Vlaams Blok', more specifically; they articulate zero tolerance, promote traditional role patterns and hold a strict immigration policy, while AGALEV promotes more openness and a situational problem approach.

8.2. Theoretical Implications

As mentioned before, our study extends the existing knowledge of ethical beliefs and behaviour by investigating Dutch-speaking Belgian consumers. Moreover, we added to existing research (Vitell et al., 1991; Rawwas, 1996) by confirming the relationship between ethical beliefs, ethical ideology, Machiavellianism and gender.

More importantly, we showed that NFCL is a possible determinant of one's ethical beliefs. This knowledge does not only confirm the importance of linking individual difference variables to ethical beliefs (cfr. Rallapalli et al., 1994; Hunt & Vitell, 1993; 1986; Knouse & Giacalone, 1992; Mayo & Marks, 1991; Ferrell & Gresham, 1985; Hegarty & Sims, 1978), it also adds to our knowledge of the widespread influence NFCL has on behaviour.

In addition to previous research that confirms the influence of NFCL on in-store consumer decision-making, social cognition and group processes, we now discovered that NFCL is also

related to ethical behaviours. Moreover, we found that not only behaviour but also more fundamental beliefs about rightness/wrongness of behaviour are related to NFCL.

Moreover, through the relationship of NFCL and ideology and Machiavellianism, we add to our understanding of the principles that high and low NFCL subjects entertain.

Finally, by linking NFCL, ethical ideologies and political preference we again demonstrated that the prevalent influence of NFCL can be found in a wide range of different behaviours. Furthermore, theoretical predictions of the behaviour of high and low NFCL subjects are again established.

8.3. Practical implications

The relationship between NFCL and ethical beliefs can especially be interesting for marketers and retailers. As our research demonstrated, high NFCL subjects are less tolerant of unethical behaviours compared to low NFCL subjects. For example, high NFCL subjects disapprove of illegal actions like ‘Giving misleading price information to a clerk for an unpriced item’, but they also disagree with less unethical behaviours like ‘Getting too much change and not saying anything’ or ‘breaking a bottle of salad dressing in a supermarket and doing nothing about it’ or ‘Tasting grapes in a supermarket and not buying any’. In this way, marketers or retailers definitely benefit from having high NFCL subjects as customers. To make sure that these high NFCL subjects have these ethical beliefs at the top of their mind during shopping, marketers/retailers could underline the unethicalness of some behaviours by hanging posters or displaying messages through the intercom.

Moreover, retailers/marketers could stimulate low NFCL subjects to entertain more ‘ethical’ beliefs by the visible presence of employees.

Furthermore, marketers/retailers could even alter low NFCL customers NFCL level (e.g. time pressure, chapter 1) in order to underwrite their ethical principles.

We can argue that by researching and understanding why individuals behave the way they do when confronted with ethical dilemmas, we can enhance business practice.

Furthermore, instead of altering ethical beliefs of consumers, business can help itself by “cleaning up” its own image through a ‘real’ improvement in business ethics across the board (e.g. by adopting codes of conduct, Chow, 2001) in conjunction with a campaign to inform the consumer of his effort (Vitell & Muncy, 1992). We can expect that high and low NFCL would react differently towards this ‘cleaning up’ information. As high NFCL subjects are less inclined to engage in unethical behaviour, an improvement in the business’ ethical behaviour will not necessarily alter their own beliefs. On the contrary, low NFCL subjects could be inclined to modify their rather ‘unethical’ beliefs in order to meet the efforts of the business practitioners. Furthermore, as previous research suggests that high and low NFCL subjects prefer different information communication styles, different campaigns could be constructed for high and low NFCL subjects.

As Solomon et al (1999) p. 408 argue, psychographics segmentation can also be an important tool in political campaigns. It can be employed to find similarities among types of consumers who engage in certain behaviours (for example unethical or ethical behaviours). As subjects who differ in NFCL also differ in preference for some political parties, the relevant political parties could learn more about the motives of their voters by investigating the NFCL concepts and its associated motives, beliefs and behaviours. Furthermore, political campaigns can alter NFCL level of potential voters in order to address previously non-voters. For example AGALEV could try and lower NFCL levels, while Vlaams Blok could try and heighten NFCL levels of Flemish residents to appeal to more individuals.

Furthermore, some other practical implications can be derived from this study. Rawwas (2001) argues that with business becoming more international, marketers need to understand the ethical beliefs of foreign consumers because of their effect on the outcomes of market expansion strategies. Pitta, Fung and Isberg (1999) argue that the US standard of ethics can lead to ethical conflict when Americans encounter for example China. Knowing the nature and history of the two cultures can lead to an understanding

of the foundation of their ethical systems. Ethics and the expectations within cultures affect all business transactions. They argue that it is vital for Western marketers to understand the expectations of their counterparts around the world. Understanding the cultural bases for ethical behaviour in different countries can arm a marketer with knowledge needed to succeed in cross-cultural business. Furthermore, implementing that knowledge with a clear series of managerial guidelines can actualise the value of that understanding.

Singhapakdi et al. (1999c) argue that given the ever-increasing globalisation of economies, growing numbers of marketing firms are expecting more of their profits to be derived from international sales. Global competition is ferocious; thus, developing long-term partner relationships often becomes a significant competitive advantage. Corporate ethics are of pivotal importance in global business, though globalisation also complicates ethical questions, because an individual's culture affects his/her ethical decision-making. Recently, Singhapakdi et al. (1999a; 1999c) found that different cultures have different ethical perceptions and behaviours. Singhapakdi et al (1999b) argue that failures to account for the effects of differences in consumers' culturally based ethical values will hinder a marketer's efforts to expand internationally.

In sum we can argue that knowing the ethical beliefs of several countries/cultures can increase our understanding of different behaviours. Our study extends existing market knowledge by exploring the specific ethical beliefs and ideologies living in the Dutch speaking part of Belgium. This knowledge can possibly help market expansion in our regions.

8.4. Limitations and Directions for Future Research

Several limitations can be noticed. This study has been confined to the Dutch-speaking part of Belgium. Based on Hofstede (1980), we do not expect to find spectacular differences between French-speaking consumers and Dutch-speaking consumers. However, apart from the different languages, there is one particular difference between the groups. Political preference is totally

different in the French-speaking part of Belgium. In the Dutch-speaking part, we found different significant relationships between ethical issues and political preference. It could be interesting to explore these relationships in the French-speaking part of the country.

Another limitation of this study is the small number of exceptionists. Although the overall sample size was large enough (N=286), only 13 respondents were classified as exceptionists. Because of this small number, it was not possible to find significant relationships between this ethical position and other variables of interest.

Forsyth's (1982) finding suggests that variations in ethical ideology may predict individual differences in moral judgments, but not in moral behaviour. Other researchers also confirmed the relation between ethical ideologies and ethical judgments (Davis et al., 1994; Tansey et al., 1996). Eastman, Eastman & Tolson (2001) also did not find support for the proposition that ethical ideology was related to the ethical behavioural intentions, while Flannery (1997) did find a link between ethical attitudes and behaviour. Therefore, we argue that further research is necessary to establish the link between ethical positions and behavioural intentions. The differences between high-NFCL and low-NFCL subjects in opinions regarding ethical behaviour can possibly result in different ethical behaviour. It could be interesting to further investigate whether high-NFCL and low-NFCL subjects actually behave according to their ethical beliefs.

Street, Douglas, Geiger and Martinko (2001) argue that the extent to which decision-makers are willing and able to purposely expend cognitive effort in resolving ethical issues is an important area of study in the ethical decision-making literature. Street et al. (2001) present a model that provides the foundation for a series of research propositions suggesting the manner in which purposive cognitive expenditure is expected to influence the ethical decision process and, ultimately, the likelihood of engaging in moral behaviour. As NFCL theory and previous research suggests that high NFCL subjects can differ regarding willingness to expend cognitive effort in decision making (e.g. depending on seizing or freezing situations), it could be interesting to examine the relation between NFCL and cognitive effort further in an ethical decision making context.

Robin, Reidenbach & Forrest (1996) explored the impact of a proposed new construct "perceived importance of an ethical issue" (PIE) on the ethical decision-making process. This construct parallels similar constructs in involvement literature popular in consumer behaviour. The PIE construct was found to exhibit reasonable characteristics for preliminary judgments about validity, and it produced a significant and substantial impact on both ethical judgment and behavioural intention. Further research can incorporate this "involvement-like" variable.

Beu (2001) argues that ethics influence judgments used to make decisions that are legal or morally acceptable to the larger community (Jones, 1991). Accountability (being responsible to an audience with reward or sanction power) is a mechanism through which organizations can control the conduct of their members. Beu (2001) introduces the Ethical Decision-Making Model with Accountability, which proposes that various forms of accountability will influence ethical intentions, with moral intensity moderating this relationship. The model also shows that cognitive moral development, personality (locus of control, machiavellianism) and demographics (gender) influence ethical intentions. The study confirms that aspects of the moral issue itself (moral intensity), environment (school/work) and individual differences do influence ethical intentions. Mobbs (2002) also confirmed a relation between accountability and ethical decision-making. It could be interesting to incorporate accountability in further ethical beliefs research as it can influence ethical decision-making. Furthermore, the possible interaction between accountability and NFCL (accountability could lower NFC, as it heightens the costs of judgmental mistakes, see chapter 1) and its influence on ethical beliefs and behaviours could be an interesting research topic.

Another interesting future research topic is the use of issue-relevant information in ethical decision-making. Previous research has suggested that NFCL influences the use and search of information and the type of information that is sought/used. Consequently, we can expect that NFCL would influence the use of issue-relevant information in ethical decision-making. Furthermore, previous research found a greater utilization of issue-relevant information by high need-for-cognition individuals in ethical decision making (Singer, Mitchell & Turner,

1998). It could be interesting to incorporate NFCL as well as Need for Cognition in research about the use of issue-relevant information as previous research shows that both variables differentially influence the importance of specific information.

Furthermore, we incorporated gender in our research and found limited evidence of its effects on ethical beliefs, while gender has been found to influence ethical beliefs and behaviour in previous research (Pratt, 1992; Akaah, 1989). However, we did find a relation between gender and ethical ideologies. Furthermore, age could have an effect on ethical perceptions of potentially unethical situations (Pratt, 1992; McDonald & Zepp, 1988), so can income (Pratt, 1992) and education (Bass & Herbert, 1995). Future research could benefit from incorporating these other demographic variables.

9. Conclusion

We presented an analysis of the relationships between consumers' ethical beliefs, ethical ideology, Machiavellianism, political preference and the individual difference variable 'NFCL'. We found that Dutch-speaking consumers in Belgium have similar ethical beliefs to those in other Western countries and that Dutch-speaking consumers in Belgium are mainly 'situationists' who, while rejecting moral rules, ask themselves if their actions yield the best possible outcomes given the situation. Next, we found a significant relationship between ethical ideology (based on idealism and relativism), Machiavellianism, gender and ethical beliefs. More importantly, individuals with a high NFCL tend to have beliefs that are more ethical as regards possible consumer actions, and score higher on idealism and lower on Machiavellianism, than those with a low NFCL. Finally, a correlation exists between political preference, ethical beliefs and ethical ideology, and individuals with a high and low NFCL have different political preferences for right wing and left-wing parties.

APPENDIX

- Abbreviations
- Scale items
 - Consumer Ethics Scale
 - Machiavellianism
 - Ethics Position Questionnaire
- Table A: Previous consumer ethics research
- Table B: Previous ethics research involving managers and/or marketers

Abbreviations

AGALEV: Green Party

CVP: Christian Democrat Party³⁹

PVDA: Extreme Left Party

SP: Socialist Party

Vlaams Blok: Extreme Right Party

VLD: Liberal Party

VU: Left-wing party

³⁹ The name of several parties recently changed: CVP is now called CD&V and VU is now called Spirit.

Scale items: Consumer Ethics Scale

Actively benefiting from illegal activity

1. Changing price tags on merchandise in a retail store.
2. Drinking a can of soda in a supermarket without paying for it.
3. Reporting a lost item as “stolen” to an insurance company in order to collect the money.
4. Giving misleading price information to a clerk for an unpriced item.
5. Returning damaged merchandise when the damage is your own fault.

Passively benefiting at the expense of others

6. Getting too much change and not saying anything.
7. Lying about a child’s age in order to get a lower price.
8. Not saying anything when the server miscalculates the bill in your favour.

Actively benefiting from questionable behaviour

9. Breaking a bottle of salad dressing in a supermarket and doing nothing about it.
10. Stretching the truth on an income tax return.
11. Using an expired coupon for merchandise.
12. Using a coupon for merchandise that you did not buy.
13. Not telling the truth when negotiating the price of a new automobile.

No harm/no foul

14. Tasting grapes in a supermarket and not buying any.
15. Using computer software or games that you did not buy.
16. Recording an album instead of buying it.
17. Spending over an hour trying on different dresses and not purchasing any.
18. Taping a movie off the television.
19. Returning merchandise after trying it and not liking it.

Scale Items: Machiavellianism

1. Never tell anyone the real reason you did something unless it is useful to do so.
2. The best way to handle people is to tell them what they want to hear.
3. One should take action only when sure it is morally right.
4. Most people are basically good and kind.
5. It is safest to assume that all people have a vicious streak and it will give out when given the chance.
6. Honest is the best policy in all cases.
7. There is no excuse for lying to someone else.
8. Generally speaking, people won’t work hard unless there are forced to do so.
9. All in all, it is better to be humble and honest than to be important and dishonest.
10. When you ask someone to do something for you, it is better to give the real reasons for wanting it rather than giving reasons that carry more weight.
11. People who want to get ahead in the world lead clean, moral lives.
12. Anyone who completely trusts others is asking for trouble.
13. The biggest difference between criminals and others is that the criminals are stupid enough to get caught.
14. Most people are brave.
15. It is wise to flatter important people.
16. It is possible to be good in all respects.

17. Barnum was wrong when he said that there's a sucker born every minute.
18. It is hard to get ahead without cutting corners.
19. People suffering from incurable diseases should have the choice of being put painlessly to death.
20. Most people forget more easily the death of their father than the loss of their property.

Scale Items: Ethics Position Questionnaire

Idealism scale

1. A person should make certain that their actions never intentionally harm another even to a small degree.
2. Risks to another should never be tolerated, irrespective of how small the risks might be.
3. The existence of potential harm to others is always wrong, irrespective of the benefits to be gained.
4. One should never be psychologically or physically harm another person.
5. One should not perform an action that might in any way threaten the dignity and welfare of another individual.
6. If an action could harm an innocent other, then it should not be done.
7. Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral.
8. The dignity and welfare of people should be the most important concern in any society.
9. It is never necessary to sacrifice the welfare of others.
10. Moral actions are those, which closely match ideals of the most "perfect" action.

Relativism scale

1. There are no ethical principles that are so important that they should be a part of any code of ethics.
2. What is ethical varies from one situation and society to another.
3. Moral standards should be seen as being individualistic; what one person considers being moral may be judged to be immoral by another person.
4. Different types of moralities cannot be compared as to rightness.
5. What is ethical for everyone can never be resolved since what is moral or immoral is up to the individual.
6. Moral standards are simply personal rules which indicate how a person should behave, and are not to be applied in making judgments of others.
7. Ethical considerations in interprofessional relations are so complex that individuals should be allowed to formulate their own individual codes.
8. Rigidly codifying an ethical position that prevents certain types of actions stand in the way of better human relations and adjustment.
9. No rule concerning lying can be formulated; whether a lie is permissible or not permissible totally depends upon the situation.
10. Whether a lie is judged to be immoral depends upon the circumstances surrounding the actions.

Table A. Previous consumer ethics research (in chronological order)

Authors	Year	Dependent Variables	Independent Variables	Findings
Forsyth	1980	Ethical judgment	Ethical ideology	<p>Situationists use contextual analysis of morally questionable actions, they reject moral rules while asking if their actions yield the best possible outcomes given the situations and assess behaviour on the basis of its consequences in the specific situation</p> <p>Absolutists use inviolate, universal moral principles to formulate moral judgments and believe that their actions are moral only if they yield positive consequences through conformity to moral absolutes and norms</p> <p>Subjectivists believe that moral judgments should depend primarily on one's own personal values, they reject moral rules and base their moral judgment on personal feelings about their actions</p> <p>Exceptionists believe that exceptions must sometimes be made to moral absolutes and that conformity to moral rules is desirable but that exceptions are permissible</p>
Forsyth	1981	Moral evaluation of an actor, linked, at varying levels of responsibility, to positive or negative outcomes	Ethical ideology	Absolutists judged the actor more harshly than exceptionists, but only when the described actor has foreseen or intended to produce a highly negative consequence
Hershberger	1982	Opinion on moral Issue questions	Ethical ideology	Ideology partially influences subject responses on ethical-issue questions Significant differences were found between the 4 church affiliated colleges on both ideology and opinion on moral issue questions.
Forsyth	1982	Moral judgment and Moral behaviour (cheating on a test)	Ethical ideology	<p>Self-devaluation was most pronounced among absolutists (non-relativistic and idealistic)</p> <p>Exceptionists (non-relativistic and pragmatic) reported increased happiness the more they cheated</p> <p>Situationists' (relativistic and idealistic) self-ratings were not clearly related to the morality of their actions</p> <p>Subjectivists (relativistic and pragmatic) showed signs of fear of detection.</p> <p>Findings suggest that variations in ethical ideology may predict individual differences in moral judgment but not moral behaviour</p>
Rim	1983a	Influence tactics	Ethical ideology	Correlations between ethical ideology and influence tactics (authoritarian, dependent, accommodative, "last resort" and "giving up") in marital functioning
Rim	1983b	Freedom and equality	Ethical ideology and values	<p>Freedom (F) and equality (E) can be the basis for a typology of values (Rokeach value questionnaire) and ethical ideology (EPQ). Subjects ranking E and F as most important preferred peace and national security</p> <p>Subjects ranking E and F as least important preferred happiness, inner harmony, and social recognition.</p> <p>Low-E Subjects preferred an exciting life while low-F Subjects preferred a comfortable life, accomplishment, and salvation.</p>
Forsyth & Pope	1984	Moral judgment	Ethical ideology	<p>Subjects with different ethical ideologies emphasize different characteristics associated with moral judgment</p> <p>Situationists emphasized risks relative to benefits and the potential harm to experiment participants</p> <p>Absolutists based their judgments on costs created for participants and the riskiness of the procedures</p> <p>Judgments by subjectivists were associated with the harmfulness,</p>

Chapter 6: An Empirical Investigation of the Relationships between Ethical Beliefs, Ethical Ideology,
Political Preference and Need for Closure of Dutch-Speaking Consumers in Belgium

Authors	Year	Dependent Variables	Independent Variables	Findings
				legitimacy, and invasiveness of the procedures Exceptionists emphasized the consequentiality of the research, as well as scientific legitimacy, magnitude of costs, and deception
Forsyth, Nye & Kelley	1988	Endorsement of ethics of caring during moral decisions	Ethical ideology	Results show that subjects who endorsed an ethic of caring also tended to have higher scores on the idealism scale Caring was also slightly correlated with the rejection of moral relativism Individuals who espoused highly idealistic but low relativistic personal moral philosophies most strongly endorsed an ethic of caring
Vitell, Lumpkin & Rawwas	1991	Ethical beliefs	Ethical ideology and machiavellianism	Elderly consumers generally believe that morally 'right' behaviour leads to good or positive consequences (idealism scale), while they do not reject the notion that absolute moral principles do exist (relativism scale) Elderly consumers strongly believed that most of the CB items included in the questionnaire were wrong The elderly are more inclined to view all types of questionable consumer activities as more unethical than are younger consumers Elderly consumers are somewhat more machiavellian than younger consumers A significant segment exists that believes ethics are a matter of personal feelings (high machiavellian) In sum, they concluded that one's ethical ideology is a significant overall determinant of a consumers' ethical beliefs
Galvin & Herzog	1992	Attitude towards treatment of animals	Ethical ideology and involvement in the animal rights movement	Activists were more likely compared to students to hold an "absolutist" moral orientation (high idealism, low relativism). Activists returning a modified EPQ (word 'person' replaced by word 'being') had higher ideation scores than did those returning the original for Gender and idealism are related to attitudes toward the treatment of animals (animal use)
Furnham & Briggs	1993	Rating priority of treatment for patients (preferential allocation of scarce medical resources)	Participants personality (ethical ideology) and patient characteristics	High versus low relativists rate priority of treatment differently Sex, marital status and age of patient also play role (This research is a part of a programmatic series; Furnham & Briggs, 1993; Furnham & Ofstein, 1997; Furnham, Meaden & McClelland 1998; Furnham, Simmons, & McClelland, 2000; Furnham, Thomas & Petrides, 2002)
Treise, Weigold, Conna & Garrison	1994	Perception of familiar advertising Controversies: targeting practices (advertising to children and to minorities) and message strategies (fear appeals and sex appeals)	Ethical ideology	Low (versus high) relativists were more likely to condemn children's tie in program, candy and gum ads and ads targeting minorities for products such as alcohol, cigarettes or the lottery Low relativists expressed greater agreement that advertisers have a responsibility to use minorities in ads and were more likely to take offence of ads that showed women who find contentment as a homemaker Low relativists were more likely to agree that fear appeals for acne products; breath mints and radon detectors were objectionable. High relativists were more likely to object to ads encouraging parents to look for warning signs of drug use or to ads warning about the dangers of crack High idealist subjects were more likely to object to cartoon tie-ins, candy and gum ads directed at children and programs like Whittler's 'Channel one', which trades equipment for teenage viewers High idealists were also more likely to object to cigarette (but not alcohol) ads targeting inner city minorities and to disagree that advertisers have a responsibility to employ minority actors in ads

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Authors	Year	Dependent Variables	Independent Variables	Findings
				High idealists also took greater offence at ads portraying women as contended homemakers
McIntyre, Capen & Minton	1995	Perceptions of moral judgment about ethical decision making in marketing	Ethical ideology and cognitive style	Level of idealism is influenced, both by information intake function, as well as the information processing function, but only the former affected relativism Idealism worked indirectly through relativism to affect perceptions of moral judgment of ethical marketing decisions Findings suggest that the links between cognitive style and ethical evaluations provide a basis for developing a psychologically based general theory of marketing ethics
Giacalone, Fricker & Beard	1995	Degree of punishment for differing ethical infractions and selection of non-ethics related variables	Ethical ideology	Individual ideology impact both advocated punishment and choice of non-ethics related variables in some measures
Rawwas	1996	Ethical beliefs	Ethical ideology, machiavellianism and gender	Subjectivists found three of the four ethical beliefs activities as ethical Absolutists believed that all four activities were unethical
Keller	1998	Honesty reporting tax liability	Ethical ideology	Tax rate, idealism, and relativism were significant explanatory variables Low idealists (high relativists) attempted more tax evasion than high idealists (low relativists) The results imply that an increase in the tax rate will increase tax non-compliance The results indicate that the tax rate and idealism interact significantly: the lower an individual's idealism, the more noncompliant he/she becomes as the tax rate increases
Eastman, Eastman & Tolson	2001	Behavioural intentions of physicians	Ethical ideology	The doctors surveyed are significantly more idealistic than relativistic Ethical ideology was not related to the ethical behavioural intentions (This suggests more research is needed to establish the links between ethical positions, attitudes, and behavioural intentions) Finally, there were little differences in EPQ scores by practice or demographic variables, the only significant result being that general surgeons are significantly more idealistic than family practitioners
McIntyre, Thomas & Gilbert	1999	Perceptions and opinions about marketing practices	Age and education	Analysis identifies a younger-aged cluster that perceive higher frequency of unethical situations, and a cluster of lesser-educated individuals who place a higher level of severity on fairness Implications reflect the need for managers and researchers to refine the set of ethical issues used for segment identification and to identify those critical issues that differentiate consumer responses and purchasing behaviours

Table B. Previous ethics research involving managers and/or marketers (in chronological order)

Authors	Publication year	Dependent Variables	Independent Variables	Results
McDonald & Zepp	1988	Reaction to potentially unethical situations of middle level managers	Age, location of education and employment	There was little consistency in views of unethical situations. 1. The practices of taking credit for another's work and falsifying reports or an expense account were seen by Hong Kong managers as the most unethical. 2. Hong Kong managers frequently saw peers as having lower ethical standards than themselves. 4. Age appeared to have the greatest effect on ethical perceptions of the variables examined
Skinner, Ferrell & Dubinski	1988	Investigate linkages among ethical constructs that are related to organizational and interorganizational relationships among participants engaged in the marketing-research process		It is proposed that, within the organization, referent others and opportunity to engage in unethical behaviour influence ethical decision making in marketing research
Akaah	1989	Ethical judgments of male and female marketing professionals		The results indicate that female marketing professionals overall evince higher research ethics judgments than their male counterparts. These results could support the viewpoint that ethical decision making in organizations may improve as the ratio of women in executive positions increases
Singhapakdi & Vitell	1991	Ethical perceptions of salespeople		Found a positive relationship between a perceived ethical problem and perceived alternatives. In particular, they reported that salespeople who are more ethically sensitive are more likely to take action to remedy an ethical problem
Pratt	1992	Beliefs and behaviours in unethical situations of public relation practitioners	Gender, accreditation by PRS, age and income	Results show that subjects' self-reported beliefs and behaviours correlate significantly with gender, accreditation by the public Relations Society of America, age, and income, which are also significant predictors of practitioners' self-reported beliefs and behaviours
Fraedric & Ferrell	1992	Personal integrity of managers in a corporation	Personality type (egoist, act utilitarian, rule type)	They found that moral philosophy was affected by perceived risk differentially Egoists and act utilitarians were more likely than rule types to alter ethical decisions if financial risk was introduced Egoists also changed ethical decisions when social risk was

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Authors	Publication year	Dependent Variables	Independent Variables	Results
				present, while act utilitarians dropped out
Vittel & Muncy	1992	Ethical beliefs	General attitudes of US consumers relative to business, government, salespeople, people in general and illegal acts,	Most actions were viewed as unacceptable especially those situations where the consumer is actively benefiting at the expense of the seller There was more tolerance for some situations, for example the passive unethical behaviour, even though it was considered to be wrong Three explaining factors (locus of fault, perceived illegality and degree of harm) were also identified (cfr Muncy and Vitell, 1992) They found no general overall relationship between attitudes towards business, government, salespeople, mankind and illegal acts on rejection of questionable consumer actions However, they found that consumers who do have a more negative attitude toward business also tend to be more accepting of potentially unethical consumer behaviour They also found that consumers who equated illegal with unethical were significantly less tolerant of the consumer actions examined than those who did not equate these two concepts ⁴⁰
Vittel, Rallapalli & Singhapakdi	1993	Price and distribution, information and contracts, product and promotion, obligation and disclosure, and general honesty and integrity of marketing practitioners	Ethical ideology, income and gender	The dimensions of the marketing norms scale were positively correlated with idealism and negatively correlated with relativism Idealism, relativism, income, and gender were significant predictors of marketer's price and distribution norms Moral philosophies, idealism and relativism, and income were significant predictors of marketers' general honesty and integrity More idealistic marketers tended to exhibit higher honesty and integrity, while relativistic marketers tended to exhibit lower honesty and integrity
Vittell & Singhapakdi	1993	Deontological norms and ethical judgments of marketers	Ethical ideology	Found that more idealistic marketers had higher deontological norms and ethical judgments, while more relativistic marketers tended to have lower deontological norms Found a perceived ethical problem to be a positive factor in ethical judgments of marketing practitioners
Tansey, Brown, Hyman & Dawson	1994	Moral judgments of salespeople	Ethical ideology	The results indicate that the moral judgments of life insurance agents (who gained personally by violating one of the firm's formal policies) related to their personal moral philosophies
Bass & Hebert	1995	Ethical judgments of marketing managers	Demographic and situational factors	Results show a significant positive relationship between ethical judgments and amount of education A significant negative relationship existed between judgments of an

⁴⁰ We argue that this last result can be explained by the directness of the relation between the attitudinal variable and the unethical behaviour. A direct relation exists between the attitudinal measure concerning illegal acts (unethical=illegal?) and the ethical behaviour, while the other attitudinal measures ask about the possible actor of illegal acts (business, salespeople, government and mankind) without mentioning the illegal acts in itself.

Authors	Publication year	Dependent Variables	Independent Variables	Results
				unethical situation and number of employees in the subjects' firms
Davis, Johnson & Ohmer	1995	Moral concern and immorality Judgments in a HRM context	Ethical ideology, social consensus, personal proximity and magnitude of consequences	Results indicated social consensus had the most potent effect on judgments of moral concern and judgments of immorality An analysis of American, Eastern European, and Indonesian responses also indicated socio-cultural differences were moderated by the type of HRM ethical issue In addition, individual differences in personal ethical ideology (relativism and idealism) varied reliably with moral judgments after controlling for issue characteristics and socio-cultural background
Singhapakdi, Kraft, Vitell & Rallapalli	1995	Ethical judgments and social responsibility	Ethical ideology	Found that more idealistic marketers tended to perceive ethics and social responsibility to be essential for organizational effectiveness, while more relativistic marketers tended to perceive ethics and social responsibility to be less important for organizational effectiveness
Flannery	1997	Decision intentions of top managers	Individual (i.e., attitudes, self-efficacy, personal moral obligation), contextual (subjective norms, organizational climate, and financial cost), and issue-specific (i.e., moral intensity) factors	The findings showed that managers' attitudes toward the treatment of hazardous wastewater, subjective norms influence, perceptions of the instrumentality of their respective climates, and financial cost considerations significantly influenced the managers' decision intention concerning the treatment of hazardous wastewater. Contrary to previous studies, the personal moral obligation factor did not contribute to the power of Ajzen's model. However, Jones' (1991) moral intensity construct did moderate the relations between Ajzen's other determinants and the managers' decision intention
Singhapakdi, Higgs & Rao	1999a	The perceptions of ethical problems, ethical intentions, and corporate ethical values of south African and American marketers	Ethical ideology	The findings indicate that South Africans were more idealistic and less relativistic than their American counterparts The results generally indicate that South African marketers are more likely to perceive ethical problems than American marketers However, the survey results revealed that South African marketers tend to be less ethical in their intentions to resolve an ethical problem than their American counterparts Corporate citizens of South African firms were found to have slightly higher corporate ethical values than their American counterparts
Hu	1999	Retail buying behaviour	Teleological ⁴¹ evaluations	The results of this study suggest that teleological evaluations are the major factors in determining Chinese retail buyers' ethical judgments. Among the teleological evaluations, organizational consequences have the greatest impact on Chinese retail buyers' ethical decision-making, followed by personal consequences and friend's consequences. The results also suggest that interpersonal relationships are very important in Chinese retail buyers' ethical decision-making
Singhapakdi, Vitell, Rao &	1999b	Ethical perceptions of marketing		The results generally indicate that marketing professionals are different from consumers with respect to some of the determinants

⁴¹ Teleological philosophies deal with the moral worth of behaviour determined totally by the consequences of behaviour (Ferrell & Gresham, 1985)

The Influence of Need for Closure on Consumer Behaviour

Authors	Publication year	Dependent Variables	Independent Variables	Results
Kurtz		professionals and consumers		<p>of ethical decisions investigated. The marketing professionals did not differ in perception of ethical problems compared to consumers: both groups tended to be relativist in regard to their perceptions of ethical issues that is ethical perceptions appear to vary according to the context of the situations</p> <p>They particularly found that 'proximity' is an important concept. The marketing respondents tended to side with the marketers depicted in the situations and the consumer respondents tended to side with the consumers depicted in the situations Furthermore, they found that marketing professionals were more relativistic compared to consumers. In other words, the marketing professionals tended to rely more on the nature of the situations as well as the individuals involved than the ethical principle that was violated, when making ethical judgments</p> <p>Furthermore, marketing professionals were less idealistic compared to consumers. They tended to adhere less to moral absolutes when making ethical decisions. Marketing professionals were more likely to feel that harming others is not always avoidable and they would be willing to accept "the lesser of two evils" in their decision-making strategy</p> <p>Finally they argue that marketers should strive to be more ethical in those situations where consumers perceive benefits as higher</p> <p>In sum, they argue that the degree to which a marketer perceives that a situation involves an ethical issue is a catalyst of the whole marketing ethics decision-making process</p>
Chow	2001	Ethical Behaviour of IT Managers	Ethical ideology	It is concluded that the 7 conduct codes are adequate indicators for measuring ethical standards for managers
Mobbs	2002	Ethical decision making in organizations	Individual personality variables (effortful control, affiliativeness, big five), organizational variables (Leadership, corporate social responsibility, accountability) and situational variable (moral intensity)	<p>In short, he found that the temperamental measures of Effortful Control and Affiliativeness were found to be significantly related to ethical decision-making, and explain more variance than the Big Five measures of Conscientiousness and Agreeableness</p> <p>The situational variable of Moral Intensity had a significant influence on ethical decision-making, whistle blowing, and engaging in extra-role behaviours</p> <p>The organizational-level variable of Leadership and Corporate Social Performance was significantly related to whistle blowing and extra-role behaviours, but not significantly related to ethical decision-making. Accountability within the organization was significantly related to ethical decision-making and whistle blowing. Accountability was also significantly related to performing extra-role behaviours, although it was in the opposite direction than hypothesized</p>

CHAPTER 7

Summary and Discussion

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1. Recapitulation

Consumer choice behaviour is influenced and shaped by many factors and determinants like individual differences, environmental influences and psychological processes. In this dissertation, we looked at the consumers' motivation to attain closure (an instance of individual differences) and its relation to several facets of the decision process.

Consumers that experience a high Need for Closure bias their individual choices and preferences toward closure bound-pursuits (Kruglanski & Webster, 1996). This is translated in a tendency to seize on closure or to draw a conclusion quickly and terminate choice related cognitive processing and/or a tendency to preserve closure or freeze on past knowledge (Webster & Kruglanski, 1994).

We aimed to (1) provide further evidence for the influence of Need for Closure on consumer choice behaviour, (2) extend the limited consumer research on Need for Closure, (3) better understand the specific influence Need for Closure has on consumer choice behaviour and (4) learn more about the nature of the consumer decision process by predicting differences in the decision process based on this 'cognitive style' variable.

The present dissertation generally looked at the effects of Need for Closure on consumers' choice behaviour. More specifically, the influence of Need for Closure was investigated on several stages of the consumers' decision process. We looked at (1) external information search including amount of information search in general and in-, out-of- and between store information search for a specific type of information namely price and promotional stimuli, (2) information processing including attention and

retention⁴² (3) the pre-purchase alternative evaluation including amount of used information and importance of product attributes⁴³, (4) decision itself including the use of decision rules, (5) decision outcomes like decision confidence and (6) the whole decision process including decision time. In addition we looked at the relation between NFCL and some other consumer characteristics that can influence choice behaviour and decision making, in particular, the ethical beliefs of the consumer.

In a first consumer related study (chapter 2), we argued that several facets of the decision process would be influenced by the need to obtain closure. We invited participants individually to a simulated store consisting of different unfamiliar, Dutch brands of two fast moving product categories. Participants had to choose a brand on six different occasions. Our results provide substantial evidence that NFCL influences the search for information, information usage, usage of decision rules, decision confidence and brand name recall in a low involvement consumer context. A distinction was made between new (before crystallization point) and known (after crystallization point) purchase situations. More specifically, we found that in new situations high NFCL consumers look for more information compared to known situations. This difference is non-existent for low NFCL consumers. Furthermore, high (versus low) NFCL consumers search more information but only in new situations. In new (versus known) situations, high NFCL consumers also use more information to take their decision, while again this difference could not be found for low NFCL consumers. Moreover, in new as well as known situations, high (versus low) NFCL consumers use more information. Furthermore, decision time differed for high and low NFCL subjects but only in known situations. For both motivation types, decision time decreases when the decision task becomes more familiar. In addition, high (versus low) NFCL consumers use more the same attributes to compare product alternatives, which is translated in the use of the same decision rules.

⁴² When the consumer is exposed to information during external search, information-processing capacity has to be allocated to the incoming information. Attention is most likely attracted when the incoming message and its content are relevant for the individual in terms of his or her motivations and needs. Consumers frequently ignore commercial persuasion at this stage by implementing selective attention. In addition, accepted information can be stored in memory in such a way that it is acceptable for future use.

Finally, decision confidence and brand recall was higher for high (versus low) NFCL consumers. All these results are consistent with NFCL theory. We argued that these findings have practical implications for the development of appropriate marketing strategies.

In a second study (chapter 3), we intended to validate the Need for Closure measurement instrument that was then used in further studies. The psychometric characteristics of the existing Dutch 42-item Need for Closure scale were investigated. We found that – although the reliability of this scale is high- the intended five-factor structure is not completely replicated. Therefore, we developed our own 25-item version of the Dutch Need for Closure scale by shortening and adapting the existing 42-item Dutch Need for Closure scale. Psychometric analyses of this new scale (unidimensionality, reliability, discriminant, convergent and nomological validity) show that the instrument is reliable and valid to measure Need for Closure in a Flemish context. The 42- item scale was used in our first consumer related study, while our 25-item scale was used in the last three consumer related studies.

In the second consumer related study (chapter 4) we took a closer look at the search for specific information cues (e.g. price and promotional stimuli). We argued that high NFCL subjects would value price and promotional information because this can aid them to reach confident, secure and consistent decisions. Participants had to indicate to what extent they search for coupons, look for advertised specials and in-store promotions, compare unit prices and switch shops to find the lowest price. Our results confirmed that NFCL had a positive relationship with search effort for price and promotional information. More specifically, high (versus low) NFCL subjects search more for coupons, look more for advertised specials and in-store promotions and they shop more frequently in several stores in order to find the lowest price. In addition, we incorporated two other individual characteristics that could influence search effort for price and

⁴³ In the pre-purchase evaluation phase, consumers examine product attributes by for example comparing them with his or her own standards and specifications. These criteria are the desired outcomes from purchase and consumption and are expressed in the form of preferred attributes.

promotional information: perceived time pressure and perceived budget constraints. Both differentially influenced coupon search, while the latter also influenced search for in-store promotions and shop switching behaviour. These results suggest that –contrary to previous research- (1) some consumers do value and search valid information for less important purchases (e.g. high NFCL, low perceived time pressure, high perceived budget constraints) and (2) a strong degree of interest in switching shops to find the lowest price exists (high NFCL, high perceived budget constraints). Consequently, the communication of information remains important.

In our third consumer related study (chapter 5), we looked at the influence of Need for Closure on the importance a consumer attaches to different types of product attributes (abstract versus concrete). Participants had to rate specific concrete and abstract product attributes for a blanket according to importance. Results showed that high (versus low) NFCL consumers rated concrete attributes as more important. Moreover, abstract attributes were also more important to high (versus low) NFCL consumers. NFCL is important in explaining the importance of both abstract and concrete product attributes. All results could be explained by NFCL theory. In addition, we included Need for Cognition in this research as this individual characteristic –frequently researched in consumer behaviour- determines consumers’ cognitive effort. Results indicated that NFC differentially influenced the importance of attributes. High (versus low) NFCL consumers rated concrete attributes as more important, while high (versus low) NFC consumers rated abstract attributes as more important. Moreover, NFC is important in explaining the importance of both abstract and concrete attributes. Furthermore, NFCL and NFC both explain the type of information that is rated as important but differ in magnitude that is, NFCL explain more the importance of concrete attributes, while NFC explains more the importance of abstract attributes. We argue that the results of this study could have significant implications for segmentation and positioning strategies and can add to the practice of target group marketing.

In our last consumer related study (chapter 6), we investigated, amongst others, the relation between NFCL and consumers’ ethical beliefs. Our results confirmed that high

(versus low) NFCL subjects disapprove more of actively or passively benefiting of illegal or questionable behaviour. In addition high (versus low) NFCL consumers have different ethical ideologies (high idealism, absolutists, low Machiavellianism). Furthermore, we found a significant relationship between NFCL and political orientations. High (versus low) NFCL participants had a greater preference towards the extreme right wing party (Vlaams Blok), while low (versus high) NFCL subjects preferred more a progressive left wing party (AGALEV). All these results are consistent with NFCL theory. Practical implications are discussed.

2. Aim of Research

This study may provide a fuller theoretical understanding of the influence of Need for Closure on choice behaviour.

Previous psychological research revealed the indispensable influence of NFCL on a broad range of social psychological phenomena (Kruglanski & Webster, 1996). According to our knowledge, only Houghton and Collegeaus investigated this concept in a consumer context (Houghton & Grewal, 2000; Houghton & Kardes, 1998).

The purpose of our study was fourfold. First, we tried to confirm the existence of some previously found effects of NFCL in a social context (e.g. information processing, decision confidence), in a consumer context.

Secondly, we extended previous social and consumer research on NFCL by investigating information use, decision time, decision rules, use of promotions, recall of product attributes, cognitive effort towards price and promotional search effort and the type of information a consumer attaches importance to. Furthermore, we looked at consumers' internal ethical beliefs in addition to their external behaviour. Previous research and NFCL theory suggested that these variables could be influenced by NFCL but no study so far was dedicated to entangle the specific relation between these variables and NFCL. The results of our four consumer related studies all indisputable demonstrate the

influence of NFCL on consumer' choice behaviour for the previously researched as well as the newly suggested variables, which in turn validates the propositions proposed in the NFCL theory.

Third, these results help us to better understand some specific instances in which NFCL influences consumers' choice behaviour (e.g. low involvement brand choice).

Finally, we broadened our knowledge of the nature of the decision process by investigating the differences between high and low NFCL consumers (Haugtvedt & Petty, 1992). We learned that consumer decision process could be differentially influenced by individual characteristics in new and known situations. Furthermore, we learned that pre-purchase search is not always as effortless as many studies suggest. Finally, through this research, we learned that different tendencies (e.g. urgency and permanence) have differential consequences on decision processes.

In sum, we provided a first glance at the impact Need for Closure could entail in a consumer decision-making context and extended the knowledge of the nature of the decision process.

3. Theoretical Implications

3.1. What do we know more about the Consumer Goals and Consumer Behaviour of high and low NFCL?

We learned that high NFCL consumers act differently in new and known situations. Moreover, their goals seem to vary in these different circumstances. In new situations, high NFCL consumers seem to experience a drive to quickly construct clear, confident, transsituational knowledge in order to attain closure, while in known situations, they aim to quickly use this previously acquired knowledge to satisfy closure.

These situationally dependent goals result in different behavioural patterns. High NFCL consumers confronted with a new situation will immediately begin searching for a lot of information to enable them to quickly make a confident decision. However, this short but extensive information search prevents them from minimizing their decision time at that point; the search for a confident decision rule takes time. At this time, high NFCL consumers seem to give priority to the construction of a clear, confident and transsituational usable decision rule, while the need to limit decision time seems to be pushed to the background. However, high NFCL consumers seem to try to limit their decision time by searching as much attributes as possible in as little time as possible. When a decision is made in a new situation, high NFCL consumers use a lot of attributes to compare products probably because they are not certain whether they are using the right decision rule(s). We could expect their motto to be 'the more information I use, the better/ higher quality the decision will be'. Moreover, high NFCL consumers will probably use more concrete product attributes, as these simple, unambiguous, transsituational usable heuristic cues require less cognitive effort. In addition, their in-depth information search can enhance retention of product attributes like for example brand names, which in turn can help them make quicker decisions in future product confrontations (e.g. construct accessibility).

Furthermore, in dealing with new situations, high NFCL consumers, possibly try to use more and more the same decision rules to satisfy their need for confident knowledge that is applicable across situations. As time passes, high NFCL will begin using the same decision rule(s) over and over again in future decisions. One possible confident transsituational decision rule is the use of price and promotional information. High NFCL consumers will therefore display more effort to search for coupons, in-store advertised specials or promotions and switch shops to find the lowest price. Furthermore, we can expect that high NFCL consumers will form more than one confident, transsituational decision rule because they value high quality decisions.

In known situations, high NFCL consumers, who want to base their decisions on clear, definite, unambiguous and confident knowledge that can justify their actions, in general

try to reduce their level of pre-decisional information processing and search by quickly judging based on a few pieces of confident information. They seem to settle for a compromise between making a high quality decision and not spending too much time and energy on processing large amounts of information. They probably compare the products only on those attributes that are necessary according to their decision rule(s); consequently, their information search is diminished. The emotional burden of the absence of closure is translated in the enhanced speed of their decisions. Again, they will probably use more concrete product attributes as they require less cognitive effort and therefore provide quicker closure.

In general, the use of few pieces of confident information probably enhances the decision confidence of high NFCL consumers.

Low NFCL subjects probably do not entertain different goals (and consequently different behaviours) in new and known situations. Low NFCL consumers can be characterised by a more 'easy going' style. They generally try to suspend judgment to preserve them from possible criticism of attained closure. In order to do this, they probably take their time to search for information without necessarily enhancing their pre-decisional information search. Furthermore, they will be more prone to search for abstract attributes compared to concrete attributes. Moreover, they do not necessarily search for price and promotional information, possibly because this kind of information could bring the decision process to a stop. In addition, they will shop more spontaneously, without much planning, which makes them less prone to collect coupons before the shopping trip. This 'at the spur of the moment' decision-making is probably highly situational specific and can explain the limited confidence low NFCL consumers have in their decision.

As time passes, low NFCL consumers, can start to use the same decision rules on succeeding occasions, especially in a low involvement situation possibly to diminish cognitive load. This can make decision-making easier, but this does not influence the amount of information they pursue or use. It can however decrease the time the low NFCL consumer spends on decision making (in addition to task familiarity).

3.2. What do we know more about the NFCL Framework?

We argue that this dissertation provides an added value to the existing NFCL theory and research. We learned that (1) some predictions made by NFCL theory hold in a consumer context, (2) that the consequences of NFCL are situational specific, (3) that NFCL differs from NFC, (4) that the crystallization point exists within and across decisions, (5) that the behavioural consequences of high NFCL consumers are not the opposite of those of low NFCL consumers and (6) that the NFCL framework and the suggested behavioural consequences holds for a wide range of behaviours.

Our results confirm some previous research concerning NFCL in a consumer context (Houghton & Grewal, 2000). In addition, we made some predictions based on NFCL theory concerning the use of information, decision time, recall, importance of attributes, search for specific information and ethical beliefs. Results confirmed our predictions, denoting the applicability of the NFCL framework in a consumer context.

We found that in addition to the difference in decision processes between high and low NFCL consumers, the situation at hand plays a significant role. The situation could alter the decision process of high NFCL consumers and sometimes undoes the different behavioural patterns high and low NFCL consumers engage in. For example, in new situations, a possible behavioural pattern for high NFCL consumers (in addition to their main goal of attaining closure) is to gather non-ambiguous, definitive, clear, confident and across situations usable information which allows them to freeze on this knowledge in later choice situations. Consequently, no difference between high and low NFCL consumers (in relation to amount of information search) can be found. In known situations, high NFCL consumers will value more the seizing activity that results in immediate closure and therefore minimizes their information search. Consequently, a different behavioural pattern is observed for high and low NFCL consumers.

Need for Cognition is a prevalent individual characteristic in consumer behaviour. Especially because NFC is associated with knowledge constructions and cognitive effort, it bears a great resemblance to NFCL. In chapter 1, we outlined the theoretical difference between the two concepts. In short, NFCL is more goal oriented (need for a clear, definite, non-ambiguous knowledge), while NFC is more process oriented (enjoying or engaging in effortful cognitive task). The activity of thinking as such is a desired end state for high NFC consumers, while high NFCL consumers enjoy the end-state of thinking (i.e. closure) that is the instant the decision is made. Furthermore, engaging in a limited cognitive processing effort (like low NFC consumers enjoy) could promote closure, as well as an extensive cognitive effort (like high NFC consumers enjoy). High NFCL probably prefer simple heuristic cues like concrete attributes that provide a quick and easy closure, but they can use more complex cues like abstract attributes when the situation requires it.

The results of our first consumer related research (chapter 2) showed that, in new situations, high NFCL consumers engage in an effortful information search, while in known situations, cognitive effort is diminished. These results confirm theoretical notions and previous suggestions that some cognitive effort can promote closure (Houghton & Grewal, 2000; Kruglanski & Webster, 1996; Kruglanski et al., 1991). Furthermore, they suggest a first distinction between NFCL and NFC. More specifically, these two knowledge related individual characteristics differ in their influence of cognitive effort. Results also showed that high NFCL consumers use more information to make their decision compared to low NFCL consumers, probably because they want to apply confident decision rules. The use of more cues leads to an optimal choice or a higher perceived decision quality as more information is considered and processed thoroughly, whereas the use of few information cues could lead to the neglect of important information and decision makers may arrive at a sub-optimal choice (Lee et al., 1999; Punj & Staelin, 1983; Bettman, 1979). If NFCL and NFC would be similar, we should have found that high (versus low) NFCL consumers use less information, as low NFC consumers would do. In sum, the behavioural consequences of NFCL and NFC seem to differ.

In addition, in our third consumer related study (chapter 5), we incorporated Need for Cognition as a predictor variable. Again we found that NFC and NFCL have a differential impact on the importance of product attributes. High NFCL consumers prefer concrete attributes, while high NFC consumers prefer abstract attributes. One can argue that high NFCL consumers therefore resemble low NFC consumers. But as Klein & Webster (2000) argue, NFCL and NFC could have similar behavioural consequences, but are distinctly different motivations. Furthermore, our results also showed that NFC especially influenced the importance of abstract attributes and NFCL influenced the importance of concrete attributes indicating that the two concepts have different implications.

We argue that a difference exists between the crystallizing of the decision (in one decision process) and the crystallizing of the decision rule (across decision processes). During decision-making, a high NFCL consumer can experience a high discrepancy between his present (absence of closure) and desired state (closure) and therefore engage in an extensive information search and welcome any persuasion attempt, especially in new situations. At a certain point however, an individual no longer doubts about his/her opinion or action, but s/he feels confident. At this moment of belief or decision crystallization, an opinion is solidified, the consumer believes that s/he is doing the right thing. After this point, the consumer sticks to his or her opinion, feels confident and consequently refrains from information search and refuses persuasion attempts, even though new information could question the validity of their decision.

In addition, across similar decision situations, high NFCL consumers could experience a crystallization of their decision rules. After the successful utilization of one or more specific decision rules in similar decision situations, high NFCL consumers could decide to use this (or these) decision rule(s) in further situations without considering other decision rules. Consequently, in future decision-making, the high NFCL consumers will immediately solve his discrepancy between actual and desired state by using that decision rule.

An example can make this clearer. A newborn high NFCL mother who is confronted with the choice between several diaper brands could find herself searching for all sorts of information about the different diaper brands and be particularly open to the direct marketing attempts (that go together with newly motherhood) made by diaper producers. At a certain point (i.e. the crystallization point), this mother decides to buy a particular brand using specific decision rule (I choose the most famous brand) and she has confidence in her decision as she put a lot of effort in her decision (i.e. the crystallization of the decision). After she has made up her mind, she refrains from information search and is not unsettled by advertising, direct marketing attempts or important others who speak in favour of other brands.

If the mother is satisfied with her brand choice, she probably decides to always use that decision rule (and thus buy that brand) in the future (i.e. crystallization of the decision rule), without engaging in pre-decisional information search and without considering any persuasion attempts from other brands.

As we mentioned before (chapter 2), low NFCL consumers could also engage in decision rule crystallization in order to minimize cognitive effort in a low involvement purchase situation with this difference that they will not engage in an extensive information search before decision rule crystallization or, their decision confidence will not increase after decision rule crystallization.

Consider the low NFCL housewife who has to buy a household cleaner. She probably limits her information search and decides based on price, on one time, on promotion the next time and on scent another time. After several purchases, she could decide to use the same decision rule (e.g. I choose the lowest price) or buy the same household cleaner (e.g. I choose the most famous brand) to refrain from the information search or alternatives evaluation that precedes each decision.

Several results learn that the high need to attain closure has no absolute opposite behavioural consequences compared to a low need to attain closure. Both are differently

influenced by characteristics of the situation, have different learning strategies,...Our arguments that high NFCL consumers extensively search for information in new situations do not necessarily imply that low NFCL consumers briefly search for product attributes. Nor does our argument that high NFCL consumers engage in a limited information search in known situations imply that low NFCL consumers then search extensively. Furthermore, we argue that high and low NFCL consumers engage in a different way of cognitive learning (see further).

Finally, by linking NFCL, ethical ideologies and political preference we again demonstrated that the prevalent influence of NFCL could be found in a wide range of different behaviours. Furthermore, theoretical predictions of the behaviour of high and low NFCL subjects are again established. In addition to the more external everyday consumer activities like information search and processing, we investigated the more internal ethical beliefs and ethical ideologies of the consumer in relation to Need for Closure. NFCL theory assumes that high and low NFCL subjects have different needs and beliefs, which translate into different behaviours. Our last study (chapter 6) takes a closer look at some of those beliefs that are suggested to differ. NFCL theory suggest that high NFCL subjects wish to deal with the world in clear-cut, unambiguous (Kruglanski & Webster, 1996), conformist (Kruglanski et al., 1991) terms, while low NFCL subjects are always open to alternative views across situations. Furthermore, high NFCL consumers welcome situational consistent (Webster et al., 1996; Kruglanski & Webster, 1996) and consensual (De Dreu & Koole, 1997; Kruglanski et al., 1993) knowledge, prefer theory driven versus data driven processing (Sanbonmatsu & Fazio, 1990; Jamieson & Zanna, 1989) and use stereotypes to make judgments (Dijksterhuis et al., 1996; Kruglanski et al., 1993). These propositions are confirmed in our research. High (versus low) NFCL consumers have less unorthodox (i.e. nonconformist) ethical beliefs (cfr. consensus bias). Furthermore, high NFCL subjects score higher on idealism, meaning that they believe that the desirable consequences can, with the right actions, be obtained in all situations (Forsyth, 1980) (cfr. consistency bias). In addition, high NFCL subjects score lower on Machiavellianism (an immoral way of manipulating others to accomplish one's objectives, Hunt & Chonko, 1984) (cfr. stereotypic judgments). In addition, absolutists,

who believe that their actions are moral only if they yield positive consequences through conformity to moral absolutes and norms and who have more rigid beliefs (Vitell et al., 1991), score high on NFCL (cfr. extol the conformist, theory driven versus data-driven processing), while subjectivists, who base their judgments on personal, situational dependent feelings and have more flexible beliefs (Vitell et al., 1991) score low on NFCL (cfr. consistency bias, theory versus data driven processing). The confirmation of these propositions provides an extra validation of the NFCL theory because theoretical predictions of the behaviour of high and low NFCL subjects are again established.

Moreover, the beliefs held by high NFCL subjects, as suggested by NFCL theory, also predicted political preferences. High levels of NFCL are found to coincide with high preference for extreme right wing party (Vlaams Blok), which capitalizes on providing clear and definite stereotypical, non-situational specific knowledge (e.g. articulate zero tolerance, promote traditional role patterns and hold a strict immigration policy). Low NFCL subjects, on the other hand, preferred more a progressive left wing party (AGALEV) which promotes more openness and a situational problem approach. Again these results suggest that the beliefs systems proposed by NFCL theory have an element of truth.

3.3. Generalizability of our results

The results of our consumer related studies concerning search effort and decision making (study 2-4) are probably not applicable to high involvement choices. Consumers who are low involved in general, limit their problem solving and their external search activity (Bloch, Sherrell & Ridgeway, 1986; Jacoby, Chestnut & Fisher, 1978). High involvement purchase decisions motivate more complex information processing requiring considerable effort, and encourages decision makers to engage in cognitive activities that prompt high-quality decision making (Lee et al., 1999) and to engage in a higher level of pre-decision information acquisition activity (Smith & Bristor, 1994; Crawford, 1974; Lanzetta & Driscoll, 1968).

Our research topics were low involvement (study 2: detergents and margarines; study 3: grocery shopping; study 4: blanket) compared to other possible products (e.g. car, house). We argue that behaviour for the low NFCL consumer would differ if the product involvement were high. We argued that in low involvement conditions, the low NFCL consumer probably experiences a high need to minimize cognitive effort (cfr. low NFC consumer). This explains why the low NFCL consumer refrains from an extensive information search, even though uncertainty is high. In low involvement conditions the cognitive demands required by an elaborate decision-making process are such that consumers will devote the needed capacity as well as the time, to a limited selection of the products or attributes. In a high involvement condition, however, low NFCL consumers may engage in an extensive, elaborate information search possibly to maximize the accuracy of their decision and therefore minimize the chance for a judgmental mistake. In addition to an enhanced information search, this extensive information processing could result in the use of more product attributes, an enhanced decision confidence, a greater product attribute recall, and an enhanced importance of both abstract and concrete product attributes.

In addition, increased importance of the decision makes an individual especially concerned about the possibility of overlooking a desirable or attractive alternative or selecting a sub-optimal option, and of being considered unfavourably by others (high fear of invalidity), which ultimately lowers the NFCL level or more specifically could temper the behavioural consequences (e.g. limited information search, quick decision making) a high NFCL level could evoke. In a high involvement choice context, a high NFCL consumer has to balance the pros and cons of closure against each other. If the fear of invalidity prevails, high NFCL consumers will refrain from deciding quickly and limit their information search. In addition, we can argue that possibly no crystallization point will be formed resulting in decision rules that are applicable across situations as every information bit is considered in each new high involvement decision.

We could argue that in high involvement conditions, all consumers become low NFCL consumers. However, we argue that this is not necessarily the case. Observation of real-

life purchase learns us that the purchase of a car for example is often decided very quickly, based on one specific strong product characteristic, namely, the brand image instead of on a well-considered information processing and alternatives evaluation.

3.4. Added value to other Research

Our results have implications for several research domains namely (1) search patterns, (2) general choice behaviour, (3) introduction of new information, (4) cognitive learning and (5) information processing in low involvement situations. In addition, we learned some more about other important consumer variables like cognitive search effort, perceived time pressure, perceived budget constraints, importance of abstract and concrete product attributes, Need for Cognition, ethical beliefs and ethical ideology.

That search patterns of individuals differ according to NFCL comes as no surprise. Literature suggests that individual differences like the goals of the decision maker influence information search and utilisation (Bettman et al., 1998). Furthermore, researchers argue that cognitive style traits (e.g. Need for Closure, Need for Cognition) influence information search and processing behaviour (Engel et al., 1978; Howard, 1977).

In addition, we learned more about the theory of consumer choice behaviour through our research. We demonstrated that an interaction between needs and situations is present in the consumers' decision process.

What happens when new information is introduced in the market? Previous consumer research suggests that attention will be attracted and held only if the information is pertinent for the individual in terms of his or her motivations or needs (Engel et al., 1995). We argue that, in addition, the specific situation has to be considered. Our research shows that if a consumer is motivated by a high need to attain closure, voluntary attention will be directed to several product attributes, independent of their novelty, only

if the situation is new. In known situations, new information will be shunned. However, when the need to avoid closure is high, new information should always attract attention irrespective of the situation.

We argue that cognitive learning is possibly differentially influenced by different needs. Our results show that retention of specific product characteristics (e.g. brand names) is higher for high (versus low) NFCL consumers as they give more voluntary attention to a variety of product attributes or cues in order to make better and confident purchase decisions. Probably high NFCL consumers are more motivated to elaborate on the encountered product attributes –even though some are unknown like new brand names- to satisfy their need for clear and confident knowledge. Consequently, in future decision-making, this information is more likely to be retrieved from long-term memory (Ashcraft, 1995) and therefore used to make a decision by high NFCL consumers (e.g. De Grada et al, 1999; Kruglanski & Thompson, 1999; Tetlock, 1998). However, low NFCL consumers also spend a lot of time attending to product attributes but they retain less product characteristics (see chapter 2). However, low NFCL consumers do retain some product attributes like for example promotional stimuli, possibly because of their experience in previous shopping situations with these stimuli. In other words, multiple exposures seem to be necessary for low NFCL consumers in order to retain product characteristics. In sum we argue that high NFCL consumers probably engage in cognitive learning by briefly elaborating on information, while low NFCL consumers retain information by multiple exposures.

Furthermore, several authors have previously suggested that the consumer does not have a strong preference for acquiring and processing information or displays a strong degree of inertia in shopping behaviour (Bell et al., 1998), especially for less important purchases. We argue that this limited information processing and cognitive effort strategy is not universal; some consumers do value valid information, depending on their goals. More specifically, consumers with a high (versus low) level of Need for Closure, do search for and use a considerable amount of information or switch shops to find the lowest price, in a low involvement purchase situation (see chapter 4).

The incorporation of several consumer variables in our different researches resulted in a better understanding of these variables.

For example, we cleared up previous research concerning search effort for price and promotional information, perceived time pressure and perceived budget constraints by disentangling the four constructs that measure price and promotional effort rather than combining them into one construct (cfr. Putrevu & Ratchford, 1997). Our results suggest that, for example, the price search construct ‘comparing unit prices’ is not influenced by these two predictor variables, while the price search construct ‘switching shops to find the lowest price’ is influenced by perceived budget constraints. Furthermore, out-of-store searching for coupons is influenced by both variables, while in-store searching for advertised specials and promotions is only influenced by perceived budget constraints. Possibly, consumers compare unit prices during every shopping trip, independent of individual characteristics like NFCL, as price information is often used in purchase decisions (Dodds et al., 1991; Rao & Monroe, 1989;). These results suggest that perceived time pressure could differentially influence in- and out-of-store cognitive efforts towards price and promotional information, while perceived budget constraints influenced both in-and out-of-store cognitive search efforts.

Furthermore, we extended the research on abstract versus concrete product attributes, a dimension that can be used to categorize all existing attributes and which is incorporated in several theories (e.g. Means-end chains, behaviour guidance theory) and research (comparability of alternatives). We confirmed that high NFC consumers find abstract (i.e. more effortful) attributes more important (cfr. Verplanken, 1993; Petty et al., 1991) and that abstract attributes are considered to be more important compared to concrete attributes (Ratneshwar, 2000; Vallagher & Wegner, 1985; Gutman, 1982).

In addition, we extended the research on the ethical beliefs and ideologies of Dutch-speaking consumers and added to existing research (Vitell et al., 1991; Rawwas, 1996) by confirming the relationship between ethical beliefs, ethical ideology, Machiavellianism and gender. Our results also confirm the importance of linking individual difference variables to ethical beliefs (cfr. Rallapalli et al., 1994; Knouse & Giacalone, 1992).

3.5. What happens if different Goals are Present?

Several goals can be prevalent in a consumer choice situation. Sometimes different goals have similar behavioural consequences. For example, consider a high NFCL consumer who experiences a high need to limit his or her shopping time in one situation. Both needs trigger the consumer to limit his or her information search, information processing and decision time.

Consider the low NFCL consumer who experiences an enduring perceived time pressure. Both needs trigger to lower the search effort towards price and promotional information (cfr. chapter 4).

What happens if different goals have different behavioural consequences? Consider then the low NFCL consumer who experiences situational time pressure. Low NFCL has opposite behavioural consequences to high situational time pressure: postponing decisions versus deciding quickly. However, NFCL theory learns us that high situational time pressure should heighten the Need for Closure level, or more specifically, makes the low NFCL consumer temporarily act as a high NFCL consumer. Consequently, high and low NFCL consumers should both act similarly under high situational time pressure and experience no opposing goals. Both consumers should refrain from information search and processing and quickly decide which brand to buy.

Consider the high NFCL consumer, who searches for price and promotional stimuli, who experiences enduring perceived time pressure. Results of our study (chapter 4) suggested that high NFCL consumers do display out-of-store promotional and in-store price effort, while a high perceived time pressure triggers a low search effort. In this case, the Need for Closure seems to exceed the need to deal with limited time.

3.6. Relation of high and low NFCL Behavioural Patterns with some Prevalent Consumer Behaviour Theories

The behavioural patterns of high and low NFCL consumers can be linked to some prevalent consumer behaviour theories. A summary of the consumers' search and decision-making strategies associated with high and low NFCL subjects can be found in table 1.

We argue that the different choice strategies that high and low NFCL consumers use resemble two theories concerning choice behaviour patterns namely the rational choice theory and the information processing theory. High NFCL consumers probably use the rational choices, while low NFCL consumers use the more context dependent information processing approach. In addition, the visual information search (Bettman et al., 1998) consumers engage in can differ for high and low NFCL consumers. High NFCL consumers probably engage in more goal directed behaviour (consumers are motivated to use a stored search routine to gather information more efficiently) in new and familiar situations, while low NFCL consumers engage in more exploratory behaviour (consumers lack the motivation or experience needed to search efficiently). Finally, the information acquisition strategies high and low NFCL consumers engage in could differ (Jacoby et al., 1994). High NFCL consumers probably engage more in attribute based processing (which leads to faster uncertainty reduction) while low NFCL consumers engage in alternative based processing.

Table 1: Search and Decision Making Strategies of High and Low NFCL Consumers in Low Involvement Purchase Situations

High NFCL	Low NFCL
Goal directed search	Exploratory search
Attribute based processing	Alternative based processing
Rational choice strategy	Information processing strategy
Hierarchical heuristics	Non-hierarchical heuristics

High NFCL subjects seem to prefer searching in an effective, goal-directed way –using a stored search routine-, giving attention to a lot of information cues that they find relevant for their goal, in a short amount of time, because they want to make a quick and confident decision. A high NFCL subject possibly identifies the information property most important to him and then selects information about various options for that property. This is repeated for the second most important property and so on. In a low involvement choice condition, consumers usually compare the products on few attributes. Once a high NFCL subject has determined which attributes he finds important in a specific product category, he could compare the different brands very quickly. Furthermore, high NFCL consumers that have experience/are familiar with a situation are rational decision makers and have well-defined preferences. They will retrieve prior preferences or decision rules from memory and use them depending on their accessibility (Feldman & Lynch, 1988; cfr. construct accessibility effect, De Grada et al., 1999).

The low NFCL consumer entertains the information processing approach, holding that the consumers' preference formation happens on the spot, such as when they have to make a choice instead of uncovering preferences that are already present (Gregory et al., 1993). In this case, preferences will often be highly context dependent. This implies that processing approaches may change as consumers learn more about the problem structure during the course of making a decision. A low NFCL subject possibly explores the possibilities more at ease by scanning all the information on the properties of one option, and this process is continued for each option. In a low involvement situation they probably give attention to a small range of information cues or do not use all searched cues in their final decision process because they tend to minimize their cognitive effort in low involvement situations.

Furthermore, our results suggest that high and low NFCL consumers use different heuristics. Hierarchical heuristics are limited-information heuristics, while non-hierarchical ones utilise full information. The ease of use of hierarchical heuristics may outweigh sometimes the advantage of utilising full information (Brabhacker & Sauer, 1994). We argue that in low involvement situations, high NFCL subjects would use

hierarchical heuristics (confident decisions) like price or promotional information, while low NFCL subjects would use non-hierarchical ones.

4. Practical Implications

Understanding the Need for Closure can help marketers to develop well-adapted marketing approaches, strategies for several reasons.

First of all, the amount and type of search effort a group of consumers is willing to spend is an important determinant of the appropriate marketing strategy for that group. Our results showed that the Need for Closure results in a differential resource allocation. The results concerning search patterns show us that high (versus low) NFCL participants pursue more information when they are confronted with a new situation.

Secondly, previous research suggests that in a low involvement sequence the consumer does not have a strong preference for acquiring and processing information implying that carefully communication information (e.g. regarding product attributes) may be largely wasted. Our research suggests however that some people (e.g. high NFCL consumers) do value valid information. They search a considerable amount of information, especially in a new situation. Furthermore, they engage in cognitive effort to attain promotional or price information. Consequently, communicating information in a low involvement purchase situation remains important.

Thirdly, target group marketing has come to the forefront due to several reasons like mature markets and more demanding consumers. Several new technologies, the large distribution of cable television, databases use and geomarketing and the upcoming individualized marketing services (e.g. special interest magazines) make it furthermore possible for companies to adapt products to the specific tastes of a specific target group and to engage in selective communication. In these new markets, success often depends on the creation of a basket of products and services that are tailored to the target's needs. Consequently, the question arises whether differential marketing or retailing strategies

should be developed for individuals with different levels of Need for Closure. To develop such a marketing or retailing strategy it can be helpful to understand the psychological characteristics that characterize the Need for Closure.

Two important questions can be put forward: (1) how can marketers identify high and low NFCL consumers and (2) how can marketers appeal to respectively high and low NFCL consumers?

4.1. Identification of high and low NFCL Consumers

The answer to the first question is not straightforward. The level of NFCL of the consumer is not externally visible and it is not common or even recommended to present anonymous (i.e. not anonymous) NFCL questionnaires to the customers. However, marketers can appeal to several means: (1) tracking behavioural patterns, (2) identify shopping situations that induce different NFCL levels, and (3) alter the NFCL level of the customer.

Our research shows that high and low NFCL consumers have respectively different behavioural consequences. For example, our results showed high NFCL consumers can entertain different decision strategies. Our first consumer related study shows that high NFCL consumers use more the same decision rules (which can ultimately lead to brand loyalty) and are probably less open to persuasion attempts when they have a brand preference in mind. Other results show that another possible strategy of high NFCL consumers is to engage in price and promotional search. Low NFCL consumers on the other hand, have less fixed brand preferences, and are in general more open to persuasion attempts. They also will be less prone to clip coupons or look for advertised specials or in-store promotions for low involvement products. According to these results, high and low NFCL consumers could possibly be identified by looking at their shopping behaviour (e.g. using loyalty program information, data-mining techniques). High NFCL consumers are probably prone to buy the same brands on different occasions, or always buy the

brand with an attached promotion or coupon. Low NFCL consumers probably buy different brands on different occasions and use less promotions (on some occasions, but not in a structural way). Nevertheless, we have to keep in mind that a lot of intermediary factors – other than NFCL- are present in a shopping environment that can influence behavioural patterns (e.g. involvement, knowledge, resources).

Another solution for this problems is based on the fact that NFCL level can also vary as a function of the situation. In some situations, the Need for Closure is heightened or lowered, regardless of a consumer's enduring Need for Closure level. Take for example, the common grocery-shopping situation for the 25- to 55 year old working parent, the retired 65 year old or the unemployed single. We can expect that the time pressure and mental fatigue that goes together with a quick shopping trip enhance the shoppers' NFCL level, while the increasing the perceptual enjoyment of the shopping trip could lower the NFCL.

In addition to individual differences in time resources, the specific day of the week could also help identify the Need for Closure level. Consider the Friday evening shoppers, who visit the store after a wearying workweek, time pressured to finish their shopping before closing time versus the weekday shopper, who has time and place to finish his or her shopping trip without much disturbance of other customers. The specific day could also interact with personal characteristics like shopping enjoyment. Take the Saturday afternoon shopper who –even though his or her time is not limited- can be stressed by the enhanced environmental noise (lots of customers, noisy children) and on the other hand, the Saturday afternoon shopper who enjoys this relaxing family excursion.

In sum, marketers could identify closure heightening or lowering shopping situations and adjust their marketing efforts according to these situations. For example, marketers could adapt their information displays or the amount of information they offer in accordance with the high or low NFCL level of the shoppers (see further).

Still another strategy that marketers or retailers could use is to try and adapt the NFCL level of their customers, depending on which strategy they prefer or which behavioural

pattern would fit best their product or store characteristics.

For example, the NFCL of the customer could be heightened by emphasizing the limited shopping time consumers have or by stressing that time can be used in a more interesting way than shopping (e.g. spending time with family⁴⁴). This strategy can especially be used when the store layout or the product characteristics promote time saving (car service centres like Midas). Underlining the difficult task of gathering information (for instance, in the context of purchasing mobile phone services, confronting the consumer with the complexity of rates of competitors; for instance base advertising, winter, 2002) can also heighten the NFCL level of the customer. This strategy is especially important if the company's added value is the simplicity and transparency of their assortment.

On the other hand, stressing the possible intrinsic enjoyment of the shopping task by focusing on the benefits of their shopping environment (nearby parking space; quick service; store layout; routing; limited assortment) could lower NFCL level. Consequently consumers may experience more comfortable shopping, which could lower NFCL level. If the retailer's strategy is more focused on creating a specific joyful experience lowering the NFCL level could be valuable.

Furthermore, marketers/retailers can stress the importance of making valid grocery shopping decisions, thereby increasing the fear of invalidity (and decreasing NFCL) of their customers (e.g. certification of meat). This strategy can especially be effective if the particular store or brand has a high quality label.

4.2. Target Group Marketing

4.2.1. Targeting high NFCL Consumers

High NFCL consumers seem to value clear, confident, unambiguous and concrete information. Especially in new situations (entering a new life phase – e.g. becoming a mother; reorientation of the market by brand switching - e.g. Smiths chips become Lays, BBL becomes ING; rise of new category - e.g. digital camera's), they want to absorb a

⁴⁴ e.g. a detergent brand (Per) used the slogan 'life is more than washing dishes only'.

lot of information in order to construct a confident decision rule that is usable across situations but nevertheless without wasting too much time. Therefore, marketers should consider giving attention to convenience aspects of their product or service in their marketing efforts. Information acquisition should be made more efficient and less time consuming. For example, if the information on the package is clearly readable and the most important information is present and visible from a distance, the possibility of quickly scanning this alternative is enhanced. Consequently we can expect that high NFCL consumers would have a more positive attitude or feeling towards that product, and would therefore be more inclined to buy it. Furthermore, high NFCL consumers would value concrete information in communication efforts. Providing clearly important information in packaging or communication can thus target high NFCL consumers. Another example is the use of for example printed tinfoil. For example, Becel provides a first acquaintance with the brand by providing one or two clear arguments (Becel controls cholesterol) on the package. When the package is opened, the customer finds a tinfoil with further information about the benefits of the product and the brand.

Another effective marketing or retailing strategy is the development of different information displays. High NFCL consumers will probably value an easy information display so the acquisition of information is more efficient and less time-consuming. Moreover, showing these economically minded consumers that they are smart shoppers because they search for promotional and price information can create positive attitudes, particularly because high NFCL subjects want to make confident and smart decisions.

4.2.2. Targeting low NFCL Consumers

Low NFCL on the other hand could also benefit from this clearly readable, visible product packages and displays containing the most important information. They seek a considerable but not too large amount of information, varying the type of information from decision to decision. Moreover, they also try to minimize cognitive load in low involvement decisions in which case, the clearly readable, visible displays can be of good use.

4.2.3. Targeting both high and low NFCL Consumers

By identifying both types of consumers, different marketing strategies can be fitted to each consumer using for example direct marketing actions. However, what happens in-store? A marketer cannot address both high and low NFCL customers, consequently, a choice has to be made which consumers the marketer/retailer wants to appeal.

Another possible strategy is to combine both marketing/retail strategies that take advantage of a high and a low NFCL by constructing simple information displays combined with the possibility to gather other information.

A promising in-store strategy that can benefit both high and low NFCL consumers is to use point of purchase (POP) advertising. High NFCL could value POP displays that display clear-cut readable price and promotional information. Low NFCL subjects could value POP displays that reveal both price and promotional information and other product information that can help these consumers to differentiate between several brands. In order to satisfy both high and low NFCL consumers, retailers could create displays containing two parts: clear-cut readable price and promotional information at the top, and additional brand information in small print at the bottom.

In addition, marketers who do not know or try to alter their customer's NFCL level could play safe by using abstract attributes in their communications. Both types of consumers found these attributes more important than concrete attributes. However, as we argue that high NFCL consumers value more concrete attributes because of their clarity and their high accessibility, we suggest the marketers to adhere to clear and comprehensive communications.

In addition, some other helpful remarks are provided. If new information is introduced in the market (e.g. new brand, added product characteristics) the ultimate goal of each persuader (e.g. marketer, retailer) is the acceptance of this new information and the storage of this information in memory in such a way that it is accessible for future use. Given that high NFCL consumers only attend to new information in new situations, we

can expect that this new information is not readily accepted or even noticed. Consequently, when a new product with new and possible interesting attributes is introduced in the market, high NFCL subjects would not consider this product. Marketers can prompt high NFCL consumers to consider these new attributes or products by emphasizing the costs of closure. Marketers can communicate that their used choice tactic (or preferred brand) is not the most valid one anymore, as new, disconfirming information has entered the market. The trick is to capitalize on the importance of the added attribute or new brand to urge high NFCL consumers to leave behind their attained closure.

The relationship between Need for Closure and ethical beliefs can especially be interesting for marketers and retailers. As our research demonstrated, high NFCL subjects are less tolerant of unethical behaviours compared to low NFCL subjects (e.g. giving misleading price information to a clerk for an unpriced item; getting too much change and not saying anything; breaking a bottle of salad dressing in a supermarket and doing nothing about it; tasting grapes in a supermarket and not buying any). In this way, marketers or retailers definitely benefit from having high NFCL subjects as customers. To make sure that these high NFCL subjects have these ethical beliefs at the top of their mind during shopping, marketers/retailers could underline the unethicalness of some behaviours by hanging posters or displaying messages through the intercom or stimulate low NFCL subjects to entertain more 'ethical' beliefs by the visible presence of employees.

Understanding and identifying high and low NFCL subjects can also be an important tool in political campaigns. Our results showed that subjects with different NFCL levels preferred different political parties. Consequently, the relevant political parties could learn more about the motives of their voters by investigating the Need for Closure concepts and its associated motives, beliefs and behaviours. Furthermore, political campaigns can alter the NFCL level of potential voters in order to address previously non-voters. For example AGALEV could try and lower NFCL levels by addressing the situational dependency of human actions or events or stress the penalty for making wrong

decisions, while Vlaams Blok could try and heighten NFCL levels of Flemish residents by addressing the ease or necessity of categorizing the world or to underline the loss of conformist values to appeal to more voters.

In sum, heightening the customer's NFCL level ultimately results in the increasing use of simple heuristics like brands or promotions (which could be particularly interesting for strong brands), a decreased time spent shopping (which is detrimental for most stores) and an decreased approval of (or even engagement in) unethical behaviours (which is positive for all stores). Lowering the NFCL level results in a more extensive exploratory search (which could counteract brand loyalty), an enhanced time spent shopping (which is positive for most stores) and an enhanced approval (or engagement in) unethical behaviours.

5. Limitations and Directions for Future Research

In addition to limitations and suggestions for future research described in each research paper, the most important and general ones are reconsidered here.

A first limitation, which should be noted, is the reliance on self-assessment reports to measure behavioural patterns like the amount of information that is searched and used to make a decision. We did not use fixed questionnaires (e.g. Lee et al., 1999) or the information display board (IDB, Bettman & Jacoby, 1976) because it contains a lost of all possible cues that could have been used or searched for (cfr. Urbany et al., 2000; Leong, 1993). Instead, we used an open-question format because we did not want to suggest the participants to recall all sorts of cues they could have used in their decision making, and so tempt them to provide a false self-assessment report.

The main focus of this dissertation is an individual difference characteristic Need for Closure. We did not incorporate situation in most of our studies (except study 1, chapter 2). Nowadays, a controversy exists in psychology and marketing literature about the relative importance of personality (e.g. individual characteristics) versus situational

factors as sources of individual behavioural differences (trait versus state discussion). We are prone to follow the interactionist perspective, which states that neither individual differences nor situational factors can explain differences in consumer behaviour alone. The interaction between the person and the situations contributes to behavioural differences because the individual consumer reacts to a specific situation. In this dissertation, we did not incorporate situational differences, except for our first consumer related study (chapter 2) where we looked at new versus known situations. These results imply that Need for Closure and the novelty of the situations seem to interact in their influence on consumer choice behaviour. In the other studies, we investigated Need for Closure in itself, without any influencing situational variables, to learn and understand more about this interesting variable. In future research, our knowledge of NFCL can be reanalysed in different situations.

In addition to individual and situational characteristics, we believe that product characteristics (e.g. involvement) also influence consumers' choice behaviour. Our studies mainly focussed on low involvement purchase situations. We argued above that our results could not be generalized towards high involvement products or shopping situations. Future research can identify the influence of high and low Need for Closure on high involvement choice behaviour.

Our results suggest the existence of different behavioural patterns for high and low NFCL consumers that can be especially important for the marketer or retailer. For example, our results suggest that high NFCL consumers have a tendency to always use the same decision strategy. Consequently, we can expect that, once they have made a decision to buy a specific brand, they will keep on buying this brand (providing it matches their expectations with respect to quality). Future research could examine whether brand loyalty is more common among high (versus) low NFCL participants and if high (versus) low NFCL consumers engage quicker in loyalty. However our results also suggest that high NFCL consumers are more prone to use promotion or price heuristics, which ultimately results in the purchase of different brands on different occasions. These two opposing results should be addressed in further research.

Furthermore, NFCL theory suggests that high NFCL consumers will readily accept one dominant choice alternative as a quick solution to their problem in a new situation. In this case, high NFCL consumers will quickly put a stop to further information search as they are not motivated by information in itself but by the result (i.e. attaining closure) information search can entail. Furthermore, according to NFCL theory, high NFCL subjects would persist their information search if a problem were unsolvable. Future research can investigate these theoretical predictions.

As mentioned before, high (versus low) NFCL subjects search more or as much information in less amount of time, possibly indicating that they search more effective but less in-depth. However, memory data suggest that high NFCL subjects process some attributes more in-depth than low NFCL subject resulting in a high recall of for example brand names. Further research can investigate if high NFCL subjects process more or less in-depth than low NFCL subjects.

Further research can also investigate the relationship between NFCL and other important consumer goals like the need for variety (EAP, Baumgartner & Steenkamp, 1996), and simplifying versus clarifying cognitive style (Schaninger & Sciglimpaglia, 1981).

Our results (chapter 2) suggest that high NFCL consumers could possibly process one attribute more thorough than others (e.g. recall of brand names). The question poses which product attributes are especially used by high and low NFCL consumers.

Other results (chapter 5) suggest that in general, abstract information is found more important compared to concrete information (cfr. Ratneshwar, 2000; Vallagher & Wegner, 1985; Gutman, 1982), while high NFCL consumers also value concrete information. We argued that high NFCL subjects want clear and confident knowledge before making a decision. Even though they are reluctant to process ample amount of information, they are committed to make secure decisions. Consequently, they possibly find all information they can use during decision-making more important compared to

low NFCL subjects. Furthermore, we argue that high NFCL consumers would use particularly concrete information in decision-making because of its clarity, ease of use and efficiency in differentiation between products in a choice set (Reynolds et al., 1985) even though abstract attributes are found more important. Low NFCL consumers on the other hand, probably use more abstract attributes, as these ambiguous cues help them postpone decision-making. Future research can disentangle this.

Furthermore, future research can determine which specific attributes (if any) are more thoroughly processed or used by high and low NFCL consumers.

Previous research suggested that high NFCL subjects are more likely to construct less complex decision structures (e.g. brand heuristics) and utilize more non-compensatory decision making styles (Houghton & Grewal 2000). In contrast, Shiloh et al. (2001) argue that low NFCL subjects will construct a more complex decision representation, considering more options and dimensions and using compensatory decision-making. We provided a first glance of this complex relationship of decision-making styles and NFCL by demonstrating that high NFCL search more price and promotional information compared to low NFCL subjects. However, we also found that high (versus low) NFCL consumers use more information in decision-making. We argue that high NFCL consumers use brand heuristics to make decision-making less complex, on the one hand, but use several of them to ensure a confident decision on the other hand. Future research could explore which heuristics and the amounts of heuristics are used by high and low NFCL consumers.

We have to keep in mind the existence of extreme response styles that can contaminate a questionnaire. High NFCL subjects could have an extreme response style (ERS) that results in an inclination to consistently give extreme scores to an item (in this case high scores), irrespective of the content of the item (Baumgartner & Steenkamp, 2001). A possible explanation for the relation between ERS and NFCL is the following: according to Hamilton (1968), ERS can indicate intolerance for ambiguity and this latter concept is a subscale of the NFCL construct. This would imply that high NFCL subjects indicate

that they search more for price and promotional information, find all attributes (abstract and concrete) important and favour more ethical beliefs. However, ERS could also stem from a high fear of invalidity that coincides with low NFCL subjects. In this case, low NFCL subjects should be more inclined to entertain extreme response styles. Future research can investigate the relationship between NFCL and ERS.

We argue that high NFCL consumers probably search information in an attribute-based manner, while low NFCL consumers within brand or alternative processing. Consequently, qualitatively different kinds of product information are stored in memory. The literal, attribute-oriented emphasis of high NFCL consumers leads to storage of information at the level of concrete attributes. In contrast, the brand-based processing associated with low NFCL consumers leads to encoding at a more conceptual or abstract level. Future research could investigate this.

In addition to marketer-dominated information sources, other information sources like word-of-mouth or credible innovators could especially be valued by high NFCL consumers. Previous research shows that high NFCL consumers are more open for persuasion in new situations and are readily to accept a credible source (Kruglanski & Webster, 1996; Webster & Kruglanski, 1994; Kruglanski et al., 1993). Future research could explore this further.

According to the NFCL theory, each consumer has some propositions (i.e. knowledge) in which s/he has confidence. This confidence is built by testing their hypothesis in the immediate context (e.g. satisfaction). Our results showed that high NFCL consumers – that were confronted with a new situation- have more confidence in their decisions (and therefore, the accuracy of their knowledge) compared to low NFCL consumers. This can imply that high NFCL consumers have fewer propositions in mind and therefore more confidence in each proposition. It could also imply that low NFCL consumers take longer to build or experience confidence in a new shopping situation. Possibly, a low NFCL consumer requires more (on several occasions) confirmation of the accuracy of his or her

choice or tests his knowledge over and over again in the light of a new situation. Future research can investigate this further.

Marketers try to make consumers more familiar with their brand name (brand awareness) to enhance the chance that their brand is present in the consumers' consideration set. High NFCL consumers embrace a quick and confident solution (e.g. a specific well-respected or trusted brand) in a new situation, and consequently uses this solution (e.g. this brand) in future decision making (high accessibility), which implies that high NFCL consumers are more prone to brand awareness efforts. Future research can examine if high (versus low) NFCL consumers prefer more well respected brands or are more liable to brand awareness in general.

6. Conclusion

This dissertation shows that NFCL influences several components of consumers' choice behaviour. High and low NFCL consumers have different goals in a purchase situation, which is translated into different decision-making patterns. In particular, high NFCL consumers use more information cues to make a decision, decide quicker, use the same decision rules more frequently in successive decision making situations, are more confident in their decisions, recollect more brand names, search more price and promotional stimuli, find abstract as well as concrete attributes more important and display more ethical beliefs than low NFCL consumers. In addition, the situation at hand plays an important role. In new situations, high NFCL consumers seek more information; take less time to decide, while in known situations, they decide more quickly compared to low NFCL subjects. Moreover, we found that the NFCL also provides accurate predictions concerning ethical beliefs of consumers.

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