Variety-seeking behavior and its antecedents: when do we seek for more variety in an assortment.

Masterproef voorgedragen tot het bekomen van de graad van Master of Science in de Toegepaste Economische Wetenschappen

Gieles Kinget

onder leiding van

Prof. Pandelaere Mario + Ignazio Ziano
Variety-seeking behavior and its antecedents: when do we seek for more variety in an assortment.

Masterproef voorgedragen tot het bekomen van de graad van

Master of Science in de Toegepaste Economische Wetenschappen

Gieles Kinget

onder leiding van

Prof. Pandelaere Mario + Ignazio Ziano
PERMISSION

Ondergetekende verklaart dat de inhoud van deze masterproef mag geraadpleegd en/of gereproduceerd worden, mits bronvermelding.

I hereby declare that the content of this thesis may be consulted and/or reproduced on condition that the source is quoted.

Gieles Kinget
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF USED ABBREVIATIONS</td>
<td>III</td>
</tr>
<tr>
<td>LIST OF USED FIGURES</td>
<td>IV</td>
</tr>
<tr>
<td>LIST OF USED TABLES</td>
<td>V</td>
</tr>
<tr>
<td>FOREWORD AND ACKNOWLEDGEMENTS</td>
<td>VI</td>
</tr>
<tr>
<td>DUTCH SUMMARY</td>
<td>VII</td>
</tr>
<tr>
<td>1 ABSTRACT</td>
<td>1</td>
</tr>
<tr>
<td>2 INTRODUCTION</td>
<td>2</td>
</tr>
<tr>
<td>2.1 RELEVANCE OF THE RESEARCH</td>
<td>4</td>
</tr>
<tr>
<td>3 LITERATURE</td>
<td>5</td>
</tr>
<tr>
<td>3.1 VARIETY-SEEKING</td>
<td>5</td>
</tr>
<tr>
<td>3.2 OPTIMUM STIMULATION LEVEL</td>
<td>7</td>
</tr>
<tr>
<td>3.3 NEED FOR STIMULATION</td>
<td>8</td>
</tr>
<tr>
<td>3.4 COGNITIVE LOAD THEORY</td>
<td>9</td>
</tr>
<tr>
<td>3.5 COGNITIVE LOAD AND VARIETY-SEEKING</td>
<td>10</td>
</tr>
<tr>
<td>3.6 COMPENSATORY VERSUS NON-COMPENSATORY CHOICE STRATEGIES ¹</td>
<td>11</td>
</tr>
<tr>
<td>3.7 COGNITIVE LOAD AND NEED FOR STIMULATION</td>
<td>11</td>
</tr>
<tr>
<td>3.8 ASSORTMENTS</td>
<td>12</td>
</tr>
<tr>
<td>4 HYPOTHESES</td>
<td>12</td>
</tr>
<tr>
<td>4.1 Scales to measure variables</td>
<td>14</td>
</tr>
<tr>
<td>5 METHODOLOGY</td>
<td>16</td>
</tr>
<tr>
<td>5.1 DESCRIPTION AND OBJECTIVE OF THE STUDY</td>
<td>16</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>---------------------------------------</td>
</tr>
<tr>
<td>VS</td>
<td>variety seeking</td>
</tr>
<tr>
<td>OSL</td>
<td>optimum stimulation level</td>
</tr>
<tr>
<td>ASL</td>
<td>actual stimulation level</td>
</tr>
<tr>
<td>NFS</td>
<td>need for stimulation</td>
</tr>
<tr>
<td>LSS</td>
<td>lifestyle stimulation</td>
</tr>
<tr>
<td>CLT</td>
<td>cognitive load theory</td>
</tr>
<tr>
<td>CL</td>
<td>cognitive load</td>
</tr>
<tr>
<td>LV</td>
<td>low variety</td>
</tr>
<tr>
<td>HV</td>
<td>high variety</td>
</tr>
<tr>
<td>SSI</td>
<td>self-report instrument</td>
</tr>
<tr>
<td>SE</td>
<td>standard error</td>
</tr>
</tbody>
</table>
LIST OF USED FIGURES

Figure 1: Store environment comprises three factors .......................................................... 2
Figure 2: McAlister and Pessemier’s (1982) taxonomy of varied behavior. ......................... 6
Figure 3: Raju’s (1981) function explains the inverted U-relationship between arousal and affect ...... 7
Figure 4: Need for stimulation (Wahlers & Etzel, 1985) ......................................................... 8
Figure 5: Proposed model of the impact of variety on variety-seeking behavior ....................... 13
Figure 6: The Mehrabian-Russel model (1974) ................................................................. 15
Figure 7: Between-subjects design ......................................................................................... 16
Figure 8: The first structural model of the impact of variety on variety seeking behavior ........... 20
Figure 9: The second structural model of the impact of variety on variety seeking behavior. .... 21
LIST OF USED TABLES

Table 1: Sex distribution ........................................................................................................... 17
Table 2: Scale summary .............................................................................................................. 19
Table 3: Means of variety seeking purchases ............................................................................. 20
Table 4: Structural model results of variety seeking behavior .................................................. 22
Table 5: Direct, indirect and total effects on variety seeking behavior ....................................... 22
Table 6: Direct, indirect and total effect on variety seeking behavior ......................................... 22
FOREWORD AND ACKNOWLEDGEMENTS

Writing this thesis truly was an interesting experience and has been quite an adventure with highs and lows. I learned a lot along the way (i.a. that you can never make enough backup copies of your work in progress). Reading and combining academic articles, books and other resources, to make something of your own is something that I genuinely enjoy.

A few words of gratitude to the people who helped me accomplish this. First of all, I would like to thank my promoter Mario Pandelaere for giving me the opportunity to make a contribution to the field of consumer behavior research. Also many thanks to my commissioner Ignazio Ziano, for both answering my questions and for giving me helpful advice and feedback.

Furthermore, I would like to thank my parents and family for their unconditional support throughout the years. Also special thanks to my girlfriend, who keeps me going and continues to encourage my efforts. Finally, I’m also very grateful to Birgitta Lobbestael for reading my thesis and taking out mistakes against the English language.

May 2016

Gieles Kinget
DUTCH SUMMARY

In deze thesis gaan we dieper in op een voor de detailhandel en andere bedrijven zeer relevant begrip; variety-seeking\(^1\) (VS). Er wordt ook dieper ingegaan op de redenen waarom consumenten dergelijk gedrag vertonen. Meer specifiek onderzoeken we de invloed van variëteit in een assortiment A op de behoefte naar VS in een assortiment B. De volgende vraag vormt de ruggengraat van dit onderzoek: moet VS beschouwd worden als een vaardigheid (skill) of als een uitputbare bron (resource)? VS als een vaardigheid zou inhouden dat consumenten dit gedrag leren appreciëren en vaker vertonen naarmate ze meer blootgesteld worden aan variëteit. Met een uitputbare bron wordt gepoogd VS te beschrijven als een behoefte die eindig is. Consumenten blootgesteld aan een veelzijdig en variërend assortiment voelen zich minder geneigd tot het stellen van VS gedrag.

Het probleem wordt benaderd vanuit een theoretisch kader. Uit dit theoretisch kader treden twee variabelen naar voor als mediatoren tussen de onafhankelijke en de afhankelijke variabele, respectievelijk variëteit en het zoeken naar variëteit. Een eerste mogelijkheid die goed onderbouwd wordt vanuit de huidige literatuur, is nood aan stimulatie. Samenvattend kan gesteld worden dat een stijging in complexiteit van de keuzeomgeving een hoger actueel stimulatienniveau met zich meebrengt. De kans wordt groter dat het optimale stimulatienniveau overschreden wordt, wat op zijn beurt de behoefte aan VS reduceert.

Hiernaast wordt een tweede mediator, cognitieve belading, onderzocht. De redenering gaat als volgt: naarmate een assortiment diverser wordt, hebben consumenten een groter deel van de capaciteit van hun werkgeheugen nodig om deze te kunnen verwerken. Een consument, blootgesteld aan een variërend assortiment, heeft bijgevolg een kleiner deel van z’n beperkt werkgeheugen over om op latere keuzemomenten te gebruiken. Deze cognitieve belading zorgt ervoor dat consumenten sneller overgaan tot niet compenserende keuzestrategiën. Het onderzoek gaat na of deze strategiën een daling in variety-seeking gedrag teweegbrengen.

Uit het kwantitatief onderzoek met 159 studenten blijkt dat variëteit in een productassortiment de VS positief beïnvloedt (b = .34, p = .0688). Echter, geen van beide mediatoren was in staat deze positive relatie nader te verklaren. Enkele alternatieve variabelen worden voorgesteld die de vastgestelde relatie misschien kunnen verklaren: gewenste hedonistische waarden, gewenste utilitaristische waarden en nieuwsgierigheid.

Tot slot worden nog enkele suggesties (nieuwe invalshoeken, online context, aanpassing experimenteel opzet, ...) en beperkingen van dit onderzoek ter sprake gebracht die toekomstig onderzoek op een kwalitatieve manier mogelijk moeten maken.

---

\(^1\) Het zoeken naar variëteit in een assortiment (in deze context door consumenten).
1 ABSTRACT

Variety-seeking (VS) and its antecedents constitute an important part of the consumer behavior literature. This research investigates whether VS can be considered a resource or a skill. With the former we characterize it as a depletable desire; as consumers are exposed to more variety through time, their desire gets satisfied. VS as a skill implies that consumers learn to appreciate and therefore exhibit this behavior as they’re opposed to more variety. In a between-subject design, 159 students were either exposed to high variety (N=79) or low variety (N=80). The dependent variable VS behavior was operationalized in accordance with Kahn’s (1995) SWITCH. Moreover, the presence of two intermediating variables, need for stimulation (NFS) and cognitive load (CL) were tested. Variety-seeking is positively influenced by the amount of variety in a product assortment (b = .34, p = .0688). This is the opposite of what was hypothesized based on the available literature. Nor NFS neither CL as intermediating variables between variety and VS found support. The results have a direct impact, both for the branding policy of firms and for the optimal assortment composition of (online) retailers, not only in their display windows but also on their shelves.
2 INTRODUCTION

A man is walking to a bakery to buy bread for the upcoming week. Before he enters, he takes a look at the assortment (baguettes and croissants) showcased behind the display window. Once inside he buys two multigrain and three white pieces of bread. Now imagine the exact same scenario but replace the basic assortment behind the store window with a very diverse assortment (e.g. baguettes, pastries, chocolate, croissants, some dairy products ...). In this scenario, the man leaves the bakery with a white bread, two baguettes, five sandwiches and two multigrain loaves of bread in his hands.

The man is probably equally happy with his purchases in both scenarios but as we will see in 2.2 relevance of the research, the owner of the bakery might prefer the second scenario in which the client searched for more variety in his purchases. In this thesis, we are interested in this variety-seeking behavior and its underlying motives. We can guess that the showcased assortment from the example had an influence on the extent to which the man searched for variety. Although the man doesn’t necessarily buy anything from the assortment behind the display window, his purchasing decisions are presumably influenced just because of the mere exposure to it.

The previous example draws the outlines for this research. Keep it in mind while we approach the research question by briefly looking into the context of variety-seeking behavior, relevant for our research. Much research concerning variety-seeking behavior and its antecedents has already been conducted both recently and in the past (i.e. by Givon (1984), Orth, Bourrain & Lyon (2005), Mohan, Sivakumaran & Sharma (2012) and many more). One particular part of these antecedents is the choice context in which a consumer makes his or her purchase decisions. This choice context will also be referred to as the store environment.

The store environment (Figure 1) comprises the following three factors: design (e.g. layout, assortment), ambient (e.g. music, scent and light) and social factors (e.g. presence and effectiveness of salespersons) (Baker, Parasuraman, Grewal, & Voss, 2002). The three factors have different characteristics. Design cues, for example, tend to be processed at a less subconscious level than ambient cues (Baker et al., 2002). This makes it easier to ascertain
how consumers process and use these cues to decide upon their selections. An important element of the design factor is the assortment from which a consumer can choose; assortment both showcased behind the display window to attract potential clients and in the store itself. The same goes for online stores, with their advertisements and home pages to ‘attract’ potential clients on the one hand and the actual assortment in which the client is really interested in on the other hand. It is the influence of the former assortment on variety-seeking behavior that will constitute the biggest part of this thesis. Variety in an assortment A, to which a consumer is exposed, might have an influence on the way this consumer chooses from an assortment B. Note that (similar to the example) the exposure to assortment A takes place prior to the moment on which the consumer exhibits variety-seeking behavior.

2.1 RESEARCH QUESTION
In other words; this thesis examines whether more, vs. less variety in an assortment leads to more vs. less variety-seeking. Or contrariwise, does high vs. low variety results in lower vs. higher variety-seeking behavior?
This leaves us with the following research question: Is variety-seeking a skill or a resource?

With variety-seeking as a skill, we aim to describe the behavior as something that we learn to appreciate as we are exposed to more variety through time.

Variety-seeking as a resource implies that the need for variety-seeking is finite. In this case, exposure to high variety should result in lower variety-seeking.

Compare the concept of ‘variety-seeking as a skill’ with the way one gradually learns to appreciate and understand classical music. The more we learn about, and listen to it, the more we are able to capture its artistic beauty. Eventually, we begin to better understand what emotions (and message) the composer tried to incorporate into his composition.

Applied to variety-seeking, consumers presumably like to discover new products to fulfill the desire for the unfamiliar (Mcalcister & Pessemier, 1982). Once we discover what variety can offer (new flavors, undiscovered options, new models etc...) we might get hooked to the potential of wide, diverse assortments. Schwartz (2004) notices how the abundant amount of choice most contemporary customers have, boosts our expectations. The possibility exists that other superior options are out there which we didn’t try yet (or not for a long time). As the variety in an assortment grows, the number of unexplored options grows accordingly. The mere existence of these unexplored options might spark a subconscious desire that wants us to seek for variety. Note how variety-seeking as a skill doesn’t take a position on whether or not this increased variety is beneficial for consumers or not. Taking into consideration previous research (also see section 3.8 about assortments), this is the case but only to a certain extent:

The large number of choice options associated with assortments may lead to lower satisfaction with the chosen outcome due to increased consumer expectations, greater self-blame, and higher regret that a foregone alternative would have been preferable to the chosen option (Broniarczyk, 2008, p. 17).
Variety-seeking as a resource is easier to imagine. We can expect that consumers seek for variety when they experience a need for stimulation.\textsuperscript{2} The stimulation obtained by seeking variety will at least partly reduce this need for stimulation. And because this need for stimulation is finite, the search for variety becomes finite as well. Don’t compare this with a depletable resource (e.g. shale gas) but instead, compare this to a well. Similar to the well, variety seeking can be refilled from time to time.

In the next section, we show the importance of the research, both from an academic and a practical point of view.

2.2 RELEVANCE OF THE RESEARCH

Gaining deeper insight into variety-seeking behavior is considered useful in several ways. Variety-seeking typically leads to an increase in the size of the shopping basket (Simonson, 1990). Thus, retailers showcasing the optimal variety in their shop windows are more likely to have higher variety-seeking customers and thus higher revenues.

Furthermore, VS also has implications for the branding policy of the firm (Givon, 1984). Givon (1984) points out that, different marketing strategies are required for different types/levels of variety-seeking behavior. The introduction of new brands is much easier (harder) in a product class for which there are many (few) variety-seeking consumers.

Let’s clarify this with an example. Imagine a company ‘Fruity’ which is a manufacturer of apple juice, a product class in which there are relatively many variety-seekers. The marketing manager knows that some of his competitors are about to launch, or just started with the launch of a new brand. Being in his position, variety-seeking now becomes undesirable. The tendency of existing customers to try the competitor’s new product (seek for variety) is a threat to the company’s market share. It becomes clear that knowing and being able to manipulate the determinants of VS can come in handy now.

As pointed out by Jung and Yoon (2012), company efforts focused at inducing existing customers to repurchase their own brands are crucial marketing activities. Equally important are the businesses’ efforts focused on convincing customers, currently buying competitors brands, to try their own. In this case, the roles in the example are reversed; the firm wants to make sure that as many as possible customers try the new product (by offering the right amount of variety in their assortment, using a suitable layout ...).

We will simulate the offline choice context with an online one.\textsuperscript{3} In this sense, this research will only partly focus on the physical environment with the brick and mortar stores. Equally or maybe more important will be the implementation of the online store environment in the study. As more and more consumers find their way to the online stores, it is important to consider this relatively new shopping environment. The valuable theoretical frameworks

\textsuperscript{2} We will expand on the notion of variety seeking and need for stimulation in the literature section.

\textsuperscript{3} See section 5.2.2 procedure for more details.
that will be discussed in the literature section must be reassessed in this new context. This research tries both, to reassess the existing theories and to build further upon these existing frameworks, in order to make a contribution to the literature.

In what follows, we take a closer look at the relevant concepts and frameworks available in the consumer behavior literature. Not only the existing connections between the different concepts will be discussed, some new relations that might help explain the presumptions are discussed as well. Based upon the literature a first structural model is proposed with five hypotheses.

3 LITERATURE

There is a considerable amount of useful literature available dealing with variety-seeking behavior and its context. In what follows, we will briefly reflect on the notion of variety-seeking, optimum stimulation level and the need for stimulation respectively. Next, the notion of cognitive load is described and linked to these highly interconnected concepts. While some concepts will be connected for the first time, most of the relations between these concepts were previously shown to be persistent.

3.1 VARIETY-SEEKING

Variety-seeking is the tendency consumers have, to seek diversity in their choices of services or goods (Kahn, 1995). Even if the customer is (almost) perfectly satisfied with the current products he or she uses, the customer will still have the desire to try other products and therefore switches to other brands (Homburg, 2013).

Givon (1984) distinguishes two forces playing a role in a consumers’ selected sequence of brands. The first force is the utility gained by consuming a specific brand. The second one is the utility (or disutility) derived from switching between brands. The latter is defined by Givon (1984, pp. 2–3) as “the phenomenon of an individual consumer switching brands (or repeat buying) induced by the utility (or disutility) (s)he derives from the change itself, irrespective of the brands (s)he switches to or from”. This alternation between brands is most commonly referred to as variety-seeking. Note how Givon (1984) didn’t exclude disutility; the consumer may have an extreme tendency for change but on the other hand, they may also have an extreme tendency to avoid change. The point of indifference toward change is situated in between the two extremes.

Variety-seeking has been a frequently discussed and popular research topic for the last decades. Psychologists, consumer behavior scholars, marketers, and economists have thoroughly tried to find and explain the mechanisms which lead individuals to seek for variety (Mcalister & Pessemier, 1982).

In this paper variety-seeking is seen in the context of consumers switching among products or brand variants. Mcalister and Pessemier (1982) made a classification of varied behavior which is shown in Figure 2. The taxonomy is useful in situating the aim of this thesis; it gives
context to the notion of variety-seeking behavior investigated further in this work. The first distinction Mcalister and Pessemier make is the one between the inexplicable and explicable school of thought concerning varied behavior. The former considers VS to be inherently inexplicable or too complex to explain, the latter looks for an explanation. As we try to gain more insight in varied behavior, it is eligible to choose the explicable school which is divided into two classes. The first class, derived varied behavior, contains models defining varied behavior as follows: “behavior resulting from external or internal forces that have nothing to do with a preference for change in and of itself (Mcalister & Pessemier, 1982, p. 313).”

![McAlister and Pessemier's (1982) taxonomy of varied behavior.](image)

As the main focus of this paper lies in the inherently satisfying aspects of variety-seeking we decide not to consider this class further. Instead, we look at the other class, described by Mcalister and Pessemier as the *direct variation*. In this second class people have ‘inherently satisfying’ motives such as novelty, unexpectedness, change, and complexity (Maddi, 1968 see Mcalister & Pessemier, 1982). Within direct variation, a distinction is made between intrapersonal and interpersonal motivations. Interpersonal motivations are linked to the desire individuals have for group affiliation or individual identity. Intrapersonal motivation, however, comes from an internal *need for stimulation*.

Inter-and intrapersonal motives are closely connected with each other. Hoyer and Ridgway (1984) describe variety-seeking as a general drive which is determined by interrelated underlying motives (including the curiosity motive, need for change, need for uniqueness, need for risk, danger and thrill). These motives are in turn related to several personality characteristics. Liberalness, extroversion and creativity, for instance, are positively related to
purchase exploration (VS). Need for uniqueness, can be classified as an interpersonal motive. Need for risk, on the other hand, leans more towards the intrapersonal motives. Nevertheless, they both can be linked to the same personality characteristics (Hoyer & Ridgway, 1984).

Three forces are the basic components of intrapersonal direct motives for varied behavior: the desire for the unfamiliarity, the desire for alternation among familiar alternatives and the desire for information (Mcalister & Pessemier, 1982). Mainly the second force, and to a lesser extent the other forces, is relevant for our research. Alternating between familiar alternatives (e.g., brands), simply to change the pace, is a way to obtain stimulation and is called variety-seeking (Steenkamp & Baumgartner, 1992).

### 3.2 OPTIMUM STIMULATION LEVEL

Individuals with high vs. low optimum stimulation levels exhibit a high vs. low level of these three forces (Steenkamp & Baumgartner, 1992). The basic notion of the Optimum Stimulation Level (OSL) theories, as stated by Steenkamp and Baumgartner (1992, p. 434), is that “the relationship between stimulation obtained from the environment or through internal means and a person’s affective reaction to stimulation follows an inverted U-shaped function.” We perceive the intermediate levels of stimulation, where the function reaches its top, as most pleasing. The OSL differs from person to person; some prefer calm settings, whereas others actively seek agitated environments.

Figure 3: Raju’s (1981) function explains the inverted U-relationship between arousal and affect

The U-shaped function, as formerly described by Raju (1981), can be explained by combining a “novelty” component and a “conflict” component, both originating from an internal or external stimulus. The novelty component encompasses the positive, desirable properties an
individual experiences due to the stimulus. Examples are novelty and surprise value. The conflict component, on the other hand, represents the negative aspects such as uncertainty and ambiguity. The sum of these two independent dimensions determines the overall preference for (or affect of) the stimulus. Figure 3 demonstrates how the two components result in the overall preference function. It’s clear that the OSL here corresponds to the optimum arousal level.

Stimuli with very little novelty may result in negative affect: boredom or routine. But as the stimuli’s novelty rises, the positive affect increases digressively. Once the novelty saturation point is reached, more novelty only results in little positive affect. The conflict component causes little negative affect as long as it stays below the conflict threshold. Once this point has been surpassed, the conflict becomes unbearable, leading to strong negative affect.

3.3 NEED FOR STIMULATION

Individuals are moved away from their OSL from time to time, resulting in efforts aimed at minimalizing the discrepancy between actual and optimum stimulation (Wahlers & Etzel, 1985 see Howard, Sheth (1969)). Rather than exclusively focusing on OSL i.e. individuals exhibiting high OSL are seen as stimulation seekers, Wahlers and Etzel (1985) considered the relative magnitudes of OSL and actual stimulation level. They also referred to actual stimulation level as lifestyle stimulation (LSS). Regardless of the absolute value of the individual’s OSL, his or her actual arousal is either greater, equal or less than the OSL. The desired amount of stimulation by a consumer depends on the difference between optimum and actual levels of stimulation. This difference can be positive: consumers preferring a more active consumption alternative, and negative: consumers preferring a more passive consumption alternative (Wahlers & Etzel, 1985). In other words, when OSL is higher than lifestyle stimulation (LSS) a person has a need for stimulation (Figure 4).

![Figure 4: Need for stimulation (Wahlers & Etzel, 1985)](image)
Consumers finding themselves in a suboptimal level of stimulation will do efforts to boost or reduce their ASL until the OSL is reached (Raju, 1981). Therefore, consumers consistently choosing the same option might experience boredom and monotony, caused by a lack of stimulation derived from their purchase behavior (Baumgartner & Steenkamp, 1996). Similarly, when consumers choose a specific brand, they will experience a certain satiation on attributes provided by that brand. Due to this satiation, consumers will less likely choose the same brand in the future. Instead, they will seek variety (Jeuland, 1978; McAlister, 1979, 1982 see Kahn 1995). With variety-seeking behavior, they may complicate the buying process (Howard and Sheth 1969). By doing so they can reduce the discrepancy between their current (actual stimulation level) and ideal level of stimulation (Steenkamp & Baumgartner, 1992). On the contrary, consumers experiencing an OSL won’t look for further stimulation and thus won’t search for more variety.

Changes in the choice context, leading to more complexity and novelty, result in reduced need for stimulation by the consumer (Menon & Kahn, 1995). One way to bring in more complexity and novelty could be to increase the variation of an assortment. In this sense, consumers exposed to an assortment with high variety should exhibit a lower need for stimulation than consumers exposed to a little varying assortment.

We want to investigate whether a consumer, exposed to high variety in an assortment, will experience a raise in his or her stimulation level. And thus, enlarge the chance to surpass its OSL with the consequence that the consumer experiences a lower need for stimulation which in turn decreases variety-seeking behavior. Prior research by Menon (1995) further strengthens this presumption; he stated that a reduced need for stimulation reduces the need to seek for variety in product choices.

There is only little research available that impedes the abovementioned reasoning. One study by Orth, Bourrain and Lyon however (2005, p. 616) investigated the existence of a negative correlation between actual stimulation and “consumer exploratory acquisition of products” (e.g. risk taking and variety-seeking). The hypothesis was rejected, which implies that stimulating a consumer by manipulating the choice context would not necessarily lead to less variety-seeking. This leaves us with a contradiction. Following the argumentation from the previous sections, we would expect that exposing consumers to a more complex assortment should increase their actual stimulation level (ASL). This in turn, should increase the chance that the OSL is surpassed and thus result in a reduced NFS.

The next sections deal with a second concept which can be linked to variety-seeking: cognitive load (CL). CL is based upon the Cognitive Load Theory (CLT). Although the concept shows some similarities with OSL and NFS, there are some important differences that will be highlighted.

### 3.4 COGNITIVE LOAD THEORY

An interesting theory to approach a consumer’s choice context with is the Cognitive Load Theory (CLT) developed by John Sweller (1988). Applying this framework can help us better understand how consumers process the store environment and the in-store communications
Cognitive load (CL) is referred to as the extent to which a person imposes mental effort on his working memory (Malamed, 2011). If too much information has to be processed at once, this limited working memory gets overloaded. Consequently, this excess information is processed insufficiently and thus gets lost.

Sweller (1988) distinguishes three types of CL: intrinsic, extraneous, and germane (Sweller, 1988). Intrinsic CL is inherent to the task or problem one has to solve. They way in which the information or problems are displayed to the learner refer to the extraneous CL. And germane CL is the mental effort one uses to make a mental schema, used to better store the information. It is the extraneous cognitive load in particular that can be monitored by marketers and retailers through adjustments in their assortment. We will further solely focus on this extraneous cognitive load and from now on refer to it as cognitive load (CL).

3.5 COGNITIVE LOAD AND VARIETY-SEEKING

“The cognitive processing load of assortments is a function of the number and relative attractiveness of product alternatives, the number and quality of attributes, and the number and dispersion of attribute levels” (Broniarczyk, 2008, p. 14). Irrespective of the first two factors, the processing load is expected to be higher when the assortment exhibits higher internal variety. This encompasses products having very different attribute levels on multiple levels, thus leading to higher cognitive processing load. This reasoning is in line with the work of Gourville and Soman (2005), they suggest that consumers will experience higher cognitive load if the assortment from which they have to choose is “nonalignable” i.e. products varying along multiple dimension. According to Gourville and Soman (2005) “nonalignable assortments, unlike alignable assortments involve trade-offs between dimensions, such that obtaining one desirable feature entails giving up another desirable feature” (p. 383).

Although the consumers don’t have to choose from the initial assortment in our research, we assume that the mere exposure to a set of very diverse products will have similar effects on subsequent product choices. As variety in an assortment increases, it is most likely that the number of possible trade-offs one can make increases as well. It’s possible that consumers subconsciously start making those trade-offs even though they’re not necessarily interested in the assortment. This would imply an augmented cognitive processing load.

Subsequently, consumers experiencing higher CL (no remaining working capacity) will presumably resort to non-compensatory processing (see section 3.6) and selectively attend to information as a way to cope with the high information load (Som & Hwai, 2012). This is in line with the optimum stimulation level concept mentioned earlier. Consumers finding themselves in a suboptimal level of stimulation will attempt to reduce or augment stimulation until the OSL is reached. Similarly, consumers might want to seek for more respectively less variety when they experience low respectively high cognitive load. We want to investigate whether this non-compensatory processing, resulting from a higher cognitive load, will result in limited variety-seeking behavior. The next passage about compensatory and non-compensatory choice strategies adds more depth to the concept of cognitive load.
3.6 COMPENSATORY VERSUS NON-COMPENSATORY CHOICE STRATEGIES

Decision makers (consumers) following compensatory strategies do explicit trade-offs between the products they are choosing from (Payne, Bettman, & Johnson, 1993). Contrariwise, consumers following a non-compensatory strategy avoid making trade-offs. When buying apples following a compensatory strategy, for example, one will compare the different attributes: the Granny Smith might be harder and better for cooking than the Pink Lady, but less juicy and less colorful. Next, he will assign different values or weights to the attributes and decides upon his final choice by selecting the brand with the highest overall score. One can instinctively feel that this strategy won’t be used for low-involvement products like apples.

Maybe surprisingly but the non-compensatory strategies are used for high-involvement products as well. Tidwell (1996) concluded that consumers most frequently used non-compensatory strategies both for low and high involvement products. "The lexicographic choice strategy was used most often by consumers for high involvement products, while the Sequential Elimination choice strategy was used most frequently for low involvement products" (Tidwell, 1996, p. 222). The two are both non-compensatory choice strategies respectively described as follows (Tidwell, 1996, p. 221):

I compare brands based on the most important attribute. If two brands tie on the most important attribute, then I compare those brands on the second most important attribute. The process continues until the tie is broken.

I compare brands based on the most important attribute. Then I use a cutoff (i.e., *must be under €2 or must be nutritious*) and select the brand that meets the cut-off criteria.

This is in line with the term "Satisficing," introduced by Herbert A. Simon (1956). The term combines the two words "satisfy" and "suffice". Satisficing is non-compensatory decision strategy in which we are only concerned with finding a path permitting partial satisfaction of all our needs instead of discovering the optimal path (Simon, 1956). Either way, consumers neither have the cognitive resources nor the senses to discover this optimal path.

Website users, for example, are most likely to use this satisficing strategy when they’re browsing. Following a compensatory process in which they first read every link, and then identify the most promising before each click would be highly unpractical. As the complexity of the website rises (more variety, more links ...), the required mental effort required to ‘digest’ the website probably rises too. And once again, consumers experiencing higher CL will selectively attend to information as a way to cope with the high information and as a consequence resort to non-compensatory processing (Som & Hwai, 2012).

3.7 COGNITIVE LOAD AND NEED FOR STIMULATION

Need for stimulation might help explain the relation between cognitive load and the non-compensatory choice strategies mentioned above. These strategies are quite useful when a consumer doesn’t have the will, capability or resources to engage in compensatory decision-
making. In these cases, consumers might ignore or block further sources of stimulation because their need for stimulation is low. One way to evade this stimulation might be to use the abovementioned non-compensatory choice strategies.

3.8 ASSORTMENTS

Irrespective the relation between variety and VS, the selection of the products constituting the assortment, and the assortment size must be thought through properly. Both process-related (i.e. more freedom in choice) and choice-related benefits (i.e. variety-seeking potential and the possibility to satisfy numerous needs in one store) explain why consumers are fond of large assortments (Broniarczyk, 2008).

However, there is a flipside side of the coin. These benefits, caused by large assortments, are not limitless. “A point is reached at which increased choice brings increased misery rather than increased opportunity” (Schwartz, 2004, p. 47). Schwarts (2004) argues that the United States and other affluent societies have since long surpassed the point at which the positive effects of choice start to level off and the negative effects of choice start to accelerate. In the previous sections, we’ve reasoned that large, varying assortments demand more trade-offs and thus cause higher cognitive loads. Moreover, they also lead to “small differences in relative option attractiveness, and more forgone options upon choice” (Broniarczyk, 2008, pp. 40–41).

Retailers opting for more variety in their assortment and thus offering more choice must be aware of the drawbacks of large assortments. In their research, Broniarczyk (2008, p. 41) concluded that bigger assortments bring about four consequences that retailers might want to avoid, “a greater incidence of failure to obtain the best product, dissatisfaction with the choice process and chosen product, higher regret with the chosen product, and a higher likelihood of choice avoidant behavior”. In this manner, offering a larger number of brand alternatives indeed makes it more likely that purchase exploration will take place (Frewer, Risvik, & Schifferstein, 2001) but it also brings about some less advantageous consequences.

Secondly, not only the number of products but also the product characteristics (including perceived difference between brands, brand loyalty, involvement with the product or brand ...) codetermine the degree in which variety-seeking will occur (Frewer et al., 2001). It is reasonable to think that this not solely applies to the assortment from which consumers choose. The product characteristics of the window shopping assortment might have an impact on VS in subsequent assortments as well. We will further elaborate on the impact of the selection of different assortments in the P section.

4 HYPOTHESES

Two possible explanations for the link between the independent variable variety and the dependent variable variety-seeking are investigated. This gives us four hypotheses (two times two) for the intermediating variables and one hypothesis for the main path. To frame
the hypotheses in their context, we first repeat the research question: Is variety-seeking a skill or a resource?

With variety-seeking as a skill, we aim to describe the behavior as something that we learn to appreciate as we are exposed to more variety through time.

Variety-seeking as a resource would suggest that the need for variety-seeking is finite. Exposure to high variety should result in lower variety-seeking in this case.

Both the concepts of optimum stimulation level and cognitive load better align with the idea of variety-seeking as a resource. This idea then translates itself into the following hypothesis:

**H1**: Individuals exposed to high variety subsequently tend to seek for less variety when asked to choose from an assortment.

Next, the existence of a first mediating variable that further explains the first hypothesis is investigated (Figure 5 gives a schematic overview).

![Figure 5: Proposed model of the impact of variety on variety-seeking behavior](image)

Based upon the OSL theory, we expect that a consumer, exposed to high variety in an assortment, will experience a rise in his or her stimulation level. Consequently, consumers experience a lower need for stimulation which in turn decreases variety-seeking behavior. In other words, we predict that the effect of variety on variety-seeking is mediated by NFS

**H2**: High variety causes less need for stimulation.

**H3**: A lower need for stimulation decreases the likelihood of variety-seeking behavior.
Prior research by Menon (1995) strengthens this hypothesis: he found that changes in the choice context, leading to more complexity and novelty, result in reduced need for stimulation by the consumer. This, in turn, reduces the need to seek for variety in product choices.

Finally, we want to investigate the role of a second mediating variable, namely: cognitive processing load. The processing load is expected to be higher when the assortment exhibits higher internal variety. This higher cognitive load results in non-compensatory processing which we expect to limit variety-seeking behavior. This is translated into the following hypotheses.

\[ H4: \text{High variety causes an augmented cognitive processing load.} \]

\[ H5: \text{High cognitive processing load limits variety-seeking behavior.} \]

4.1 Scales to measure variables

The scale items used to measure the (mediating) variables are obtained from past research studies.

**Variety-seeking**

The dependent variable variety-seeking can be measured in several ways. Kahn (1995, p. 289) distinguishes three ways.

- The number of switches in the choice history (SWITCH), where a switch is defined as occurring each time the item chosen on a choice occasion is different from any of the preceding choices.

- The number of switches between successive choices (SUCCESSIVE SWITCH), where a switch is counted each time a choice is different from its immediately preceding choice.

- A third measure, which incorporates the degree of dissimilarity of the items chosen. On the basis of a subject's ratings of perceived dissimilarity between items and his or her switching pattern, a measure called perceived distance and switching (PDS) is computed for each person.

In this research, the first option SWITCH is most appropriate to measure variety-seeking. Correspondents with a choice pattern C-A-B-A-D, for instance, receive a score of 3 while the pattern A-A-A-A-A would score 0. In their research on the impact of store environment on VS behavior, Mohan, Sivakumaran and Sharma (2012) used a similar operationalization of the dependent variable.

**Need for stimulation**
One particular way seems appropriate to measure an individual’s need for stimulation: the pleasure and arousal scales of the Semantic Differential Measures of the emotional state questionnaire (Mehrabian & Russell, 1974), which consists of 12 nine-point scale items. To substantiate the suitability of the scales for this research, we will now briefly expand on the model upon which the scales are based.

The Mehrabian-Russel model (1974) uses human emotional responses as intervening variables to link environmental stimuli to the behavioral responses they evoke. The model can be used to study the effects of store atmosphere on shopping behavior (Billings, 1990). Adapting the model to the retail setting has been proven to be really useful by Billings (1990).

![Figure 6: The Mehrabian-Russel model (1974)](image)

Three emotional states are distinguished; two major dimensions, pleasure and arousal and a third, shown to be less useful, dominance (see Figure 6). Depending on the degree in which a consumer experiences the three emotional states, he or she will show approach or avoidance responses (Mehrabian, 1974). In a retail environment, the former will result in browsing through merchandise, patronizing store, interaction with sales personnel and repeated shopping in the store (Donovan & Rossiter, 1982). Avoidance responses, on the other hand, will result in consumers looking at a minimum number of items, avoiding the store, avoiding interaction with personnel and not returning to the store (Donovan & Rossiter, 1982). The proposed model lacks an appropriate stimulus taxonomy, this is not unexpected because of the complexity of the environment (Donovan & Rossiter, 1982). In our research, we investigate one particular element from the store environment namely the variety in an assortment.

Important to note is that the six scale items, used to measure the dominance dimension were not included. Moreover, we used a seven-point Likert scale instead of the nine-point. Although a nine-point might be preferable in terms of statistical considerations, it also makes it more difficult for respondents to differentiate between the different points. And finally, some of the 12 items had to be reverse scored before interpretation.
Cognitive load

To assess the levels of cognitive load, the short self-report instrument (SSI) is used. The technique is developed by Paas, van Merriënboer and Adam (1994)\(^4\). This easy to implement instrument is a subjective rating scale technique in which correspondents self-report the amount of mental effort invested in understanding the choice context. They can do so by using a slide bar (see the QUALTRICS QUESTIONNAIRE questionnaire) ranging from very very low mental effort (0) to very very high mental effort (8).

5 METHODOLOGY

5.1 DESCRIPTION AND OBJECTIVE OF THE STUDY

In what follows, a brief description is given of the design of the empirical research. The study is constructed in accordance with a between-subjects design. The variable variety, having two levels (Low vs. High), was manipulated. In this way, the students were randomly assigned to the two groups (see Figure 7 for the visualization). Group 1 was exposed to condition 1 which is the homepage of a supplier’s application showcasing highly varying products. Group 2 was exposed to condition 2; another homepage with a low varying assortment. After this manipulation, the correspondents were asked to repeatedly choose from a third assortment containing eight different soft drinks (the full process is described under PROCEDURE). The objective of the study is to find out whether the choice pattern differed between the two manipulated groups.

---

\(^4\) Based on early work by Borg, Bratfisch, and Dornic (1971)
5.2 RESEARCH

In this study, quantitative research methods are used to study the causality between the different variables as shown in Figure 5. We start with describing the sample and the used procedure before the results are discussed.

5.2.1 SAMPLE

In total, 174 students started the five-minute survey. Some close friends and family members were contacted to help me gather the correspondents. Most of them were recruited by e-mail or through social media. Another approximately 30 correspondents were approached at Ugent’s Faculty of Economics and Business Administration. Most students were willing to help when they were personally asked to help with the master’s thesis. In order to motivate enough correspondents to complete the survey, an incentive was given. Everyone who completed the survey had an equal chance to win one of the prices (the complete list in included the APPENDIX).

Before proceeding to the analysis, one must filter out the deficient correspondents. Several participants were removed for multiple reasons. 14 correspondents didn’t complete the whole survey and/or didn’t answer the control questions correctly. One correspondent clearly wasn’t a student (age 47) and was removed as well. Finally, after every question, a timer was put in place to measure how long it took the correspondents to read and/or fill in the questions. Correspondents submitting their page too quickly (<5 seconds for both the homepage and the context description) would have been removed. Fortunately, this was not the case which left me with 159 valid answer patterns.

From the correspondents, 55 were male (34.6%) and 104 were female (65.4%) (see Table 1 for additional details). The average age of the correspondents was 20.35 year.

<table>
<thead>
<tr>
<th>Sex distribution</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low variety</td>
<td>13,8%</td>
<td>36,5%</td>
</tr>
<tr>
<td>High variety</td>
<td>20,8%</td>
<td>28,9%</td>
</tr>
</tbody>
</table>

The distribution is only marginal significantly different across the two conditions, $\chi^2 (1, N = 159) = 3.58, p = .059.$
5.2.2 PROCEDURE

Through a link, students accessed the online Qualtrics survey. They were asked to carefully read all the questions and instructions before answering. The introduction also mentioned that the survey was completely anonymous.

All the students were explained that the survey is part of an academic project on shopping behavior. They were requested to imagine themselves in the following context:

You are a model student, attending your courses every day. The main supplier of your university is experimenting with a new ordering system in which you can order your food and drinks for each day via their mobile app. You will get a free drink every day simply by downloading and testing the app for five days. The supplier hopes to optimize its app in this way.

Hereupon, each correspondent was randomly assigned to the either high variety (N=79) or low variety (N=80) manipulation. The first group was exposed to an assortment/homepage which is very diverse, i.e. high variety (15 products ranging from a backpack and a wetsuit to books and electronics). The second group was exposed to a quite homogeneous set of products, i.e. low variety (15 bags, 7 female and 8 male models). This exposure can be compared with the short moment that consumers look through the shop window before they enter the shop or a first view on the home page of an online store.

Thereupon, some statements were shown, the correspondents had to indicate to what extent they agreed or disagreed. In this set, both the manipulation check and some control questions were included. Under the questions, a slider was included with the request to rate the mental effort they required to complete the previous questions. The slider (short self-report instrument) measured the cognitive load.

On the next page, the participants were requested to rate how they felt in the setting. For each of the 12 pairs of feelings, they had to indicate how much they felt one or the other (very, fairly, somewhat or neutral). One of the pairs, for instance, was satisfied versus unsatisfied. These 12 pairs measured the variable need for stimulation.

Finally, the ‘window shopping’ was followed by the request to choose between eight soft drink brands which were presented next to each other with photos. They could choose between Coca-cola, Pepsi, Fanta, Spite, Coca-cola light, Pepsi MAX, Schweppes or 7UP. The participant could choose the preferred drink simply by clicking on the option (tapping for the users of mobile devices). They had to choose again for the second day from the same assortment and so on until the end of the week (five days).

I deliberately chose to present the five choices they had to make on different webpages. The main reason is because consumers who sequentially pick their choices for sequential consumption are less likely to select different items than those who make the same number of choices simultaneously (Simonson, 1990). This separation of decisions better matched the context and by doing so I expected to eliminate the tendency of participants choosing different options when in reality they wouldn’t.
The reason why I chose different brands rather than different flavors is because of the results of research by Inman (2001). He found that consumers consistently switched more between flavors than between brands. By doing so, I expected the results to be more useful and relevant.

6 RESULTS AND INTERPRETATION

In what follows, conclusions with regard to rejecting hypotheses will be based both upon the 5%-significance level ($p < .05$) and the 10%-significance level ($p < .10$). A $p$-value smaller than .05 is considered to be significant, a $p$-value between .05 and .10 is considered as a marginal significance and a $p$-value bigger than .10 is considered not significant.

Furthermore, given the sufficiently large sample size ($n = 159; N$ condition low variety $= 80$, $N$ condition high variety $= 79$) and the strong indication of normality when looking at normality curve-supported variable histograms for the dependent variable, the interval scaled variables will be analyzed through parametric tests, presuming that the requirement of normality is met.

Manipulation check
During the experiment, we measured if our manipulation actually manipulated what it meant to manipulate. This was tested using an independent-samples t-test. The students exposed to the homepage with high variety perceived the products on their homepage as more diverse and less similar than the students exposed to the homepage that showcased a much lower variety; $t(157) = -15.68, p = .000$.

Constructs
Before computing the mean for the pleasure and arousal scales, the reliability was verified (Cronbach’s Alpha = .74). The mean score of all the 12 scale items is used to form the dependent variable NFS. The mean score and the standard deviation of the scale and its two main components, as well as the SSI instrument used to measure one’s cognitive load, can be found in table 2.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasure and arousal</td>
<td>2.67</td>
<td>5.25</td>
<td>3.91</td>
<td>.41</td>
</tr>
<tr>
<td>Pleasure</td>
<td>2.67</td>
<td>5.17</td>
<td>3.81</td>
<td>.44</td>
</tr>
<tr>
<td>Arousal</td>
<td>2.33</td>
<td>5.33</td>
<td>4.02</td>
<td>.56</td>
</tr>
<tr>
<td>Short self-report</td>
<td>1</td>
<td>8</td>
<td>3.66</td>
<td>1.52</td>
</tr>
<tr>
<td>instrument</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SWITCH (the number of switches in the choice history), measuring the dependent variable variety-seeking, was on average 1.63. This signifies that on average they chose for two or three different brands. Please see Table 3 for additional details.

Table 3: Means of variety seeking purchases

<table>
<thead>
<tr>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variety seeking purchases</td>
<td>0</td>
<td>4</td>
<td>1.63</td>
</tr>
</tbody>
</table>

For both the mediation of NFS and CL between variety and variety seeking, the linear regression technique with PROCESS macro is used (Hayes, 2013).

**Need for stimulation as a mediator**

Our research found that students exposed to high variety have a marginal significant ($p = .088$) reduced need for stimulation ($\beta = -.11$, SE = .065). Students experiencing a higher need for stimulation do not significantly ($p = .497$) seek for less variety ($\beta = -0.16$, SE = .23). The bias-corrected bootstrap reliability interval for the indirect effect ($\beta = .018$, SE = .03) based on 10 000 bootstrap samples is not completely above zero (-.0218 to .1059). This indicates that the indirect effect is not significant and thus there is no mediation (Hayes, 2013). We can conclude that variety has a marginal, positive influence ($p = .0688$) on variety seeking without the intermediating effect of need for stimulation ($\beta = .34$, SE = .19). Figure 8 shows a structural model of the impact of variety on VS behavior with NFS as mediator.

\[ p < .10, \ p > .05 = \]

Figure 8: The first structural model of the impact of variety on variety seeking behavior.

---

5 See table 3 for the direct, indirect and total effect on variety seeking behavior
Cognitive load as a mediator

Students exposed to high variety do not have a significant ($p = .743$) reduced cognitive load ($\beta = -0.08$, SE = .24). Students experiencing a higher cognitive load do not significantly seek for less variety ($\beta =$0.05, SE = .06). The bias-corrected bootstrap reliability interval for the indirect effect ($\beta = .00$, SE = .02) based on 10 000 bootstrap samples is not completely above zero (-.0723 to .0198). This once again means that the indirect effect is not significant and thus, there is no mediation (Hayes, 2013). Figure 9 shows a structural model of the impact of variety on VS behavior with CL as mediator.

Figure 9: The second structural model of the impact of variety on variety seeking behavior.

See table 4 for the direct, indirect and total effect on variety seeking behavior.
7 DISCUSSION

7.1 CONCLUSION

The study finds that variety in a product assortment positively affects variety seeking behavior directly (refer to Table 4 for a summary of the results). This is the opposite direction of what we predicted based on the theoretical framework. The mediating variable need for stimulation is smaller when much variety is showcased, which confirms H2 (High variety causes less need for stimulation). The third hypothesis (A lower need for stimulation decreases the likelihood of variety-seeking behavior) doesn’t find support however.

Neither H4 (High variety causes an augmented cognitive processing load) nor H5 (High cognitive processing load limits variety seeking behavior) finds support.

Table 4: Structural model results of variety seeking behavior

<table>
<thead>
<tr>
<th>H</th>
<th>Hypotheses</th>
<th>Predicted direction</th>
<th>Observed direction</th>
<th>Path coefficient/p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Variety to VS</td>
<td>-</td>
<td>+</td>
<td>.34&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>H2</td>
<td>Variety to NFS</td>
<td>-</td>
<td>-</td>
<td>-.11&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>H3</td>
<td>NFS to VS</td>
<td>+</td>
<td>-</td>
<td>-.16, ns</td>
</tr>
<tr>
<td>H4</td>
<td>Variety to CL</td>
<td>+</td>
<td>-</td>
<td>-.08, ns</td>
</tr>
<tr>
<td>H5</td>
<td>CL to VS</td>
<td>-</td>
<td>+</td>
<td>.05, ns</td>
</tr>
</tbody>
</table>

ns – not significant
<sup>a</sup>Marginal significant at .05 < p < .10

The direct and indirect effects are shown in Table 5 and Table 6. It is clear that the effect of variety is the single largest one.

Table 5: Direct, indirect and total effects on variety seeking behavior

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFS</td>
<td>-.16</td>
<td></td>
<td>-.16</td>
</tr>
<tr>
<td>Variety</td>
<td>.32</td>
<td>.018</td>
<td>.34</td>
</tr>
</tbody>
</table>

Table 6: Direct, indirect and total effect on variety seeking behavior

<table>
<thead>
<tr>
<th>Predictor variables</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL</td>
<td>.05</td>
<td></td>
<td>.05</td>
</tr>
<tr>
<td>Variety</td>
<td>.34</td>
<td>-.004</td>
<td>.335</td>
</tr>
</tbody>
</table>

7.2 DISCUSSION OF THE RESEARCH RESULTS

This research forms a contribution to the existing literature by connecting variety with variety seeking. The positive correlation is the opposite of what one would expect whilst
reading most of the literature on variety seeking and its antecedents. Both the concept of need for stimulation and cognitive load support the idea of variety seeking as a resource. But the lack of support for hypotheses three up to five thwarts this view.

The notion of variety-seeking as a skill, however, does gain support from the results of this research. The literature offers some valuable paths that can help clarifying the positive relationship. The first couple of proposed moderators are the desired hedonic values and the desired utilitarian values.

Previous research already described a positive relationship between the desired hedonic values one experiences and one’s variety seeking intention (Ha & Jang, 2011). It would be interesting to investigate whether variety induces an increase in the desired hedonic values such as fun and pleasure, which in turn thus increases variety seeking. Although the research from Ha and Jang was conducted in a dining context, the generalization to other choice contexts seems truly promising. And once again, the selection of the right assortments in the experiments must be well considered.

Ha and Jang (2011) also found that customers who consider functional and economical aspects of dining-out more importantly, tend to seek variety, hoping to find the appropriate restaurant in which they could save more money for future dining.

Applying the desired utilitarian values as a moderator between variety and VS also makes sense. When consumers are exposed to an assortment with HV they might become more aware of the functional and economical aspects of products, opposed to consumers exposed to LV. This increased awareness might induce an increased desire for utilitarian values. Consumers will then seek for variety in order to find the product that maximizes utility (and thus fulfills their desire for utilitarian values).

Another promising mediating variable between variety and variety seeking is curiosity. When a consumer examines a high varying assortment, he might feel more curiosity than a consumer exposed to low variety. As the amount of variety rises, chances increase that some of the items are interesting to him or her. This curiosity can be transferred to subsequent moments in which consumers have to choose. If this curiosity indeed gets transferred to the choice moments, variety seeking presumably will occur because curiosity has proven to be an integral part of the variety seeking drive (Dember & Earl, 1957). Consumers with a high curiosity drive should be more likely to try out new brands/products in a choice context. Unlike boredom and attribute satiation, curiosity can only be satisfied by selection of new inexperienced products (Dember & Earl, 1957). The latter would make curiosity less qualified as a mediator between variety and VS because variety-seeking also includes the alternation between familiar brands (Givon, 1984).

Other, more recent research however, demonstrates that curiosity (and boredom) can not only be alleviated by actual consumption but also through exploration of information (Van Trijp & Schifferstein, 1995). The latter is almost exactly what customers do when they look into a display window or when they are browsing on a webpage. They explore e.g. a web shop’s homepage without necessarily buying any articles (from the homepage). They
experience some sort of curiosity (caused by this exploring) which manifests itself in an increased VS behavior during further browsing on the website.

7.3 LIMITATIONS OF THE RESEARCH

I’ll try to be critical about my own research, by doing so I hope to emphasize some parts of the research that need improvement. I’ll expose the ambiguous areas of this work, and try to transform them into suggestions for (improved) future research.

We investigated the influence of variety, which is a situational variable, on variety seeking. It is important to notice that consumer behavior (VS) is best predicted when both personality and situational factors are considered (Russell & Mehrabian, 1976). Although we also investigated the role of the mediating variable NFS which is linked to a personality factor OSL, many other personality factors such as deal proneness were not taken into consideration. This will obviously lead to a more difficult implementation of the findings into practice.

With regard to the scenario, we used assortments on the home page that were not immediately linked to the soft drinks. Except that they could be found on the same web shop, the drinks and the handbags, for example, had nothing in common. In reality assortment A (display window, home page) will often overlap or exhibit some sort of connection with assortment B (recall the example that we used the introduction).

Also, the used assortments were limited to 15 products each. This is of course negligible compared to what contemporary customers encounter in supermarkets. According to FMI (2015), the supermarkets in the U.S. carried on average 42,214 stock keeping units (SKU) in 2014. The number of different products offered in a Belgian AD Delhaize (as of December 31) is 13,000 (Delhaize Group, 2016). Moreover, the correspondents were not necessarily interested in the soda drinks they ultimately had to choose from. They picked the five drinks because they were asked to, it was imposed from outside. Different choices and decisions will probably arise when consumers decide to buy the soft drink(s) on their own.

The survey was filled in online, although this is especially suitable to investigate shopping behavior in a web shop context, the results must be interpreted with care. Some correspondents’ responses weren’t useful because the answers weren’t complete. Others were filtered out because they didn’t meet the timer criteria (correspondents submitting their answer in a too short time span). These examples to demonstrate that the survey is completed in a context that can be partly, but never fully monitored. Some correspondents were possibly doing other activities whilst filling in the survey (scrolling through their social media, answering texts, reading magazines …). To limit these distortions, one can organize the research in a more controlled setting with a supervisor.7

Irrespective the context, it is impossible to maintain homogeneity across the groups; we controlled for age and gender but we’re aware that other factors such as social class, emotional quotient, and other individual differences can skew the data.

7 e.g. consumer lab of Ugent’s marketing department
Finally, some reservations concerning the construct validity of the variable used to measure CL. In this research, the SSI (short self-report instrument) was used to measure cognitive load. Although it is able to assess the subjective perception of invested mental effort reliably, it is less clear how the latter relates to actual cognitive load (Brünken, Plass, & Leutner, 2003). This applies to other measures of cognitive load as well, it might be possible that the low amount of invested effort is a result of such a high load that the correspondent decreased the mental effort expended on comprehending the choice context (Brünken et al., 2003 see Reed, Burton & Kelly, 1985). Other techniques are available to measure cognitive load. When the goal is to assess the level of extraneous cognitive load, reaction time to a secondary task appears to be most appropriate (Deleeuw & Mayer, 2008). It might be interesting to use this RT to a secondary task instead of the SSI. Although one must notice that the implementation into the experiments will be a lot harder than with SSI.

### 7.4 SUGGESTIONS FOR FURTHER RESEARCH

Further research on this topic must be threefold. First of all, the positive connection between variety and VS should be reassessed in a different choice context (other assortments, a new scenario) and with different samples. Secondly, one should incorporate the abovementioned and/or other variables that may clarify the correlation. And finally, researchers should not overlook the growing importance of the online context. We will now elaborate further on these suggestions.

Future research can be conducted both with a more heterogeneous and bigger sample group. The former would increase the external validity. Next, the use of other (especially low variety) assortments should be considered as well, once again to make the results more generalizable.

The research didn’t find enough evidence for the two mediating paths. Further exclusion of the two mediators NFS and CL is desirable; a different experiment setup should lead to similar conclusions. Further research towards good moderators, explaining the positive relationship between variety and variety seeking, is necessary. The desired hedonic values, the desired utilitarian values, and curiosity are only three of the possible directions. Researchers must be aware that the co-existence of multiple explanations of the positive relation between variety and VS is plausible.

Moreover, researchers must continuously try to look beyond the existing borders of the consumer behavior and consumer psychology literature. Most of the concepts and frameworks of consumer behavior fit in a very limited amount of theoretical perspectives (Pham, 2013). *Whilst studying and analyzing the literature on VS, I too was rather quickly tied to existing concepts including OSL, NFS, and CL.* The problem is that these approaches almost solely embrace the information processing perspective. As Pham (2013) proposes, researchers need to broaden the field with alternative perspectives such as emotion theory, role theory, and psycho-dynamic theory.

Further research to the online context is necessary. A possible rewarding approach for further research is to co-operate with online stores such as bol.com, Coolblue, and amazon,
or retailers that made the step to a web shop. By doing so, researchers can get access to valuable and numerous data which will give them enormous statistical power. Access to this data will become increasingly important as more and more consumers find their way to the online stores. Moreover, paying online has become easier. Generally, you can pay with i.a. iDEAL, PayPal and credit cards and more recently also with debit cards and even post payment. In the Netherlands, the online stores made a 20% increase in revenues in 2015, the multi-channelers (those with both physical and online stores) grew by 21% (CBS, 2016). Belgian consumers increasingly find their way to the online stores. For the e-commerce, a growth of 25 percent per year through 2020 is expected, mostly led by the apparel, food, and electronics sectors (A. T. Kearney, 2015).

When studying web shops, researchers must realize that consumers act very differently when they browse through web shops compared to when they are in physical stores. Much of the existing literature about assortment, variety and variety seeking focuses on the physical world. Notwithstanding that this can serve as a good basis for research towards the online context, one must use these existing scales and measurements with care. Adaption of the constructs to an online context, in which stimuli are different in many ways, is necessary. Browsing and searching for certain products in an online context, for instance, is much faster and easier than in a supermarket. But the tangible and most of the sensory factors disappear online.

Finally, the way in which variety in an online assortment should best be displayed is not clear-cut. First of all, one must take into consideration the ever growing choice the contemporary consumers encounter. In 2015 AmazonUSA offered 488 million different products on their site Amazon.com, for the UK and Germany, this was 261 million and 237 million respectively (Grey, 2015). Instead of displaying separate products on their homepage, they showcase different product categories, popular items, deals of the day etc. It might be interesting to investigate the influence of these different approaches on online shopping behavior. This might be more relevant than doing research in which an online assortment is treated as a collection of single products. One can, for instance, investigate the impact of using various product categories (many vs. few, broad categories vs. narrow, much variation vs. low ...) on the VS behavior of online consumers.

### 7.5 IMPLICATIONS OF THE RESEARCH

The research is relevant for practice, especially for retailers, and manufacturers. With respect to retailers, showcasing much variety will generally increase the variety-seeking behavior. As stated before, this VS is desirable because it increases the size of the shopping basket (Simonson, 1990).

The research has implications for the branding strategies of companies as well. Of course, the road to follow depends on what sort of brands or products the firm makes and to what extent they have loyal vs. variety-seeking customers. For instance; if a company only has one or two brands in a certain product category, with a loyal customer base, VS behavior...
becomes desirable. Because the customers are loyal, they presumably won’t quickly choose different brands because of a change in their choice context. Other consumers, not yet familiar, or not yet loyal to the brand(s) are more likely to impose VS behavior when the company is able to change their choice context into their favor. Based on this research, one interesting way to do so is by adding more variety to the store environment. One should display more variety in the retailer’s display window, on the shelves or on the in-store communications. A banner with a wide range of products from the participating brands can, for example, be placed above the shelves or in the entrance. The mere exposure to the banner can induce an increase in VS behavior.

Of course, the manufacturers depend on the willingness of the retailers to co-operate. Indeed, “the effect of marketing efforts is increasingly dependent on the co-operation of the distribution channel” (De Pelsmacker, Geulens, & Van Den Bergh, 2013, p. 378). Therefore, it is important to have and retain good relationships with both the wholesaler and retailer. Enterprises can do so by giving trade promotions or sales force promotions. As the number of products rises, this close co-operation is also crucial both to retain shelf space for existing products and to persuade retailers to include new brand(s) in its assortment (De Pelsmacker et al., 2013).

Being able to control/monitor the VS behavior of consumers becomes even more important when launching a new brand. The introduction of new brands is probably easier in a product class for which there are many variety-seeking consumers (Givon, 1984). Recall the example from the introduction with the manufacturer of apple juice. Now it is clear how the company can attempt to limit the VS tendency of the segment’s customers when the competitor launches a new brand.

Lastly, one must interpret and apply these results with care. An inattentive reader might jump to wrong conclusions. Although we stated that increased variety induces a (for retailers) desirable increase in variety-seeking, this is not unconditional. In section 3.8, we already mentioned the results of several researchers, including Broniarczyk (2008), that expose the potentially harmful consequences of sizable assortments, both for consumers and companies.

In the end, I think all companies must be aware of the impact they have on the well-being of their customers. I expect that companies, ignoring the downsides of needless variety, will not only harm their customers but will eventually hurt themselves as well.
8 REFERENCES


9 APPENDIX

9.1 QUALTRICS QUESTIONNAIRE

Welcome dear respondent!

This completely anonymous survey is part of an academic project on shopping behavior. You can track your progress in the bar below. Once you successfully complete all questions you make a fair chance to win one of the following prices:

- 2 cinema tickets
- 2 x €10 Hema-coupon
- 10 x ballpoint
- 5 x 5 stickers
- 3 x a personally written thank you card

Please read carefully all the questions and instructions before answering.

Good luck!

Gieles Kinget

Group 1 (condition 1: High variety)

Try to imagine yourself in the following context: You are a model-student, attending your courses every day. The main supplier of your university is experimenting with a new ordering system in which you can order your food and drinks for each day via their mobile app. You will get a free drink every day simply by downloading and testing the app for five days. The supplier hopes to optimize its app in this way.
It's Monday morning, you open up the app, as you can see on the home page, they also sell other goods. Take a look at the different products, feel free to scroll up and down.
With the homepage in mind, please indicate to what extent that you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (1)</th>
<th>Agree (2)</th>
<th>Somewhat agree (3)</th>
<th>Neither agree nor disagree (4)</th>
<th>Somewhat disagree (5)</th>
<th>Disagree (6)</th>
<th>Strongly disagree (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some products seemed interesting to me (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>These products are similar (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I looked to all the products (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>It took me much time to observe the home page (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Click on Disagree (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can remember the different goods pretty well (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The products on the homepage are diverse (7)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Next, please rate your **mental effort required** to complete the previous questions.
Rate the way you feel in this setting. Some of the pairs may seem unusual, but you'll probably feel more of one emotion that the other. Check one option for every pair. I feel myself ...

<table>
<thead>
<tr>
<th>Comparison</th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
<th>6 (6)</th>
<th>7 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy:Unhappy (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Satisfied:Unsatisfied (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Annoyed:Pleased (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Depressed:Content (4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Relaxed:Bored (5)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Important:Insignificant (6)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Satisfied:Unsatisfied (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Calm:Exited (8)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jittery (schrikachtig):Dull (verveeld) (9)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Aroused (gestimuleerd):Unaroused (ongestimuleerd) (10)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Frenzied (onbedwingbaar):Sluggish (sloom) (11)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wide awake:Sleepy (12)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Group 2 (condition 2: low variety)**

Try to imagine yourself in the following context: You are a model-student, attending your courses every day. The main supplier of your university is experimenting with a new ordering system in which you can order your food and drinks for each day via their mobile app. You will get a free drink every day simply by downloading and testing the app for five days. The supplier hopes to optimize its app in this way.
It's Monday morning, you open up the app, as you can see on the home page, they also sell other goods. Take a look at the different products, feel free to scroll up and down.
With the homepage in mind, please indicate below how strong you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (1)</th>
<th>Agree (2)</th>
<th>Somewhat agree (3)</th>
<th>Neither agree nor disagree (4)</th>
<th>Somewhat disagree (5)</th>
<th>Disagree (6)</th>
<th>Strongly disagree (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some products seemed interesting to me (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>These products are similar (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I looked to all the products (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>It took me much time to observe the home page (4)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Click on Disagree (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I can remember the different goods pretty well (6)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>The products on the homepage are diverse (7)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Next, please rate your mental effort required to complete the previous questions.

*Note: a slide bar varying from 0: very very low mental effort to 8: very very high mental effort was shown here.*
Rate the way you feel in this setting. Some of the pairs may seem unusual, but you'll probably feel more of one emotion that the other. Check one option for every pair. I feel myself …

<table>
<thead>
<tr>
<th></th>
<th>1 (1)</th>
<th>2 (2)</th>
<th>3 (3)</th>
<th>4 (4)</th>
<th>5 (5)</th>
<th>6 (6)</th>
<th>7 (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy - Unhappy (1)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Satisfied - Unsatisfied (2)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Annoyed - Pleased (3)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Depressed - Content (4)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Relaxed - Bored (5)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Important - Insignificant (6)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Stimulated - Relaxed (7)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Calm - Exited (8)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Jittery (schrikachtig) - Dull (verveeld) (9)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Aroused (gestimuleerd) - Unaroused (ongestimuleerd) (10)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Frenzied (onbedwingbaar) - Sluggish (sloom) (11)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wideawake - Sleepy (12)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

The following questions were presented to the two groups.

This is the selection of free drinks you can choose from in the app. Time to choose one for your first break this week.

From left to right, top to bottom: Coca cola - Pepsi - Fanta - Spite - Coca cola light - Pepsi MAX - Schweppes - 7UP

- Image:Cola cola (1)
- Image:Coca cola light (2)
- Image:Pepsi (3)
- Image:Pepsi max (4)
- Image:Fanta (5)
- Image:Schweppes (6)
- Image:Sprite (7)
- Image:7up (8)
DAY 2

A new day, a new drink, pick a drink for Tuesday.

- Image: Cola cola (1)
- Image: Coca cola light (2)
- Image: Pepsi (3)
- Image: Pepsi max (4)
- Image: Fanta (5)
- Image: Schweppes (6)
- Image: Sprite (7)
- Image: 7up (8)

DAY 3

Pick a drink for Wednesday.

- Image: Cola cola (1)
- Image: Coca cola light (2)
- Image: Pepsi (3)
- Image: Pepsi max (4)
- Image: Fanta (5)
- Image: Schweppes (6)
- Image: Sprite (7)
- Image: 7up (8)

DAY 4

So far you have chosen three drinks, go on and pick a drink for Thursday.

- Image: Cola cola (1)
- Image: Coca cola light (2)
- Image: Pepsi (3)
- Image: Pepsi max (4)
- Image: Fanta (5)
- Image: Schweppes (6)
- Image: Sprite (7)
- Image: 7up (8)
DAY 5

Pick a drink for Friday.

- Image:Cola cola (1)
- Image:Coca cola light (2)
- Image:Pepsi (3)
- Image:Pepsi max (4)
- Image:Fanta (5)
- Image:Schweppes (6)
- Image:Sprite (7)
- Image:7up (8)

Please indicate your gender.

- Male (1)
- Female (2)

What is your age?

Only by filling in your e-mail address below, you make a chance to win one of the prices.