



UPPSALA UNIVERSITY // DEPARTMENT OF BUSINESS STUDIES // MASTER THESIS

# THE EFFECTS OF CONSUMER CONFUSION ON DECISION POSTPONEMENT AND BRAND LOYALTY IN A LOW INVOLVEMENT PRODUCT CATEGORY

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## **ABSTRACT**

Consumer confusion, caused by product similarity, choice and/or information overload, and the presence of ambiguous information, can negatively affect consumers' decision making, and thereby also companies' profitability. The purpose of this quantitative study was to investigate how the three variables (i.e. similarity, overload, ambiguity) of Walsh et al.'s (2007) consumer confusion proneness model affect consumers' decision postponement and brand loyalty, concerning low involvement products. A conceptual framework based on consumer behavior- and consumer confusion literature, was utilized to form six hypotheses predicting the causality between the different variables. After validating and adapting the scale to data gathered through a survey, regarding Swedish students' purchasing habits of laundry detergent, two standard multiple regressions revealed that one hypothesis was supported; overload confusion proneness decreases brand loyalty in a low involvement product category. All implications were then discussed from practitioners' and researchers' points of view, concluding with possible limitations and further research.

**KEYWORDS** Consumer Confusion, Similarity, Overload, Ambiguity, Decision Postponement, Brand Loyalty, Involvement

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# 1. INTRODUCTION

## 1.1 Consumer confusion: cause and effect

Today's markets are characterized by a plethora of choice (Walsh et al., 2007). Consider, for instance, when entering a supermarket to buy a product as simple as laundry detergent. When approaching the appropriate aisle, you will instantly be confronted by a very large set of categories, and every category has various options, in which each option is represented by a number of different brands. When buying detergents, you can pick between liquid, powder, solid, or a combination of liquid and solid. You can also buy additives such as softener, spot-cleaner, and starch. Besides this and the fact that you have to decide whether to buy a detergent for colored, white, or a combination of colored- and white clothes: you need to consider if you need a product for sensitive skin or not, while also considering the environmental labeling. The fact that each detergent works differently with different types of water is also a matter of importance, and as you notice, a simple product as detergents is suddenly not as simple as one first thought it to be. In fact, in a medium sized supermarket belonging to one of Sweden's largest supermarket chains, it was observed that 68 detergent alternatives were available to choose from (excluding softeners and other additives).<sup>1</sup>

There has probably never been a time with so many options as there is today. It seems to be a common belief amongst practitioners that more is more (Schwartz, 2000), and this rising freedom of choice is often associated with a higher standard of living (Schweizer et al., 2006). However, there is research suggesting that choice, or too much choice, can in fact be demotivating and leave people indecisive (Iyengar & Lepper, 2000; Schwartz, 2000). In a series of experiments within the area of consumer behavior and decision making, Iyengar and Lepper (2000) showed that participants were more likely to purchase gourmet jams and chocolates when offered a limited array of 6 choices, rather than when faced with a more extensive choice set of 24 or 30. Moreover, not only did a limited choice set affect actual purchase, but it also seemed to have a positive effect on the subsequent satisfaction of purchase felt by the consumers (Iyengar & Lepper, 2000; Iyengar et al., 2006).

Customer satisfaction, related to all of the customer's experiences made with a certain supplier in regard to the products and the specific sales process (Homburg & Giering, 2001), is unarguably important to maintain. It was found that there is a strong positive relation between customer satisfaction and loyalty (Homburg & Giering, 2001). This suggests that,

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<sup>1</sup> Observation made at COOP Extra's detergents aisle at Gränby Centrum, Uppsala, Sweden, 27-03-2012.

since too many alternatives cause less satisfied customers, there is an underlying risk of decreased loyalty. Furthermore, since loyalty has been proven to be positively related to profitability (Hallowell, 1996), a large choice set could prove to be problematic.

It might seem that an easy solution would be to simply decrease the number of available options, however, Tversky and Shafir (1992) found that providing two equally desirable options also can produce choice conflict. This implies that overload is not merely a matter of a large choice set, but perhaps also a matter of product characteristics. In addition, consumers are provided with an ever increasing amount of decision-relevant information in their purchasing environments (Mitchell & Papavassiliou, 1999), while at the same time facing a surge of marketing communications and decreasing inter-brand differences (Walsh et al., 2007). There is no wonder that consumers at times feel confused about which choice to make.

*Consumer Confusion* is indeed multi-dimensional, something observed by several scholars within the discipline of consumer behavior, more specifically; consumers' decision making processes (Friedman, 1966; Mitchell & Papavassiliou, 1997, 1999; Schweizer et al., 2006; Walsh et al., 2007). Mitchell and Papavassiliou (1999) define consumer confusion as the overload and confusion that consumers feel when they are confronted with an increasing amount of products as well as the amount of related information which is carried by each brand. The authors argue that this can make consumers feel stressed and frustrated, and that they will more likely make sub-optimal decisions. Thus, it is evident that consumer confusion can be very devastating for a brand, since it could result in potential misuse of a product, leading to consumer dissatisfaction, lower repeat sales, more returned products, reduced consumer loyalty and poorer brand image (Mitchell & Papavassiliou, 1999). These consequences have caused researchers (e.g. Mitchell & Papavassiliou, 1997, 1999; Schweizer et al., 2006; Walsh et al., 2007) to emphasize the importance and relevance of increasing awareness of the concept for successful marketing.

## **1.2 A need for shift in research focus**

In order to further aid researchers and practitioners in more precisely identifying and pinpointing the effects of consumer confusion, Walsh et al. (2007) created a measuring scale, which divides consumer confusion into three variables (i.e. similarity, overload, and ambiguity), and identifies the effects of each variable on decision postponement and brand loyalty. The authors found that affects on decision postponement and brand loyalty were of highest relevance, since they were mentioned with highest frequency in other literature. Also,

in this thesis, these two variables are considered important since they can be argued to be directly connected to a company's profitability, especially brand loyalty (Hallowell, 1996). However, the consumer confusion measurement tool, created by Walsh et al. (2007), has not been used on specific markets or cases where consideration has been taken to different moderators, such as product category and/or involvement level. Yet, when considering the hypotheses made by the authors, it is clear that they based their reasoning with a great focus on research concerning consumer behavior in relation to high involvement products.<sup>2</sup>

The focus on high involvement products when investigating consumer confusion seems to be a common denominator within much of the existing research. This has also been observed by Beatty et al. (1988, p. 156) who state that, even though the concept of involvement in marketing had an initial focus on low involvement products; empirical studies have "tended to focus on products that engender high involvement, such as automobiles". The authors reason that this might be the case since these types of products usually stir more concrete and measurable consumer reactions, hence making their research more desirable. Nevertheless, similar to Beatty et al.'s (1988) research, this study will focus on products that in general are categorized as low involvement products, since many benefits are found in investigating this category. Firstly, considering the list of negative consequences which consumer confusion can have on a product/brand (Mitchell & Papavassiliou, 1997), it is of high interest to further investigate how it might affect consumers' behavior towards products that are purchased frequently, like many low involvement products are (Beatty et al., 1988; Mitchell & Papavassiliou, 1997). This, since these types of products tend to inhibit different types of consumer decision making patterns than those of products with higher involvement (Beatty et al., 1988; Foxman et al., 1990; Robertson, 1976).

Secondly, since people are affected by low involvement product purchases more often and on a wider scale than that of high involvement products, it could be argued that the affects of consumer confusion in such a category would be a reoccurring issue, and therefore worth acknowledging. Therefore, a study of the effects of consumer confusion on consumer behavior when purchasing a low involvement product, is aimed at through this thesis. This is to be fulfilled by focusing on the detergent market, which has been proven by previous research to be of low involvement nature (Hoyer, 1984), and also to have a degree of

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<sup>2</sup> See section 2.1 for more on definition of involvement.

consumer confusion (Kelly, 1997; Benady, 1997). The application of Walsh et al.'s (2007) model and measuring tool will allow for the answering of the following research question:

*Q: How does consumer confusion affect decision postponement and brand loyalty in a low involvement product category?*

### **1.3 Purpose and implications**

The purpose of this thesis is to identify how the three variables of consumer confusion proneness affect consumers' decision postponement and brand loyalty in a low involvement product category, by studying their purchasing process of detergent. This will make the investigation among the first empirical testings of Walsh et al.'s (2007) model in the given context. The derived results will aid in the discussion of marketing implications for researchers and practitioners.

This thesis should serve as a complement to the literature on consumers' decision making within the extensive field of consumer behavior. The focus on low involvement products will help generate more empirical findings for consumer confusion within a market besides the ones of high involvement products, which has been a great focus within consumer confusion literature so far.

### **1.4 Disposition and layout**

The paper is divided into three major sections, beginning with a conceptual framework that first presents the concept of involvement (section 2.1), to further discuss the three consumer confusion proneness variables (i.e., similarity, overload, ambiguity) within the context of low involvement products (sections 2.2 and 2.2.1 - 2.2.3). From this discussion, six hypotheses are derived, anticipating how the variables should affect consumers' decision postponement and brand loyalty.

Following this, the methodology section (3.1) raises a discussion regarding the research design. Here the descripto-explanatory nature of this thesis is described along with the arguing of the appropriateness of a survey strategy and cross-sectional design for this particular thesis. Furthermore, the reasoning behind the selected student sample as well as chosen product of detergent is elaborated (sections 3.2 – 3.3). Moreover, in section 3.4 and 3.4.1 – 3.4.2, the scale created by Walsh et al. (2007), for measuring the affects of consumer confusion on decision postponement and brand loyalty, is validated through a series of factor

analyses, and also concluded to be reliable for its intended purpose with the data gathered from the sample.

Concerning the relationship between the independent and dependent variables, two standard multiple regressions were conducted, and the results from these are presented within the results section towards the end of the methodology (3.5). Since multiple regression calls for the analyzing of several independent variables and how they correlate with one dependent variable (Hair et al., 1998, p. 14), two sub models were constructed considering the dependent variables, which is also reflected in how the results section is outlined; the first part presents the results for decision postponement (section 3.5.2), and the second for brand loyalty (section 3.5.3). After processing the data, a qualitative follow-up study was deemed appropriate to allow for an increased insight of the underlying reasons behind the results. This was achieved through the conducting of interviews (section 3.5.4).

Finally, in sections 4 and 4.1 - 4.3, the results and possible explanations are discussed with reference to their implications for marketers as well as researchers, concluding with suggestions for further research (section 5).

## **2. THEORETICAL FRAMEWORK**

### **2.1 Involvement**

The vigorous interest in the concept of involvement emerged at the end of the 1970s. It was when researchers started to question the notion of consumers being “internally directed active information gatherers and extensive problem solvers” (Ekström, 2010, p. 194). It was recognized that consumers in most choice situations could be characterized by limited amount of information processing, evaluative activity and physical effort (Ekström, 2010, p. 194). This was termed ‘low involving behavior’. Researchers have found that involvement can be directed at different objects such as the actual products, a brand, advertisements, and/or the purchase situations (Solomon et al., 2010, p.191). This proves to be one of the reasons why involvement levels can appear differently for different people considering the same product. The lack of consensus in literature regarding what the concept of involvement *really* encompasses, has resulted in an array of possible definitions. Therein lays the difficulty in generalizing and comparing results concerning involvement across different studies.

What researchers have agreed on, however, is that instead of pursuing a “perfect” definition they should rather decide on a more generally accepted view of the concept. Thus, during a

conference devoted to this particular subject, the following definition of involvement was agreed upon: "Involvement is an unobservable state of motivation, arousal or interest. It is evoked by a particular stimulus or situation and has drive properties. Its consequences are types of searching, information-processing and decision making." (Rothschild, 1984; Laurent & Kapferer, 1985a). This suggests that the degree of involvement depends on both the characteristics of a consumer and those of a product (Ekström, 2010, p. 194). Like Laurent and Kapferer (1985a), this is the definition of involvement chosen for this thesis.

Several researchers have investigated the connection between product involvement and consumer confusion (Foxman et al., 1990; Mitchell & Papavassiliou, 1997). Even though some conclude that higher confusion occurs for low involvement products (Foxman et al., 1990) and some for high involvement products (Mitchell & Papavassiliou, 1997), the common factor between these investigations lays in the fact that all argue that the level of involvement matters for consumer confusion.

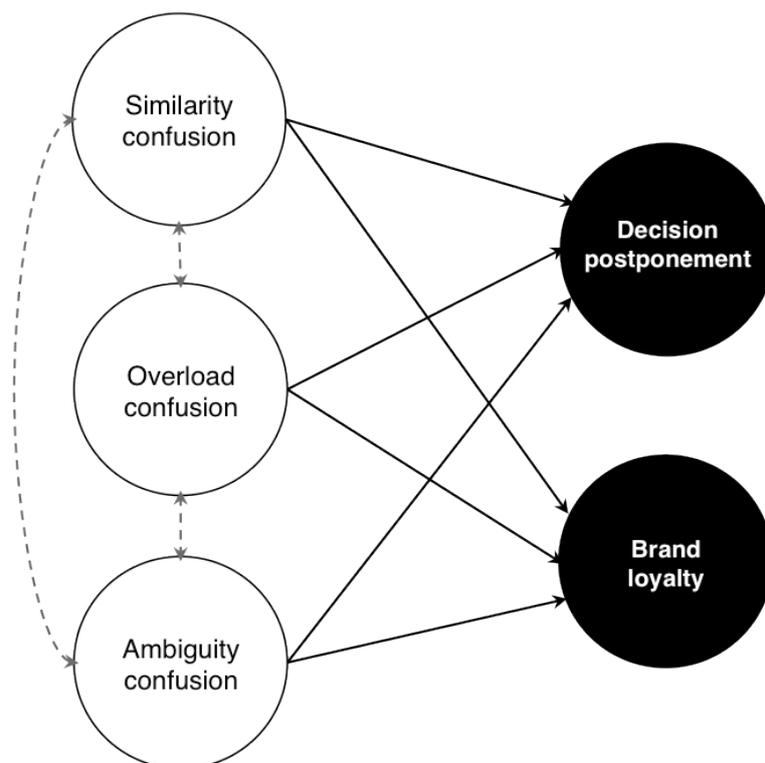
## **2.2 The consumer confusion proneness model**

Confusion triggers have been mentioned in marketing literature for quite a long time (Schweizer et al., 2006). 'Consumer confusion' however, is not a well-established phenomenon in consumer behavior books, but has been used in numerous specific contexts to explain other notions (Schweizer et al., 2006; Walsh et al., 2007). One such context is trademark infringements concerning the physical similarity of brands and me-too products. This area has gained a lot of interest from researchers and producers seeing that consumers tend to transfer attributes from the original brand to the imitating product, if similarity is given (Schweizer et al., 2006). Other specific consumer confusion studies have focused on information overload or ambiguous and misleading information. More recent research however, suggests that this focus on very specific consumer confusion sources "in isolation" fails to capture the multi-dimensionality of consumer confusion (Mitchell & Papavassiliou, 1999; Schweizer et al., 2006; Walsh et al., 2007).

It was early recognized that the store environment has a substantial influence on shopping behavior, and more specifically on choice, which shifted the focus on specific confusion triggers, such as packaging similarity, to include the marketplace as a whole (Mitchell & Papavassiliou, 1999; Schweizer et al., 2007). However, researchers (e.g. Mitchell & Papavassiliou, 1999; Schweizer et al., 2006; Walsh et al., 2007) agree that the concept of

'consumer confusion' and the variables that contribute to a confusing environment, which subsequently leads to an avoidance approach, is under-developed and under-researched.

In an extensive literature review Walsh et al. (2007) identified three dimensions with which they based their consumer confusion proneness model on. These dimensions were (1) similarity confusion proneness, (2) overload confusion proneness, and (3) ambiguity confusion proneness. As previously mentioned, decision postponement and decreased store/brand loyalty are the most frequently mentioned and most damaging outcomes that have been discussed in terms of consumer confusion, and therefore they were chosen as the dependent variables for the proposed model (Walsh et al., 2007). Brand loyalty was here conceptualized as repeat purchasing behavior, and decision postponement referred to consumers postponing or abandoning their intended purchase. Figure 1 illustrates the relationship between the three different dimensions, and also their individual influence on the two outcomes (as indicated by the arrows).



**FIGURE 1** The consumer confusion proneness model (Walsh et al., 2007)

Important to note is that Walsh et al.'s (2007) proposed dimensions have been exposed to some criticism for having too much of a product focus that fails to take other in-store stimuli into account, and that multi-dimensionality is not achieved (Schweizer et al., 2006). As a

result, other dimensions have been proposed (see Schweizer et al., 2006). One such dimension is ‘stimuli comfort’, which addresses questions such as “I’m already irritated, if I’m confronted with a long waiting line at the check out, entering the store” (Schweizer et al., 2006, p. 188). However, since this thesis encloses the interest of consumer confusion in a specific type of product, an environmental stimulus such as perceived comfort of a store falls outside the scope of this paper. This does not suggest that the in-store atmosphere does not affect consumer behavior, or that it is of less importance when it comes to explaining choice in a consumer confusion setting. Rather, the exclusion of this variable serves as a narrowing down of the topic, which allows for a more focused and relevant investigation of the chosen subject.

Besides this, it is also worth considering that Walsh et al. (2007) conceptualized brand loyalty as a repeat purchasing behavior. Even though the authors acknowledge that brand loyalty is multifaceted, this particular conceptualization was chosen “for the sake of simplicity” and since “attitudinal loyalty is more difficult to measure” (Walsh et al., 2007, p. 708). This could of course have been problematic if the investigation had included the study of high involvement products, since purchasing behavior of high involvement products is not repetitive by nature (Mitchell & Papavassiliou, 1999). Also, there is the question of whether the measurement of repetitive purchasing fully reflects the level of brand loyalty since, as Hoyer (1984, p. 824) states, “the habitual purchaser does not engage in repeat purchase because of a strong preference for the brand; rather, repeat purchasing represents a convenient way of reducing cognitive effort.” Instead, true brand loyalty seems to involve a more deep rooted preference and commitment for the actual brand (Hoyer, 1984; Traylor, 1981), which also seems to be the type of brand loyalty associated with high involvement products (Traylor, 1981; VonRiesen & Herndon, 2011). However, since brand loyalty for low involvement products has mainly been defined as repeat purchase for the sake of reducing cognitive effort (Robertson, 1976), the measurement chosen by Walsh et al. (2007) for brand loyalty seems to be most suitable for this study’s chosen product category.

### ***2.2.1 Similarity confusion proneness and low involvement products***

Walsh et al. (2007, p. 702) define similarity confusion proneness as “consumers’ propensity to think that different products in a product category are visually and functionally similar.” They argue that similarity confusion is a result from a set of stimuli that are so similar by which consumers easily confuse them with each other. This set of stimuli can, for example, be

advertisements, store environment or products. The authors mainly argue for 'brand similarity' and what is implicitly stated is that consumers rely on visual cues in order to locate and distinguish brands (Walsh et al., 2007). They suggest that consumers who are "prone to brand similarity stimuli will potentially alter their choice because of the perceived physical similarity of products" (Walsh et al., 2007, p 702). Furthermore, Tversky and Shafir (1992) demonstrated in a series of experiments that products with similarity in terms of attributes, or products that are about equally attractive, produced choice conflict. What is also interesting is that the experiments did not include a large choice set but merely a choice between two equally attractive options. Nonetheless, it seems reasonable to assume that what contributes to a product's attractiveness probably is determined by both a product's brand as well as other attributes such as price, environmental friendliness, health claims, packaging etc. - variables that consumers today supposedly are to take into consideration before making a decision. This suggests that products could be considered as similar, or equally attractive, on more levels than the brand, as mainly argued for by Walsh et al. (2007).

In addition to consumers potentially altering their choice, similarity confusion has been said to likely lead to either a delay or abandonment of decision-making (Tversky & Shafir 1992; Mitchell & Papavassiliou, 1997). Mitchell and Papavassiliou (1997) argued that in certain situations where a decision cannot be made and the purchase is not considered of great importance "the consumer might abandon the purchase or switch to other products with which he/she is more familiar." Walsh et al. (2007) however, challenged this reasoning and found that, on a general level, as similarity confusion increased, decision postponement decreased. The reasoning behind this was the assumption that if consumers perceive different brands to be similar they may see no reason to delay the decision, as the brands should be regarded as substitutable (Walsh et al., 2007). Also, it was suggested that consumers prone to similarity confusion utilize decision heuristics, such as "buy the lowest priced offering", to avoid extensive decision-making (Walsh et al., 2007).

Considering similarity confusion and low involvement products, it seems reasonable to assume that Walsh et al.'s (2007) reasoning corresponds well with the type of behavior one could expect in this type of product category. Seeing that low involvement products often are assumed to involve a relatively passive consumer behavior characterized by a non-active search, a less extensive choice process, and less active information processing (Robertson, 1976; Laurent & Kapferer, 1985b; Ekström, 2010), it could be reasoned that consumers prone

to similarity confusion will see no reason to postpone a decision. Therefore, we propose the following hypothesis for a low involvement product:

*H<sub>1</sub>: An increase in similarity confusion proneness causes a decrease in decision postponement.*

As previously mentioned, Walsh et al. (2007) believe that similarity between different products will make it difficult for consumers to detect differences between the brands, and they will find little reason to not regard them as substitutable. The authors further argue that brand loyalty will not be of high priority for the consumers in such a situation, since they will have little motivation to be brand loyal, other than habit. Applying this reasoning to low involvement products, Best and Ursic (1987) argue the following; the simpler the product is, the harder it will be for consumers to distinguish between different brands, which might result in a quick decision making, however with lower decision accuracy. Hence, consumers might not be ultimately satisfied by their decision in the end, and less satisfied consumers have less incentive for loyalty (Homburg & Giering, 2001). Robertson (1976) acknowledges that brand loyalty does exist within the low involvement product category, nevertheless, he means that it mainly is based on the convenience of habitual behavior rather than heartfelt commitment, since that type of invested commitment would require a specific level of consumer involvement. Therefore, when confronted with many options that are very similar, to a level where brands are indistinguishable, one might not expect the consumer to feel loyal enough to commence a larger brand and attribute identification process. Thus, the following is proposed for a low involvement product:

*H<sub>2</sub>: An increase in similarity confusion proneness causes a decrease in brand loyalty.*

### **2.2.2 Overload confusion proneness and low involvement products**

Walsh et al. (2007) consider overload as a specific and significant attribute of consumer confusion, and they choose to define this overload confusion proneness as “consumers’ difficulty when confronted with more product information and alternatives than they can process in order to get to know, to compare and to comprehend alternatives.” (Walsh et al., 2007, p. 704). Walsh et al. (2007) hypothesize that it eventually will increase the consumer’s decision postponement. The authors base this conclusion on support gathered from previous research, where it seems that consumers might feel less confident about their own choice, and therefore postpone their decision making in favor of the following; gaining more time to engage in extensive research of available options; checking different brands’ attributes;

finding the opportunity to involve others in their decision making; and gaining a better realization of their actual purchasing goals (Walsh et al., 2007).

However, it might be argued that these expectations are more viable for a product on the higher end of a consumer involvement scale. This can be supported by Foxman et al. (1990), who states that a product of a high commitment value will generate higher involvement from the consumer, where a genuine will for extensive information search will exist. On the other hand, consumers engaging in lower involvement purchases will not want to commence an information search, since this will not be their priority, and also since they will not see the need for it (Foxman et al., 1990). Also, there is further research (Robertson, 1976) which argues that; consumers who are considering a product of high involvement nature, will want to have as much information as possible before purchase, this not being the case for lower involvement consumers. However, even if the latter want more information, they will obtain it differently (Robertson, 1976). Instead of relying on other sources from an extensive information search, these consumers can be expected to learn more about the product by engaging in a process similar to trial and error, where they will simply try the product (Robertson, 1976). Furthermore, Walsh et al. (2007) mainly based their arguments on claims from Greenleaf and Lehmann (1995), whose results were derived from research made on “fairly expensive, high-involvement purchases that often require an extensive decision making process.” (Greenleaf & Lehmann, 1995, p. 187). The authors also mean that delay in decision making usually occurs when there is a high-perceived risk of the purchase, and if the consumers expect the price to dramatically change. Nonetheless, connecting this to low involving consumer behavior research; the perceived risk will probably not be high since the consumer is not very emotionally involved, and the price variance will probably have no significant impact, since lower-commitment products usually also mean lower prices in general (Robertson, 1976; Foxman et al., 1990; Ekström, 2010). Also, the need for more decision time in order to involve other people in the decision making (Walsh et. al., 2007), is not as relevant for a low involvement product as it is for a high involvement one, since the power of other people affecting a consumer’s purchase, primarily depends on the product involvement which in turn affects the social involvement for the specific product (Witt & Bruce, 1972), where low involvement products usually have a low social involvement level (Witt & Bruce, 1972).

From the discussion above, one can begin to realize that the need for consumers to postpone their decision making for a low involvement product might be different from that of a high involvement one. Therefore, we propose the following for a low involvement product:

*H<sub>3</sub>: An increase in overload confusion proneness causes a decrease in decision postponement.*

Walsh et al. (2007) hypothesize that an increase in overload confusion proneness should result in an increase in brand loyalty. They reason that overload confusion prone consumers will employ decision heuristics such as brand loyalty in order to avoid extensive information seeking and brand evaluation. Radder and Huang (2008) however, found results indicating a higher awareness in high involvement product brands than of low involvement product brands. In this particular study the authors had compared brand awareness of a high involvement product (sportswear clothing) and a low involving product (coffee), which showed that the subjects had a higher brand awareness of sportswear clothing than of coffee. Brand awareness is said to play an important role in consumer decision making, and more specifically by influencing which brands that enter the consideration set<sup>3</sup>, suggesting that a brand that is not considered cannot be chosen (Macdonald & Sharp, 2003). In addition, the more easily a consumer recalls a brand, the higher the purchase intention and the more likely the purchase of the brand (Radder & Huang, 2008). Following this, one can assume that overload confusion prone consumers, in a low involving product category, are less likely to be aware of a brand, less likely to recall it and therefore less likely to employ brand loyalty heuristics, e.g. “I am familiar with this brand therefore I choose it.” Hence, this leads us to the following reasoning considering low involving products:

*H<sub>4</sub>: An increase in overload confusion proneness causes a decrease in brand loyalty.*

### **2.2.3 Ambiguity confusion proneness and low involvement products**

To understand the concept of consumer confusion more fully, Walsh et al. (2007) argue that similarity and overload confusion proneness need to be complemented by a third dimension, ambiguity confusion proneness. They define it as “consumers’ tolerance for processing unclear, misleading, or ambiguous products, product-related information or advertisements” (Walsh et al., 2007, p. 705). Furthermore, the authors argue that ambiguity confusion

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<sup>3</sup> The consideration set is the small set of brands that a consumer gives serious attention to when making a purchase (Macdonald & Sharp, 2003).

proneness can be largely derived from consumers' response to "dubious product claims or conflicting information on the same product from different sources" (Walsh et al., 2007, p. 705).

Previous research has shown a varied interest in the different dimensions of consumer confusion as proposed by Walsh et al. (2007). Some authors have referred to consumer confusion without associating it with similarity and overload, while others have emphasized aspects such as stimulus and product complexity, ambiguous information or false product claims, non-transparent pricing and/or poor product manuals. All of which, according to Walsh et al. (2007), contribute to multiple interpretations of product quality and cause problems of understanding, relating to the concept of cognitive unclarity. The authors suggest that ambiguity confusion prone consumers are likely to be unclear about or interpret product characteristics as different from the actual ones. This is more likely to occur if, for example, marketer dominated stimuli are inconsistent with the consumer's prior beliefs and knowledge (Walsh et al., 2007).

Walsh et al. (2007) hypothesize that ambiguity confusion proneness could lead to decision postponement. Since consumers are comparing two or more complex products and try to cope with what seems as a non-comparability of alternatives; they will defer their choice. Instead, the consumers will want to find more information in order to establish which product is more credible, and hence, clarify choice. Walsh et al. (2007) base their reasoning on the findings from Dhar (1997), who demonstrated that consumers were more likely to postpone a decision when they expressed more thoughts or made more comparisons.

Walsh et al. (2007) found no support for their hypothesis and argued that it could be due to several explanations. For example, they suggested that it could be conceivable to believe that consumers who are prone to ambiguity confusion will fear to be confronted with additional conflicting and ambiguous information if they postpone the decision. This might be a reasonable explanation. However, when it comes to low involvement products one might argue that ambiguity prone consumers will not experience fear but see little reason to engage in a pro-longed search process for the possibility of clarification. According to Robertson (1976), under conditions of low involvement consumer behavior, a product or brand is not closely tied to a belief system and therefore, he suggested that, consumers have limited cognitive defenses to advertising. The effect would then be that advertising may be quite persuasive and that product trial might be used as a mean of information evaluation

(Robertson, 1976). This suggests that consumers prone to ambiguity confusion will not defer choice but perhaps rather make a relatively quick purchase in order to evaluate the information. This reasoning leads us to the following hypothesis when considering low involvement products:

*H<sub>5</sub>: An Increase in ambiguity confusion proneness causes a decrease in decision postponement.*

Walsh et al. (2007) carry a similar argumentation for effects of ambiguity confusion proneness on brand loyalty, as they did with overload confusion proneness. Mainly, they mean that consumers who are brand loyal will need to engage in fewer comparisons, which eventually leads to less confrontations with ambiguous or conflicting stimuli. Thus they argue that ambiguity confusion proneness will increase brand loyalty. This they base on Chryssochoidis' (2000) findings of how ambiguity triggers consumers' decision heuristics, such as brand loyalty. However, as Walsh et al. (2007) mention, this only holds if there is a brand which a consumer has utter confidence in. The question of whether or not consumers of low involvement products have this type of confidence in a brand in the first place, is highly relevant. As mentioned before, studies have shown that consumers in a low involving product category are less likely to recall a brand (Radder & Huang, 2008), hence it might also be less likely of them to employ brand loyalty heuristics in an ambiguity overload confusion situation, as previously suggested by Walsh et al. (2007). Instead, it can be of interest to consider Robertson's (1976) reasoning, which reveals that low involvement in a product indicates less strongly held beliefs of the product and/or brand. Therefore, consumers of such low involvement products will be more open to advertising since "selective avoidance of counterinformation is inoperative and since it is not worth the individual's energy to reason on incidental matters of consumption" (Robertson, 1976, p. 20). Hence, the author argues, advertising has great potential to induce change in the consumers' behavior under these circumstances. So, when confronted with information that does not fit the consumers' previous, rather weak beliefs of the product, instead of being confused and paralyzed (Walsh et al., 2007), the consumers might instead be more easily affected and convinced to change their initial beliefs (Robertson, 1976), leaving them receptive to other brand offers. From this reasoning, based on low involvement products, the following hypothesis is proposed:

*H<sub>6</sub>: An increase in ambiguity confusion proneness causes a decrease in brand loyalty.*

Walsh et al. (2007) further argued that the intensity of these types of confusions would depend not only on the consumer’s individual predisposition but would also vary as a result from the interaction of the individual’s information processing style and the environmental stimuli in specific situation. Therefore, they argued that it was likely that consumers have individual confusion proneness thresholds. When once exceeded, it would lead to “a decrease in the consumer’s ability to process the available number of alternatives and to make rational buying decisions” (Walsh et al., 2007, p. 706). Furthermore, it was suspected that the three confusion proneness traits would interrelate. This since it was suggested that, for example, ambiguity confusion proneness probably would increase as the number of alternatives increased. When Walsh et al. (2007) tested the model, this was also proven to be the case: the strongest relationship was found between overload and ambiguity (.441), followed by similarity/overload (.310) and similarity/ambiguity (.141). *Table 1* presents a summary of the six derived hypotheses and see *Table 2* for a summary of important key words and concepts.

**Table 1.** Summary of hypotheses

H <sub>1</sub>	An increase in similarity confusion proneness causes a decrease in decision postponement.
H <sub>2</sub>	An increase in similarity confusion proneness causes a decrease in brand loyalty.
H <sub>3</sub>	An increase in overload confusion proneness causes a decrease in decision postponement.
H <sub>4</sub>	An increase in overload confusion proneness causes a decrease in brand loyalty.
H <sub>5</sub>	An Increase in ambiguity confusion proneness causes a decrease in decision postponement.
H <sub>6</sub>	An increase in ambiguity confusion proneness causes a decrease in brand loyalty.

**TABLE 2.** Summary of key words from literature review

<b>Low involvement behavior</b>	consumers characterized by limited amount of information processing, evaluative activity and physical effort. This is behavior typical for low involvement product categories.
<b>Consumer confusion proneness</b>	the degree by which consumers are prone to be confused due to the presence of similarity, overload, and/or ambiguity in a product category.
<b>Similarity confusion proneness</b>	consumers’ propensity to think that different products in a product category are visually and functionally similar.
<b>Overload confusion proneness</b>	consumers’ difficulty when confronted with more product information and alternatives than they can process in order to get to know, to compare and to comprehend alternatives.
<b>Ambiguity confusion proneness</b>	consumers’ tolerance for processing unclear, misleading, or ambiguous products, product-related information or advertisements.

### 3. METHOD

#### 3.1 Research design and strategy

The purpose of this thesis was to identify the possible effects of consumer confusion proneness on decision postponement and brand loyalty in a low involvement product category, through the application of Walsh et al. (2007) proposed model. This rendered a deductive approach, through which six hypotheses, covering the expected outcomes of consumer confusion, were deduced from the theoretical framework. Hence, this research is both descriptive and explanatory by nature. Descriptive since the purpose was to first establish, or describe, the level of consumer confusion within a specific situation, i.e. when buying detergent. Explanatory since the purpose was also, and mainly, to explain the relationship between variables (Saunders et al., 2009, p. 140), i.e. the effect of consumer confusion proneness on decision postponement and brand loyalty. Important to note is that the descriptive part merely served as a precursor for the main purpose of the thesis, namely to explain the relationship between variables. Therefore the study is what Saunders et al. (2009, p. 140) would describe as descripto-explanatory.

Considering that Walsh et al.'s (2007) consumer confusion proneness model is based on a number of questions to be answered on a 5-point scale, the use of a survey strategy was found to be most appropriate. A survey strategy allows for the collection of quantitative data that can be analyzed quantitatively and is a strategy that should give more control over the research process (Saunders et al., 2009, p. 144). Also, a survey enables future comparisons between the effects of consumer confusion in a low- and high involvement context (Bryman, 2006, p. 57), if one were to perform a subsequent survey on a high involving product. Thus, for future research and comparability, a survey strategy proved beneficial.

Though surveys typically are used for exploratory and descriptive studies, Saunders et al. (2009, p. 144) proposed that surveys could be used "to suggest possible reasons for particular relationships between variables and to produce models of these relationships." Bryman (2006, p. 57) agrees and suggests that a survey, or cross-sectional design, only can produce possible relations between variables and not necessarily causality. The author explains that this has to do with that a survey is conducted at a specific point in time, which makes it difficult for the researcher to manipulate the independent variable(s) and hence, one cannot say that the independent variable precedes the dependent (Bryman, 2006, p. 92). To overcome this, researchers must conclude, from theory or "common sense", at what point in time different

variables appear (Bryman, 2006, p. 92). This particular thesis is cross-sectional, i.e. conducted at a specific point in time. However, this should not be of great concern considering that involvement is quite permanent in nature (Ekström, 2010, p. 199). Also, it was assumed that store assortments and information on packages would be relatively constant during the time frame of this thesis, which further justified our choice.

Regarding the issue of identifying causality, many researchers agree that it is possible for involvement to account for differences in selected aspects of consumer behavior. They suggest that involvement has the potential to explain differences observed in, for example, consumers' purchasing behavior for a specific product across individuals (Ekström, 2010, p. 194). Following this, it was concluded in this thesis that involvement *precedes* consumer confusion. Furthermore, following the reasoning of several researchers on the subject of consumer confusion (e.g., Foxman et al., 1990; Greenleaf & Lehmann, 1995; Iyengar & Lepper, 2000; Lai, 2011; Mitchell, & Papavassiliou, 1997; Schwartz, 2000; Tversky & Shafir, 1992; Schweizer, et al., 2006; Walsh et al., 2007), it was also concluded that consumer confusion in turn precedes the dependent variables: decision postponement and brand loyalty.

Of course, in order to overcome the issue of internal validity, a fair option would have been to conduct an experiment seeing that this strategy gives the researcher the opportunity to control or manipulate the independent variable and hence determine causality with a greater accuracy (Saunders et al., 2009, p. 173; Bryman, 2006, p. 47). Practically, for this thesis, it suggests that there would have been a need to manipulate the consumer confusion proneness dimensions in the concerned product category. Even though similarity- and overload confusion proneness could have been controlled to a certain extent, ambiguity-confusion proneness is "largely attributed to consumers' response to dubious product claims or conflicting information on the same product from different sources" and more likely if "inconsistent with the consumer's prior beliefs and knowledge" (Walsh et al., 2007, p. 705), which understandably should prove difficult to manipulate. However, in order to create a greater control of the results and to improve the probability of identifying causality, it was decided to focus on a specific product type, i.e. detergent, as well as maintaining a rather homogeneous sample in terms of demographics, which was allowed by the use of the survey.

### **3.2 Sample**

The sample for the main study consisted of students from different disciplines and different universities/colleges in Sweden. Sample size initially amounted to 123 respondents, however,

after the removal of outliers, only 113 were used in the analysis. Hair et al. (1998, p. 166) mention that the ratio should never fall below five observations for each independent variable, but to avoid making the results specific to the sample, at least 15-20 respondent per variable is the desirable ratio. Since there were three independent variables in this study, the sample of 113 gave a ratio of approximately 38 respondents per independent variable, which proved that a more than sufficient sample size was achieved to allow for generalizability. 47.8 % of the respondents were male and 52.2 % female, with a mean age of 25.4 years (youngest: 20, oldest: 36). Even though the choice of sample population restricts possibility for wide generalization, the spread of respondents across different Swedish universities/colleges, disciplines, age, gender, and living situation, allows for a slightly increased level of the chosen population's general representation (i.e., the Swedish student). Also, even though the sample would not be considered representative of the total Swedish population, a general relationship between variables in one category (e.g., students) would be expected to exist across other categories (VonRiesen & Herndon, 2011). In other words, the chosen student sample could serve as an indicator of what general relationships one might expect for the same study conducted on a larger population.

The method of sampling used for this thesis was to spread an online questionnaire through student emails and also different university platforms on the Internet. This qualified as a convenience sampling, where subjects were picked based on availability and convenience of obtaining the data (Saunders et al., 2009, p. 241). The authors mention how there are many biases associated with this method, since, in this case, the subjects might not constitute a fair generalization of the entire intended population of Swedish students. However, since effort was put into keeping the variance within the sample as low as possible (e.g., similar educational level, small age interval, Swedish setting, etc.) this bias was partially overcome (Saunders et al., 2009, p. 241).

Of course, as with many non-statistical, convenience samplings, the question of to which extent the result would be generalizable arose once again (Saunders et al., 2009, p.241). However it was early on realized that the scope of the thesis would not allow for the more intricate statistical sampling procedures required for the achievement of more generalizable results. Therefore, the use of student demographic seemed suitable, since the relatively low variance achieved by the use of this population, strengthened the results, at least for a group similar to that of students. Also, the importance of the results for a group of consumers such as students, alone, proved significant enough for practitioners and future research. Also worth

mentioning is that the method of questionnaire distribution did not allow for the gathering of response rate values, since the amount of students that were exposed to the survey remains unknown. Nonetheless, even though the lack of a response rate in this thesis might be seen as a limitation, since some might argue for the difficulty of evaluating the survey quality without a known response rate, it is a fact that not all researchers report their response rate<sup>4</sup>, suggesting that the lack of such a value should not lead to a dismissing of the results.

Furthermore, when choosing students as the sample for this thesis, consideration was also taken to sample population used by previous similar studies within the discipline of decision making and consumer confusion (e.g., Friedman, 1966; Loken, Ross, & Hinkle, 1986; Ward et al., 1986; Foxman et al., 1990; Radder & Huang, 2008). The fact that these authors found it reasonable to use a student population for consumer confusion research, made it relevant to consider this type of sample for this investigation, as a way of increasing comparability with previous research results. Moreover, by choosing respondents within a specific demographic, it was possible to control the co-variance of expected product involvement throughout the respondents, as mentioned by Ekström (2010, p.195), who means that, even though the level of involvement varies between individuals, the level of product involvement has been shown to co-vary within certain demographics, for instance students.

### **3.3 Product selection**

The choice of detergent as the example product for this research was validated by several factors. First of all, previous studies have found that consumer confusion is highly existent within this product category (Kelly, 1997; Benady, 1997), and this has caused many marketing implications (Mitchell & Papavassiliou, 1997). Thus, since results already exist to confirm that consumer confusion is present within the category of detergents, it was not necessary to conduct a pre-study to investigate this matter. Secondly, a study conducted by Laurent and Kapferer (1985b) found that consumers felt that detergents were of little relative importance, they did not associate the purchase with high risk, and they found little pleasure in the product itself. This, the authors mean, suggests that detergents are on the low end of all the scales that in the end define involvement, including product involvement. Other researchers (e.g., Hoyer, 1984) also conclude, after various studies, that detergents should be

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<sup>4</sup> In an audit made on eight social science journals, it was found that only 11.5% of the 571 articles using survey data (published 1998-2001) provided a response rate (AAPOR, 2003).

classified as low involvement products. Hence, this product qualified on many levels as the subject of investigation for this study.

The fact that product involvement not only resides in the product, but also the consumer (Beatty et al., 1988), could have served as a limitation to the purpose of this study, since some of the respondents might be involved on different levels with the concerned product. Nonetheless, much care was put into identifying a product which always was mentioned as very low on the involvement scale. Also, the fact that high involvement products are more desired as research objects since the outcomes are more measurable (Beatty et al., 1988), reflects another limitation to investigating a low involvement product; the outcomes might not be easy to measure. However, this limitation only strengthens the reasons for why research needs to increase focus on low involvement products; there is a need for more insight on the specific context, and a greater discussion of why the results might be less measurable. Therefore, this limitation is only seen as a further motivation to conduct a study on low involvement products.

### **3.4 The scale and procedure**

In the scale generation of the confusion proneness model, Walsh et al. (2007) developed and assessed a mix of original and adapted scale items derived from other confusion studies. Through exploratory interviews, where the answers were transcribed and scrutinized by two other researchers, 48 items were generated. To refine the scale an item-reduction process resulted in a questionnaire containing 26 items, which were tested in terms of appropriateness for explaining the three consumer confusion dimensions. In the final scale validation process, three factor analysis were performed and the discriminant- and nomological validity was assessed. From this, nine items remained for the final scale. Decision postponement and brand loyalty were operationalised with four and three items, respectively, which showed good reliabilities (.78 for decision postponement and .89 for brand loyalty). These final items, in turn, served as the foundation of the questionnaire for this thesis (see entire questionnaire in *Appendix I*).

Since the questions in Walsh et al.'s (2007) scale were formulated not to fit any specific context, a need to adapt the questions for this particular study was necessary. In all of the items, the word "detergent" was either added or exchanged, to ensure that the respondents were actually responding on their purchasing behavior of detergent. Furthermore, it was decided to keep the questions in English even though the study was conducted in Sweden.

Considering the nature of our sample, being students of a higher education institute, it was reasonable to believe that the students would be literate to a high-enough-level in order to respond properly to the questions. This was believed to outweigh the possible “loss in translation” if one would have attempted to translate the questions. Moreover, there was reason to believe that the word “detergent” perhaps could be a word that the respondents were not familiar with. Hence, this was addressed by offering the Swedish translation in the introduction to the consumer confusion questions. In addition, socio-demographic questions were added as an introduction to the questionnaire.

### **3.4.1 Pilot study and main study**

A pilot study was conducted, where the survey was distributed among students in the social science department of a Swedish higher education institute during lectures. The pilot study was conducted in order to discover any possible errors in the questionnaire and the sampling method. What was concluded was that, even though a high response rate was ensured through the distribution of a survey on paper (117 respondents); missing and eligible values became an issue instead. Also, since the survey was distributed during lectures (during breaks and at the end of class) it was suspected that answers might have been hastened with little reflection. Finally, it was reasoned that some of the questions needed some more clarification as to their connection to the product of detergent.

After adjusting the questionnaire with consideration to the issues discovered during the pilot study, the main study was conducted. This time the data was collected through an online questionnaire. The choice to distribute the survey online was made in order to ensure no missing values, since only a completed form could be submitted. The link to the questionnaire was posted in various student groups and associations on *Facebook* as well as emailed to the participant list of a master’s program.

### **3.4.2 Scale validation**

Once gathered, the data was appropriately coded and inserted into the statistical tool SPSS. Note that the values gathered through question number 24 (labeled *Loy3* in *Table 3*) were reversed when coded, since the question was negatively worded in the questionnaire. Thereafter, four exploratory factor analyses were conducted to aid in the further validating of Walsh et al.’s (2007) given scale. This was done since the previous validation process had been performed in a more general context without any specific product category or

involvement level (Walsh et al., 2007). Therefore, it was deemed appropriate to conduct further validation following the specific context and sample for this study.

The consumer confusion model as well as the three dimensions showed good reliabilities (.79 for consumer confusion; .73 for similarity; .61 for overload; and .68 for ambiguity). Following this, it was also verified that the data was suitable for factor analysis (Kaiser-Meyer-Olkin value<sup>5</sup> .76; Bartlett's Test of Sphericity<sup>6</sup>  $p=.000$ ). The nine items were then subjected to several principal component analyses, where the final scale contained six of the nine items originally proposed by Walsh et al. (2007). The final analysis revealed the presence of two components with eigenvalues exceeding the value of 1, explaining 37,9 % and 20,2 % of the variance respectively. The third factor, however, fell below the recommended eigenvalue of 1 and should therefore have been considered insignificant and disregarded (Hair et al., 1998, p. 103). However, as the value reached .969 and contributed with 16,2 % of the variance it was decided to retain the factor. This, since the use of eigenvalues to establish cutoffs is mostly suitable with a large number of variables (between 20-50), where less variables in combination with this method has a tendency to extract too few (Hair et al., 1998, pp. 103; Ledesma & Valero-Mora, 2007). As the consumer confusion model only have three variables, well below 20, it further supported the reasoning to retain the third factor. Cumulatively, the three factors appeared to explain a total of 74,3 % of the variance, hence, supporting the theory of three dimensions (i.e., similarity, overload and ambiguity).

Following this, a final analysis was conducted in order to control the reliability of the new factors where good internal consistency was reported; .67 for consumer confusion; .73 for similarity; .49<sup>7</sup> for overload; and .67 for ambiguity confusion. Hence, the items retained for the standard multiple regressions were the following; *Sim1* and *Sim2* for similarity confusion proneness; *Over2* and *Over3* for overload confusion proneness; and *Amb2* and *Amb3* for ambiguity confusion proneness. These results are demonstrated in *Table 3* below, and for a more detailed description of the scale validation process see *Appendix 3*.

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<sup>5</sup> Kaiser-Mayer-Olkin measures the adequacy of the sample, where the measure varies between 0 and 1 and a larger number is preferable (Hair et al., 1998, pp. 99-100). Nonetheless, a value above .60 is recommended (Kaiser, 1970).

<sup>6</sup> Bartlett's Test of Sphericity is a statistical test for the overall significance of all correlations within correlation matrix (Hair et al., 1998, p. 88).

<sup>7</sup> Cronbach's alpha values are sensitive to the number of items constructing a scale and positively related to the number of items (Hair et al., 1998, p. 118). Therefore, a quick look at the mean inter-item correlation revealed that overload confusion fell within the recommended optimal range of .20 to .40 (Briggs & Cheek, 1986), at .34 indicating good reliability.

**TABLE 3.** Item listing (+ label in SPSS), reliability and factor structure for similarity-, overload- and ambiguity confusion.

FACTORS AND ITEMS		Cronbach's $\alpha$ (old factors)	Factor Analysis 4 LOADINGS			Item retained for MR <sup>a</sup>	Cronbach's $\alpha$ (new factors)
			Factor 1	Factor 2	Factor 3		
<b>Factor 1: Similarity Confusion</b>		<b>.73</b>				<b>.73</b>	
SIM1	Due to the great similarity of detergents it is often difficult to detect new products.		-.884		yes		
SIM2	Some detergent brands look so similar that it is uncertain whether they are made by the same manufacturer or not.		-.863		yes		
<b>Factor 2: Overload Confusion</b>		<b>.61</b>				<b>.49<sup>b</sup></b>	
OVER1	I do not always know exactly which detergent meet my needs best.				no		
OVER2	There are so many detergent brands to choose from that I sometimes feel confused.			.753	yes		
OVER3	Due to the host of stores it is sometimes difficult to decide where to shop detergents.			.852	yes		
<b>Factor 3: Ambiguity Confusion</b>		<b>.68</b>				<b>.67</b>	
AMB1	Detergents often have so many features that a comparison of different brands is barely possible.				no		
AMB2	The information I get from advertising often is so vague that it is hard to know what a detergent can actually perform.			.868	yes		
AMB3	When buying a detergent I rarely feel sufficiently informed.			.848	yes		
AMB4	When purchasing detergent I feel uncertain about which product features that is particularly important for me.				no		
<b>DEPENDENT VARIABLES</b>				<b>DP</b>	<b>BL</b>		
<b>Decision Postponement (DP)</b>		<b>.70</b>					
POST1	Sometimes it is difficult to arrive at a decision when making a purchase.			.594	yes		
POST2	Sometimes when making a detergent purchase I delay the decision.			.857	yes		
POST3	Sometimes I postpone a planned purchase of detergents.			.716	yes		

POST4	Sometimes the choice of detergents in a store is so large that a purchase takes longer than expected.	.757	yes
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**Brand Loyalty (BL)****.89**

LOY1	Once I find a detergent brand I like, I stick with it.	.902	yes
LOY2	I usually buy the same detergent brands.	.925	yes
LOY3	I change detergent brands I buy regularly. (Reversed)	.880	yes

- a. MR = Multiple Regression  
b. Mean inter-item correlation = .335

To allow for the analysis of the underlying relationship between the dependent- and independent variables (Hair et al., 1998, p. 14), and thereby test the six hypotheses, two standard multiple regressions were conducted; one for decision postponement and one for brand loyalty.

### 3.5 Results

#### 3.5.1 Assessing the assumptions

Before the multiple regressions were conducted, preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. In the case of decision postponement, no major deviations from normality were detected. However, the presence of one outlier (case 71) was discovered (standardized residual value +3.65)<sup>8</sup> indicating a higher tendency to decision postponement compared with the predicted value. Nonetheless, the maximum value for Cook's distance was .115 suggesting no major problem in terms of influencing the results of the model as a whole. Therefore, it was decided to retain this case in the subsequent analyses.

There did not seem to be any major deviations from normality when investigating the scatterplot and the normal probability plot for brand loyalty (see *Appendix 4*). The outlier (case 71) that was detected in the case of decision postponement did not deviate from the normal pattern distribution for brand loyalty. Also, reviewing the standardized residual values disclosed no outliers to reconsider for the second dependent variable.

Nonetheless, investigating the symmetry of the distribution revealed a slight skewness for both decision postponement and brand loyalty, where decision postponement was negatively

<sup>8</sup> Outlier defined as those with standardized residual values above 3.3 or less than -3.3 (Tabachnick & Fidell, 2007, p. 128).

skewed, and brand loyalty positively skewed (see the histograms in *Appendix 4*). Trying to achieve a more normal distribution, a couple of transformations were applied to both variables, where the most suitable transformations were: logarithm<sup>9</sup> on decision postponement, and an inverse reflection<sup>10</sup> of brand loyalty. However, when both transformed and non-transformed variables were used in the multiple regressions, no significant difference appeared to the overall amount of variance explained or the individual regression coefficients. Therefore, to keep it as simple as possible, the two multiple regressions based on the non-transformed data, for both decision postponement and brand loyalty, were used in the thesis.

The correlations between the independent variables were examined and were all found positive, however, small. The strongest relationship was between overload and similarity (.296) followed by ambiguity/overload (.294) and ambiguity/similarity (.229), suggesting that multicollinearity was not an issue.<sup>11</sup> In addition, the correlations between the independent variables and decision postponement were found to be positive and small to moderate, ranging from .061 for similarity, .127 for ambiguity and .488 for overload (see *Table 4*). For brand loyalty, the correlations with the independent variables were found negative and also small to moderate (-.101 for similarity; -.306 for overload; and -.080 for ambiguity). Following this, it indicated that the data was suitably correlated with decision postponement as well as brand loyalty for a multiple regression to be reliably undertaken. In addition to this, a collinearity diagnostics test revealed that there was no multicollinearity present (tolerance values surpassed .1; variance inflation factors well below 10).<sup>12</sup>

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<sup>9</sup> Formula for logarithm: new variable =  $\text{Log}_{10}(\text{old variable})$  (Tabachnick & Fidell, 2007, p.87).

<sup>10</sup> Formula for inverse reflection: new variable =  $1/(\text{K} - \text{old variable})$ , where K = largest possible value + 1 (Tabachnick & Fidell, 2007, p.87).

<sup>11</sup> Multicollinearity refers to a correlation between the independent variables that decreases the unique variance explained by each independent variable, and increases the shared prediction percentage (Hair et al., 1998, p. 157). This means that it becomes difficult to separate the effects of the chosen variables. For multicollinearity to exist, the correlations between the independent variables would have to exceed .9 (Hair et al., 1998, p. 191).

<sup>12</sup> The tolerance value and the variance inflation factor (VIF) assess both pairwise and multiple variable collinearity, where the tolerance is the amount of variability of the selected independent variable not explained by the other independent variables (Hair et al., 1998, pp. 191-193). Since  $\text{VIF} = 1/\text{tolerance}$ , very small tolerance values and large VIF values indicate multicollinearity (typical cutoff points: tolerance value of .1 and VIF value above 10) (Hair et al., 1998, p. 193).

**TABLE 4.** Correlations matrix

		<b>Decision Postponement</b>	<b>Similarity</b>	<b>Overload</b>	<b>Ambiguity</b>
Pearson Correlation	Decision Postponement	1.000	.061	.488	.127
	Similarity	.061	1.000	.296	.229
	Overload	.488	.296	1.000	.294
	Ambiguity	.127	.229	.294	1.000
		<b>Brand Loyalty</b>	<b>Similarity</b>	<b>Overload</b>	<b>Ambiguity</b>
Pearson Correlation	Brand Loyalty	1.000	-.101	-.306	-.080
	Similarity	-.101	1.000	.296	.229
	Overload	-.306	.296	1.000	.294
	Ambiguity	-.080	.229	.294	1.000

### 3.5.2 Decision postponement

Using the enter method, a significant model emerged ( $F_{3,109}=11.87, p < .0005$ ).<sup>13</sup> The total variance explained by the model was 24.6 %, with an adjusted  $R^2$  of .225.<sup>14</sup> As shown in *Table 5*, there was one significant predictor of decision postponement: overload, which was also the variable with the strongest unique contribution to the equation ( $B=.516$ ),<sup>15</sup> indicating a positive relationship between overload and decision postponement. Similarity and ambiguity, on the other hand, were not statistically significant and could therefore not be said to make a significant contribution to the prediction of decision postponement. Though not significant, the Beta values for similarity and ambiguity showed a negative but weak relationship with decision postponement,  $-.091$  and  $-.004$  respectively, thus correlating in a manner predicted by theory. However, to conclude, neither  $H_1$ ,  $H_3$  nor  $H_5$  were supported.

### 3.5.3 Brand loyalty

The model explained 9.4% of the variance in brand loyalty caused by similarity, overload and ambiguity, with an adjusted  $R^2$  of .069 (6.9% explained variance). Furthermore, this model, similar to the one of decision postponement, proved to be of statistical significance ( $F_{3,109}: 3.77, p < .05$ ).

<sup>13</sup> Throughout the thesis, a significance level of .05 was adopted, as typically used in statistics to minimize the possibility of making a *Type I error* (Hair et al., 1998, p. 327), where the p-value = significance.

<sup>14</sup> The value of  $R^2$ , also known as the coefficient of determination, represents the proportion of the dependent variable which is explained by the independent variables in the given equation (Hair et al., 1998, p. 143). This value can vary between 0 and 1, where a higher value of  $R^2$  represents a greater explanatory power of the regression equation, everything else being equal (Hair et al., 1998, p.143; Newbold et al., 2007, p. 423). Also, an adjusted  $R^2$  is usually calculated to compensate for 'overfitting' of the data (Hair et al., 1998, p. 182). Newbold et al. (2007, p. 423) mention that models based on data from individual people, similar to this study, will often present an  $R^2$  in the .10 to .20 range.

<sup>15</sup> The value of the standardized beta coefficient allows for direct comparison between the independent variables' beta coefficients to reveal their relative explanatory power of the dependent variable (Hair et al., 1998, p. 143).

On the second standard multiple regression, the correlation between the dependent variable, brand loyalty, and the independent variable overload, was the only one of significance. The other two independent variables, similarity and ambiguity, showed little correlation with brand loyalty. A closer look at the coefficients and the standardized beta values (see *Table 5*) revealed that overload had the strongest unique contribution in the model (B= -.306) with a significance level of p= .002, supporting H<sub>4</sub>. This was followed by an evenly spread contribution made by similarity (B= -.013) and ambiguity (B= .013). However, as was found in the previous section and the decision postponement model, neither similarity nor ambiguity proved to be of significant level. Even though similarity appeared to have a slight, yet negative, correlation with brand loyalty, there was not enough significant evidence to support H<sub>2</sub> and H<sub>6</sub>.

**TABLE 5.** Coefficients for model variables

Model	Unstandardized Coefficients		Standardized Coefficients			95,0% Confidence Interval for B		Correlations			
	B	Std. Error	Beta			t	Sig. <sup>c</sup>	Lower Bound	Upper Bound	Zero-order	Partial
1 <sup>a</sup>	(Constant)	1.060	.294		3.600	.000	.476	1.643			
	Similarity	-.071	.069	-.091	-1.037	.302	-.208	.065	.061	-.099	-.086
	Overload	.425	.074	.516	5.753	.000	.278	.571	.488	.483	.478
	Ambiguity	-.003	.068	-.004	-.042	.967	-.138	.132	.127	-.004	-.003
2 <sup>b</sup>	(Constant)	4.721	.446		10.582	.000	3.837	5.605			
	Similarity	-.015	.104	-.013	-.139	.890	-.221	.192	-.101	-.013	-.013
	Overload	-.348	.112	-.306	-3.109	.002	-.570	-.126	-.306	-.285	-.283
	Ambiguity	.014	.103	.013	.131	.896	-.191	.218	-.080	.013	.012

- a. Dependent variable: Decision Postponement
- b. Dependent variable: Brand Loyalty
- c. P- value

### 3.5.4 Results summary

Despite the previous series of factor analysis, and the dropping of several items to assure a normal distribution for the two standard multiple regressions; two of the three variables showed no significant results (similarity and ambiguity). Since only overload confusion proneness appeared to be affecting decision postponement and brand loyalty (see *Table 6* for overview of confirmed hypotheses), it was found interesting to attempt a final exploration of these empirical findings. Though interviews are often associated with exploratory research, explanatory research can often be aided by the collection of qualitative data in order to explain underlying reasons (Saunders et al., 2009, p. 141). Thus, the quantitative analysis was complemented by a smaller qualitative investigation, in the form of semi-structured

interviews with a number of randomly picked members from the previous respondents (n= 4). The question guide consisted of three themes (i.e., similarity, overload and ambiguity) and a corresponding set of questions to be covered. The number of questions posed, however, differed from interview to interview (see *Appendix 2* for interview questions used).

The choice to use semi-structured interviews fell on its appropriateness for explanatory studies, where it may be used in order to understand relationships between variables (Saunders et al., 2009, p. 322). Following the results, the concern lied in the understanding of why, or more ‘how come’, certain dimensions of consumer confusion showed stronger relationships than others with decision postponement and brand loyalty. Some of the thoughts gathered through the interviews, regarding these respondents’ decision making processes when purchasing detergent, were used in the discussion section. Due to the relatively small sample size used for the qualitative investigation, it is important to note that the answers from these interviews merely served as an indicator of what possibly could be an explanation for the quantitatively gathered results, and it is acknowledged that a larger sample would have been preferred in order to draw conclusions of greater significance.

**TABLE 6.** Summary of hypotheses - results

		Standardized Beta Coefficients	Sig. <sup>a</sup>	Support
H <sub>1</sub>	An increase in similarity confusion proneness causes a decrease in decision postponement.	-.091	.302	Not confirmed
H <sub>2</sub>	An increase in similarity confusion proneness causes a decrease in brand loyalty.	-.013	.890	Not confirmed
H <sub>3</sub>	An increase in overload confusion proneness causes a decrease in decision postponement.	.516	.000	Not confirmed
H <sub>4</sub>	An increase in overload confusion proneness causes a decrease in brand loyalty.	-.306	.002	Confirmed
H <sub>5</sub>	An Increase in ambiguity confusion proneness causes a decrease in decision postponement.	-.004	.967	Not confirmed
H <sub>6</sub>	An increase in ambiguity confusion proneness causes a decrease in brand loyalty.	.013	.896	Not confirmed

a. P-value

## 4. DISCUSSION

The non-significant results for similarity- and ambiguity confusion proneness imply that there is no supported relation, positive or negative, between these two variables and decision postponement and brand loyalty. From only a practical point of view, it is natural to immediately consider whether the sample size is too small for the specific study. Indeed a

bigger sample might have increased probability of significant results. However, since regressions have been conducted successfully on smaller samples before, the reasoning for why there was no significance for two of the variables is not entirely blamed on sample size. Other thoughts could be whether the actual choice of students affected the results, yet that is not considered as the biggest influence, since, as previously argued; patterns in sub-categories often reflect underlying relationships that can be found in other categories across the population.

Lastly, the results could have been affected by the slight altering of the scale, where the product type (i.e. detergent) was inserted as to customize the questionnaire. But neither this, nor the fact that the questionnaire was distributed in English to students in Sweden, is expected to have played a major role in the obtained values since these issues should then have posed a constant error throughout the entire scale. Yet, since not all of the results were insignificant, this is not considered to be the case, and therefore not the main reason behind the non-significant results. Nonetheless, having covered the different practical issues, it is of interest to further investigate the variables of consumer confusion proneness and their relationship with decision postponement and brand loyalty.

#### **4.1 Similarity**

Even though both  $H_1$  and  $H_2$  were not of statistical significance, the underlying relationship appears to be as was predicted in the literature review; similarity confusion proneness causes decision postponement and brand loyalty to decrease. The results revealed that the highest level of mean confusion proneness for detergent indeed lay within similarity (3.41), where the regression indicated that there was a 70% chance of a negative relationship between similarity and decision postponement *not* being a coincidence. This is consistent with what was said during the interviews, where the interviewees expressed the presence of similarity confusion: “The boxes are pretty much the similar size. As well as the aesthetics in terms of layout, colors and logotypes and everything.” Adding to this that Walsh et al. (2007) previously found significant support for a relationship between similarity and decision postponement, it is worth considering the general thrust of  $H_1$ , since it could be of practical significance. However, this does not seem to be the case for  $H_2$ , where the results are far from any acceptable significance level.

It seems as if the consumers' smaller consideration set for low involvement products, such as detergents, could have played a bigger role for this product category than previously

anticipated. This notion was supported by the subsequent interviews, where the heuristic of “buy what I usually buy” was mentioned by an interviewee, and the others agreed with similar rules of thumb. This corresponds to what Walsh et al. (2007) suggest about consumers’ decision making when the products are very similar; consumers will utilize decision heuristics. However, since this does not seem to influence decision postponement in a statistically significant way, it could be that the use of heuristics in this case is typical for the product type and not due to the presence of similarity confusion proneness. Actually, since consumers of low involvement products *already* follow a set of heuristics to avoid choice activity, as mentioned earlier, it could be that the heuristics are so pronounced that the existence of similarity confusion proneness should not affect their decision making process. Adding to this that low involvement products are associated with little attachment and actual commitment, one might argue that decision postponement does not change with the existence of similarity confusion because the consumers are unmotivated and not really committed, meaning that they do not experience the need or urgency to extend their search for a specific brand amongst all the similar options. Instead, they follow the preferred heuristic, without feeling the risk of ‘picking the wrong brand’, and therefore, the decision making process becomes neither significantly longer nor shorter when the alternatives are similar.

Also worth considering is the following; the questions on the scale which are meant to measure brand loyalty, ask of the respondents to recall how often they change brands (see *Appendix 1*). However, similarity confusion proneness has an underlying reasoning which states that consumers are increasingly confused by the similar options, and so they often switch between brands without noticing. Considering this, it is argued that consumers who are confused by product/brand similarity might not, and according to theory *should not*, be aware of their brand-switching activities, and therefore they might have not been able to give the desired reply on the questionnaire.

Practitioners should consider if a strategy of presenting a look-a-like brand, as to lure consumers that are loyal to a major brand, always works. Judging only by the results from this investigation, the answer to this question would be no, since even though the products in the low involvement category were very similar and confusing, there was still no evidence to suggest that similarity confusion proneness causes a conscious switching of brands.

For researchers, there is a need for further investigation of the connection between similarity confusion proneness and decision postponement, considering that there could be a connection

between the two after all. As for the relationship with brand loyalty, it is interesting to consider other ways of measuring brand loyalty in connection to similarity, since the earlier discussed contradiction of the definition of similarity confusion proneness and the questions for brand loyalty on Walsh et al.'s (2007) scale. Perhaps if the scale was not simply measuring brand loyalty as repetitive purchase, and instead considered actual consumer attitudes and different types of behavioral loyalty towards a preferred brand, it would be easier to deduce how similarity confusion proneness actually affects brand loyalty. This is considered as an essential aspect since this could have a great impact on practitioners' perspective on the effects of brand look-a-likes. Finally, a reconstruction of the scale's brand loyalty questions would also make the tool more suitable for an eventual investigation of high involvement products, since the scale, as it is now, will not suffice for a fair representation of the dependent variable (i.e., brand loyalty) in a high involvement product category case.

## 4.2 Overload

Contradicting to what was stated in H<sub>3</sub>, it was found that consumers prone to overload confusion tend to postpone their purchase. Suggesting that consumers feel that there indeed are too many options and/or too much information to allow for a rational decision to be made, where as a result they simply extend the search process. These findings are also coherent with what was found during the interviews where the interviewees agreed that there were many options available to choose from in the detergent category. Walsh et al. (2007) argued that consumers prone to overload confusion would involve others in the decision process for the further aid and realization of goals, which could serve as a possible explanation to why consumers tend to postpone when feeling overload confusion. From the interviews it was understood that personal recommendations, or independent tests, were important to the decision process of detergents. Therefore, it could also be suggested that consumers perhaps extend the search process in favor of involving others, in order to make a proper decision.

When considering the relationship of overload confusion and brand loyalty, it became evident from the interviews that the interviewees used different heuristics when buying detergent, as suggested by theory regarding brand loyalty for low involvement products. Nevertheless, results from the quantitative study shows that overload confusion proneness causes brand loyalty to decrease, as concluded by H<sub>4</sub>. A possible explanation for this could be that the heuristics used, many times are related to other factors besides the actual brand. In this case, rules of thumb such as lowest price, best quality, and highest 'best in test rating', were valued

highly by the interviewees. Thus, even though heuristics *are* used for the purchase of detergents, it does not have to result in higher brand loyalty since the heuristics are independent from the brand, and this will probably be the case for other low involvement products similar to detergents. Furthermore, as previous literature has stated; overload in choice and information can easily cause consumers to feel dissatisfied of their choice of brand, which in turn decreases brand loyalty. This observation seems to be supported by the results for H<sub>4</sub>.

From a practitioners point of view this questions the notion of whether a large number of alternatives are desirable to begin with. These results should of course prove highly relevant for both retailers and producers as the number of options and the information provided to the consumer are determined by managers. Supposedly, a decrease in the number of options and/or information could aid the consumer in their decision making process in favor of a quicker decision. However, as noted previously, two equally attractive options can still produce confusion. Considering brand loyalty, the initial concept of offering many options in order to fulfill the needs of a wider range of consumers, might not be delivering intended results. Instead, overload entices consumers to rely on different coping strategies that are not necessarily based on brand loyalty. This could be beneficial for companies entering a crowded market with a new brand, for smaller brands with limited marketing resources, and also for product line extensions, since consumers do not seem to be restricting their product choice to a favored brand.

As mentioned earlier in this thesis, the concept of involvement suggests that low levels of involvement produces little cognitive effort in terms of information processing. Nonetheless, the results presented in this study suggest that overload confusion tends to generate a will to extend the search process even for a low involving product, such as detergent. Following this, it could be interesting for future research to investigate the importance of involvement in a consumer confusion setting, in order to determine its mediating effect. Also, it could be a matter of interest to further investigate the facets of overload confusion; whether the largest contributing factor is derived from the number of options or the nature of the extensive information, and which of these contributes the most to the positive relationship between overload confusion and decision postponement. Furthermore, from the results of this study it definitely seems as if overload encourages consumers to seek purchasing heuristics, and these consequently lead to lower brand loyalty. Yet, one can also consider whether this low brand loyalty in turn fuels the constantly increasing overload in the markets of low involvement

products, since practitioners are seizing the opportunity to offer more products in what appears to be a relatively brand insensitive environment. Either way, the decrease in brand loyalty due to overload confusion prone consumers, is highly relevant and urgent for both practitioners and researchers to realize since, as previously stated, brand loyalty has a measurable affect on profitability.

### **4.3 Ambiguity**

In the case of ambiguity confusion proneness, neither H<sub>5</sub> nor H<sub>6</sub> were statistically significant. Even though ambiguity confusion was clearly present in the market of detergents, with a mean value of 3.26, there appeared to be a very weak relationship between the concept with both decision postponement and brand loyalty.

These results could possibly be explained by the interviews, where it appeared as if the interviewees had little to no trust towards detergents and their related brands. In fact, it appeared as if there was such a low level of trust towards the claims made by the products' marketing, that they were disregarded completely when buying detergent. For example, one stated: "Nothing is ever like the commercials," whereas another responded: "I don't know if I would trust any commercial." The interviewees, with their already strong held beliefs, rather felt that they would deploy a mission of trial and error, where they would test their way forward, as previously suggested by the discussion leading to H<sub>5</sub>. Following this, and the results from the quantitative analysis, the presence of ambiguity within the Swedish detergent market can be confirmed, where marketing claims seem to be inconsistent with the respondents' previous beliefs and knowledge to an extent where the claims are not trusted at all.

In spite of ambiguity confusion having no statistically significant effect on either decision postponement or brand loyalty, trust, at a glance, seems to be a contributing mediator, perhaps explaining the lack of causality. This should prove interesting from both a practitioner and researcher's point of view. Practitioners need to realize that there might be a discrepancy between what is claimed and what the consumers perceive as relevant information for their decision making. For researcher, it could be interesting to further investigate the mediating effect of trust and how this perhaps affects how different consumers perceive ambiguity confusion.

## 5. CONCLUSION

By studying the purchasing process of detergent, this thesis set out to identify how similarity-, overload- and ambiguity confusion proneness affect consumers' decision postponement and brand loyalty in a low involvement product category. The research aimed at being among the first empirical testing of Walsh et al.'s (2007) consumer confusion proneness model, on the outcomes of decision postponement and brand loyalty, within a low involvement product context. This purpose was sought in order to generate more empirical findings for consumer confusion within a market besides the ones of high involvement products, which has been a great focus within consumer confusion literature so far. Thus, the chosen study was intended to produce new implications of consumer confusion in the given context, for researchers and practitioners.

The results revealed the presence of consumer confusion in a low involving product category. The strength of the relationships, however, disclosed that overload confusion was the single variable that statistically could be said to affect decision postponement and brand loyalty. H<sub>3</sub>, however, was not supported since it was found that overload confusion proneness, in a low involving product category, caused an increase in decision postponement. H<sub>4</sub>, on the other hand, proved correct in a manner predicted by theory; overload confusion proneness caused a decrease in brand loyalty.

Even though the results unveiled that similarity confusion did exist in this product category, it had no statistical significant impact on either outcome, nor did ambiguity confusion. Hence, neither H<sub>1</sub>, H<sub>2</sub>, H<sub>5</sub> nor H<sub>6</sub> were statistically supported. Several possible explanations emerged during the semi-structured interviews, where the presence of the three consumer confusion dimensions was further confirmed. Similarity confusion proneness did not appear to be a major concern for the interviewees since they seemed to heavily rely on different heuristics, such as "I buy what I usually buy". Hence, few products entered the consumers' consideration set to begin with. For ambiguity confusion proneness another issue emerged; it became evident that the interviewees had very little, to no trust, in the claims made by the producers. This could serve as a possible explanation to why, though present in the category, ambiguity confusion had no significant impact on either outcome. The interviewees simply did not trust the information communicated through the product claims, revealing ambiguity in what the product actually could perform, to an extent where the claims was disregarded in the decision making process.

Given this, it can be concluded that the stated purpose of the thesis was achieved, as interesting findings of how consumer confusion proneness affects decision postponement and brand loyalty of a low involvement product were revealed, enabling suggestions of implications for both researchers and practitioners. Nevertheless, it should be noted that there are some restrictions as to how freely one can generalize the results. Firstly, keep in mind that the study was conducted in Sweden, suggesting that the results reflect only the Swedish market and possibly other similar markets. Secondly, it was recognized that students might not constitute the best candidates for research on consumer confusion proneness since some believe that students have specific attitudes and behaviors that might differ from other consumers (Walsh & Mitchell, 2010). Mainly, Walsh and Mitchell (2010) mean that the higher cognitive abilities of the student category might skew the results of consumer confusion, since the confusion construct is negatively correlated to information processing capacity. Of course this was considered as a possible limitation to the use of a student sample when measuring consumer confusion, and that it therefore might represent the best case scenario. However, it should be considered that the results revealed that the sample, despite being highly educated, experienced consumer confusion when purchasing detergents.

Thirdly, since the data was collected from a non-probability sample of students, the question of how representative the sample population is of the Swedish consumer is of relevance. Yet, once again it is argued that the results derived from a category such as students can be interpreted as a general indication of how other categories of the population might have responded. Therefore, the results of this thesis make it of interest for additional research to once again test the confusion proneness model, using a greater and more representative sample, as to further validate the found relationships between the variables. Fourthly, it is worth considering the fact that product involvement not only resides in the product, but also in the consumer, which could lead to a limitation to this investigation since maybe not all respondents considered detergent as a low involvement product. However, since great care was put into selecting a product type which in several studies was always placed at the absolute lower end of the involvement scale, this limitation is not considered to have had measurable influence on the results.

Finally, the fact that causality between a set of variables was sought for by a method other than the one of an experiment might have served as a limitation to the thesis. Nonetheless, after a thorough discussion regarding this matter (see section 3.1) it was concluded that the

concept of consumer confusion proneness had too many variables to consider, most of which were difficult to control in an experiment. Thus, it is concluded that the method by which this study was conducted, a survey as opposed to an experiment, was the most suitable for the given situation, producing suitable results for determining underlying patterns of causality.

Besides implications for practitioners and researchers, the results of this study raised a number of interesting issues concerning the practical use of Walsh et al.'s (2007) model for consumer confusion proneness. Even though the tool proved reliable and allowed for interesting results, there are some concerns regarding its applicability. In the future, researchers need to consider a redefinition of the dependent variable 'brand loyalty', and adapt the items in the questionnaire that represent brand loyalty accordingly. This will then extend the definition of brand loyalty beyond the simple act of repetitive purchase, and make the scale more suitable for products of high involvement as well. Also, a redefinition of brand loyalty could result in more relevant results for the similarity confusion variable, since, as discussed earlier, there is a slight contradiction between the definitions of the two variables which could be affecting the results.

In conclusion, nowadays people cannot seem to avoid the confrontation of many alternatives. Even the purchase of a basic product like detergent can subject the consumer to an aisle containing 68 alternatives. However, there are stores and other providers that specialize in offering their consumers a small choice set of products and services, as to simplify their decision making process. Yet, no matter how satisfying such offers are, the consumer still has to make the decision to choose such an alternative over all of the other options. In other words, the act of simplifying is in itself a complicated matter.

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## APPENDIX 1 Questionnaire



**Department of Business Studies  
Uppsala University**

### QUESTIONNAIRE: LAUNDRY DETERGENT PURCHASE

Hi,

We are two students from Uppsala University that currently are writing our master thesis in business and management. We would really appreciate if you could take a couple of minutes to answer a few questions. Estimated time is 5 minutes. Your answers will be treated anonymously.

Thanks in advance!

Regards,  
Sarah Alarabi & Samantha Grönblad

*Please mark your answer with a cross.*

- 
1. **Gender?**  Female  
 Male
- 
2. **Age?**  
(Please indicate with numbers) \_\_\_\_\_
- 
3. **Marital status?**  Single  
 In a relationship  
 Living with partner/friend  
 Married
- 
4. **I am currently attending a course/program at university/college in Sweden?**  Yes  
 No
- 
5. **I am an exchange student**  Yes  
 No
- 
6. **I study within the field of...?**  Social sciences

- Natural sciences  
 Arts  
 Other

7. Besides my studies I....?

- Work extra/part time  
 Work full time  
 Volunteer  
 Don't work

8. In my household I am the one who takes most responsibility for the grocery shopping

- Yes  
 No  
 We share responsibility

What follows is a range of statements concerning **the purchase of laundry detergent (tvättmedel)**. Please indicate to what degree you either agree or disagree with each statement.

9.	Due to the great similarity of detergents it is often difficult to detect new products.	Strongly disagree	1	2	3	4	5	Strongly agree
10.	Some detergent brands look so similar that it is uncertain whether they are made by the same manufacturer or not.	Strongly disagree	1	2	3	4	5	Strongly agree
11.	I do not always know exactly which detergent meet my needs best.	Strongly disagree	1	2	3	4	5	Strongly agree
12.	There are so many detergent brands to choose from that I sometimes feel confused.	Strongly disagree	1	2	3	4	5	Strongly agree
13.	Due to the host of stores it is sometimes difficult to decide where to shop detergents.	Strongly disagree	1	2	3	4	5	Strongly agree
14.	Detergents often have so many features that a comparison of different brands is barely possible.	Strongly disagree	1	2	3	4	5	Strongly agree
15.	The information I get from advertising often is so vague that it is hard to know what a detergent can actually perform.	Strongly disagree	1	2	3	4	5	Strongly agree
16.	When buying a detergent I rarely feel sufficiently informed.	Strongly disagree	1	2	3	4	5	Strongly agree
17.	When purchasing detergent I feel uncertain about which product features that is particularly important for me.	Strongly disagree	1	2	3	4	5	Strongly agree
18.	Sometimes it is difficult to arrive at a decision when making a purchase.	Strongly disagree	1	2	3	4	5	Strongly agree

---

19.	<b>Sometimes when making a detergent purchase I delay the decision.</b>	Strongly disagree	1	2	3	4	5	Strongly agree
			<input type="checkbox"/>					
20.	<b>Sometimes I postpone a planned purchase of detergents.</b>	Strongly disagree	1	2	3	4	5	Strongly agree
			<input type="checkbox"/>					
21.	<b>Sometimes the choice of detergents in a store is so large that a purchase takes longer than expected.</b>	Strongly disagree	1	2	3	4	5	Strongly agree
			<input type="checkbox"/>					
22.	<b>Once I find a detergent brand I like, I stick with it.</b>	Strongly disagree	1	2	3	4	5	Strongly agree
			<input type="checkbox"/>					
23.	<b>I usually buy the same detergent brands.</b>	Strongly disagree	1	2	3	4	5	Strongly agree
			<input type="checkbox"/>					
24.	<b>I change detergent brands I buy regularly.</b>	Strongly disagree	1	2	3	4	5	Strongly agree
			<input type="checkbox"/>					

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**THANK YOU FOR YOUR TIME!**

## APPENDIX 2 Interview guide

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### INTRODUCTION

- What kind of detergent do you buy and why? (Usually change, why?).
- How did you go about choosing this one?
- Have you considered changing, why/why not?

### SIMILARITY

- Do you think that products within this category look like each other? In terms of brand/packaging?
- What about similarity in terms of functionality? Elaborate!

### OVERLOAD

- What do you think about the range (number of alternatives)?
- How many brands can you recall? For example, did you know that Coop Extra has 9 different brands but 68 different kinds of detergent (not including softeners)?
- Do you think that there is a lot of information to take into consideration when buying detergent?

### AMBIGUITY

- Have you ever felt that the information provided (through advertising/on pack) did not meet your expectations?

## APPENDIX 3 Scale validation process in detail

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Walsh et al. (2007) reported good reliabilities for overload and ambiguity (.70 and .75 respectively). Similarity, on the other hand, showed an alpha value of .55, which is below what is recommended (.60) for exploratory research (Nunnally, 1967, cited in Walsh et al., 2007). Nonetheless, as reliability can vary depending on the sample, it was found necessary to control each scale and its reliability with the chosen sample. In this thesis, the general scale for consumer confusion, as well as sub-scales (similarity, overload and ambiguity), showed good internal consistency, where Cronbach's alpha coefficients were; .79 for consumer confusion; .73 for similarity; .61 for overload; and .68 for ambiguity. Following this, it was then verified that the data was suitable for factor analysis. The Kaiser-Meyer-Olkin value was .76, exceeding the recommended value of .60 (Kaiser, 1970), and the Bartlett's Test of Sphericity was found statistically significant ( $p=.000$ ). Furthermore, inspection of the correlation matrix revealed that there were several coefficients of .3 and above (see *Table 4*).

The nine items were then subjected to principal component analysis which revealed the presence of three components with eigenvalues exceeding the value of 1, explaining 37.6 %, 14.1 % and 11.2 % of the variance respectively. Cumulatively, the three factors appeared to explain a total of 62.8 % of the variance, hence, supporting the theory of three dimensions (i.e., similarity, overload and ambiguity). However, on a further inspection of the component matrix, it appeared that most items loaded strongly on Component 1. The rotated three-factor solution showed that four items loaded above .3 on Component 1, three items on Component 2 and two items on Component 3. Three items (Over1, Amb1 and Amb4) became of particular concern; Over1, since it did not seem to load strongly on any of the components; Amb1 and Amb4 since they loaded relatively low on Component 1 together with Over2 and Over3. Hence, it was decided, as a first step, to drop Over1 in a subsequent factor analysis, while retaining the other three components for further investigation.

In the second factor analysis a fixed number of components (three) were extracted with regard to previous eigenvalues as well as theory. Over1 was dropped, which resulted in an improved cumulative eigenvalue of 64.6 %. Amb1 and Amb4 still loaded in Component 1 together with Over2 and Over3, however, still relatively low. Therefore it was decided to drop these two items, Amb1 and Amb4, in the third and fourth factor analysis respectively. The fourth and final exploratory factor analysis revealed the presence of two components with eigenvalues

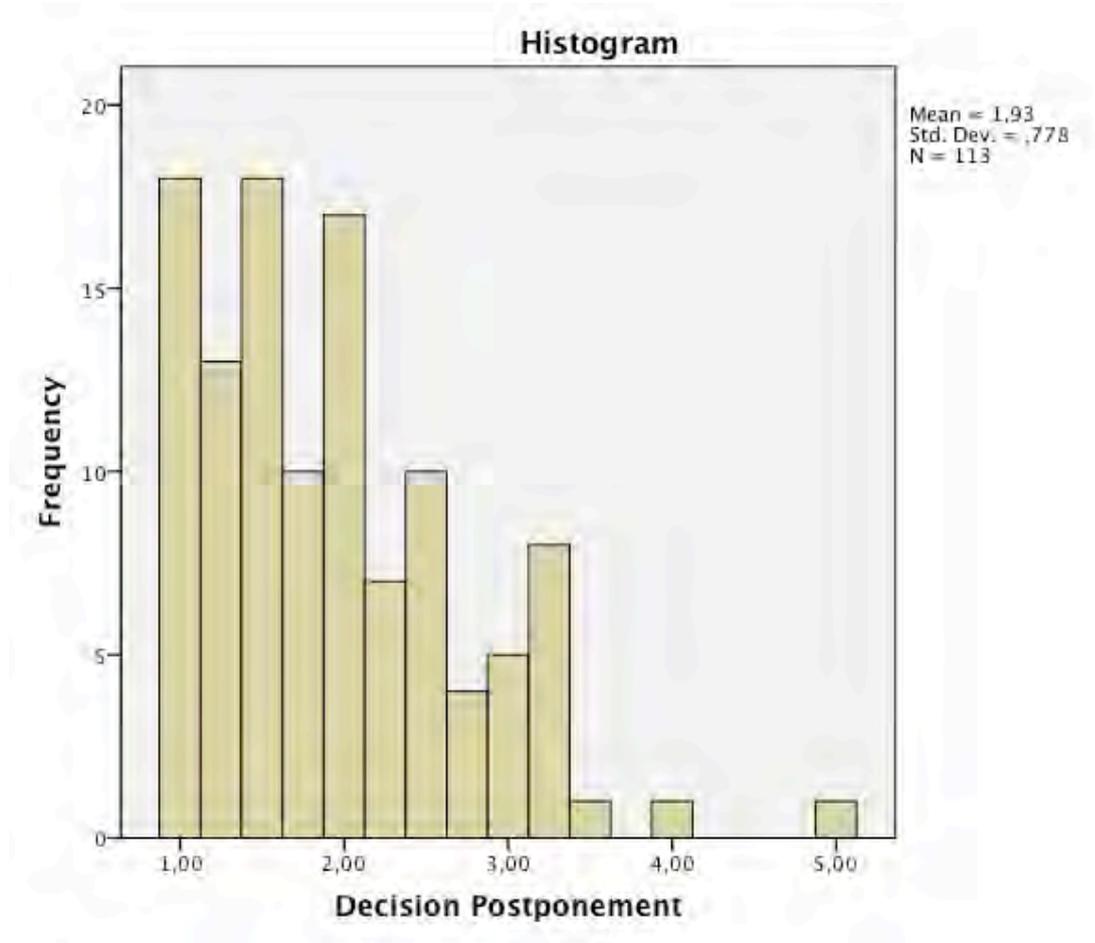
exceeding the value of 1, explaining 37,9 % and 20,2 % of the variance respectively. The third factor, however, fell below the recommended eigenvalue of 1 and should therefore have been considered insignificant and disregarded (Hair et al., 1998, p. 103). However, as the value reached .969 and contributed with 16,2 % of the variance it was decided to retain the factor. This since the use of eigenvalues to establish cutoffs is mostly suitable with a large number of variables (between 20-50), where less variables in combination with this method has a tendency to extract too few (Hair et al., 1998, p. 103; Ledesma & Valero-Mora, 2007). As the consumer confusion model only have three variables, well below 20, it further supported the reasoning to retain the third factor. Cumulatively, the three factors appeared to explain a total of 74,3 % of the variance, hence, supporting the theory of three dimensions (i.e., similarity, overload and ambiguity).

Following this, a final analysis was conducted in order to control the reliability of the new factors. Similarity and ambiguity still showed good internal consistency reporting Cronbach's alpha coefficients of .73 and .67, respectively. Overload, which now consisted of only two items, fell below the recommended value of .60 (Nunnally, 1967, cited in Walsh et al., 2007), at .49. However, Cronbach's alpha values are sensitive to the number of items constructing a scale and positively related to the number of items (Hair et al., 1998, p. 118). Therefore, a quick look at the mean inter-item correlation revealed that overload fell within the recommended optimal range of .20 to .40 (Briggs & Cheek, 1986), at .34 indicating good reliability. For the overall model of consumer confusion, an alpha coefficient of .67 was reported.

The items retained for the multiple regression were the following; Sim1 and Sim2 for similarity confusion proneness; Over2 and Over3 for overload confusion proneness; and Amb2 and Amb3 for ambiguity confusion proneness.

## APPENDIX 4 Normality

### Decision Postponement

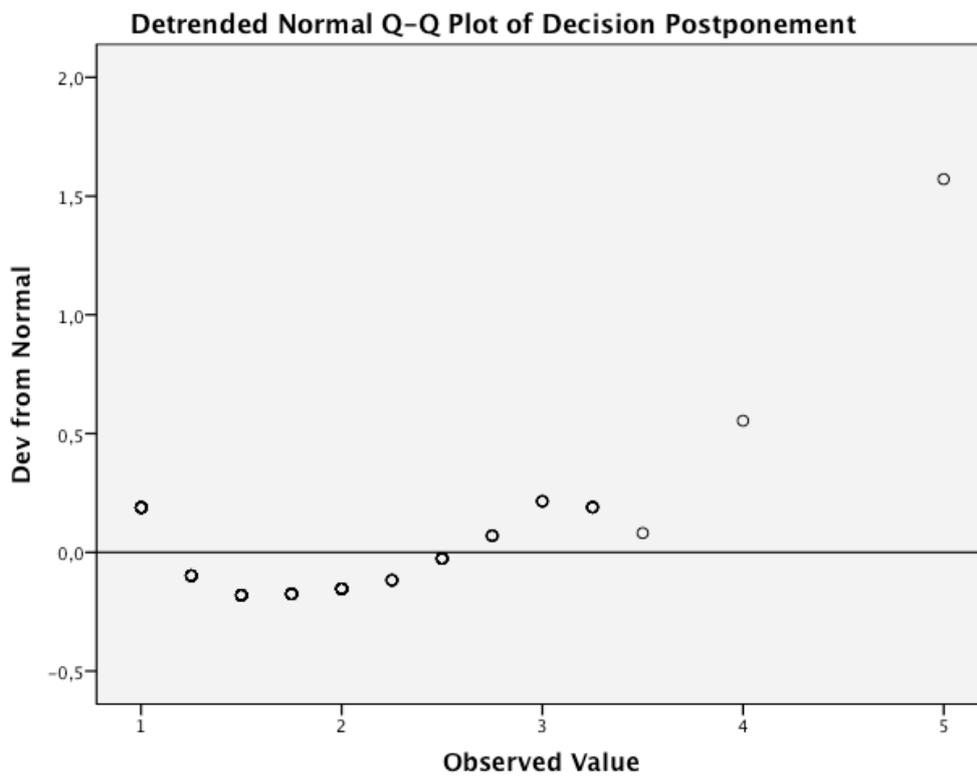
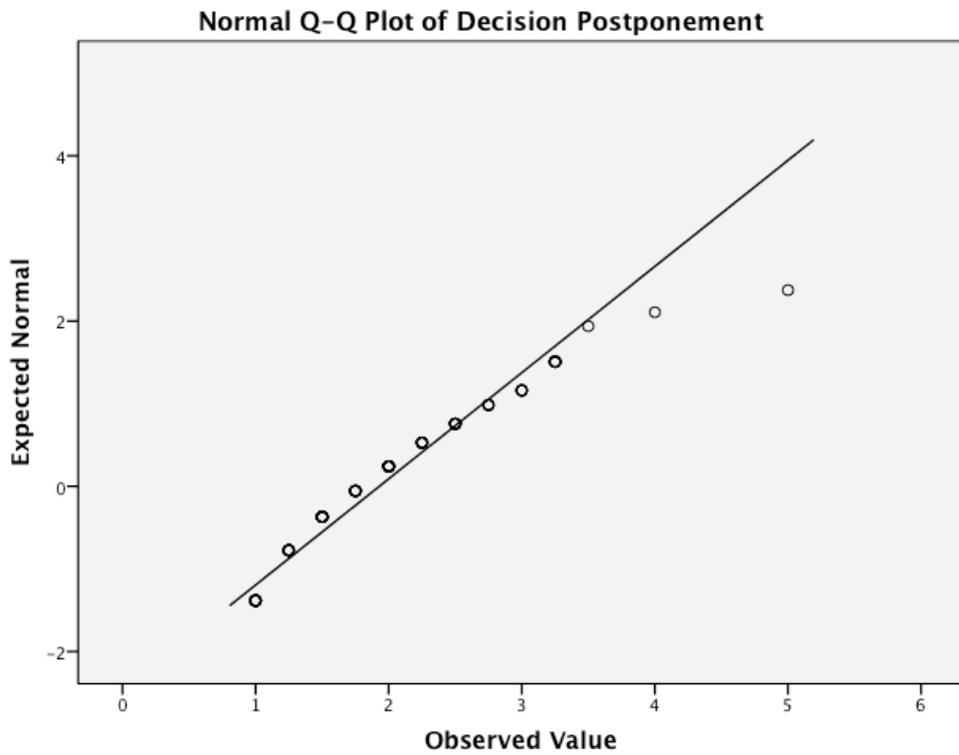


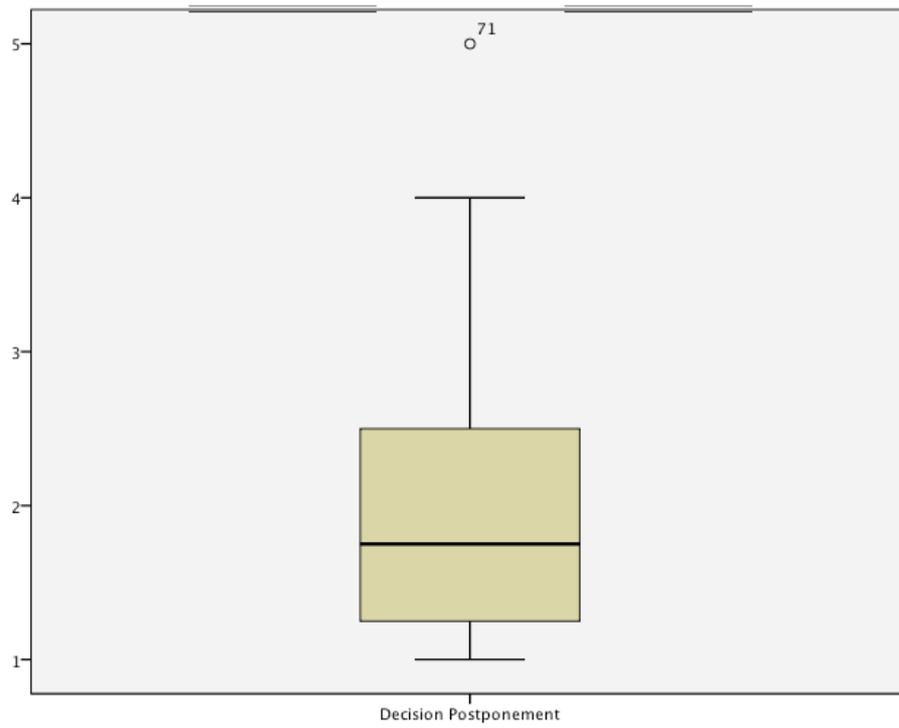
### Decision Postponement Stem-and-Leaf Plot

Frequency	Stem &	Leaf
18,00	1 .	000000000000000000
13,00	1 .	2222222222222
18,00	1 .	55555555555555555
10,00	1 .	7777777777
,00	1 .	
17,00	2 .	0000000000000000
7,00	2 .	222222
10,00	2 .	555555555
4,00	2 .	7777
,00	2 .	
5,00	3 .	00000
8,00	3 .	2222222
1,00	3 .	5
,00	3 .	
,00	3 .	
1,00	4 .	0

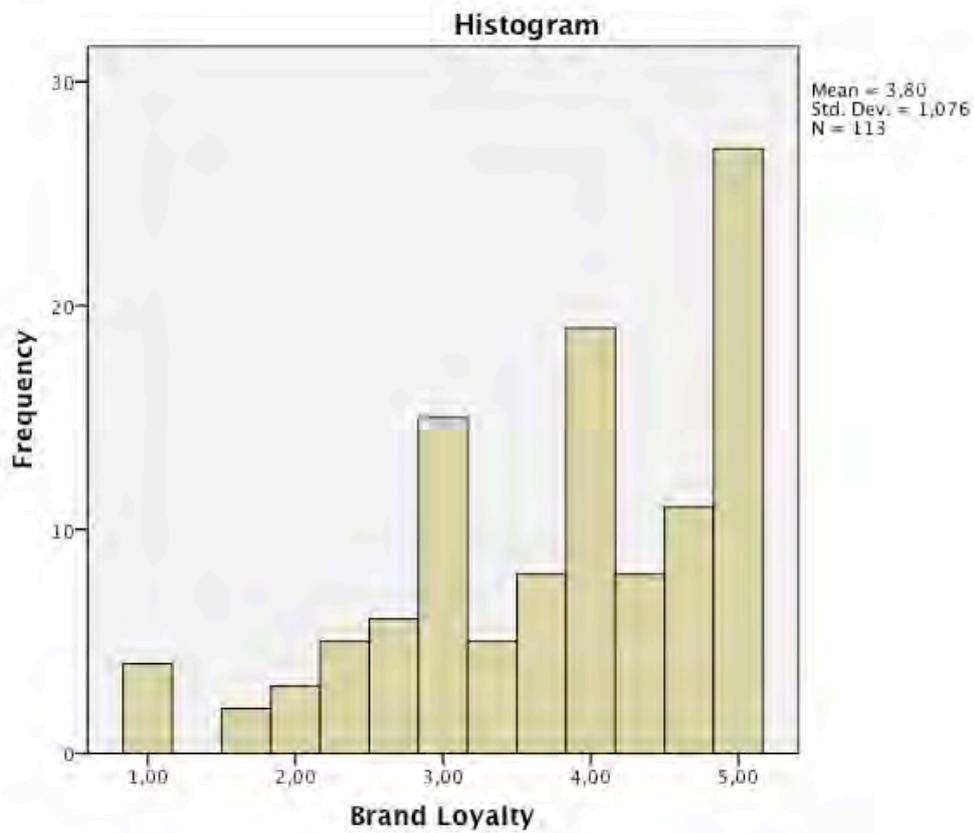
1,00 Extremes (>=5,0)

Stem width: 1,00  
 Each leaf: 1 case(s)





## Brand Loyalty



**Brand Loyalty Stem-and-Leaf Plot**

Frequency	Stem &	Leaf
4,00	1 .	0000
2,00	1 .	66
8,00	2 .	00033333
6,00	2 .	666666
20,00	3 .	0000000000000000033333
8,00	3 .	66666666
27,00	4 .	0000000000000000000033333333
11,00	4 .	666666666666
27,00	5 .	0000000000000000000000000000

Stem width: 1,00  
 Each leaf: 1 case(s)

