Andréas Fredriksson
Lina Thuvander

Gender (In)Congruent Ambient Scent

- The Effect on Consumer Purchasing Behavior and Perceived Quality

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Preface

After putting in a lot of effort during the last two years, our journey has reached its end. It has included everything from laughter, good moments, new friends and improved knowledge, to stressful days, to meet tight deadlines through hard work and long nights at Karlstad Business School. All impressions, memories and knowledge that have been gathered along the way are now summed up by this master’s thesis.

There are many to be thanked for having contributed to this study. To begin with, we would like to thank our supervisor Anders Gustafsson for supplying us with great feedback and support throughout this master’s thesis, but also for providing us with all the equipment required to perform the study.

Simultaneously, we would like to thank the stores and their employees that kindly let us perform the experiment within their facilities and also thank our scent supplier for helping with the scent selection and providing said scents for us.

Finally, we would like to thank all the respondents along with other students and friends for supporting and giving us feedback during this journey.

It should also be understood that the authors have equally contributed to the content of this master’s thesis.

Andréas Fredriksson    Lina Thuvander

___________________   _________________
Abstract

The whole of emotional and behavioral responses of customers does not only rely on the tangible product/service. It is found in past research that odors have the ability to evoke memories, events and emotions among customers. However, through the literature review, it has been noticed that the use of gender-congruent and incongruent ambient scents has received very little attention among researchers. Therefore, this study was conducted to examine whether there exists a cause-and-effects on consumer purchasing behavior and perceived quality using a gender-congruent and incongruent ambient scent in three fashion stores (one masculine, two feminine) located in a middle-sized town in Sweden. The study relies on the theoretical foundation of atmospherics and sense marketing, together with the S-O-R (Stimulus-Organism-Response) paradigm implemented in the Mehrabian-Russell model, with a modification for this specific study. The data was collected in three fashion stores during 12 days with 522 participants. The results of the study indicated that it is possible to affect male consumer’s purchasing behavior by emitting a gender-congruent ambient scent in the store atmosphere. Even more interesting, it seems that male consumers are even more affected by the gender-incongruent ambient scent, leading to a noticeable increase of money spent in store. Meanwhile, it was discovered that the gender-congruent and incongruent ambient scent showed effect on consumer’s quality perception of store and product quality, however the results were different depending on gender.

Keywords: Gender, Congruent, Incongruent, Ambient scent, Atmospherics, Consumer behavior, Quality perception, Store environment
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1. Introduction

The introduction will introduce the reader to the chosen area through the research background followed by a more focused problematization, which leads to the aim of the study and the research questions. The structure of the paper will then end this chapter.

1.1. Research Background

Ridgway et al. (1990) noted that the whole of emotional and behavioral responses of consumers do not only rely on the tangible product/service. Marketers and advertisers need to capture the whole consumer experience during their buying process and not only focusing on the visual (Nica 2013). Kotler (1973) and Baker et al. (1992) argue that the use of the store atmosphere could be an effective and powerful marketing tool for retailers. All the sensory elements (e.g. olfactory, auditory) should be considered in order to create strong relationships with consumers (Nica 2013). Atmospheric cues such as music (e.g. Andersson et al. 2012, Morrison et al. 2011, Areni & Kim 1993, Milliman 1982), lighting (e.g. Areni & Kim 1994), color (e.g. Bellizzi et al. 1983, Crowley 1993) and scent (e.g. Gulas & Bloch, Spangenberg et al. 1996, 2006) have been used in order to create a unique customer experience (Morrison et al. 2011, Mattila & Wirtz 2001). However, these are only a few of many atmospheric cues (see, Turley & Milliman 2000), which have been found to, for instance, influence consumer behavior (Gulas & Bloch 1995, Spangenberg et al. 2005, 2006, Doucé & Janssens 2013) and customers satisfaction (Bosmans 2006).

Previous research indicates a significant relationship between customers purchasing behavior and the perceived environment (Turley & Milliman 2000). Thus, Turley and Milliman (2000) and Teller and Dennis (2012) expresses that the atmospheric cue of scents have received little attention among researchers. Though, the use of scent as an environmental stimulus is not new, historically it has been used by bakeries, florists, and popcorn and nut shops to draw customers to their stores (Mitchell et al. 1995, Spangenberg et al. 1996, 2006). Today, marketers exploit this environmental stimulus in both retail stores (Bosmans 2006) and shopping malls (Mitchell et al. 1995). Moreover, researchers have combined scent with for example; music that has revealed different results regarding the scent and its effect on consumer behavior and evaluation (Mattila & Wirtz 2001, Spangenberg et al. 2005,
Morrison et al. 2011). Meanwhile, others suggest that scent alone could be used as a primary driver in the consumer decision-making process (Milotic 2003), which could be a source to differentiate the retail store and create competitive advantages (Doucé & Janssens 2013). However, previous research has argued for the importance of congruence between the ambient scent and the product class (Mitchell et al. 1995). Doucé et al. (2013) even argues that scent only have a positive effect when the scent is congruent with the product, even though the product itself does not originally have any inherent scent. This is inconsistent with Bosmans (2006) study, which argues that both congruent and incongruent ambient scents have positive effects on product evaluation, given that the incongruent scent is not salient in the environment. Therefore, this study will further examine the use of congruent and incongruent ambient scents in a retail environment.

1.2. Problematization

The use of ambient “... scent that is not emanating from particular object but is present in the environment…” (Spangenberg et al. 1996, pp. 67), have been used in different settings in the past. Jacob et al. (2014) used the lavender aroma in a florist’s retail shop, which is not naturally found in this type of retail store. The findings suggested that the lavender aroma had a positive influence on both the number of customers and the purchase amount. They further evaluated if their results could be explained by that the lavender aroma was congruent with the product offerings (Jacob et al. 2014).

In addition, the use of lavender aroma in previous research has been found to have a positive influence on individual behavior. Guéguen and Petr (2006) used lavender and lemon aroma but in a restaurant environment. They reported that the lavender aroma increases both time and the amount of money spent in the restaurant, meanwhile, the lemon aroma did not have any effect on neither time nor money spent. One of the key underlying factors to the different result between the odors, lies in the difference of qualification and the setting in which they are used. The lavender aroma makes the consumers more drowsy or sleepy, creating a relaxing state, inducing them to stay longer, while, the lemon aroma is considered more of a stimulation odor (Guéguen & Petr 2006). In other words, it seems that the lavender aroma was more congruent to the restaurant environment.
This may be equated with Mitchell et al. (1995) study, which focused on product congruent and incongruent ambient scent and its effect on the consumer decision-making process and choice. The findings suggest that the effect of the ambient odors depends on whether it is congruent or incongruent with the target product class (Mitchell et al. 1995). Their conclusion was “…when the odor is congruent with the product class, cognitive enrichment or increased cognitive flexibility may be occurring” (Mitchell et al. 1995, pp. 237).

Doucé et al. (2013), however, used the ambient scent of chocolate in a bookstore, which was perceived to be thematic-congruent with romantic literature and cookbooks. The findings suggested that chocolate had a positive influence considering the thematic-congruent books on the general approach behavior, meanwhile, a negative influence on the goal-directed behavior. However, in comparison to the controlled conditions, the sales of the thematic-incongruent books increased as well. In other words, the scent had a positive effect on sales for both the thematic-congruent and incongruent books in comparison to the non-scented conditions (Doucé et al. 2013).

Spangenberg et al. (1996) noted in their study that the nature of the scent appears to be less important as long as it is at least neutral. Nevertheless, Doucé et al. (2013) results are inconsistent with Schifferstein and Blok (2002) study, which did not find any significant evidence that a congruent ambient scent would increase sales of products that do not emit a scent. In addition, another interesting finding from Doucé et al. (2013) was that females are more likely to approach behavior during congruent conditions.

Furthermore, regarding this context of using congruent and congruent ambient scent, Spangenberg et al. (2006) focused their study on gender-based scents and its effects on approach-avoidance behavior in a retail store. Their findings suggest that a gender-congruent ambient scent have a positive impact on the consumer’s approach behavior as well as the store and merchandise evaluation. Moreover, both Spangenberg et al. (2006) and Bosmans (2006) further express the importance of appropriateness or congruity when using ambient scents in a retail environment. However, in cases where the ambient scent is not made salient, both the congruent and incongruent scent has a significantly more positive effect on consumer evaluation in comparison with the non-scented conditions (Bosmans 2006). Fiore et al. (2000) findings support the idea, where they found that a pleasant or appropriate fragrance increased the consumers’ approach behavior.
By having an ambient scent present in the environment, whether it is congruent or pleasant, previous research indicate that it provides a powerful mechanism, affecting consumer's perception of the retail store and merchandise, evokes and trigger memories of emotions and, buying behavior without consumers realizing it (Ward et al. 2003, 2007, Spangenberg 1996, 2006, Morrin & Ratneshwar 2000, Bosmans 2006, Guéguen & Petr 2006, Bambauer-Sachse 2012, Jacob et al. 2014). This gives the retailer the opportunity to create a relationship with the customer and in return gain loyalty to differentiate the store from its competitors (Ward et al. 2003).

However, few researchers have focused on gender-congruent and incongruent ambient scent. Up until this point, only Spangenberg et al. (2006) have enriched this specific area. Nevertheless, one notable detail from the study is that they excluded a control group. Therefore, the intention of this study is to perform a field experiment considering the effectiveness of gender-congruent and incongruent ambient scents on consumer behavior and perceived quality in Swedish fashion stores.

1.3. Aim of the Study and Research Questions

The aim of this study is to examine whether there exists a cause-and-effect on consumer’s purchasing behavior and perceived quality when using a gender-congruent and incongruent ambient scents in a fashion retail store. Previous research has paid very little attention to this specific area and our intention is to contribute and enhance prior research through this study.

In order to answer the aim of this study, the following research questions have been developed:

- What are the effects of a gender-congruent and incongruent ambient scent on consumer’s purchasing behavior in a Swedish fashion store?

- How does the gender-congruent and incongruent ambient scent affect consumer’s quality perception in a Swedish fashion store?
1.4. Structure of the Paper

The structure of the paper considered in chapter one, an introduction, containing a research background about the chosen area together with a more focused problematization based on previous research on the topic. This is followed by the aim of the study and the developed research questions. Chapter two represents the foundation of the theoretical framework, containing the atmospherics and sense marketing, the S-O-R model and the modified M-R model. In the third chapter, the expected outcomes of the research are discussed through the development of the established hypotheses. The choices considering the methodology are presented to in the fourth chapter including, the choice of research method together with additional vital information. In the fifth chapter, the empirical findings from the field experiment are revealed. To interpret the collected data, the SPSS software was utilized using the ANOVA (analysis of variance), followed-up with the LSD post hoc test and a correlation analysis. The seventh chapter contains the analysis and discussion from the empirical findings and how the relation is to pre-existing theory. The paper then ends with a conclusion, answering the research questions and presenting the most interesting finding together with the managerial implications followed by suggestions on future research.
2. Theoretical Framework

The following chapter covers the theoretical foundation and contains three main parts: an introduction to the atmospherics and sense marketing with a focus on ambient scent, followed by the S-O-R (Stimulus-Organism-Response) paradigm. The chapter then ends with a presentation of the modified M-R model that is applied for this specific study.

2.1. Atmospherics and Sense Marketing

One of the most significant features of the total product, is the place where it is bought or consumed. In some cases, the place, more specifically the atmosphere of the place, is more influential than the product itself in the purchase decision. In some cases, the atmosphere is the primary product. (Kotler 1973, p.48)

Kotler (1973) was the first one to use the term atmospherics and address it as a marketing tool. He describe it as “...the effort to design buying environments to produce specific emotional effects in the buyer that enhance his purchase probability” (Kotler 1973, pp. 50). Through the use of atmospheric stimulus or cues that are recognizable by the consumers’ senses, retailers have the opportunity to make them feel more welcome to the retail environment (Bradford & Desrochers 2009), meanwhile, effectively manipulate them toward a certain reaction (Teller & Dennis 2012). This has also attracted attention in the service industry, which faces the problem with the customer evaluation before consumption. By adding a scent in relation to the service offerings, managers are able to create competitive advantages according to Goldkuhl and Styvén (2007). Turley and Milliman (2000) divided these different stimuli into five main categories; external, general interior, layout and design, decoration and point-of-purchases, and human variable. Through the classification, the managers have the opportunity to identify and tailor the different atmospheric cues, in order to choose the most suitable cue(s) for a particular shopper segment or target market (Turley & Milliman 2000).

Scent is a part of the category general interior (Turley & Milliman 2000), and is important to consumption in two ways (Guéguen & Petr 2006). First, product evaluation, that is, scented products (e.g. soap), while, the second consider the sales environment, when an ambient scent is present in a store (Guéguen & Petr 2006, Davies et al. 2003, Mitchell 1994). The use of an ambient scent, in its context, is about being able to avail people's senses, which is entitled as sense marketing or sensory marketing (Schmitt 1999,
Krishna 2012, Doucé & Janssens 2013). This embraces the shift towards the creation of customer experiences in the store, instead of the emphasis on the product (Douce & Janssens 2013). Schmitt (1999) defines sense marketing as:

> Sense marketing appeals to the senses with the objective of creating sensory experiences through sight, sound, touch, taste and smell. Sense marketing may be used to differentiate companies and products, to motivate customers and to add value to products (e.g., through aesthetics or excitement). (Schmitt 1999, p.61)

This is similar to Krishna (2012, pp. 332) definition of sensory marketing, which is “marketing that engages the consumers’ senses and affects their perception, judgment and behavior.” It can be used by managers to create a subconscious trigger, which affect the consumer perception of perceived quality (Krishna 2012). The response of olfactory is primary automatic, stimulating the limbic system, which is a part of the brain controlling an individual's emotional response (Ellen & Bone 1998, Bradford & Desrochers 2009). Bone and Ellen (1999) further expresses that the cognitive efforts to experience odors is little or non-existing, which unconsciously affects the basic behavioral response. This is due to the fact that the individual is physiologically affected before cognition (Ellen & Bone 1998).

The use of ambient scent has showed effects on brand recognition (Morrin & Ratneshwar 2003), product information and choice (Mitchell et al. 1995), store quality and its products (Chebat & Michon 2003), and consumer memory (Krishna 2012). In fact, the smell influences the human emotional state to approximately 75 per cent (Douce & Janssens 2013). However, individual characteristic differences (e.g. gender, age) and the objective of the ambient scents may influence consumer perception in different ways (Turley & Milliman 2000, Doucé & Janssens 2013). For example, women are argued to have a greater ability than men to identify scents (Spangenberg et al. 2006), and are more likely to respond with approach behavior in congruent settings (Douce et al. 2013). It is perceived that sense marketing is more appropriate for stores that have a female target group (Douce & Janssens 2013). But even more important, through the presence of an ambient scent in store atmosphere, retailers are given the opportunity to stimulate consumers, which could influence; their time spent in store (Spangenberg et al. 1996), their intention to revisit the store (Spangenberg et al. 2006) and, the level of money they spend (Hirsch 1995).
2.2. S-O-R Model

The Stimulus-Organism-Response (S-O-R) paradigm is frequently used among researchers when studying customer behavior in a retail environment (Kim et al. 2009, Jang & Namkung 2009, Donovan & Rossiter 1982, Baker et al. 1992, Spangenberg et al. 1996, 2005, 2006). The S-O-R paradigm consists of an environmental stimulus (S) that influences the consumer’s internal evaluation (O), which leads to a response behavior (R) (Mehrabian & Russell 1974, Spangenberg et al. 2006). Through the S-O-R paradigm, Mehrabian and Russell (1974) developed the Mehrabian-Russell model (M-R model), which has been approved as a useful tool in order to explain and predict the effects on consumer behavior (Donovan & Rossiter 1982). Donovan and Rossiter (1982) expresses that the model’s strengths include the intervening variable (O) and response area (R), while to a larger extent leaving the stimulus taxonomy (S) problem untouched. This is due to the existence of the large spectrum of existing stimulus (Donovan & Rossiter 1982). Through the use of the M-R model, it is assumed that the environmental stimuli influence the intervening variables leading to either an approach or avoidance behavior (Figure 1).

![Figure 1: M-R Model (cf. Mehrabian & Russell 1974)](image)

2.2.1. Response Taxonomy

It is expressed that all the response taxonomy in an environment ends with either approach or avoidance behavior (Mehrabian & Russell 1974). The approach behavior is considered as a positive response towards the environment while, the avoidance behavior is described as the negative response (Mehrabian & Russell 1974, Bradford & Desrochers 2009). These two different behaviors are argued to have four aspects (see, Table 1).
Table 1: The Four Aspects of Approach-Avoidance Behaviors  
(c.f. Mehrabian & Russell 1974)

<table>
<thead>
<tr>
<th>Aspects</th>
<th>Approach-Avoidance Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical</td>
<td>A desire or willingness to physically stay in (approach) or leave (avoid) the environment.</td>
</tr>
<tr>
<td>2. Exploratory</td>
<td>A degree or willingness to explore the particular environment (approach) opposed to a tendency to avoid or stay inactive (avoidance) in the environment.</td>
</tr>
<tr>
<td>3. Communication</td>
<td>Intention or willingness to communicate with others in the environment (approach), in contrast to a tendency to avoid or ignore communication attempts with and from others.</td>
</tr>
<tr>
<td>4. Performance &amp; Satisfaction</td>
<td>The degree of performance and satisfaction regarding the task performance, which is either enhanced (approach) or hindrances (avoidance).</td>
</tr>
</tbody>
</table>

These four aspects are argued to be appropriate when describing the behavior in a retail environment. To set the aspects in contrast to a retail environment, the physically (1) approach-avoidance behavior relates to an individual's objectives at a basic level. Exploratory (2) approach-avoidance behavior considers in-store searching and experiencing the retail offerings to a broader or closer range. The approach-avoidance behavior regarding the communication (3) aspect is related to the interaction with sales personnel or others in the environment, while the final aspect of approach-avoidance behavior concerning performance and satisfaction (4) that is related to the time and money spent together with repeated shopping frequency in the store.  
(Donovan & Rossiter 1982)

**2.2.2. Intervening Variables**

The organism variable refers to “internal process and structuring intervening between stimuli external to the person and the final actions, reactions or response emitted” (Bagozzi, 1986; cited in Sherman et al., 1997, p.365). This intervening variable considers the consumer’s emotional state, which contains three domains (PAD-model); (1) pleasure-displeasure, which deals with to what extent an individual feels good, happy or pleased, (2) arousal-non arousal, relates to what extent an individual feels excited, alert or active and (3)
dominance-submissiveness, which corresponds to the degree the individual feels influential, in control or freely to act in a situation (Mehrabian & Russell 1974, Donovan & Rossiter 1982).

However, researchers have argued that the dominance dimension requires cognitive interpretation by the individual and is therefore not perceived to be applicable considering the circumstances when calling for affective response (Russell & Pratt 1980, Donovan & Rossiter 1982). This has led to the use of only pleasure and arousal (PA) in the M-R model, which is supported by convincing evidence as representing people’s emotional or affective responses (Russell & Pratt 1980, Donovan & Rossiter 1982). Russell and Pratt (1980) did the modification of the model since it was concluded that the dominance dimension was more tenuous than the pleasure and arousal dimensions. Moreover, Donovan and Rossiter (1982) findings shows that dominance does not seem to be connected to in-store behaviors and therefore the creation of the PA-model were viewed to be more suitable for in-store experiment. This has also led to the exclusion of the dominance dimension for this study as well.

Though, Mehrabian and Russell (1974) argued that the emotional responses are not the only thing that influences an individual’s approach-avoidance behavior in an environment. They suggest that the factor of the individual’s affection also affect the individual’s response. Yet, it is also necessary to contemplate additional factors that may have the ability to influence the approach-avoidance behavior (See, Figure 2).

2.2.3. Stimulus Factors

Stimulus corresponds to the external environmental inputs, which are to affect individual’s internal state (e.g. pleasure, arousal or mood) in the store environment (Sherman et al. 1997, Donovan & Rossiter 1982). In relation to this study, the ambient factor is of interest, and more precisely the use of gender-congruent and incongruent ambient scent as an environmental stimulus. Scent is described to be a very powerful stimulus. The body can process a scent unconscious and therefore cannot be ignored by the human body, unlike other aural or visual stimulus. This is a pre-attentive process and can influence human behavior in both a positive or negative way (Ward et al. 2003).


2.3. Modified M-R Model

The modified M-R model is an extended version of the original S-O-R paradigm where the outcomes of the approach-avoidance behaviors are covered in a deeper level. Herz et al. (2004) points out that there has been a long-standing debate considering hedonic responses, whether they are innate or learned to odors. The definition of “hedonic perception refers to affective evaluations that center on liking” (Herz et al. 2004, pp. 315). The part that refers to the innate view of hedonic perception considers the view that individuals are born with a certain predisposition, which makes them to like or dislike different smells, while the learned view emphasis that an individual is born with simple predispositions and is able to learn to like or dislike certain smells (Herz et al. 2004). Moreover, the individual differences in emotional valence of experiences influence whether the smell is liked or disliked as well (Herz et al. 2004). This refers to associative learning, when an individual combines an episode or item to a certain experience (Herz et al. 2004, Schifferstein & Blok 2002).

It is further stated that through the sensory perception and emotional experience, it is proposed that odor hedonic responses are developed. This means that if a particular odor emerges in a situation where the individual experience a certain emotional state, it will lead to an association between the smell and the perceived emotional state (Herz et al. 2004, Bradford & Desrochers 2009). Herz et al. (2004) findings suggest that liking or disliking a scent is developed from the emotional associative learning, and that the emotional response triggered by the odors creates long lasting memories (Lawless & Engen 1977). In connection to the M-R model, Herz et al. (2004) expresses that depending on the information a certain odor is related to, leads to either approach or avoidance behavior. It has also been noted in previous research that odor-evoked memories are more emotional compared to the memories evoked through visual or verbal cues (Herz & Schooler 2002, Herz 1998, Willander & Larsson 2007, Bradford & Desrochers 2009). Besides this, it is also noted that odors are superior reminders if they are perceived to be distinctive or novel (Herz & Schooler 2002).

Lawless and Engen (1977, pp.59) states “in general, olfactory memory can be seen as part of an alerting mechanism, which sets an affective tone for subsequent behavior and acts in concert with other sense modalities.” An ambient scent affects individual's perceptions, which in return has a significant impact on consumers’ mood (Chebat & Michon 2003). The presence of a
pleasant ambient scent should lead to a pleasant affective (or mood) state and vice versa (Spangenberg et al. 2006). Without interfering with the cognitive process, one’s consumer behavior can be influenced by its mood state (Sherman et al. 1997, Spies et al. 1997). Therefore, it is argued for this particular study, to extend the M-R model with the variables of perception, memory and mood. In addition to this modification, the use of the four aspects of approach-avoidance behavior will be added as outcome measures in the model as well, because it enables the authors to make a rectified distribution of the response variables. The outcome measures describes the consumer's; intention to (1) stay or leave the environment, (2) willingness to explore and their interest of the merchandise, (3) willingness to interact and communicate and, (4) degree of performance and satisfaction.

Figure 2: Modified M-R Model (c.f. Mehrabian & Russell 1974)
3. Hypotheses Development

In order to answer the research questions, several hypotheses were developed which are presented below. The following hypotheses are built on the modified M-R model presented in the theoretical framework.

3.1. Pleasure and Arousal

The pleasantness of an odor is identified to have two primary characteristics; quality and intensity (Bone & Ellen 1999). The quality of an odor refers to the affective tone (pleasant/unpleasant) and the intensity considers the concentration of the odor. Although, a pleasant odor could be perceived as unpleasant among consumers’, if the intensity level of the odor increases (Bone & Ellen 1999), but not necessarily considering Hirsch (1995) results. The congruity dimension refers to the interrelationship between the store atmosphere/products and the odor. (Bone & Jantrania 1992, Bone & Ellen 1999). This means that a consumer can perceive a typical pleasant scent as unpleasant, during the circumstances when the odor is perceived as inappropriate in a certain context (Bone & Ellen 1999). However, according to Mehrabian and Russell’s (1974) M-R model, a pleasant scent should have a positive affective effect, while an unpleasant scent would result in the opposite outcome.

Previously, it is proven than an inoffensive ambient scent has a positive effect on consumer behavior (Spangenberg et al. 1996), and that odors may influence individual’s emotional arousal (Willander & Larsson 2007). It is also known that certain aspects of a retail atmosphere may have a significant impact on pleasure (Fiore et al. 2000, Baker et al. 1992, Gulas & Bloch 1995). For example, the presence of a pleasant ambient scent in a fashion store showed a positive effect on both pleasure and arousal (Doucé & Janssens 2013). Moreover, Chebat and Michon (2003) state that an ambient scent can be beneficial for a retail store if it is congruent with the shopping environment. It is further known from the social psychology that people embrace congruence in their lives (Spangenberg et al. 2006). Therefore should a gender-congruent ambient scent be perceived as pleasant, which leads to the following hypothesis:

H1: A gender-congruent ambient scent will have a positive effect on (a) pleasure and (b) arousal. [Stimulus - Organism]
H2: A gender-incongruent ambient scent will have a positive effect on (a) pleasure and (b) arousal if it is perceived to be pleasant. [Stimulus - Organism]

3.2. Consumer Perception, Memory and Mood

“Odor are said to influence mood, evoke powerful experiences of pleasure or displeasure, produce alertness or relaxation, and evoke long forgotten emotional memories” (Ehrlichman & Bastone 1992a, pp. 420). A positive mood state is able to influence one’s approach behavior (Spies et al. 1997), without interfering with the cognitive process (Sherman et al. 1997), and consumers perceptions (Chebat & Michon 2003). It is very common that the individual shows difficulties in identifying an odor, even though they recognize it, this is known as the "tip-of-the-nose-state" phenomena (Lawless and Engen 1977). Researchers have shown results that certain odors, for example, lavender created a relaxing mood state (Guéguen & Petr 2006), while, peppermint activated the mood state among athletes (Raudenbush et al. 2001). Furthermore, floral and chocolate ambient odors had a positive effect on consumers' mood (Mitchell et al. 1995).

Odors have the ability to cause an individual to recall positive or negative memories and emotions that are connected to a particular scent, which depends on the individual differences (Bone & Ellen 1999, Ward et al 2003, Bone & Jantrania 1992, Herz et al. 2004). There are several studies that show significant effects on mood (Bambauer-Sachse 2012, Ward et al. 2007, Ehrlichman & Bastone 1992b). Ehrlichman and Bastone (1992a) claim that the hedonic tone of the scent determines the effect on the mood. This means that a pleasant ambient scent affects the consumer to a pleasant mood state, while, an unpleasant ambient scent would affect the consumer to an unpleasant mood state (Spangenberg et al. 2006, Ehrlichman & Bastone 1992a; Ehrlichman & Bastone 1992b).

However, Bone and Ellen (1999) claims that earlier research provided very little evidence regarding the use of ambient scents and its effects on consumers’ mood state. For instance, Morrin and Ratneshwar (2003) did not find any supporting evidence of a significant effect between an ambient scent and the respondents’ level of arousal or mood. However, more recent research (Ward et al. 2007; Bambauer-Sachse 2012, Spangenberg et al. 2006) suggests the opposite, that a pleasant or congruent ambient scent has a positive effect on consumers’ mood state. Therefore, the second hypothesis is:
H3: A gender-congruent ambient scent will have a positive effect on consumer’s mood state. [Stimulus - Organism]

H4: An enhanced positive mood state will lead to approach behavior. [Organism-Response]

3.3. Physical Approach-Avoidance Behavior

It is argued that a pleasant ambient scent has a positive effect on consumer store evaluation compared with a non-scented environment (Spangenberg et al. 1996, Chebat & Michon 2003, Ward et al. 2007, Doucé & Janssens 2013). A scented atmosphere is perceived to be more positive, favorable, modern and liked (Spangenberg et al. 1996). Bosmans (2006) emphasize that the power of using an ambient scent may be more effective than music and color to influence consumers’ overall evaluation. Spangenberg et al. (2005) claims that during Christmas time a combination of different atmospherics cues (Christmas background music and an ambient Christmas scent) have a positive effect on the consumer’s perception of the store environment. Though, if the store only exposes the consumers to an ambient Christmas scent, the consumer had a less favorable attitude towards the store environment.

Mattila and Wirtz (2001) performed a similar study with ambient scent and background music. The study showed that a pleasant ambient scent did not have a significantly positive effect on the consumers store evaluation, but still led to a descriptively positive evaluation compare with a non-scented environment. Doucé and Janssens (2013) study showed that an ambient scent had a positive effect on consumer’s evaluation of the store environment. Moreover, Spangenberg et al. (2006) result shows a positive effect on the store evaluation if the consumer is exposed to a gender-congruent ambient scent, leading to the following hypothesis:

H5: A gender (a) congruent and (b) incongruent ambient scent will have a positive effect on customer's perception of store quality. [Stimulus – Organism]

The crowding factor is an important element of how the consumer experiences the store atmosphere (Turley & Milliman 2000). Consumer's perception of crowding has the ability to influence: their attitude towards the
store (Mehta et al. 2013, Pan & Siemens 2011), consumer’s satisfaction (Eroglu et al. 2005, Machleit et al. 2000) and, other behavioral responses (Mehta et al. 2013, Pan & Siemens 2011). Previous studies have reported contradictory result regarding the effect of human crowding on consumer perception and satisfaction, where certain researchers report a positive relation (Eroglu et al. 2005, Li et al. 2009, Pons et al. 2006) and others report a negative relation (Machleit et al. 1994, 2000). Studies indicate that a medium level of perceived crowding has a positive effect on the consumer’s perceived store quality (Pan & Siemens 2011), and product quality (Mehta et al. 2013). Though, a negative correlation has been found between the Mehrabian and Russell’s (1974) scale for pleasure and spatial and human densities (Machleit et al. 2000). In addition, men and women may perceive crowding differently. Eroglu and Machleit (1990) claims that women have a lower crowding perception under high-density environment compared to men, which is important to keep in mind that there exist differences between genders, leading to the following hypothesis:

\[ H6: \text{A gender (a) congruent and (b) incongruent ambient scent affects the consumer perception of perceived crowding.} \] [Stimulus-Organism]

3.4. Exploratory Approach-Avoidance Behavior

It is common that bakeries use an ambient scent to increase the consumer perception of product quality by blowing back the air from the bakery into the store (Bosmans 2006). Researchers argue that the presence of a congruent or pleasant ambient scent affect the product and brand evaluation in a positive manner (Bosmans 2006, Chebat & Michon 2003, Spangenberg et al. 1996, 2006).

Spangenberg et al. (1996) reported that a pleasant ambient scent in a retail environment had positive effects on consumer’s evaluation of the merchandise. The consumer thought that the quality of the merchandises was higher, more up-to-date and the assortment variety was greater in the scented environment compared non-scented environment (Spangenberg et al. 1996). In addition, research has provided evidence that an incongruent ambient scent could as well have a positive effect on product evaluation, predicted that the scent is not salient or if the consumer lacks of process motivation (Bosmans 2006). However, Spangenberg et al. (2005) found no effect on the consumer’s perception of the attitude toward the products when music and
ambient scent was combined. Nevertheless, in the case when only an ambient Christmas scent was present, it lowered the consumers’ attitude toward the products (Spangenberg et al. 2005).

Mitchell et al. (1995) study indicates that a scent that is congruent with the merchandise, makes the consumer to become more holistic during the processing, spend a larger amount of time processing the data and also increases the possibility that the individual will go beyond the given information compared with a incongruent ambient scent. Though, research has also reported that the appropriateness of a scent is of greater importance than its pleasantness (Bone & Jantrania 1992). For example, coconut is a more appropriate scent compared with a lemon scent in a sunscreen product, even though both scents appeal to the consumer as pleasant (Bone & Jantrania 1992).

In line with Spangenberg et al. (2006) gender-congruent study, it is expected to find a positive effect on product quality when a gender-congruent ambient scent is present in the store environment. Throughout previous research (Bone & Jantrania 1992, Chebat & Michon 2003, Bosmans 2006) a pleasant or congruent scent should affect a consumer’s product evaluation in a positive manner, leading to the following hypotheses:

\[ H7: \text{A gender (a) congruent and (b) incongruent ambient scent will have a positive effect on consumer's perception of the product quality.} \]  

**3.5. Communication Approach-Avoidance Behavior**

The third aspect is about the consumer’s desire to talk and communicate with other people in the environment (Donovan & Rossiter 1982). The research regarding how a congruent or pleasant ambient scent can affect the interaction approach-avoidance behavior is quite limited and previous results do not support each other (Spangenberg et al 2006, Doucé et al 2013, Donovan & Rossiter 1982). Some results indicate that the factors arousal and affiliation have a positive relationship with the implication that those who are highly aroused show a higher possibility to communicate and interact with sales personnel and other customers in the environment (Donovan & Rossiter 1982). By emitting a chocolate ambient scent in the store environment, Doucé et al. (2013) discovered a positive increasing effect on general approach behavior including customer’s willingness to interact with
sales personnel. However, according to Spangenberg et al (2006) study, their findings did not indicate any interaction effect when the customers’ were exposed to a gender-congruent scent. Even though earlier result shows different effect, the hypothesis will be conducted based on the third response taxonomy (Donovan & Rossiter 1982). The next hypothesis is therefore:

H8: A gender-congruent ambient scent increases customers’ interaction with the personnel and others in the store. [Stimulus - Response]

3.6. Performance and Satisfaction Approach-Avoidance Behavior

Bone and Ellen (1999) identifies through their study that having a scent present in the store environment may positively affect consumer's intention to visit the store. By using a pleasant ambient scent as an atmospheric cue it is possible to affect the consumer’s approach behavior to increase the possibility that they will (re)visit the store (Spangenberg et al 1996, 2006, Doucé & Janssens 2013). However, Spangenberg et al. (2005) reported that a negative affect appeared and the consumer had a weaker intention to revisit the store. Furthermore, Spangenberg et al. (2006) also performed a gender-congruent ambient scent experiment in a retail environment. Their findings suggested that an ambient scent had a significant effect on the consumer approach behavior and increased their intention to revisit the store, leading to the following hypotheses:

H9: A gender-congruent ambient scent increases consumer’s intention to revisit the store. [Stimulus - Response]

A positive affective reaction is considered in the situation where an odor is congruent with consumers’ preferences, increasing approach behavior (Gulas & Bloch 1995). By using different atmospheric stimuli cues with the aim to increase the arousal state, customers may spend longer time in the environment, which increases the probability of potential sales (Donovan & Rossiter 1982). Donovan and Rossiter (1982) found that excitement, arousal or alertness might affect the consumer to stay longer in the store. Spangenberg et al. (1996) indicated that by having an inoffensive ambient scent in the store environment, the consumers’ perceived that they had spent less time in the store compared to the non-scented conditions. In addition, the non-scented condition revealed the opposite effect, where the
consumer perceived having spent more time in the store than they actually did (Spangenberg et al. 1996).

Spangenberg et al. (1996) expresses flow experience, as a possible explanation to consumers’ perceived time spent in store during the scented conditions. The flow experience “…is associated with the quality of subjective experiences – one of which could be the retail shopping experience” (Spangenberg et al. 1996, pp. 77). Moreover, Mitchell et al. (1995) argued that consumers’ time spent in store depended on whether the scent was congruent with the product class. Their findings suggested that when a scent is congruent with the product class, the consumer spends more time on processing data and are more holistic in their processing (Mitchell et al. 1995).

Furthermore, Guéguen and Petr (2006) used lavender and lemon in a restaurant environment. Their results indicated that lavender aroma had a significant positive effect on consumers’ time spending in the restaurant, while, the lemon aroma did not affect the consumer’s time spending (Guéguen & Petr 2006). However, by using gender-congruent ambient scent in fashion store, customers perceived that they had spent more time in the store (Spangenberg et al. 2006). This leads to the following hypotheses:

**H10: A gender-congruent ambient scent increases customers’ time spending in the store.**

The consumer purchasing behavior is affected by the store environment and their emotional state (Sherman et al. 1997). As previously noted, the model of Mehrabian and Russell (1974) “…states that affective and cognitive responses triggered by an ambient scent mediate the effects of the scent on approach behavior” (Doucé et al. 2013, pp. 65). Donovan and Rossiter (1982) findings suggest that the approach behavior of spending money in the store is largely affected by the cognitive factors, however, it is argued that store-induced pleasure or simple affect could as well change the consumer original intention of spending money. The emotional influences that consumers perceive from the store environment could lead to consumers spending more money than they intended, but not in all cases. For instance, Chebat and Michon (2003) did not found any significant effect between consumers spending in a mall environment. Nevertheless, Hirsch (1995) used two distinctly different pleasant odors in a casino located in Las Vegas. The result indicated that one of the pleasant odors had a significant positive effect on the money gambled on the slot machines, meanwhile the other odor did not. Parsons (2009) study
investigated a usually naturally odorless store during the conditions of using a pleasant ambient scent. By emitting an appropriate pleasant scent in the lingerie store, it could enhance the shopping behavior, while an inappropriate scent would result with the opposite response (Parsons 2009).

Additional researchers have provided results that strengthen the proposition that the use of a pleasant and/ or congruent ambient scent has a significant positive effect on consumers purchasing behavior (Guéguen & Petr 2006, Jacob et al. 2014). Doucé et al. (2013) investigated the use of thematic-congruent ambient scent (chocolate) in a bookstore. Their findings suggested a positive effect on sales regarding both the thematic-congruent (+40.07 per cent) and thematic-incongruent (+22.19 per cent) books, compared to the control conditions (Doucé et al. 2013). In addition, the study revealed that women are more likely to approach and to buy thematic-congruent books than men (Doucé et al. 2013). In the literature, it is previously described, “…that women are more sensitive to certain odors and have greater abilities to identify scents than men” (Spangenberg et al. 2006, pp. 1283). However, Spangenberg et al. (2006) result indicates an increase in shopping behavior for both men and women, when emitting a gender-congruent ambient scent in a fashion store.

Moreover, it is important to consider the differences between gender and their buying behavior, which sometimes is connected to status. There exist different approaches in gaining social status in all communities, where “status is a form of power that consists of respect, consideration, and envy from others and represents the goals of a culture” (Eastman et al. 1999, pp. 42). Researchers have distinguished three different types of status: (1) by definition or obligation, (2) by achievement and, (3) by consumption (Eastman et al. 1999). The one that is significant for this study considers the way people (and gender) consume products and services. Much of the consumer behavior is affected by one’s willingness in gaining social status in a community, which motivates purchasing behavior (Eastman et al. 1999, O’Cass & McEwen 2004). In its context, this type of behavior is described as status consumption or conspicuous consumption, but according to O’Cass and McEwen (2004) this is slightly incorrect. They argue that status consumption relates to, the individual’s own sense that he or she gets by purchasing a status-laden product or brand. In other words, the consumption is not to show off in front of others with high status, but more for the individual himself knowing having this in his possession (O’Cass & McEwen 2004). However, when it comes to conspicuous consumption, the individual wants to demonstrate a certain
degree of status both to himself, but also to friends and other consumers (Eastman et al. 1999, O’Cass & McEwen 2004, Sundie et al. 2011). O’Cass and McEwen (2004) further state that consumption of fashion apparel, is not purchased for the functional benefits, instead, it is a way of showing status to others.

However, there exist some differences between genders, where men tend to “…be more materialistic and have a stronger orientation towards external validation through visually portraying prestige and accomplishment” (O’Cass & McEwen 2004, pp. 35). It seems that young males (18–25) tend to have a stronger desire for conspicuous consumption in comparison to females. In addition, this type of behavior is also used by men in general to attract a romantic partner, which is seen as advantageous, because women, in turn find these men to be more attractive (Wang & Griskevicius 2014).

Previous studies suggest that there is a positive effect on consumers’ buying behavior when using an appropriate pleasant scent, even in cases when the store and its products do not inherent any naturally scent (Parsons 2009, Doucè et al. 2013). In addition, when males are exposed to a gender-incongruent scent it might influence their purchasing behavior in a positive manner, in order to attract a woman through consumption. This has resulted to the following hypotheses:

\[ H11: \text{A gender-congruent ambient scent increases consumers' buying behavior.} \]

[Stimulus – Response]

\[ H12: \text{Females will spend more money than male's when the gender-congruent ambient scent is emitted in the store atmosphere.} \] [Stimulus - Response]

\[ H13: \text{Males will spend more money than females when the gender-incongruent ambient scent is emitted in the store atmosphere.} \] [Stimulus - Response]

3.7. Outcome Measures

It is recognized that the approach-avoidance responses can be measured with the help of the outcome measures (see, Figure 3). The outcome measures considering the four aspects presented by Mehrabian and Russell (1974) mentioned earlier. The physical approach-avoidance behavior regarding customers’ intent or willingness to stay or leave the store is analyzed through
the development of H5, which focuses on the customers’ evaluation of the perceived store atmosphere and H6 crowdedness (Chebat & Michon 2003). The exploratory approach-avoidance behavior concentrating on consumers’ curiosity to investigate the store environment and product offerings (H7), which is to be connected to customers’ in-store searching (Donovan & Rossiter 1982). The communication approach-avoidance behavior refers to customers’ intention or willingness to communicate with others in the environment, either sales personnel or other customers (H8). The final outcome measure, the approach-avoidance behavior of performance and satisfaction is considered. Donovan and Rossiter (1982) described that the performance and satisfaction approach-avoidance behavior could be related to consumers repeated shopping frequency, time spent and, money spent in the store. In addition, Burton et al. 2003 expresses a similar description, where the performance and satisfaction level affects the consumer purchase intention. Therefore, is the consumer’s intention to revisit the store examined (H9), their time spent in store (H10) and, the consumer buying behavior (H11). In addition, previous research (Doucé et al. 2013) indicated that women are more likely to approach behavior (H12) and men are argued to use consumption to gain status and attract women (Wang & Griskevicius 2014), leading to the possibility that they may spend more money (H13).

Figure 3: Overview of Modified M-R Model and Hypotheses (c.f. Mehrabian & Russell 1974)
4. Methodology

In this chapter, the reader will confront that the empirical study relied on a quantitative research approach through a field experimental design using a pre-existing self-administered questionnaire. Furthermore, this chapter contains additional information about, for instance; questionnaire design, validation procedure, store and scent selection, scent experiment, validity and reliability, and measurements.

4.1. Research Method

Previous studies have utilized a quantitative research approach using the experimental design to study this type of phenomena (e.g. Teller & Dennis 2011, Guéguen & Petr 2006, Jacob et al. 2014, Spangenberg et al. 1996, 2005, 2006), which we used for this study as well. The experimental design is known to exhibit a great level of internal validity, and is advantageous because it enables us to manipulate and measure the effect between different groups (Bryman & Bell 2011). It has been possible to perform the experiment using only two groups, one for each scent, which previous researchers have performed (e.g. Spangenberg et al. 2006), but it is not ideal for this study. Instead, we decided to use a control group to allow us to compare the results with ordinary conditions at the fashion stores. Therefore, the performance of this study included three groups, where; group one (1) was exposed to the masculine ambient scent, group two (2) was exposed to the feminine ambient scent, and group three (3) was not exposed to any ambient scent. Additionally, the experiment was conducted in a real-life environment, which is accordance with a field experiment (Bryman & Bell 2011, Burns & Burns 2008). To end with, the technique that was utilized for the collection of the empirical data depended on a pre-existing self-administered questionnaire, which is further discussed in the questionnaire design below.

4.2. Questionnaire Design

The questionnaire was perceived to be beneficial depending on a number of things. For instance, it contained to a larger extent closed questions which tend to be easier to answer, it was well-structured which minimize the risk of getting unanswered questions or other mistakes, and the length of the questionnaire was considered sufficiently good to avoid the risk of
“respondent fatigue”. However, the utilization of this technique has some limitations considering not being able to ask follow-up questions and gather additional information from the respondents. Though, it is considered to be the most advantageous option for this study. (Bryman & Bell 2011)

Gulas and Bloch (1995) argue that the use of the multi-item scales should be used whenever it is possible. Previous research similar to this study has relied on the same technique (e.g. Spangenberg et al. 1996, 2005, 2006, Chebat & Michon 2003, Jang & Namkung 2009, Doucé et al. 2013, Doucé & Janssens 2013). The questionnaire was divided into eight parts, with two major sections using the semantic differential scale (Osgood et al. 1957) and Likert scale (Likert 1932). The first section of the questionnaire (Q1-Q4) used the semantic differential scale, which has two opposite adjectives on either side of the scale (e.g. boring - interesting) (Kothari 2004, Brace 2008). The negatively charged adjectives were placed on the left side, while, the positive charged adjectives were placed on the right side in the questionnaire (see, Appendix 1 & 2). The second part (Q5-Q7) of the questionnaire relied on the utilization of the Likert scale. The scale consists of a disagree-agree scale, which has been found successful in past research (Spangenberg et al. 2005, Doucé et al. 2013).

However, there exists a variation considering the interval to be used between different researchers. For example, 1-4 scale (Spangenberg et al. 2005), 1-5 scale (Douce et al. 2013) and 1-7 scale (Douce & Janssens 2013) have been used before. Meanwhile, Oliver (2010) recommends using a minimum 3-scale and above that scales greater than 10 may cause interpretation problems. Nevertheless, the 5- and 7- point scales have become a standard according to Oliver (2010). By the utilization of these scales, a neutral option is considered in the middle, giving the respondent a natural/undecided option, which does not force the respondent to choose an opinion, and gives a better picture of the overall attitude (Ary et al. 2009, Brace 2008, Oliver 2010). The decision was made to use the 7-point scale for both the semantic differential scale and Likert scales. The four represents the middle point in the semantic differential scale, where answers higher than four are considered as a positive feeling, while, answers below four are considered as a negative feeling.

A review of the various parts of the questionnaire reveals that Q1 and Q2 treat the respondent’s feelings and the state of mind. To evaluate consumer’s quality perception of the store and the products, the Q3 and Q4 were utilized. For question part five to seven, the questions considered statements about loyalty
(Q5), shopping experience (Q6) and buying behavior (Q7). However, there was a slight difference between Q5 and the other two parts (Q6 and Q7). Q5 used a very unlikely for alternatives below four, while, a very likely for alternative above four. Meanwhile, the Q6 and Q7 utilized disagree for alternative below four and agree for alternative above (see, Appendix 1 & 2). The final part of the questionnaire (Q8) deals with general information about the respondent, such as, gender, age, if the former has bought something from the store, money spent and time spent in the store. The respondents were also asked about their smoking habits with a Yes or No question, since it is argued that one's smoking habit may affect the sense of smell (Gulas & Bloch 1995). In the end of the questionnaire, the respondents were given the opportunity to write a comment (optional).

4.3. Validation Procedure

To approve or reject H1, the factors pleasure and arousal were selected. Pleasure, contains the following statements; negative/positive, bad/good, and unpleasant/pleasant, while, arousal contains; dreamy/lively), tired/aroused and sleepy/awake (Mehrabian & Russell 1974). To approve or reject H2, the factors of pleasure, arousal, pleasant scent and unpleasant scent were chosen (Mehrabian & Russell 1978, Morrison et al. 2011). Pleasant scent considers the statement whether it smelled good in the store today and unpleasant scent whether the smell disturbed the respondent today. For H3, the factor mood was used; sad/happy, dissatisfied/satisfied, disinterested/interested (Ellen & Bone 1998). To verify whether if H4 should be approved or rejected the factors mood, positive experience, times spent, felt social, loyalty (revisit the store), spontaneous purchase and amount spent was utilized. In order to verify the factor positive experience, the question if the purchase experience was a positive experience and spent time went by fast was used. Spontaneous purchase contains the questions about impulsive purchases and if the consumer was tempted to make an impulsive purchase (Mattila & Wirtz 2001). For spent time respondents manually put in the time by themselves (Sherman et al. 1997, Morrison et al. 2011, Spangenberg et al 1996, 2006), while felt social contains if the consumer felt more communicative and if they talked to a larger amount of people. The factor store quality verifies H5 and crowd verifies H6, while product quality was used for H7 (Mattila & Wirtz 2001, Chebat & Michon 2003, Doucé et al. 2013, Spangenberg et al. 1996, 2006). For H8 the factor felt social was applied and for H9 the factor loyalty was used (Ridgway et al. 1999, Baker et al. 1992, Mattila & Wirtz 2001, Spangenberg et al. 1996, 2006). The factor contains; future return, future purchase, recommendations and previous purchases. To
prove validate or invalidate of $H_{10}$ the factor spent time were used. For $H_{11}$, the factors money spent and spontaneous purchase were selected (Morrison et al. 2011). Finally, to be able to approve or reject $H_{12}$ and $H_{13}$ the factors gender and money spent were used.

### 4.4. Store and Scent Selection

Several fashions stores was contacted and given a short presentation about the study. Six of the contacted fashion stores replied that they were willing to participate. However, due to the limited of time, a “selection questionnaire” was conducted to select one masculine and one feminine store. The questionnaire contained three questions; gender and which store the respondent thought was the most masculine/feminine store (Appendix 7). In previous studies (e.g. Spangenberg et al. 1996, 2006), researchers have used university students to assist them to make certain selections (e.g. scent selection), and the same concept was applied for the store selection. Participants were selected randomly at Karlstad University with a total of 52 respondents (25 males and 27 females). The result was unanimous from both genders, where Jack & Jones (masculine) and Vero Moda (feminine) were selected.

The scent was selected in relation to the following criteria: The aim of the study is to examine the effects of using a gender-congruent and incongruent ambient scent on consumer’s purchasing behavior and quality perception. As mentioned earlier, the experiment took place in two different types of stores, one masculine and one feminine. In context to these stores, the scent of *Boutique Noir* (masculine) and *Powder Room* (feminine) were chosen. These scents were selected after collaborating with Initial AB, a scent supplier that recommended and argued for the benefit to use these two scents as representative of gender-congruent scents. The boutique noir is described as a masculine scent containing peppery mango with a touch of earthy and cozy scent of leather, while, powder room is argued to be a sweet, warm and comfortable scent with notes of lily of the valley combined with refreshing blend of screen lavender, bergamot and clary sage (Initial n.d.).

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1Ingalill Karlsson Produktspecialist Premium Scenting Initial Sverige AB, phone call, 2th of March 2015
4.5. Scent Experiment

The experiment was conducted during 12 days where 1,090 individuals were asked if they wanted to participate. Due to it being extremely difficult to document emotional responses, it is of great importance that measurements occur as closely in time as possible (Donovan & Rossiter 1982). Therefore, when the potential respondents were leaving the store they were asked to fill in the self-administered questionnaire to fulfill this requirement. Each and every potential respondent was randomly selected and given a short presentation and why their answers are of importance.

As a result, 522 individuals decided to participate in the study giving an approximately response rate of 48 per cent. After removing those questionnaires that were not reliable, 469 (155 males and 314 females) maintained with an average age of 32 years. However, due to unexpected circumstances at the feminine store, the experiment was in total conducted at three different locations instead of two, which was originally planned. During the process of seeking a replacement as the representative for the feminine store, it was critical to find a corresponding store with similar conditions. In relation to these criteria, the choice fell on a store (Vero Moda City) within the same clothing chain with almost an identical product range, located in the same city.

In order to implement the scent experiment, a special dispenser (ProfTec AIR/Q-100) was utilized to emit the ambient scent in the store atmosphere every 15 minutes. Gulas and Bloch (1995, pp. 95) argued that the importance of the scent being “...strong enough to be perceived by majority of subjects, yet be low enough to remain pleasant.” To make sure that the scent intensity was perceived as pleasant, we periodically asked the employees for feedback. The dispenser was located on an upper shelf to maximize the scent distribution. Depending on certain conditions (e.g. store size and ventilation system) the intensity level (2-5) on the dispenser was changed during the experiment. Additionally, a fan was utilized to enable a more equal distribution of the scent in the store (Appendix 4.1 & 5.2). Furthermore, to the extent possible, we conducted the study (with a rotating schedule) using all three groups (see, Appendix 6) on the same day, similar to previous studies (e.g. Jacob et al. 2014). In addition, it should be noted that during the performance of the experiment there were two other significant stimuli present in the store environment. On one hand, there were differences in lighting between the masculine and feminine store, and on the other hand
there was music playing in the background in all stores during the performance of the experiment, which could not be affected and may have influenced the result.

4.6. Validity and Reliability

To validate the instrument, a small external group was given the questionnaire to proofread it, following Li et al. (2009) validation procedure. Moreover, Sherman et al. (1997) emphasize that a large sample size is needed to obtain a high external validity and therefore, it was important to collect a large sample size. External validity can be divided in; ecological validity and population validity (Burns & Burns 2008). To obtain a relatively high ecological validity besides carrying out the experiment in a real-life setting, potential respondents were not disturbed with their social everyday life until they were leaving the store (Bryman & Bell 2011, Burns & Burns 2008). The population validity is connected to the studies validly generalizable (Burns & Burns 2008). The study has been conducted in a middle-sized city and therefore the result may be generalized to other middle sized cities in Sweden. In addition, it was important to maintain a neutral position when information about the study was given to avoid the treatment/interaction effect wherever possible (Vogt 2011).

In order to strengthen the internal reliability of data, the Cronbach’s Alpha analysis was performed (Li et al. 2009, Bryman & Bell 2011, Bambauer-Sachse 2012, Douce & Janssens 2013). The rule of thumb considering an acceptance level of $\alpha>0,8$ (Bryman & Bell 2011), but there exist researchers with an acceptance level of $\alpha >0,7$ (e.g. Schutte et al. 2000). The result from the performed Cronbach’s Alpha analysis showed that all the factors fell within the acceptance level ($\alpha>0,8$) (Table 2).

Table 2: Cronbach Alpha Analysis on Factors 1-8

<table>
<thead>
<tr>
<th>Factor</th>
<th>Variables</th>
<th>Cronbach Alpha</th>
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</thead>
<tbody>
<tr>
<td>Pleasure</td>
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<td>0,810</td>
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<tr>
<td>Arousal</td>
<td>Q1.4-1.6</td>
<td>0,928</td>
</tr>
<tr>
<td>Tension</td>
<td>Q1.7-1.9</td>
<td>0,858</td>
</tr>
<tr>
<td>Energy</td>
<td>Q2.1-2.3</td>
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<tr>
<td>Mood</td>
<td>Q2.4-2.7</td>
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<td>Store Quality</td>
<td>Q3.1-3.5</td>
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<td>Product Quality</td>
<td>Q4.1-4.4</td>
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<tr>
<td>Loyalty</td>
<td>Q5.1-5.3</td>
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</table>
4.7. Measurements

In order to analyze the collected data and either approve or reject the developed hypotheses, the statistical program SPSS was utilized. Initially a factor analysis was conducted for some of the variables (see, Table 3 & Appendix 1 & 2). To illustrate whether the scented and non-scented environment had any effects on consumers’ behavior and quality perception, descriptive data was used together with an ANOVA (analysis of variance) test with the addition of the followed-up LSD (least significant difference) post hoc test. To ensure or minimize the risk of drawing false conclusions the significant level is to be at least 95% (p<0.05), which is considered an acceptable level (Bryman & Bell 2011).

Table 3: Overview Factor and Subsumed Variables (translated from Swedish)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pleasure</td>
<td>negative – positive (Q1.1), bad – good (Q1.2), unpleasant – pleasant (Q1.3)</td>
</tr>
<tr>
<td>Arousal</td>
<td>dreamy – lively (Q1.4), tired – aroused (Q1.5), sleepy – awake (Q1.6)</td>
</tr>
<tr>
<td>Tension</td>
<td>scared – stress-free (Q1.7), tensed – relaxed (Q1.8), nervous – calm (Q1.9)</td>
</tr>
<tr>
<td>Energy</td>
<td>uncomfortable – comfortable (Q2.1), helpless – influential (Q2.2), without control – with control (Q2.3)</td>
</tr>
<tr>
<td>Mood</td>
<td>sad – happy (Q2.4), dissatisfied – satisfied (Q2.5), disinterested – interested (Q2.6)</td>
</tr>
<tr>
<td>Store Quality</td>
<td>low quality – high quality (Q3.1), negative – positive (Q3.2), bad – good (Q3.3), unfavorable – favorable (Q3.4), unpleasant – pleasant (Q3.5)</td>
</tr>
<tr>
<td>Product Quality</td>
<td>low quality – high quality (Q4.1), negative – positive (Q4.2), bad – good (Q4.3), unfavorable – favorable (Q4.4)</td>
</tr>
<tr>
<td>Loyalty</td>
<td>future return (Q5.1), future purchase (Q5.2), recommendation to friends (Q5.3), previous purchases (Q5.4)</td>
</tr>
<tr>
<td>Spontaneous Purchase</td>
<td>impulse purchases (Q7.1), tempted impulsive purchase (Q7.2)</td>
</tr>
<tr>
<td>Service Scape</td>
<td>the store invites for shopping (Q7.3), the light and sound is pleasant (Q7.6, Q7.7), the store is well-organized (Q7.8)</td>
</tr>
<tr>
<td>Crowd</td>
<td>crowd in-store (Q6.1), crowderliness in store (Q6.4)</td>
</tr>
<tr>
<td>Positive Experience</td>
<td>purchase experience was a positive experience (Q6.2), spent time went by fast (Q6.3)</td>
</tr>
<tr>
<td>Felt Social</td>
<td>felt more communicative (Q6.5), talked to more people (Q6.6)</td>
</tr>
<tr>
<td>Spent Time</td>
<td>actual time spent (Q8.5)</td>
</tr>
<tr>
<td>Spent Amount</td>
<td>amount spent in-store today (Q8.4)</td>
</tr>
<tr>
<td>Pleasant Scent</td>
<td>it smelled good in-store today (Q7.3)</td>
</tr>
<tr>
<td>Unpleasant Scent</td>
<td>the smell in-store bothered me today (Q7.4)</td>
</tr>
</tbody>
</table>
5. Empirical Findings

This chapter contains the result of the performed scent experiment. To verify why a particular hypothesis has been approved or rejected is presented in both text and in graphs. The analysis of the data collection was processed by the utilization of the SPSS software, where every hypothesis is connected to one or several factors in order to approve or reject them.

As a first act, two ANOVA analyses were conducted in order to verify whether participants smoking habit may have influenced the result. From these analyses, the result showed no major effect between the smokers and non-smokers. Therefore all respondents were included for further analysis.

*H1: A gender-congruent ambient scent will have a positive effect on (a) pleasure and (b) arousal. [Stimulus - Organism]*

The result from the ANOVA test did not provide any significant difference on neither pleasure $F(2,461)=0.870, \ p=0.420$ or arousal, $F(2,450)=0.992, \ p=0.372$, when including data from both stores. The followed-up LSD post hoc test did not reveal any significant difference. However, pleasure was influenced by both the ambient scents, but they were not significant (see, Appendix 8.1).

The consumer experiences a higher level of pleasure within a scented environment compared to the non-scented conditions. Nevertheless, the highest level of pleasure was measured during the gender-congruent settings. The highest level of arousal was accomplished using the gender-congruent ambient scent. However, these effects were not found to be significant.

No significant differences were found through the performance of the ANOVA or the LSD post hoc test considering Jack & Jones, for pleasure ($F(2,210)=1.428, \ p=0.242$) or arousal ($F(2,2,07)=1.021, \ p=0.362$). The ANOVA test on Vero Moda showed no significant difference on pleasure ($F(2,248)=0.372, \ p=0.690$) or arousal ($F(2,240)=0.253, \ p=0.777$). Moreover, the follow-up LSD post hoc test showed no significant effect (see, Appendix 8.2). Without any significant evidence, it is determined to reject the first hypotheses, both considering (a) pleasure and (b) arousal.
H2: A gender-incongruent ambient scent will have a positive effect on (a) pleasure and (b) arousal if it is perceived to be pleasant. [Stimulus - Organism]

The ANOVA test and the followed-up LSD post hoc test did not provide any significant differences for neither pleasure nor arousal, processing data from both stores. Though, there existed a slightly negative effect in the gender-incongruent conditions in relation to the non-scented settings on arousal, and a positive effect on pleasure when processing the data from both stores. Moreover, no significant difference was found in the follow-up LSD post hoc test for Vero Moda or Jack & Jones, leading to the second hypothesis being rejected as well.

H3: A gender-congruent ambient scent will have a positive effect on consumer’s mood state. [Stimulus - Organism]

The data from Jack & Jones and Vero Moda did not show any significant difference through the performance of the ANOVA analysis (F(2,466)=2.120, p=1.121), M_{congruent}=0.1290, SD_{congruent}=0.2230. However, the LSD post hoc test showed that a gender-congruent ambient scent had a significant positive effect (p=0.041) on consumer’s mood state compared to the non-scented environment, indicating that using a gender-congruent ambient scent increases consumer’s mood state.

![Figure 4: Stimuli and Mood Interaction Jack & Jones and Vero Moda](image.png)
Moreover, no significant difference was discovered in the data from Jack & Jones, neither through the performance of the ANOVA analysis (F(2,214)=0.698, p=0.499), or from the followed-up LSD post hoc test. The ANOVA analysis at Vero Moda resulted with the following, (F(2,490)=1.974, p=0.141). The followed-up LSD post hoc test did not provide any significant evidence (p=0.053). In this context, the data indicates a significant difference when the analysis was performed with data from both stores. Since a significant difference was found, the third hypothesis is approved on a general level.

\textit{H4: An enhanced positive mood state will lead to approach behavior.} [Organism-Response]

In order to approve or reject the fourth hypotheses, a correlation analysis was conducted. The correlation analysis included the four aspects of approach-avoidance behavior illustrated in the table below (Table 4).

\begin{table}[h]
\centering
\caption{Correlation Between Mood and Approach Factor}
\begin{tabular}{|c|c|c|c|c|}
\hline
\textbf{Aspect}                     & \textbf{Factor}          & \textbf{Jack & Jones} & \textbf{Vero Moda} & \textbf{All data}  \\
\hline
\textbf{Physical}                  & Positive Experience     & 0.438 (p=0.000)      & 0.412 (p=0.000)    & 0.427 (p=0.000)   \\
\textbf{Exploratory}               & Talk Spent              & 0.197 (p=0.004)      & 0.158 (p=0.012)    & 0.186 (p=0.000)   \\
\textbf{Communication}             & Feel Social             & 0.285 (p=0.000)      & 0.310 (p=0.000)    & 0.305 (p=0.001)   \\
\textbf{Performance and Satisfaction} & Loyalty (Revisit the Store) & 0.288 (p=0.000) & 0.210 (p=0.000) & 0.244 (p=0.01) \\
\textbf{}                         & Spontaneous Purchasing & 0.151 (p=0.000)      & 0.196 (p=0.000)    & 0.176 (p=0.000)   \\
\textbf{}                         & Amount Spent            & 0.106 (p=0.022)      & 0.205 (p=0.001)    & 0.147 (p=0.002)   \\
\hline
\end{tabular}
\end{table}

The hypothesis can be approved on a general level (Jack & Jones and Vero Moda) since \(p<0.05\) in most cases. Furthermore, the hypothesis can also be approved on store level in the case of both Jack & Jones and Vero Moda.

\textit{H5: A gender (a) congruent and (b) incongruent ambient scent will have a positive effect on customer’s perception of store quality.} [Stimulus – Organism]

No significant difference was found from the result of neither the ANOVA test on both Jack & Jones and Vero Moda (M\textsubscript{congruent}=0.0551, SD\textsubscript{congruent}=0.9076, (F(2,459)=0.241, p=0.786)) or the following-up LSD post hoc test (p=0.532) on the factor store quality. However, the result shows that the perception of store quality is affected positively by an ambient scent (see, Appendix 8.3).
The ANOVA test for Jack & Jones did not demonstrated any significant difference, \(F(2,210)=0.077, p=0.926\) nor did the followed-up LSD post hoc test. The same outcome had Vero Moda, where \(F(2,246)=0.674, p=0.511\) and the LSD post hoc test did not provide any significant difference.

No result was found through the ANOVA test for males, \(F(2,137)=0.744, p=0.477\), or females, \(F(2,314)=0.238, p=0.789\). The LSD post hoc test result did not reveal any significant differences for neither males nor females. However, the effect in the mean plot shows that the incongruent ambient scent increased the women’s perception of the store more positively than the congruent scent, meanwhile, the males mean plot showed the opposite pattern.

The factor was also analyzed through between-subjects effect analysis, where the result shows that male’s perception of store quality is affected positively by both scents (see, Appendix 8.4). Corrected model \((p=0.002)\), intercept \((p=0.016)\) and gender \((p=0.000)\) have a significant difference. Thus, the gender-congruent ambient scent shows the highest result. The females react slightly positive against the gender-incongruent scent, but barely any effect exists from the gender-congruent scent (see, Appendix 8.5).

Figure 5: Stimuli and Store Quality Interaction Marginal Means Gender
On a general and separate level the (a) and (b) hypothesis is rejected. However, on a gender level the (a) hypothesis is approved on males and (b) is approved for both genders.

H6: A gender (a) congruent and (b) incongruent ambient scent affects the consumer perception of perceived crowding. [Stimulus-Organism]

The ANOVA test was performed on Jack & Jones and Vero Moda, where a significant difference was discovered, (F(2,459)=4.063, p=0.018). The follow-up LSD showed two significant differences, between gender-congruent and incongruent ambient scent (p=0.008) and between gender-congruent ambient scent and the control group (p=0.023). This indicating that respondents in a gender-congruent environment experienced that it was more crowded in the store compared to a non-scented environment (Figure 6).

The ANOVA test from Vero Moda showed a significant difference (F(2,246)=3.837, p=0.023). This was followed-up with a LSD post hoc analysis. The result revealed a significant difference both between the gender-congruent and incongruent ambient scent (p=0.011) and the gender-incongruent ambient scent and the non-scented environment (p=0.037). These results indicated that the consumers perceive the store environment to
be less crowded in the gender-incongruent scented environment compared to the non-scented environment.

Figure 7: Stimuli and Crowded Interaction Jack & Jones

A significant difference was found in the ANOVA test (F(2,210)=4.107, p=0.018) for Jack & Jones. The LSD post hoc test also showed a significant difference between gender-congruent ambient scent and the control group (p=0.005). This means that the respondent experienced the store to be more crowded in a gender-congruent scented environment.
The result indicates that (a) a gender-congruent ambient scent is approved, on the general level increasing the perception of crowding among the consumers. However, the result from Vero Moda shows only a slight increasing effect, while, a greater effect was detected on Jack & Jones. Moreover, the result indicates that (b) a gender-incongruent ambient scent is also approved, since a sight decreasing effect was discovered on the factor crowded on a general level. Further, a clear decreasing effect was discovered on Vero Moda, meanwhile, the opposite effect was discovered on Jack & Jones.

H7: A gender (a) congruent and (b) incongruent ambient scent will have a positive effect on consumer’s perception of the product quality. [Stimulus-Organism]

No significant difference in the ANOVA analysis on both stores, $M_{\text{Congruent}}=0.0590$, $SD_{\text{Congruent}}=0.8980$, $(F(2,465)=0.411$, $p=0.663)$. Furthermore, no significant difference was found in the followed-up LSD post hoc test ($p=0.581$). The result showed a positive effect, indicating that the consumer perception of product quality is affected in a positive manner, but not on a significant level. The between-subject effect shows a significant difference on gender ($p=0.008$). Both females and males perception of product quality is positively affected after being exposed to the scents
The hypothesis (a) and (b) is rejected on a general level, but on a gender level the hypothesis is approved for both genders.

**Figure 9:** Stimuli and Product Quality Interaction Between Subjects

**H8:** A gender-congruent ambient scent increases customers’ interaction with the personnel and others in the store. [Stimulus - Response]

The ANOVA test for Jack & Jones did not provide any significant evidence (F(2,211)=2.094, p=0.126), neither did the followed-up LSD post hoc test (see, Appendix 8.6). However, the results indicated that the gender-congruent ambient scent did have a positive effect on consumer's intention to interact with others in the store, but it was not significant.

Furthermore, regarding Vero Moda, the hypothesis could not be supported by neither the ANOVA test (F(2,244)=0.291, p=0.748) nor with the followed-up LSD post hoc test (see, Appendix 8.7). Although, there were no significant differences in the results, there was however a tendency that showed a negative effect on the consumer's intention to interact with people in the store. H8 is rejected since no significant difference was found.
H9: A gender-congruent ambient scent increases consumer’s intention to revisit the store. [Stimulus - Response]

No significant difference was found through the ANOVA test or the LSD post hoc test at both stores (F(2,458)=0.011, p=0.989). However, the data collection was separated into genders to perform a separate ANOVA and LSD post hoc test, giving the following results: females (F(2,318)=0.163, p=0.849) and males (F(2,137)=0.798, p=0.452), but no significant result was found. In addition, a between-subject effects analysis on gender was also conducted, which only supported previous findings, therefore the hypothesis is rejected.

H10: A gender-congruent ambient scent increases customers’ time spending in the store. [Stimulus-Response]

The result did not indicate any significant difference, (F(2,459)=0.209, p=0.811), when using data from both stores. The follow-up LSD post hoc test did not reveal any significant evidence either. Moreover, the ANOVA and LSD post hoc tests were separately conducted on both stores but no significant difference was found. Although, the result indicate, that the consumers spend more time in the store during the gender-congruent settings, however, as previously mentioned, the effect was not significant leading to H10 being rejected.

H11: A gender-congruent ambient scent increases consumers’ buying behavior. [Stimulus – Response]

Given the low percentage of male respondents at Vero Moda, it was not possible to perform a store based analysis considering buying behavior, therefore, a gender-based analyze was performed instead, including both stores (Table 5).

Table 5: Stimuli and Spent Amount Gender

<table>
<thead>
<tr>
<th>Group</th>
<th>Gender</th>
<th>Mean (SEK)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congruent</td>
<td>Female</td>
<td>57.34</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>217.42</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>107.02</td>
<td>145</td>
</tr>
<tr>
<td>Incongruent</td>
<td>Female</td>
<td>108.87</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>283.39</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>159.36</td>
<td>159</td>
</tr>
<tr>
<td>No Scent</td>
<td>Female</td>
<td>102.63</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>174.59</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>125.71</td>
<td>159</td>
</tr>
</tbody>
</table>
The result of the between subject effect analysis showed a significant difference on corrected model (p=0.000), intercept (p=0.000) and gender (p=0.000). The buying behavior among male’s increases when there is a gender-congruent ambient scent present in the store environment, compared to a non-scent environment (see, Figure 10). The results further indicated that women’s buying behavior is not positively affected, actually the gender-congruent ambient scent decreases their buying behavior. Therefore, concerning the male consumers, this hypothesis is approved, but is rejected for the females’ consumers.

**H12: Females will spend more money than male’s when the gender-congruent ambient scent is emitted in the store atmosphere.** [Stimulus - Response]

In the non-scented conditions, males spent more money compared to females (Table 5). By emitting the gender-congruent ambient, males increased their spending meanwhile the females decreased their spending (see, figure 10), leading to H12 being rejected.

**H13: Males will spend more money than females when the gender-incongruent ambient scent is emitted in the store atmosphere.** [Stimulus - Response]
However, by emitting a gender-incongruent ambient scent in the store environment, the average amount among males increased with approximately 110 SEK compared to females with an increase of 6 SEK (see, Figure 10), therefore is H13 approved.

The table below subsumes all hypotheses and gives an overview whether the hypothesis is approved or rejected.

Table 6: Overview Validation Hypotheses

<table>
<thead>
<tr>
<th>N</th>
<th>Hypothesis</th>
<th>Approved</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>A gender-congruent ambient scent will have a positive effect on (a) pleasure and (b) arousal</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H2</td>
<td>A gender-incongruent ambient scent will have a positive effect on (a) pleasure and (b) arousal if it is perceived to be pleasant</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H3</td>
<td>A gender-congruent ambient scent will have a positive effect on consumer’s mood state.</td>
<td>General Level</td>
<td></td>
</tr>
<tr>
<td>H4</td>
<td>An enhanced positive mood state will lead to approach behavior.</td>
<td>General &amp; Store Level</td>
<td></td>
</tr>
<tr>
<td>H5</td>
<td>A gender (a) congruent and (b) incongruent ambient scent will have a positive effect on customer’s perception of store quality.</td>
<td>(a) Males</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) Males &amp; Female</td>
<td></td>
</tr>
<tr>
<td>H6</td>
<td>A gender (a) congruent and (b) incongruent ambient scent affects the consumer perception of perceived crowding.</td>
<td>General level</td>
<td></td>
</tr>
<tr>
<td>H7</td>
<td>A gender (a) congruent and (b) incongruent ambient scent will have a positive effect on consumer’s perception of the product quality.</td>
<td>Males &amp; Females</td>
<td></td>
</tr>
<tr>
<td>H8</td>
<td>A gender-congruent ambient scent increases customers’ interaction with the personnel and others in the store.</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H9</td>
<td>A gender-congruent ambient scent increases consumer’s intention to revisit the store.</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H10</td>
<td>A gender-congruent ambient scent increases customers’ time spending in the store.</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H11</td>
<td>A gender-congruent ambient scent increases consumers’ buying behavior.</td>
<td>Males</td>
<td></td>
</tr>
<tr>
<td>H12</td>
<td>Females will spend more money than males when the gender-congruent ambient scent is emitted in the store atmosphere.</td>
<td></td>
<td>Rejected</td>
</tr>
<tr>
<td>H13</td>
<td>Males will spend more money than females when the gender-incongruent ambient scent is emitted in the store atmosphere.</td>
<td>Males</td>
<td></td>
</tr>
</tbody>
</table>
6. Analysis and Discussion

The structure of the following chapter begins with a short reminder of the developed research questions, followed by the analysis and discussion in the same order as the hypotheses.

- What are the effects of a gender-congruent and incongruent ambient scent on consumer’s purchasing behavior in a Swedish fashion store?

- How does the gender-congruent and incongruent ambient scent affect consumer’s quality perception in a Swedish fashion store?

One of the key differences between the various stores was that the masculine store had a more favorable ventilation system, which allowed the scent to spread better and stay considerably longer in the store. In comparison, we found it more difficult to distribute the ambient scent in the feminine store and balance the intensity. Partly because of the store size and its ventilation system but also since the dispenser only emitted the ambient scent every 15 minutes.

Regarding the first hypothesis, previous research argued that the store atmosphere could affect pleasure and arousal (Doucé & Janssens 2013, Baker et al. 1992, Bellizzi et al. 1983). Doucé and Janssens (2013) is one of those who has demonstrated this effect by using a pleasant ambient scent, meanwhile other researchers maintain a similar contention (Fiore et al. 2000, Gulas & Bloch 1995, Willander & Larsson 2007). Unfortunately, the results of the study could not confirm this. Although, we detected a positive influence on pleasure and arousal, when having a gender-congruent ambient scent present in the store atmosphere, but not enough to be significant. As previously mention, the dispenser only emitted the ambient scent every 15 minutes, which may have been one reasonable cause to the results, if not all respondents, were exposed to a similar intensity level (Gulas & Bloch 1995). Moreover, a possible explanation to the results could depend on the congruity dimension, which is of great importance for the interrelationship between the atmosphere and the odor (Bone & Jantrania 1992, Bone & Ellen 1999). In addition, individual differences (Herz et al. 2004) and emotional memories connected to the selected scents (Bone & Ellen 1999) might also have an effect on the results depending on how consumers perceive and interpret the scent.
Neither did a gender-incongruent ambient scent affect consumer’s level of pleasure and arousal positively, with the presumption it was perceived as pleasant (H2). This is perhaps more understandable, despite the argument that it can be perceived as pleasant (Bone & Ellen 1999). For instance, Spangenberg et al. (2006) states that people embrace congruence in their lives, which are contradictory if the consumer gets exposed to a gender-incongruent ambient scent in the store environment. At the same time, it may be important to point out, even though it still was not a significant effect, we detected a tendency of a negative effect on arousal during these conditions.

Moreover, it was hypothesized that a gender-congruent ambient scent affects consumers’ mood state (H3) leading to approach behavior (H4). These hypotheses were developed from previous research, which demonstrated that odors influence consumer’s mood state (Ehrlichman & Bastone 1992a, Ellen & Bone 1998, Guéguen & Petr 2006, Raudenbush et al. 2001, Mitchell et al. 1995, Bambauer-Sachse 2012, Ward et al. 2007, Spangenberg et al. 2006) leading to approach behavior (Spies et al. 1997, Herz et al. 2004, Doucé et al. 2013). Considering H3, the empirical findings confirm previous research when the data from both stores was processed together, but not individually. In that case, the hypothesis was approved on a general level but was rejected for each store. It should be taken into account that individual differences in emotional valence of experience (Herz et al. 2004) may affect the result because olfactory memories are long lasting (Lawless & Engen 1977). If the perceived gender-congruent ambient scent is connected to a positive memory, it would increase the possibility to affect consumer’s mood state in a positive manner (Herz et al. 2004, Bradford & Desrochers 2009), which appears to be the case in our study. In return this lead to the fourth hypothesis, which confirms previous research (e.g. Spies et al. 1997, Guéguen & Petr 2006) that an enhanced mood state leads to approach behavior on a general level. This is an interesting finding from a retailer perspective, because by emitting a gender-congruent ambient scent in the store environment, customers are more likely to approach behavior, which could for instance, increase their time and money spent in the store.

Regarding the first aspect, this was carried out through the fifth hypotheses. Previous research (Chebat & Michon 2003, Spangenberg 1996, 2006) states that by emitting a congruent or pleasant ambient scent into the store environment could affect consumers store evaluation. To some extent, our results confirm previous research. However, the result is only applicable to
males, where they appear to increase their quality perception of the store in the gender-congruent and incongruent condition. A possible explanation to why the result was not applicable for females during the gender-congruent, but applicable for the incongruent conditions could depend on their own consumption of perfume. We suggest, in other words that by using a prominent perfume that surrounds females, there is a risk that they actually do not perceive the ambient scent that we used in the experiment as gender-congruent, since it may share similar characteristics.

However, our result regarding crowding (H6) indicates that a gender-congruent ambient scent increases the perception of crowding, both on a general level and for each store separately, which can be perceived as good to a certain level (Mehta et al. 2013, Pan & Siemens 2011). In addition, the gender-incongruent ambient scent showed also an increasing affect at the masculine store. This is especially useful if the retailer aims to increase the crowding level from low to medium, since consumers in a medium level perceive the store environment as more favorable (Pan & Siemens 2011). However, if the retail has the opposite problem, where consumers experience a high crowding level, the gender-incongruent ambient scent showed a decreasing effect on both a general level and at the feminine store. Though, our results need to be further examined because the respondents did not fill in the questionnaire under precise conditions, in other words, the number of consumers varied in the stores, which could have been a possible cause for the differences between the groups.

Further, it was said that a gender (a) congruent and (b) incongruent ambient scent would have a positive effect on consumers’ perception of product quality (Bosmans 2006, Spangenberg et al. 1996, 2006). As expected, the hypotheses (H7) could be approved on gender level (a & b). This may indicate that the consumers spend more time processing data (Mitchell et al. 1995), which could increase time spent in the store and the probability to increase sales (Donovan & Rossiter 1982). Although, previous research was quite limited regarding consumer’s intention to communicate in a pleasant environment (Donovan & Rossiter 1982, Doucé et al. 2013), our finding could not support these results. Instead, our findings indicate that the consumers are not affected by the presences of a gender-congruent ambient scent, which supports Spangenberg et al. (2006) findings. This may indicate that it is difficult to affect consumers’ intention to interact by using a gender-congruent ambient scent.
It was reported that it is possible to increase the possibility that consumers (re)visit the store by having an ambient scent present in the environment (Bone & Eller 1999, Spangenberg et al 1996, 2006, Doucé & Janssens 2013). Though, after analyzing this in H9 no indication was found to support this hypothesis. However, despite not finding support for the hypothesis, research describes that people are able to connect certain experiences and smells (Herz et al. 2004, Bradford & Desrochers 2009). In return, this can create long lasting memories (Lawless & Engen 1977) that may affect the consumer in the future if they are exposed to a similar scent and remembers the store (Herz et al. 2004, Herz & Schooler 2002), because long lasting memories could work an alerting mechanism (Lawless & Engen 1977). Nevertheless, the research provided by Spangenberg et al. (2006) could not be supported.

Neither could we support the argument that a gender-congruent ambient scent would increase consumer’s time spending in the store (H10). This is contradictory to previous research (Mitchell et al. 1995, Guéguen & Petr 2006), which provided evidence for the opposite using a product congruent and a pleasant ambient scent. However, the results are in line with Spangenberg et al (1996), which did not find any effects on consumers time spending. A possible explanation to our result could be that, the respondents estimated their time spending in the store by themselves, which could affect the result if they wrote a misleading time. In, addition, during the scented conditions, there exist a possibility that the respondents found themselves in what is called flow experience (Spangenberg et al. 1996), where the sense of time gets disoriented.

By performing a between-subject effect analysis using data from both stores, we discovered that the gender-congruent ambient scent has a positive effect on males purchasing behavior, while having a negative effect on female purchasing behavior (H11). This may indicate that males are more sensitive to the odor than females, increasing their buying behavior. The result partly confirms previous research (Spangenberg et al. 2006, Ward et al. 2007, Hirsch 1995, Doucé et al. 1995, Parsons 2009) when using a congruent or pleasant ambient scent, but only for the male customers. These results therefore reject the next hypotheses (H12), due to the fact that men were found to spend more money than females, not supporting the research provided by Doucé et al. (2013). However, one notable factor may have affected the results considering the females customers. During the experiment, we noticed by walking around in the store environment, the female customers to a larger extent were wearing prominent perfumes, which may have affected the
outcome. However, one of the most interesting findings in our study concerns the results for the final hypotheses (H13). The results confirm the hypothesis that men will spend more money during the incongruent condition than females. Even more surprisingly, males actually spent most money in the incongruent setting compared to the congruent settings. On one hand, this result may indicate that males perceived the gender-incongruent ambient scent as more pleasant (Bosmans 2006), than the gender-congruent scent. On the other hand, it could be related to the way men consume products and services, to gain status and attract women (O’Cass & McEwen 2004, Wang & Griskevicius 2014, Eastman et al. 1999). In that sense, it might be that when a gender-incongruent ambient scent is present in the store environment, men are more willing to portray prestige and accomplishment through their buying behavior to attract women (Wang & Griskevicius 2014), leading to that they spent more money.
7. Conclusion

The conclusion will answer the developed research questions along with highlighting the most interesting findings. In addition, the managerial implications, limitation of the study together with suggestions on future research will end this chapter.

7.1. General Findings

Through this study, evidence has revealed that a gender-congruent and incongruent ambient scent may affect consumer’s purchasing behavior and quality perception to some extent together with other factors. The results from this study have revealed different results depending on whether the stores were examined together, separately or on a gender level.

The first research question considered: What are the effects of a gender-congruent and incongruent ambient scent on consumer’s purchasing behavior in a Swedish fashion store? The results indicate that there exist approach differences between the genders, which in return affect the consumer’s purchasing behavior in different ways. Our findings reveal that males buying behavior increases when they are exposed to a gender-congruent ambient scent, meanwhile, females buying behavior decreases under the same condition. In fact, males spent more money in all three experimental groups compared to the female groups. In other words, both scented conditions increased the average spending amount for males. The most interesting finding was, however, that males spend most money when the gender-incongruent ambient scent was emitted in the stores, increasing their spending with almost 110 SEK compared to the non-scented condition.

The second research question examined: How does the gender-congruent and incongruent ambient scent affect consumers’ quality perception in a Swedish fashion store? Through this study it seemed that a gender-congruent and incongruent ambient scent affected male’s quality perception of both the store and products. Moreover, female’s perception of product quality was positively affected during the gender-congruent and incongruent conditions, but the perception of store quality was only increased during the gender-incongruent condition.

Overall, looking at the whole picture, we found some effect on the consumer’s purchasing behavior and quality perception by having a gender-congruent or incongruent ambient scent present in the store atmosphere.
7.2. Managerial Implications

The study has revealed that there exist opportunities among retailers to increase, consumers mood state, store quality, product quality, crowdedness and potential sales by releasing a gender-congruent or incongruent ambient scent in the store atmosphere. It is important to have a strategy of what is to be accomplished, by using the ambient scent in the store environment, due to different scents evoking different responses. For example, based on our findings, if the objective is to increase sales in a masculine store, the manager should consider using a gender-incongruent ambient scent. However, if the managers are aiming to increase the consumer's perception of store quality, a masculine ambient scent should be emitted in the store atmosphere, since the gender-incongruent ambient scent has a slight positive affect on females and a gender-congruent ambient scent increases the store quality perception for males. As a final implication, the scent selection should after all be selected depending on its purpose.

7.3. Limitations and Future Research

Through the conduction of this paper, some limitations are recognized. The first consider the scent selection process. Due to the limited timeframe, the scent selection was conducted together with the company Initial AB, which was the supplier of the two scents. To really ensure that the two selected scents served each its purpose; a pre-test should have been conducted along with other potential scent candidates. However, during the empirical data collection, it was discovered that some respondents showed difficulties in understanding the semantic differential scale, which may have contributed to some participants unknowingly filling in the questionnaire incorrectly. In addition regarding the data collection, the total number of respondents in this study could be questionable, meanwhile, the male respondents in the feminine store was undeniably very low. Moreover, it is perceived as a weakness of the study, that the collection of data for the feminine store was conducted at two different locations. Another noticeable factor, considered the store sizes and ventilation systems. The masculine store was perceived to spread the scent much better and also remained it in the store environment for a longer time period, compared with the other two feminine stores. One final recognized limitation is that we had only access to one dispenser, which made it impossible to conduct synchronized experiments within the time constraints, which also may have affected the results.
To future research we suggest a replication of the performed study both in a middle size or larger city, in order to either strengthen or weaken our findings. Furthermore, we advocate to conduct a study, especially in a masculine fashion store, where the incongruent ambient scent demonstrated effects on customers’ purchasing behavior, which is seen as extremely interesting among the authors, but also should be of great interest among retailers with a male target group. At the same time it must not be forgotten to emphasize a replication of the study but in other gender-retail stores. As a final recommendation to future research, it would be interesting to investigate whether there are different effects depending on the gender of the sales personnel during the gender-congruent and incongruent scented conditions.
References


consumption as a sexual signaling system. *Journal of personality and social psychology*, [Online], 100(4), 664-680.


Appendix

Appendix 1: Questionnaire Jack & Jones

Jack & Jones

Tack för att Du tar tid att fylla i denna enkät. Det finns inga svar som är rätt eller fel, vi är bara intresserade av Dina idéer. Om Du har några frågor om undersökningen, kontakta professor Anders Gustafsson (anders.gustafsson@kau.se)

För varje påstående nedan, ringa in den siffra mellan 1 och 7 som Du tycker stämmer bäst överens med Din egna uppfattning.

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5. För var och en av nedanstående frågor, vänligen ringa in den siffra som bäst stämmer överens med Din uppfattning. Hur sannolikt är det att du:

VAR GOD VÅND

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8. Övriga frågor
Jag som lyfter i enkätten är:  
☐ Man  ☐ Kvinna
Född år: 
Har du handlat på Jack & Jones tidigare?  
☐ Ja  ☐ Nej
Hur mycket handlade du för på Jack & Jones idag? _______ kr
Hur lång tid spenderade du i butiken idag _______ min
Räcker du?  
☐ Ja  ☐ Nej

Övriga kommentarer (valfritt):
Appendix 2: Questionnaire Vero Moda (Bergvik and MittiCity)

Enkät nr: ______ Handlat klart kl ______

Vero Moda

Tack för att Du tar dig tid att fylla i denna enkät. Det finns inga svår att rätt eller fel; vi är bara intresserade av Dina åsikter. Om Du har några frågor om undersökningen, kontakta professor Anders Gustafsson (anders.gustafsson@kau.se)

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<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Rekommenderar denna butik till en vän?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

6. Vad gäller dagens besök på Vero Moda, hur väl stämmer detta med din upplevelse:

<table>
<thead>
<tr>
<th>Det var många människor i butiken.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>En positiv upplevelse.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Tiden gick fort i butiken.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Det var trång i butiken.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Jag kände mig mer socialt idag.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Jag pratade mer än jag brukar med andra människor i butiken.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

7. Vad gäller dagens besök på Vero Moda, hur väl stämmer detta med din upplevelse:

<table>
<thead>
<tr>
<th>Jag gjorde flera spontana inköp på Vero Moda idag.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idag kände jag mig lockad att köpa något som jag inte hade planerat att köpa.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Det luktade gott i butiken idag.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Dorren i butiken störde mig idag.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Lokalen är inbjudande.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Ljuset är behagligt.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Butiken är villorganiserad.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

8. Övriga frågor

Jag som tycker i enkäten är: [ ] Man [ ] Kvinnna

Född är:

Har du handlat på Vero Moda tidigare? [ ] Ja [ ] Nej

Hur mycket handrade du för på Vero Moda idag? ____________ kr

Hur lång tid spenderade du i butiken idag ____________ min

Räcker du? [ ] Ja [ ] Nej

Övriga kommentarer (valfritt):

__________________________________________

66
Appendix 3: Pictures from the Experiment at Jack & Jones

3.1 Entrance

3.2 Location of the Dispenser
3.3 Survey Booth
Appendix 4: Picture of the Experiment at Vero Moda Bergvik

4.1 Entrance and Location of Dispenser and Fan

4.2 Survey Booth
Appendix 5: Picture of the Experiment at Vero Moda Mitticity

5.1 Entrance

5.2 Location of Dispenser and Fan
5.3 Survey Booth
Appendix 6: Overview Experiment Data Collection Jack & Jones City, Vero Moda Bergvik and Vero Moda MittiCity.

<table>
<thead>
<tr>
<th>Store</th>
<th>Condition</th>
<th>Date/ Time</th>
<th>Asked</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jack &amp; Jones City</td>
<td>Congruent</td>
<td>2015-03-05/ 10.30-12.40</td>
<td>141</td>
<td>81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-05/ 15.30-17.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-07/ 12.45-14.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-15/ 12.15-13.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incongruent</td>
<td>2015-03-05/ 16.00-18.10</td>
<td>136</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-06/ 12.10-14.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-07/ 10.15-12.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-08/ 14.00-15.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-14/ 13.45-15.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-15/ 13.50-15.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-scent</td>
<td>2015-03-05/ 13.45-16.00</td>
<td>164</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-06/ 10.30-12.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>17.30-18.20</td>
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<td></td>
<td>2015-03-07/ 14.55-16.00</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>2015-03-14/ 10.15-12.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vero Moda Bergvik</td>
<td>Congruent</td>
<td>2015-03-11/ 11.30-13.30</td>
<td>36</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Incongruent</td>
<td>2015-03-11/ 17.05-19.00</td>
<td>80</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Non-scent</td>
<td>2015-03-11/ 14.50-16.55</td>
<td>36</td>
<td>19</td>
</tr>
<tr>
<td>Vero Moda MittiCity</td>
<td>Congruent</td>
<td>2015-04-10/ 14.20-16.25</td>
<td>161</td>
<td>73</td>
</tr>
<tr>
<td></td>
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<td>2015-04-11/ 12.30-13.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-04-12/ 12.15-13.40</td>
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<td>2015-04-17/ 13.50-15.50</td>
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<td></td>
<td>2015-04-18/ 14.20-15.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incongruent</td>
<td>2015-04-10/ 16.30-18.10</td>
<td>151</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-04-11/ 10.25-12.10</td>
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<tr>
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<td>2015-04-17/ 16.00-17.50</td>
<td></td>
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<tr>
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<td></td>
<td>2015-04-18/ 10.25-12.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-scent</td>
<td>2015-04-10/ 10.25-12.25</td>
<td>185</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13.45-14.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-04-12/ 15.10-15.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-04-17/ 10.45-12.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015-04-18/ 12.15-14.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>12 days</td>
<td>1090</td>
<td>522</td>
</tr>
</tbody>
</table>
Appendix 7: Store Selection Questionnaire

Frågeformulär

1. Vilken av följande butiker uppfattar du vara mest feminin?
   Ringa in det alternativ du tycker passar bäst.
   Markera endast en oval.
   - Jack & Jones
   - Lindex
   - Vila
   - MQ
   - Vero Moda

2. Vilken av följande butiker uppfattar du vara mest maskulin?
   Ringa in det alternativ du tycker passar bäst.
   Markera endast en oval.
   - Jack & Jones
   - Lindex
   - Vila
   - MQ
   - Vero Moda

3. Kön
   Markera endast en oval.
   - Kvinna
   - Man
Appendix 8: Figures

8.1 Stimuli and Pleasure Interaction Jack & Jones and Vero Moda

8.2 Stimuli and Arousal Interaction Jack & Jones and Vero Modo
8.3 Stimuli and Store Quality Interaction Jack & Jones and Vero Moda

8.4 Stimuli and Store Quality Interaction Males
8.5 Stimuli and Store Quality Interaction Females

8.6 Stimuli and Felt Social Interaction Jack & Jones
8.7 Stimuli and Felt Social Interaction Vero Moda