How Spatial and Auditory Confinement evokes the **Consumer's Need for Variety**

The influence of environmental and personal factors on product choice



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Abstract

In multiple contexts, people tend to be influenced in their actions by their direct surroundings. This assumption is applicable to chronic processes, as well as to acute common situations in which we interact with other people or consume goods. In general, people appreciate a certain level of freedom and independence in several areas of life. If this condition of free choice and moving is not provided, considerable emotional and behavioral reactions can be expected among human beings who face a certain level of restriction. The personal constitution in terms of stable characteristics of the person may regulate how this reaction manifests.

The present study deals with the influence of environmental restrictions on consumer reactions within an experimental setting. Participants were assigned to two different conditions of confinement: confinement in space created by fellow participants and furniture, and confinement which was generated by disturbance through noise in an experimental setting.

It was examined how people display reactant behavior as a response to the restrictions they faced. In the given conditions, individuals were provided the possibility to choose nutritional products on their own. The assumption was that people would engage in a more exotic, individual, or varied product choice in situations of high confinement and disturbance as a means to regain personal freedom. It was hypothesized that the feeling of "freedom", or relieving oneself from confinement, is obtained by an altered choice of products.

The results showed that spatial confinement was indeed evoking a feeling of being restricted, while auditory confinement showed to be not that effective. Participants in spatially confining conditions tended to choose a higher number of products, while it was not empirically significant that a more exotic product choice was a result of a confining surrounding. Moreover, people in conditions of high spatial confinement perceived less pleasure and dominance than their counterparts with more space available, while auditory confinement had the effect that arousal levels were higher for people who listened to relaxing music than for those confronted with disturbing noises. Above that, people with a highly reactant personality perceived less pleasure when lingering in a condition of high spatial confinement, as opposed to people who generally act less reactant. Future research should further concentrate on customers personality traits and different kinds of atmospherical confinement.

Keywords: Service environment, spatial confinement, need for variety, dominance, product choice

Introduction

Atmospheric cues in public spaces can be described as elements that are influencing people in a wide range of situations (Pan, Su & Chiang, 2008). They usually address most of the human senses and are used in commercial consumption surroundings to retain customers (Ballantine, Jack & Parsons, 2010).

In line with this, retailers and restaurant owners are increasingly putting emphasis on the right use of those cues to keep customers satisfied and happy within the respective consumption settings. Apparent auditory cues like music are not the only atmospheric devices that affect consumer behavior. In general, people like to *control* a consumption environment on several levels when they are about to exert goal-directed behavior (Hoffmann et al., 2003). This is the case when they keep the overview of their surrounding without being overly disturbed or distracted by external stimuli. Therefore, marketing experts and interior designers steadily have to keep track of the customers' needs.

In a restaurant surrounding, the need to *choose* and *consume* food obviously obtains a certain priority. Several studies, like the one of Wansink (2004) dealt with the influence of environmental factors on consumption. It was found out that these factors do not only affect food consumption volume decisions (thus *how much* we eat), but also food choices themselves (*what* we eat).

The present research study investigates how people behave and decide in situations in which they are disturbed and restricted through reduced space, i.e. through spatial confinement evoked by fellow men and furniture, and through auditory influences.

In a single blind experiment, it is the goal to find out how people react to those more or less pleasurable conditions mentioned above. Amongst others, the participants' reaction is traced back to two characteristical phenomena that have been relevant within multiple researches in the past: *psychological reactance* and *desire for control*. Finally, the subsequent reaction of participants is assumed to be mirrored in the choice of sorts and amounts of products and certain emotional states.

Auditory signals in social settings

Hui et al. (1997) revealed that music being played in a waiting situation positively affected approach behavior towards the service organization. Also, Lin (2004) pointed out - while refering to several studies - that music can be a positive auditory cue which stimulates specific consumer behaviors and emotions. Furthermore, factors of consumer behavior and music were also examined by Dube & Morin (2001) who found out that the evaluation of a store has been positively influenced by the background music.

In general, multiple research studies were conducted in the field which concerns the influence of

music on customers within public environments (e.g. Eroglu et al., 2005; Mattila&Wirtz, 2001; Yalch et al., 2000). Findings showed that music can affect the shopping experience significantly, as well as individual's satisfaction and the span of stay in a store or a restaurant.

All these findings represent a good inducement to further examine the role of music and soundscape in the customer satisfaction context as it plays an important role in customer perceptions. If music evokes positive feelings, such as belongingness and involvement, it would be worth to investigate to what extent the intervening potential of background music within a public cosumption space (e.g. a restaurant setting) contributes to the way of how a customer reacts to that environment and the feelings he or she ascribes to it. Accordingly, Herrington (1999) found out that musical preference can have a positive influence on the amount of time and money shoppers spend in service environments. This was the case when the provided background music matched their personal preferences.

In contrast to, or rather as a complement to that, Guski and Felscher-Suhr (1999) examined the concept of *noise* annoyance, thus a negatively working auditory cue. They ruled out a few outcomes that resulted from environmental noise. The most prominent feelings were annoyance and disturbance the test persons perceived. Those two emotions are exclusively regarded as being negative and can be evaluated in terms of causing avoidance behavior with regard to the source of interference (the restaurant setting, in the present case). As a completion to that trail of thought, the work of Kryter (1985) is worth to be mentioned because he introduced the concept of non-musical Loudness. This auditory entity, as he pointed out, is perceived as an undesirable, negative stimulation. Further, too much sound that is *unexpected* and *irregular* has been declared as the causal initiator of "decreased concentration, increased activity, irritability, and tension" (Lin, 2004). Two conditions within the present experiment exposed people to sounds that match these characteristics. Practically, these kinds of auditory cues presented the counterpart of the pleasant influence of music on the consumer, thus a sort of unpleasant condition. The present experimental manipulation is additionally based on the finding made by Kim & Shelby (2011) who announced that manmade sounds like human voices "increase perceived crowding and decrease tolerances for seeing other people." (p. 93). The terminology that is used here to describe the degree of atmospherically intruding sounds goes by the name of *auditory confinement*.

There are many studies which focus the influence of soundscapes on customers in situations wherein food consumption takes place (e.g. North, 2012; Stafford, 2012), as it is the case in bars and restaurants. The results showed that emotions evoked by music likewise affect people's emotions and product-related evaluations. Moreover, Velasco, Jones, King & Spence (2013) stated that multisensory attributes of the environment can influence people's choice behaviors as well. The

present study picks up this notion and examines the influence of these attributes on choices and emotional states.

Spatial Confinement and control through choice

Besides the atmospheric disturbance through auditory confinement, the factor of *spatial confinement* plays an important role in the present study. It can be described as the relative distance of, for example, shelves towards each other or human crowding within a service or retail environment. It influences the perceived spaciousness in which an individual is able to move.

By taking this into account, it has to be stated that most people obviously prefer to have control over a wide range of situations, especially when they feel threatened in either way. In line with this, Hui & Bateson (1991) mentioned in their work that this factor of *perceived control* is also applicable in a commercial service setting. In accordance to the present study, they included the idea of *social crowding* as a possible influential variable to *perceived control*, as well as the construct of *consumer choice*. Generally speaking, the authors stated that perceived crowding had a negative influence on consumer pleasure and perceived control, while the consumer choice was affected as well.

In the case of Hui & Bateson's research (1991), the consumer choice included a person's own decision to stay in a service situation or not, respectively to make specific choices within that environment. They stated that this possibility of free choice was increasing the perceived feeling of control.

It is worth to mention that the variable of consumer choice originated from the conclusions made by Averill (1973) who operationalized the concept of control in three different ways: behavioral control, cognitive control, and decisional control. Especially *behavioral* and *decisional* control can serve as two important constructs to be kept in mind within the present study because they relate to *goal-directed actions* which can be exerted within the present experimental context (e.g. withdrawal or choice of certain products). Accordingly, Bellenger & Korgaonkar (1980) stated that task- or goal-oriented shoppers share a concern for control, overview and behavioral freedom.

It becomes clear that people prefer dominance over submissiveness. But how might those concepts of *spatial confinement* and *consumer choice* exactly be connected to each other?

To illustrate this, Levav & Zhu (2009) showed that people tend to seek for variety in brands within spatially confined places. Space intrusions within a retail setting led to a refusal to "comply" with environmentally perceived restrictions. Thus, if the participants perceived narrowed space where they could move less, a higher variety of product brands was chosen within that experiment. As a response to spatial confinement, individuals engaged in a more varied brand choice when the own

personal freedom was perceived to be "in danger". In this case, the participants chose amongst others a more varied combination of different candy bars which originated from nine different brands.

Likewise, Xu et al. (2012) found out that close physical proximity of individuals to each other led to more unique choices in spending money within an experimental setting. Participants of the study felt the need to express their individuality by spending their money for less familiar purposes when being put into a condition of high confinement. Therein, the choice shifted to products that distinguished themselves from others (e.g. the notion to take a cone-shaped cup that was very different from other cups that were offered). The idea that variety seeking might be a behavioral response to confinement is discussed in more detail at a later point of time.

Above that, there seems to be a certain congruence of *spatial* and *auditory* confinement. The situations of the present experiment provide - amongst others - conditions of "music dominance" (or *low* auditory confinement) wherein human noises are faded out, which contributes to the perception of less social density (Kim & Shelby, 2011). Of course, this is also valid for the reverse case when human noise dominates and perception of social density is increased.

Customer surrounding and behavior: Variety Seeking

For the most part, commercial operators are interested in how people behave in a consumption setting when they are exposed to several stimuli. One certain kind of behavior which directly affects consumption behavior is examined in this context.

More specifically, it is the concept of *Variety seeking* of customers in a service surrounding which also was a topic to be examined in several studies (e.g. Levav & Zhu, 2009; Jung & Yoon, 2012). The seeking of variety in a consumption context becomes manifest in the type of products that may be chosen, or in the number of products that are purchased (Simonson, 1990). The factor of product choice is used as a measure to determine the degree of variety seeking that is displayed by the participants of the present study.

This study aims to relate the two concepts of *environmental influences* and *variety seeking* to each other by applying an experimental design wherein people are provided different possibilities to choose products within a virtual restaurant environment. In the experimental surrounding, this free choice is assumed to serve as an outlet for the need for variety people perceive in different situations.

Again, it has to be emphasized that multiple studies focused on the amount of space within which people are able to move freely or not, i.e. the extent of *spatial confinement*. Studies like the one of Maeng & Tanner (2011) who recently studied consumer behavior in confined and crowded retail

contexts, as well as the one of Levav & Zhu (2009) who stated that spatial confinement leads to an increased need for variety in terms of brand choice, build the foundation of the study which is presented here. The latter mentioned study regarded variety seeking as a function to regain personal freedom, which, from the customers' perspectives, has been perceived while being "threatened" by space intrusion. This idea is adapted here and implemented in the research model.

The consumer's feeling of comfort: Dominance, Pleasure, and Arousal

Mehrabian & Russell (1974) introduced the construct of *dominance* within the context of environmental psychology to describe the degree to which people feel free to act in a setting, which means that they have control or not. Taking this construct (and the constructs of *confinement*) into account and remind ourselves of the above mentioned study of Van Rompay, Galetzka, Pruyn, and Garcia (2008), it becomes clear that the feeling of dominance is an important key to understand the effect of personal dispositions (desire for control) and faced surroundings (auditory & spatial confinement) on individual perceptions.

However, within the presented research context, *dominance* serves as one of the dependent factors as it is assumed to vary with the different degrees of environmental noise and spatial confinement in the environment, as well as with the stable traits of the participants..

Besides that, and with regard to personal emotional states, the participants' levels of *pleasure* and *arousal* are assessed. Bitner (1992) conducted an experiment which led to the conclusion that enjoyable physical and atmospheric surroundings can enhance consumers' *pleasure*. In addition to this, Vazquez-Carrasco and Foxall (2006) asserted in their paper that every human being has a preference for a certain level of *arousal*. If one derives from an optimal level, they stated, one seeks additional variety from the environment in order to regain this desired stimulation level.

Those three acute states of individual perception (pleasure / arousal / dominance) were measured by means of one single scale.

To be more clear, the lack or presence of people's feeling of dominance, arousal, and pleasure is assumed to be influenced by the concept of *confinement* (auditory/spatial) and moderated by their *desire for control* and degree of *psychological reactance*. High confinement is assumed to increase inner tension and to decrease feelings of dominance and pleasure.

While the temporary emotional conditions of dominance, arousal, and pleasure are regarded as acute situations during the experiment which evoke time-bound reactions. the factors of *desire for control* and *psychological reactance* can be described as relatively stable personality traits. An introduction to these two attributes is provided in the following section.

Personal dispositions and customer behavior: Psychological Reactance and Desire for Control

To a great extent, human behavior is quite predictable and likely to be manipulable within certain contexts. Nevertheless, people are not all the same and therefore, the optimal kind of surrounding is not always easy to define. It is ascertained that consumer behaviors can be traced back to the respective personal disposition of those consumers. With regard to that, the human characteristic which goes by the name of *psychological reactance* is examined here.

Brehm & Brehm (1981) described it as an individual's general tendency to regain personal freedom. It includes an attitude that aims the self-initiated regaining of control by means a reactive mode of behavior. Theoretically, psychological reactance can also be regarded as a behavior pattern.

For example, if one's freedom is "threatened" through reduced physical space within which a person is able to move, this situation may subsequently provoke reactance with the aim to restore that freedom (Wicklund, 1974). Yet, psychological reactance is classified as a stable human trait which refers to the general notion to stick to rules and conventions here.

In the present study, the freedom-threatening issue of spatial confinement is assumed to interplay with psychological reactance. Clee & Wicklund (1980) confirmed the fact that consumers' reactance might be triggered in many situations, for example when they experience a forced exposure to advertisements (Edwards, Li & Lee, 2002) or different kinds of environmental pressure (Mowen, 1988).

In the study, the threat of the loss of the consumer's freedom will be generated by auditory (noise) and spatial (physical) confinement. It is assumed that psychological reactance will be most likely manifested in terms of increased *variety seeking* and *arousal*, as well as in decreased perceptions of *dominance* and *pleasure* in the atmospheric conditions of disturbing noise or reduced space within the experimental environment. Accordingly, reactions are assumed to be contrary in the conditions wherein music is played and participants have more moving space available. Moreover, the participant's degree of psychological reactance is taken as an influential factor that is assumed to be manifested in consumer's *variety seeking*, a behavior that is introduced in the following section.

Before this is done, it is essential to present a second human trait that might influence consumer behavior. This trait that goes by the name of *desire for control* and is assumed to moderate consumer behavior and emotional states here. It is a disposition that reflects the degree to which people are motivated to control their environment (Burger, 1992).

The study of van Rompay, Galetzka, Pruyn, and Garcia (2008) gives reason to hypothesize that there is a connection between desire for control and certain consumer reactions. They examined the role of *dominance* (a construct which is explained in the last introductory section) within a retail setting where people experienced a restriction of *space*. They found out that human and spatial

density in fact negatively affected environmental experience, i.e. perceived control. Additionally, the impact of these variables depended on consumers' *general need for control*. This finding thus led to the inclusion of the factor which is rather relating to a personality trait than to an affective state: the *desire for control*. It is assumed that people who generally strive for a higher degree of control will likewise seek solutions to regain that control in situations in which it may get lost.

Connecting the concepts: Confinement, Psychological Reactance & Need for Variety

The paper tries to explore the way how people react to certain environmental cues in a public setting of consumption. It is focused on how the manipulation of atmospherics leads to the motivation to react in terms of counteracting spatial restrictions and auditory disturbances. In line with this, the inherent human traits of *desire for control* and *psychological reactance* are also kept in mind and regarded as moderating the effect of confinement on consumer reactions. It is taken a look at the ways individuals choose to regain satisfaction und and control in a "threatening" context and how overall satisfaction and in-store residence will be affected by the given circumstances. Along with the *need for variety* that is assumed to be triggered by confinement and manifested through a more varied product choice, effects on the consumers' *pleasure, arousal* and *dominance* levels are measured. Those concepts have been proved and tested in realms of experiments on psychology and consumer marketing. *Figure 1* provides an overview of the interplay of constructs that appear in the research model.





Fig. 1 Examined relations of concepts in the study

Research hypotheses

Taking the relevant literature into consideration, it became possible to set up several assumptions regarding the data that are generated from the study. The following hypotheses are made in order to guide our study goals:

H1: The degree of auditory and spatial confinement will significantly influence the participants' personal perception of confinement. A condition of high confinement will accordingly be perceived as more confining. Opposed to that, a condition of lower confinement will be perceived as such as well.

H2: The degree of auditory and spatial confinement will significantly influence the need for variety/ individuality in products in at least one way. Participants in conditions of high confinement will show a more varied product choice. Accordingly, participants in conditions of low confinement will diplay a lower need for variety.

H₃: The degree of auditory and spatial confinement will significantly and negatively influence the perception of pleasure and dominance in the experimental setting, while arousal will be positively influenced.

H4: There will be a moderating effect of *psychological reactance* and *desire for control* regarding the impact of confinement on product choice in terms of variety. Conditions of high confinement will lead to a more varied product choice for participants who appreciate control and tend to be reactant.

H₅: There will be a moderating effect of *psychological reactance* and *desire for control* regarding the impact of confinement on emotional states of pleasure, arousal, and dominance. Conditions of high confinement will lead to a decreased states of pleasure and dominance, as well as to an increased level of arousal for participants who appreciate control and tend to be reactant.

<u>Methods</u>

In total, two separate kinds of testing were applied: a pretest and a main experiment. The pretest had the purpose to rank the later provided products with regard to their exoticness. The according scores were used in the main experiment to determine the degree of the participants' variety seeking behavior.

The Pretest: Product exoticness

Before the start of the main experiments and tests that contributed to the final results, a pretest was applied. To provide valid stimulus material, participants had to evaluate several products in advance. Firstly, the products that finally were presented in the main experiment were rated on a scale: people had to indicate how exotic/individual, respectively familiar/conventional they would evaluate them. A high score for the food products indicated high familiarity, while a low score indicated exoticness.

Thus, the participants should state as how conventional they would consider every single product in terms of the frequency of direct confrontation with it in their everyday life. The rating was applied by means of a 7-points Likert Scale.

The purpose of the rating and the subsequent assignment of "exoticness scores" was that the chosen product could finally serve as an expression of the *need for variety*. The exoticness score plays an essential role in the main experiment where participants choose several products while remaining in different conditions of confinement.

As it has already been explained, the concept of *need for variety* was assumed to be disclosed in two different measures: The *number of products* that would be chosen by the test persons – and the exoticness of chosen products, which was just now designated by this pretest.

After all, 30 participants were recruited via the Internet to evaluate the 40 given products. Most of them orginated from the social surrounding of the experimenter. A Link to an online survey was provided; completing the survey took about five minutes in total. The data were used to calculate a Median exoticness score for every product.

The results of the pretest with the listing of the exoticness scores can be reviewed in *Table 1* which is depicted on the next page.

		Exotic	;		Exoti			
	Product	ness	SD	Product	cness	SD SD		
		Score			Score	e		
Soft	Royal Crown	1.2	.58	Schweppes Ginger Ale	5.7	1.16		
Drinks	Canada Dry	1.4	.63	Vittel	5.9	1.14		
	Mirinda	3.6	1.43	Fanta	6.6	.78		
	Pellegrino	4.6	1.62	Coca Cola	6.8	.64		
Beer	Sterling Beer	1.9	1.22	Miller Beer	2.9	1.60		
	Chang Beer	2.1	1.54	Grolsch Beer	6.0	1.52		
	Red Stripe	2.3	1.61	Heineken	6.8	.35		
Main	Dal Bhat	2.6	2.10	Schnitzel	5.0	1.98		
Course	Vanille-Garnalen	3.3	.88	Steak	5.5	1.38		
	Chicken Tikka Masala	4.2	1.84	French Fries	6.0	1.78		
	Potatoe casserole	5.0	1.76	Pizza	6.7	.70		
Snacks	African Singgara	1.6	.55	Vietnamese Loempia	5.0	2.09		
	Baked Samosa with exotic sauce	2.6	2.00	Potatoe Wedges	5.0	1.85		
	Aubergine with Yoghurt dressing	3.3	2.16	Frikandel	5.3	2.14		
	Sticks with cheese and grapes	4.6	1.74					
Fruits	Pepino Fruit	1.7	1.53	Apple Slices	5.7	1.79		
	Guavas	2.5	1.66	Strawberries	6.3	1.44		
	Nashi Peer	2.6	2.07	Banana Slices	6.6	1.35		
	Sugar Melon	5.1	1.63					
Dessert	Indian Milkballs	2.0	1.33	Vanillevla	5.2	1.88		
	Indian semolina	2.4	1.88	Yoghurt with fresh fruits	5.5	1.74		

Table 1. Exoticness scores on the basis of participants' personal ratings in the pretest.

The Main Study

The main experiment applied the the arranged model that was illustrated in the introduction within an experimental context. Thus finally, the research was taken to a crucial laboratory setting after the successful procedure of the pretest. This laboratory study can be regarded as the main experiment which generated the essential results.

Participants

In total, 87 respondents participated in the main experiment. 87 participants (62.1 % female, 37.9% male), with most of them residentiary in the Netherlands. The mean age was 22 years with a standard deviation of 3. With regard to consumption patterns, it could be detected that 18.4 % were vegetarians and 96.6 % were drinking alcohol.

Basically, there was no restriction to age, origin or educational background. Nevertheless it can be stated that most participants had an academic background because a majority of them was recruited as students of the University of Twente.

It was required that the participants understood Dutch language because the questionnaire was set up in Dutch and English.

Condition	Number of participants	Mean Age	Male (%)	Female (%)
High Spatial Confinement + High Auditory Confinement	22	21.7	50.0	50.0
Low Spatial Confinement + Low Auditory Confinement	22	20.4	27.3	72.7
High Spatial Confinement + Low Auditory Confinement	22	21.8	27.3	72.7
Low Spatial Confinement + High Auditory Confinement	21	22.8	47.6	52.4

Table 2. Demographic distribution in the different experimental conditions.

Recruitment and Procedure

Regarding the main experiments, participants signed up via Sona Systems, a platform administered by the University of Twente. Some students were recruited directly in the university or by the experimenter himself, using his personal social surrounding. Besides some basic demographic items, two validated self-report questionnaires were provided before the beginning of the field study. After that, the experimental simulation started and participants had to indicate their product choices. As soon as the simulation was finished, several items which addressed the personal perception of the participants had to be responded.

Experimental design, manipulation, and setting

A 2x2 between-subjects design which consisted of four conditions was set up. One factor was defined by the extent of *spatial* confinement (high/low) within the experimental setting, whilst the other one was divided into the degree of auditory confinement (high/low) the individual is confronted with. A controlled setting had been set up for the respondents. Within each experimental session, the experimenter accompanied the participants. The data were collected by means of a survey in the laboratory experiment. It was located in a prepared room of the hosting University of Twente. Participants were sitting in front of a big screen where the stimulus material was provided. The experiment could be declared a single blind experiment because people assumed that the testing only referred to the presented stimulus material on the screen. In fact, the actual situation of test persons in the experimental setting was taken into account as well. Spatial and auditory confinement were assumed to influence the participants' behavior.



Fig. 2. All four conditions visualized:

- 1. High auditory confinement/low distance between people
- 2. Low auditory confinement/wide distance between people
- 3. Low auditory confinement/low distance between people
- 4. High auditory confinement/ wide distance between people

All environmental stimuli were adequately prepared to match the desired experimental conditions that were extensively introduced before. Chairs and tables were rearranged in order to create different degrees of *spatial confinement*. The attending persons were sitting in close distance to each other in one condition, and in wider distance to each other in the other condition. The degree of spatial confinement was manipulated by means of the amount of social crowding (i.e., density of people within the field of the study), and additionally by physical confinement that was elicited by additional tables that narrowed the available space. Thus, a combination of physical and human confinement was used to likewise create different degrees of *perceived confinement*. Within every condition, six to twelve test persons were repectively attending the experiment, in three rows of tables, with two (condition of low spatial confinement) to three or four (condition of high spatial confinement) persons in each row. In the condition of high spatial confinement, the distance of participants in the same row was less than 50 centimeters. In the condition of low spatial confinement, a distance of at least one meter was provided. After the presentation of the stimulus material and complete answering of the survey, people had to evaluate to what extent they perceived the physical surrounding and human crowding as being confining and restricting. This procedure served well as a manipulation check.

The condition with low auditory confinement (or also called *Music Dominance* in *Fig.* 2) was manipulated by providing a restaurant simulation with addition of relaxing music which drowned out the usual environmental restaurant noises that might not even be remarked consciously. The chosen music track was voted by musicians and scientists as the second most relaxing song in a wide range of music tunes (www.shortlist.com, 2011). In an empirical way, several tunes were examined with regard to how they calm the body and mind, and how they create a relaxing atmosphere.

The condition of high auditory confinement (or also called *Noise Dominance* in *Fig. 2* above) was induced by presenting pure environmental restaurant noises that appeared disturbing; within that condition no background music was played at all. The pure noise of talking people and crashing cutlery was presented in an irregular manner while also sticking to real sounds of a restaurant that have been recorded in advance.

Participants were exposed to one of the four conditions mentioned above (high/low auditory confinement vs. high/low spatial confinement within the lab setting). They were equally weighted per conditions: finally, three experimental conditions included 22 people and one condition (Low Spatial Confinement + High Auditory Confinement) included 21 of them.

Image 1. Participants in the high confinement condition with a low distance to each other



Before starting the experiment and while already lingering in the condition of high/low spatial confinement, people were asked to indicate some demographic data and were provided a scale which measures the overall *desire for control*. Besides that, the participants filled in a scale that assessed their general tendency to display *psychological reactance*.

After ensuring the right manipulation of the stimuli, people were confronted with the virtual setting without knowing what is being measured. Speakers of appropriate power were provided to shift the focus on the background sounds respectively the music in the scenario. It was made use of a large screen to gain as much attention as possible. People were told to imagine that they are engaging in a "buffet tour" within a restaurant environment that is presented on the screen. It was explained to them that during the time when the scenario (thus the film segments of the restaurants) is presented, different types of products will be displayed on the lower part of the screen. When this happened, the film was stopped for a few seconds and participants could make a choice what kind of products (food and beverages) they would choose. The range of products they could choose was respectively restricted, so that they have to make a more thoughtful decision.

The offered products were assigned to different categories which were presented in the following chronological order: *Snacks, Soft Drinks, Beer, Main Courses, Fruits, Dessert.* In total, a spectrum of 40 products was provided.

It was prescribed that the participants that they should choose at least one and at most three products per category. People who do not drink alcohol were allowed to skip the choice of *Beer*. Afterwards, they were asked to fill in the scales which measured their perceptions while browsing the restaurant.

Measures

Perception of Confinement

There was one single item which addressed the question of how the participant would describe his/her feelings during spending the time in the surrounding. The 7-point scale ran from "confined" to "free", whereas the sort of confinement was not defined in more detail. After the reverse scoring via the statistical software, a high score on the scale indicated a high perceived level of confinement.

Psychological Reactance

There are several techniques allowing to measure the degree of psychological reactance. One of the most prominent instruments is the "Hong Psychological Reactance Scale" by Hong & Page (1989), a scale which is rather treating reactance as a trait, than as an acute state. The present study is aiming the goal of assessing how a general reactant personality moderates product choice. Therefore, this 14-item (α = .89) self report scale seemed to be adequate and well-fitting here. The items measure to what extent a person conforms to societal conventions or sticks to rules in general (e.g. *`It disappoints me to see others submitting to standards and rules.'*).

Desire for Control

Burger & Cooper (1979) designed the *Desirability of Control Scale* (DC) which is used to measure the according construct *Desire for control*, which was included within the hypothetical model. It relates to a stable personality trait which is said to be displayed consistently across situations by people whose control is endangered to be lost. It entails 20 items (α = .87) which which were validated by the authors themselves among college students (Burger & Cooper, p. 389). All the statements address the personal desire for control among different aspects of life (e.g. `*I prefer a job where I have a lot of control over what I do and when I do it.*') Six items (7, 10, 16, 19 & 20) had to be reversed to make the results valid.

Need for Variety

Theoretically, the need for variety can be assessed by means of different validated scales. Yet, another approach was handled here that was already highlighted in the present paper. Product choice was regarded as a manifestation of the need for variety and was determined in two-fold ways.

1. Median of chosen number of products

On the one hand, the *Need for variety* was assessed with the help of the Median score of the number of products that were chosen by each participant. A higher number of products thus indicated a higher need for variety. The range of chosen products could go from one to three products per category.

2. Product exoticness

On the other hand, participants were examined on how they choose certain products in the different experimental conditions. For that purpose, a "Product exoticness scale" has been composed before the beginning of the main experiment.

In the pretest 30 test persons had to rate several products, like drinks and main courses, on the basis of how exotic they would evaluate those products. Participants had to indicate to what extent they would rate the aliments as being commonly prevalent within their current cultural surrounding. After assessing the ratings, an *exoticness score* ranging from 0 to 7 (with a high score suggesting high familiarity) was attached to every single product that has been offered during the experiments. All the chosen products were taken together for every participant and a Median score was calculated for every individual. This was done by firstly summing up the exoticness scores of all the chosen products. After that, this sum was divided by the number of total chosen products.

Pleasure, Arousal, and Dominance

A well-fitting and well-established scale by Mehrabian and Russell (1974) has been used in the experiments. The two authors created a scale to measure three entities of emotional states: *Pleasure, Arousal,* and *Dominance.* In short, it is called the *PAD Scale,* which has been used in several studies of consumer behavior and originates from the PAD emotional state model.

The first part of this dimensional scale assesses *Pleasure* (α = .91) by means of six items and aims to measure how pleasant an emotion may be in a current situation. It consists of negative emotions like *fear* or *anger*, as well as of positive ones like *joy* or *satisfaction*.

The second part of the scale also consists of six items and is stating the level of *Arousal* (α = .81), meaning the intensity and excitation of the emotion. Anger and rage, for example, are two emotions of different intensity and people are accordingly more or less excited during these feelings.

Finally, the last dimension on this scale goes by the name of *Dominance* (α = .81). It has four items which describe the level of how dominant or submissive the according emotion is. People feel to have more or less control in one situation, so this is mirrored within their responses to this dimension. A low score indicated a high perception of dominance in this case. All the items of the

PAD-Scale were scored on a 7-point Likert scale. The whole survey can be viewed in the Appendix section in the final section of the present paper.

<u>Results</u>

Calculations were done with the use of the Statistical Program for Social Sciences (SPSS, version 22.0). At first, Table 3 provides an overview of the descriptive statistics with the inclusion of the independent and dependent variables of the research model.

Table 3. Descriptive statistics regarding the independent and dependent variables with Media and standard deviaton respectively.

	Auditory Confinement								
	L	OW	H						
Spatial Confinement	Low M (SD)	High M (SD)	Low M (SD)	High M (SD)	Total M (SD)				
Chosen Number of Products	1.83 (.91)	2.11 (.42)	1.44 (.54)	1.89 (.62)	1.87 (.64)				
Product Exoticness	4.94 (.86)	4.54 (.88)	4.96 (1.02)	4.38 (.73)	4.61 (.90)				
Pleasure	4.20 (1.07)	3.63 (1.34)	4.50 (.90)	3.17 (1.00)	3.76 (1.20)				
Arousal	3.55 (1.31)	3.98 (1.07)	4.06 (.83)	4.40 (.99)	4.03 (1.07)				
Dominance	3.85 (1.70)	2.76 (1.46)	4.64 (1.15)	2.72 (1.28)	3.29 (1.57)				

The Perception of Confinement

The ANOVA analyses were used with the two types of confinement as fixed factors, and the actual perception of confinement as dependent variable respectively.

The main effect of spatial confinement on perceived confinement was statistically significant, F(1, 81) = 18.29, p = .01, $\eta^2 = .18$ with participants in the condition with high spatial confinement (M = 3.79, SD = 1.37) perceiving a significantly higher degree of confinement than people in the condition without spatial confinement (M = 2.49, SD = 1.39). Partial eta-squared (η^2) for this effect was .184.

Figure 3 (see next page) summarizes the confinement perception results.



Fig. 3. The influence of auditory and spatial confinement on participants' perceptions of confinement.

The main effect of auditory/noise confinement was not statistically significant, F(1, 81) = .38, p = .53, and low, with partial $\eta^2 = .005$.

Moreover, there was no interaction between auditory and spatial confinement, F(1, 81) = .06, p = .82, partial $\eta^2 = .001$. An overview of the results of the ANOVA analyses described above is provided below in Table 4.

Effect on the general perception of confinement									
Confinement type	df	df (error)	F	р	η^2				
Auditory Confinement	1	8	.38	.53	.01				
Spatial Confinement	1	8	18.29	.00*	.18				
Interaction of Auditory Confinement & Spatial Confinement	1	8	.06	.82	.001				

Table 4. Influence of confinement manipulation on confinement perception. * = p < .05

Variety Seeking through Product Choice

The next stage included a MANOVA analysis with the two different conditions of confinement, as well as the two scores which display variety seeking (exoticness/number of products). The overall effect of spatial confinement was significant (Pillai-Spur = 0.11; *F*= 4.6; *d.f.* = 2.000; *p* = .013),

while the overall effect of auditory confinement was only marginally significant (Pillai-Spur = 0.07; F= 2.8; d.f. = 2.000; p = .066).

Auditory Confinement

The influence of auditory confinement on product choice / need for variety revealed to be nonexistent respectively insignificant, both for *product exoticness* and *chosen number of products*. Follow-up analyses showed that the influence on the latter subconstruct (chosen number of products) was not that weak with F(1, 79) = 3.21, p = .08 and nearly approaching significance for a higher number of chosen product within the condition of high auditory confinement, a connection to product exoticness choice was not present (F(1, 79) = 0.01, p = .93).

Spatial Confinement

On the other hand, spatial confinement revealed to have a greater impact on product choice, although significance was not given for both dependent factors. The value for the influence of spatial confinement on product exoticness choice missed the range of significance with F(1, 79) = 2.98, p = .09, but the Median of the chosen number of products was indeed affected by this type of confinement (F(1, 79) = 9.23, p = .00). People in the conditions of high spatial confinement chose a significantly higher number of products than those who were not spatially confined.

Figure 4 (see below) illustrates the effect of spatial confinement on the two types of product choice.



Fig. 4. The influence of spatial confinement on product choice. For the Median Product Exoticness Score, a low score on the y-axis indicated the choice of more exotic products.

Furthermore, there was no interaction effect between the two types of confinement; neither on product exoticness choice (F(1, 79) = .01, p = .97), nor on chosen number of products (F(1, 79) = .491, p = .49).

The results of this analytic stage are summarized in Table 5.

	Number of products			Product exoticness			
	df	F	р	df	F	р	
Auditory Confinement	1	3.21	.08	1	.01	.93	
Spatial confinement	1	9.23	.00*	1	2.98	.09	
Interaction of Auditory Confinement & Spatial Confinement	1	.49	.49	1	.01	.97	

Table 5. Influence of confinement manipulation on product choice. * = p < .05

The influence of Confinement on Pleasure, Arousal, and Dominance

A second ANOVA analysis included the two different conditions of confinement, as well as the scores of the PAD scale with its sub-scales addressing participants' level of pleasure, arousal and dominance respectively.

Effects on Pleasure

For one thing, the first dimension of the PAD scale, i.e. *pleasure*, was statistically significant influenced by the degree of spatial confinement with F(1, 83) = 7.83, p = .01. More specific, a higher spatial confinement indicated a lesser degree of pleasure. For another, the condition of auditory confinement did not have an effect on the level of pleasure (F(1, 83) = 2.52, p = .12).

Effects on Arousal

The second dimension measured the paticipants' level of *arousal* in the two conditions of confinement. It turned out that spatial confinement did not have an effect on arousal levels during the experiment (F(1, 83) = 1.95, p = .17). On the other hand, auditory confinement was positively influencing the degree of arousal in a significant way with F(1, 83) = 5.07, p = .03. Respondents were less aroused in the condition where music was played and no disturbing noises were present.

Effects on Dominance

At last, the influence of confinement types on perceived dominance in the experimental setting was assessed. Thereby, the results showed that auditory confinement did not have an effect (F(1, 83) = . 70, p = .41). But for the second time, spatial confinement did indeed have a significant (and in this case strong) influence on a dimension of the PAD scale. The lower the degree of spatial confinement in the experimental condition was, the stronger the feeling of dominance exceled (F(1, 83) = 13.87, p = .00). None of the ANOVA analyses showed an interaction effect of spatial and auditory confinement on the three sub-scales.



Fig. 5. Significant main effects of confinement on Pleasure, Arousal, and Dominance levels.

	Pleasu	re	ArousalDominance p df F p df F						
	df	F	р	df	F	р	df	F	р
Auditory Confinement	1	2.52	.17	1	5.07	.03*	1	.70	.41
Spatial confinement	1	7.83	.01*	1	1.95	.17	1	13.9	.00*
Interaction of Auditory Confinement & Spatial Confinement	1	.53	.47	1	.36	.55	1	1.24	.27

Table 6. Influence of confinement types on levels of pleasure, arousal, and dominance. * = p < .05

The moderating effects of Psychological Reactance and Desire for Control

To test the moderating effects of the possibly influential traits, a Median Split (separation of high and low scorers of the two moderators) and subsequent ANOVA was conducted with the factors of spatial and auditory confinement, as well as the crucial moderators *psychological reactance* and *desire for control*.

The analysis showed that there was a significant interaction effect of spatial confinement and reactance on pleasure (F(1, 86) = 7.12, p = .02). As can be seen in Figure 5 below, only for people with higher levels of reactance, spatial confinement had a negative effect on perceived pleasure. This interaction effect was non-significant for people with higher levels of *desire for control*. The remaining interaction effects of *psychological reactance* or *desire for control* with *spatial* and *auditory* confinement on the emotional states of *dominance* and *arousal*, as well as on the *choice of products* (variety seeking), were non-significant anyway. However, it is worth to mention that there was another marginally significant effect (F(1, 86) = 3.49, p = .07) for the group of highly reactant participants. This experimental group tended to feel less dominant in the condition of high spatial confinement, as opposed to their less reactant counterparts.



Fig. 6. The effect on pleasure levels for highly or lowly reactant participants in conditions of high and low spatial confinement.

<u>Discussion</u>

The present study implemented several strategies to investigate consumer behavior and reactions in different conditions of confinement.

Atmospheric surroundings were used to manipulate experimental conditions and multiple scales helped to assess participants' personal states and behavioral patterns.

Confinement Perceptions

At first, a kind of manipulation check was done to examine the influence of atmospheric conditions on the perception of the test persons. After all, this had the purpose to make sure that these conditions were set up in an adequate way.

With regard to the spatial confinement condition, it can be concluded that the manipulation worked well. Respondents did indeed evaluate the surrounding as more confining in the respective condition that was prepared in a more constricted way. It is likely that the manipulation succeeded because of the applied methods that revealed to work well in previous studies. As to say, studies like these of Levav & Zhu (2009) or Van Rompay, Galetzka, Pruyn, and Garcia (2008) served as examples to arrange the setting. It can be concluded that the right cues of human and object-related crowding were chosen to create the desired effects within the main experiment.

On the other hand, the use of disturbing noises did not carry the desired effects of confinement. The participants were not consciously influenced by the condition of auditory confinement and did not evaluate it as more confining than the condition where relaxing music was played.

For one thing, it is quite clear that music has the ability to evoke several positive emotions, as well as to reduce feelings of distress and anxiety (Clark et al.,2006) which may play an important role if one feels confined or dominated. The question is if people are generally able to evaluate auditory cues as "confining". It has to be taken into account that in the common opinion, the term "confinement" is rather related to a restriction of space. Auditory influences are perhaps more abstract and not that easy to be observed. Above that, Herrington (1999) found out that musical preference can indeed have a positive influence on the amount of time and money shoppers spend in service environments. Of course, this may not necessarily be transferred to a restaurant surrounding. In either way, in the example of Herrington (1999) positive reactions resulted when the provided background music matched the participants' personal preferences. In the present study, no assessment of people's musical tastes took place. Finally, the evaluation of music is very individual and likewise evokes very different emotions and behaviors across customers. These reactions depend on different background factors as well, e.g. the age of the particular person (Yalch & Spangenberg, 1990).

Confinement and the Need for Variety

Initially, the need for variety was assumed to be manifested through product choice: either more exotic product choices, or a higher number of chosen products was hypothesized as a result of constricting atmospherical conditions.

As the conditions of *auditory confinement* did not seem to have an effect on confinement perceptions, the test persons' more latent reactions with regard to product choice did not show a clear pattern either. The fact that music or background noises were present in the experiments did not really matter in terms of behavioral responses, namely by the expression of higher variety needs.

Admittedly, the respondents were influenced by the conditions of *spatial confinement*. In fact, they did not go for more exotic products in the conditions of high spatial confinement, but the narrowed surrounding had the effect that people tended to choose a higher *number of products*. Of course, this result leaves much scope for speculation and interpretation. It was stated that by seeking variance, an individual tries to free himself/herself from the perceived confinement. This process happens unconsciously most of the time. There is not a proof of causation available, but the literary background and the experimental setup both argue for the explanation that the participants' consumption behavior has to be associated with the manipulated test conditions. Again, the research by Levav & Zhu (2009) has to be mentioned, as it supports the assumption that restricted space results in product variety seeking. Parts of the present study can be regarded as complementary and supportive empirical proof to their findings: a different context finally created a congruent effect.

The connection of Confinement and Pleasure, Arousal, and Dominance

Next to the *behavioral* responses, the participants' *emotional* responses were focused in the present study. To be more clear: three emotional states were assessed in the main experiment.

At first, the degree of *pleasure* which was perceived by the respondents in the respective conditions was tested. In the condition of *spatial* confinement, a statistically significant influence was given. People evaluated the stay as more pleasurable when they lingered in the situation without restriction through space. Accordingly, Sommer (1967) stated in his proxemic theory that the violation of one's interpersonal space leads individuals to experience discomfort. The conditions of different degrees of *auditory* confinement did not alternate the feeling of pleasure.

Secondly, the respondents' *arousal* levels during the experiment were measured. This time, spatial confinement did not have a significant effect. The idea that an effect could be given was based on studies like the one of Worchel and Teddlie (1976) who found out that feeling socially crowded was

evoking feelings of arousal and stress. On the other hand, people felt less aroused when being exposed to lower levels of auditory confinement. It can be concluded that the relaxing music did indeed reduce the participants' inner tension. Of course, this finding is not too innovative, as countless studies supported the hypothesis that relaxing music can reduce stress and arousal rates (e.g. Knight & Rickard, 2001; Labbé, Schmidt, Babin & Pharr, 2007). Nevertheless, it is a valuable finding that the soundscape of a restaurant affects the customer's arousal level as it reduces the inner tension. Marketers should use this fact to include it into the basic plan of establishing a food store or restaurant.

Thirdly, the influence of confinement on the perception of *dominance* was measured. For the second time, an emotional response was influenced by spatial confinement. The individuals in the high spatial confinement condition felt significantly less dominant than their counterparts who faced less confinement. The finding makes sense, regarding the facts that all argue for this perceptual reaction to confinement in space. The different degrees of auditory confinement had no effects on perceived dominance. The twofold test of changes in dominance perception can likewise be regarded as additional manipulation check. Taking this into account, the conclusion may be that manipulations of space did work confining, while the auditory manipulation did not have that effect.

The moderating effects of Psychological Reactance and Desire for Control

It was an essential assumption during the entire study that human emotional reactions and behavior in the present context are not only influenced by the surrounding, but also by the personal constitution of the participants. Therefore, two relevant personality traits were included at the search for an explanation to consumption behavior: *desire for control* and *psychological reactance*. At first, a moderating effect of these continua on the connection between confinement and variety seeking was assumed. More precisely, variety seeking was reflected in the *number of chosen products*, respectively in a more *exotic product choice*.

It came out that none of these moderator analyses revealed a significant effect on product exoticness choice or chosen number of products. Both of the personality traits *desire for control* and *psychological reactance* did not play a role in this context of the model.

The trait of *desire for control* did not moderate any behavior or emotional reaction of the participants at all. An explanation to this could be the present experimental setting. In the beginning of the paper, it was mentioned that customers often display goal-directed behavior with which control is gained. The present setting represented a surrounding of a restaurant and cafeteria buffet. It is assumable that people would follow other interests there than they would do in a shopping mall, for example. Park (2003) stated that eating out has an experiental value with underlying

motivations of fun and social interactions. In contrast to that, shopping malls and retailers are rather motivating goal-directed behaviors (Bagozzi & Dholakia, 1999). Thus, it may be possible that the trait of *desire for control* did not counteract the present experimental conditions and thus neither had to evoke respective reactions of the participants.

The level of *psychological reactance* did not moderate any effects exerted by confinement on product choice. Reasons for this can be of multiple origins. It is striking that there is a lack of research which included psychological reactance during the last couple years. It is possible that the concept is outdated and behavior is not affected that extensively anymore by it. The construct was developed in the 60's and 70's of the last century where social conventions were totally different, compared to present times. It is likely that a rather rebellious attitude had a different weight back then.

On the other hand, moderating influences on the on the participants' emotional states were hypothesized. Participants who scored high on psychological reactance perceived less pleasure in a condition of high spatial confinement, in contrast to those who appeared to score low on reactance.

The hypotheses H₄ and H₅ could be not completely be confirmed, as only psychological reactance revealed to be influential on one emotional state (*pleasure*). The effect of space restrictions on perceived dominance was also partly influenced by reactance (there was a tendency of highly reactant participants to feel less dominant when spatially confined), but this result failed to prove significance.

The finding that people with high reactance levels felt less pleasurable in confined surroundings seems to make sense and is congruent with previous explorations. Quick & Stephenson (2007) made a clear statement, as they declared reactance as a latent variable that comprises of negative cognitions and state anger. Thus, it is likely that people who tend to be psychologically reactant rather display negative emotions, especially when their freedom is threatened.

Limitations of the study

The study provides insightful findings, but has to deal with certain boundaries as well. The product exoticness scores are prone to rater bias. For example, the beer called "Grolsch" is a regional brand that is especially known in the east of Netherlands where the experiments took place. In another context, one has to assume that the exoticness rating would look totally different.

Furthermore, the tendency to seek variance may not only be limited to the personality traits that were mentioned here. There are additional and essential human traits that may distort the results. Characteristics like "Openness to experience" (Gosling, Rentfrow & Swann, 2003) or "sensation seeking" (Arnett, 1994) may certainly contribute to more individual choices of products. In general,

personal tastes for certain kinds of food are also endangering the empirical stability of this measure. Above that, the construct of *psychological reactance* has to be evaluted with certain caution. Woller, Buboltz & Loveland (2007) found out that a younger age group exhibited higher reactance than a middle age group. Taking into account that a big majority of the respondents contained students, it is likely that the reactance scores were higher than in a more distributed population. At last, the issue of food choice and intake may be traced back to another factor: stress. Stress (e.g. evoked by confinment) may lead to increases, as well as to decreases in food intake (Adam & Epel, 2007).

Relevance in practice and future implications

Our research project contributed to further insights into psychological processes that may be exhibited within a consumption environment under certain circumstances. The study may be valuable for restaurant or food store owners to the extent that interior design and auditory stimuli can be arranged in a right manner, so that consumers will feel well and show "approach behavior". Consumers should not perceive consumption-centred environments as being restricting, disturbing or overly arousing in a negative way. Due to the multiple stimuli to which we are exposed to in everyday life anyways, persons who are responsible for restaurant design should keep in mind that less is sometimes more. On the one hand, the study indicates that narrowed space may lead to an increased number of purchased products. On the other hand – on an emotional level – this kind of confinement proved to rather evoke aversive feelings. The question is how an environment can be created which sustainably benefits both the marketer and the customer.

Store owners, scientists and designers can apply the findings to develop an optimal surrounding for customers. The present study examined the reaction of young people, so the findings may mainly be valuable for business people who want to address this according target group in their stores.

Follow-up studies should concentrate on customer motives in different consumption settings. Levels of spatial and auditory confinement possibly operate in different ways across customer contexts.

As it is quite clear that narrowed space rather evokes negative reactions, the effect of the soundscape is more ambivalent. It is time to include the personal constitution of customers when setting up a commercial environment. As Novak (2010) found out, people react very differently to noises and music in restaurant settings. These big differences in sensitivity to the auditory surrounding should shift the focus on what are the most comfortable volume levels and auditory contents in those contexts.

In the same vein, it has to be mentioned that certain personality constructs and their measures are not up to date anymore. The science of consumer behavior has to make use of psychological constructs which are valid and contemporarily relevant. Thereabove, an experimental shift to a target group of higher age would be interesting because the present study exclusively included young adults.

Finally, it would be interesting to find out if consumers also use different strategies to regain personal freedom. Next to a more varied product choice, it can surely be thought of other self-initiated actions to keep in charge of control or to restore the own freedom.

References

Adam, T. C., & Epel, E. S. (2007). Stress, eating and the reward system. *Physiology & behavior*, 91(4), 449-458.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50 (1991), 179–211.

Areni, C.S. and Kim, D. 1993, "*The influence of background music on shopping behavior: classical versus top-forty music in a wine store*", in McAlister, L. and Rothschild, M. (Eds), Advances in Consumer Research, Vol. 20, pp. 336-40.

Arnett, J. (1994). Sensation seeking: A new conceptualization and a new scale. *Personality and individual differences*, *16*(2), 289-296.

Averill, James R. (1973), "Personal Control over Aversive Stimuli and Its Relationship to Stress". *Psychological Bulletin*, 80 (4), 286-303.

Ballantine, P. W., Jack, R., & Parsons, A. G. (2010). Atmospheric cues and their effect on the hedonic retail experience. *International Journal of Retail & Distribution Management*, *38*(8), 641-653.

Bagozzi, R. P., & Dholakia, U. (1999). Goal setting and goal striving in consumer behavior. *The Journal of Marketing*, 19-32.

Bellenger, D.N.; Korgaonkar, P.K. Profiling the recreational shopper. *J Retail* 1980;56:77–92 (Fall).

Bitner, Mary Jo (1992). "Servicescapes: The Impact of Physical Surroundings on Customers and Employees," *Journal of Marketing*, 56 (April), 57–71.

Burger, J.M. (1985). Desire for control. New York: Plenum.

Burger, J.M. and Cooper, H.M. (1979). The desirability of control. *Motivation and Emotion*. 3, 381-393.

Brehm, S. S., & Brehm, J. W. (1981). *Psychological Reactance: A Theory of Freedom and Control*. Academic Press.

Clark, M., Isaacks-Downton, G., Wells, N., et al. "Use of preferred music to reduce emotional distress and symptom activity during radiation therapy." *Journal of Music Therapy* 2006; 43: 247-265.

Dube L, Morin S.: "Background music pleasure and store evaluation intensity effects and psychological mechanisms." *J Bus Res* 2001;54:107

Edwards, S. M., Li, H., & Lee, J. H. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising*, *31*(3), 83-95.

Eroglu, S.A., Machleit, K.A. and Chebat, J.C. (2005). The interaction of retail density and music tempo: effects on shopper responses. *Psychology & Marketing*, Vol. 22 No. 7, pp. 577-90.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in personality*, *37*(6), 504-528.

Guski, R., Felscher-Suhr, U., and Scheumer, R. (1999): The concept of noise annoyance: How international experts see it. *J Sound Vibration 223*, 513-527.

Herrington, J. Duncan and Capella, Louis M. (1996), "Effects of Music in Service Environments: A Field Study," *Journal of Services Marketing*, 10(2), pp. 36-41.

Hoffman, D. L., Novak, T. P., & Schlosser, A. E. (2003). Locus of control, web use, and consumer attitudes toward internet regulation. *Journal of Public Policy & Marketing*, 41-57.

Hong, S. M., & Page, S. (1989). A psychological reactance scale: Development, factor structure and reliability. *Psychological Reports*, *64*(3c), 1323-1326.

Hui, Michael K., Laurette Dube, and Jean-Charles Chebat (1997), "The Impact of Music on Consumers' Reactions to Waiting for Services," Journal of Retailing, 73 (1), 87-104.

Hui, M.K.; Bateson, E.G. (1991). Perceived control and the effects of crowding and consumer choice on the service experience. *Journal of consumer research*. (September) 1991;18:174–84.

Jung, H. S., & Yoon, H. H. (2012). Why do satisfied customers switch? Focus on the restaurant patron variety-seeking orientation and purchase decision involvement. *International Journal of Hospitality Management*, *31*(3), 875-884.

Kahn, Barbara E. (1995), "Consumer Variety-Seeking among Goods and Services: An Integrative Review," *Journal of Retailing and Consumer Services*, 2 (3), 139–148.

Kim, S. O., & Shelby, B. (2011). Effects of Soundscapes on Perceived Crowding and Encounter Norms. *Environmental management*, 48(1), 89-97.

Knight, W. E., & Rickard, N. S. (2001). Relaxing music prevents stress-induced increases in subjective anxiety, systolic blood pressure, and heart rate in healthy males and females. *Journal of music therapy*, *38*(4), 254-272.

Kryter, K.D., 1985. The Effect of Noise on Man, 2nd Edition. Academic Press, Orlando, FL. Levav, Jonathan and Rui Zhu (2009), "Seeking Freedom Through Variety," *Journal of Consumer Research*, 36 (4), 600-10.

Lin, Y. I. (2004). Evaluating a servicescape: The effect of cognition and emotion. International Journal of Hospitality Management, 23, 163–178.

Mattila, A.S., Wirtz, J., 2001. Congruency of scent and music as a driver of in-store evaluations and behavior. *Journal of Retailing*. 77, 273–289.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. M. I. T. Press, Cambridge, Massachusetts.

Mowen, J. C. (1988). Beyond consumer decision making. *Journal of Consumer Marketing*, 5(1), 15-25.

Novak, C. C., La Lopa, J., & Novak, R. E. (2010). Effects of sound pressure levels and sensitivity to noise on mood and behavioral intent in a controlled fine dining restaurant environment. *Journal of Culinary Science & Technology*, 8(4), 191-218.

O'Hara, K., Lipson, M., Jansen, M., Unger, A., Jeffries, H., and Macer, P. Jukola: "*Democratic Music Choice in a Public Space*." Proc. DIS2004, ACM Press (2004), 145 – 154.

North, A. C. (2012). The effect of background music on the taste of wine. *British Journal of Psychology*, *103*(3), 293-301.

Pan, F. C., Su, S. J., & Chiang, C. C. (2008). Dual attractiveness of winery: atmospheric cues on purchasing. *International Journal of Wine Business Research*, 20(2), 95-110.

Park, C. (2004). Efficient or enjoyable? Consumer values of eating-out and fast food restaurant consumption in Korea. *International Journal of Hospitality Management*, 23(1), 87-94.

Proshansky, H.M., W.H. Ittelson, and L.G. Rivlin (1974). "Freedom of Choice and Behavior in a *Physical Setting*". Environmental Psychology, Harold M. Proshansky et al (eds.), New York: Holt, Rineheart & Winston, pp. 170-181, 1974.

Quick, B. L., & Stephenson, M. T. (2007). Further evidence that psychological reactance can be modeled as a combination of anger and negative cognitions. *Communication Research*, *34*(3), 255-276.

Ratneshwar, S., Mick, D. G., & Huffman, C. (Eds.). (2003). *The why of consumption: contemporary perspectives on consumer motives, goals and desires* (Vol. 1). Psychology Press.

Simonson, I. (1990). The effect of purchase quantity and timing on variety-seeking behavior. *Journal of Marketing Research*, 150-162.

Sommer, R. (1967), "Small group ecology", Psychological Bulletin, 67(2), 145-152.

Stafford, L. D., Fernandes, M., & Agobiani, E. (2012). Effects of noise and distraction on alcohol perception. *Food Quality and Preference*, *24*(1), 218-224.

Steenkamp J-BEM, Baumgartner H. 1995. Development and cross-cultural validation of a short form CSI as a measure of optimum stimulation level. *International Journal of Research in Marketing*. 12(2): 97–104.

Van Rompay, T. J. L., Galetzka, M., Pruyn, A. T. H., & Garcia, J. M. (2008). Human and Spatial Dimensions of Retail Density: Revisiting the Role of Perceived Control. *Psychology&Marketing*,25(4).319-335.

Vazquez-Carrasco, R., Foxall, G. R. (2006): "Positive vs. Negative Switching Barriers: The Influence of Service Consumers' Need for Variety", *Journal of Consumer Behaviour*, Vol. 5 (4), p. 367-379.

Wansink, B. (2004). Environmental factors that increase the food intake and consumption volume of unknowing consumers*. *Annu. Rev. Nutr.*, 24, 455-479.

Wicklund, R. A. (1974). Freedom and reactance. Potomac, MD: Lawrence Erlbaum.Williams, Lawrence E, and John A, Bargh (2008), "Keeping One's Distance: The Influence of Spatial Cues on Affect and Evaluation". *Psychological Science*. *19* (3), 302-8.

Worchel, Stephen, and Charles Teddlie (1976), "The experience of crowding: A two-factor theory," *Journal of Personality and Social Psychology*, 34(1), 30-40.

Woller, K. M., Buboltz, W. C., & Loveland, J. M. (2007). Psychological reactance: examination across age, ethnicity, and gender. *The American journal of psychology*, 15-24.

Xu, J., Shen, H., & Wyer, R. S. (2012). Does the distance between us matter? Influences of physical proximity to others on consumer choice. *Journal of Consumer Psychology*, 22(3), 418-423.

Yalch, R., & Spangenberg, E. (1990). Effects of store music on shopping behavior. *Journal of Consumer Marketing*, 7(2), 55-63.

Yalch, Richard F. and Eric R. Spangenberg (2000). The Effects of Music in a Retail Setting on Real and Perceived Shopping Times. *Journal of Business Research*, 49 (August), 139–47.

<u>Appendix</u>

Appendix 1: Survey of the Main Experiment

Beste proefpersoon,

Alvast bedankt voor het meedoen aan mijn onderzoek. Ten eerste vraag ik u om zowel een paar algemene data op te geven, als ook een paar algemene attitudes van jezelf.

Geslacht: Leeftijd: Hoe hongri Heel erg hor	M V g voel je je o ngerig	p dit mon	nent?			Helemaal niet hongerig
1	2	3	4	5	6	7
Vegetariër(s)?					
□ Nee	🗆 Ja					
Drink je al	cohol?					

 \Box Nee \Box Ja

(Het Volgende deel in het engels)

The following statements concern your general attitudes. Read each statement and please indicate how much you agree or disagree with each statement. If you *strongly agree* mark a 7. If you *strongly disagree*, mark a 1. If the statement is more or less true of you, find the number between 5 and 1 that best describes you. Realize that students do not feel the same nor are they expected to feel the same. Simply answer how **you** feel. **There are no right or wrong answers. Just answer as accurately as possible.**

1. Regulations trigger a sense of resistance in me.

Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7				
2.	2. I find contradicting others stimulating										
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7				
3.	3. When something is prohibited, I usually think, "That"s exactly what I am going to do".										
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7				
4.	4. The thought of being dependent on others aggravates (=ontstemt) me.										

5. I consider advice from others to be an intrusion.

Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7			
6.	I become frustra	ated when I	am unabl	e to make fr	ree and indepe	ndent decisions				
Stro	ongly Disagree						Strongly Agree			
	1	2	3	4	5	6	7			
7.	7. It irritates me when someone points out things which are obvious to me.									
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7			
8.	I become angry	when my fr	eedom of	choice is re	stricted.					
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7			
9.	Advice and reco	mmendatio	ons usually	induce me	to do just the	opposite.				
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7			
10.	I am content on	ly when I ar	n acting o	f my own fr	ee will. 11.					
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7			
11.	I resist the atten	npts of othe	ers to influ	ience me.						
Stro	ongly Disagree 1	2	3	4	5	6	Strongly Agree 7			
17	It makes ma and		other per	con ic hold .		idal far ma ta fa	llow			
12.	2. It makes me angry when another person is held up as a role model for me to follow.									

Strongly Disagree						Strongly Agree
1	2	3	4	5	6	7

13. When someone forces me to do something, I feel like doing the opposite.

Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7				
14. It disappoints me to see others submitting to standards and rules.										
Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7				

In the section below you will find a series of statements. Please read each statement carefully and respond to it by expressing the extent to which you believe the statement applies to you. For all items, a response from 1 to 5 is required. Use the number that best reflects your belief when the scale is defined as follows:

- 1 = The statement does not apply to me at all
- 2 = The statement usually does not apply to me
- 3 = Most often, the statement does not apply

4 = I am unsure about whether or not the statement applies to me, or it applies to me about half the time

- 5 = The statement applies more often than not
- 6 = The statement usually applies to me
- 7 = The statement always applies to me
- 1. I prefer a job where I have a lot of control over what I do and when I do it.
- 1 2 3 4 5 6 7 2. I enjoy political participation because I want to have as much of a say in running government as possible. $2 \overline{3} \overline{4} \overline{5} 6$ 1 3. I try to avoid situations where someone else tells me what to do. $2 \ 3$ 4 5 6 7 1 4. I would prefer to be a leader than a follower. 1 2 3 4 5 6 7 5. I enjoy being able to influence the actions of others. $2 \ 3$ 4 5 6

7

7

6. I am careful to check everything on an automobile before I leave for a long trip.	<u> </u>	2	3	4	5	6	7
7. Others usually know what is best for me.	1	2	3	4	5	6	7
8. I enjoy making my own decisions.	1	2	3	4	5	6	7
9. I enjoy having control over my own destiny.	1	2	3	4	5	6	7
10. I would rather someone else take over the leadership role when I'm involved in a group project.	1	2	3	4	5	6	7
11. I consider myself to be generally more capable of handling situations than others are.	1	2	3	4	5	6	7
12. I'd rather run my own business and make my own mistakes than listen to someone else's orders.	1	2	3	4	5	6	7
 I like to get a good idea of what a job is all about before I begin. 	1	2	3	4	5	6	7
14. When I see a problem, I prefer to do something about it rather than sit by and let it continue.	1	2	3	4	5	6	7
15. When it comes to orders, I would rather give them than receive them.	- <u> </u>	2	3	4	5	6	7
16. I wish I could push many of life's daily decisions off on someone else.	<u> </u>	2	3	4	5	6	7
17. When driving, I try to avoid putting myself in a situation where I could be hurt by another person's mistake			-		_	-	-
person's mistake.		2	3	4	5	6	7

- 18. I prefer to avoid situations where someone else has to tell me what it is I should be doing.
- 19. There are many situations in which I would prefer only one choice rather than having to make a decision.
- 20. I like to wait and see if someone else is going to solve a problem so that I don't have to be bothered with it.

Klaar met deel 1! Ga naar de volgende pagina \rightarrow

Beste proefpersoondeelnemer,

Je krijgt nou een filmfragment te zien. Je ziet gewoon een Restaurant-setting waar mensen aanwezig zijn om deel te nemen aan een Buffet in het kader van een Business-bijscholing. De personen kennen elkaar niet, er wordt Drank&Eten aangeboden. Stel je eens voor dat jij ook deelneemt aan het Buffet. Alle personen zijn vreemd en je loopt de zaal door om de locatie te bekijken en natuurlijk om te eten. In de bijgevoegde volgende vragenlijsten wordt het aangeboden Buffet-deel telkens gepresenteerd. Kruis telkens aan voor welke menu´s,snacks,dranken en desserts je in deze situatie zou kiezen. Geef tenminste **een** en maximaal **drie** keuzes per onderdeel. Kies voor wat je graag zou eten/drinken in de situatie waar je op dit moment in zit. Binnen het filmpje wordt telkens ingevoegd voor welk deel van het buffet je op gegeven moment mag kiezen. Let erop en kies voor eten&drank als de aanwijzing op het beeldscherm verschijnt! Als je geen bier drinkt, mag je het desbetreffende deel van keuze overslaan. De onderdelen van het buffet vind je op de volgende pagina´s!

Hartelijk bedankt voor het meedoen aan mijn onderzoek. Simon Rump

<u>Snacks</u>

	Frikandel	\bigcirc
	Aubergine met Yoghurtdressing	0
I	Loempia	\bigcirc
	Gebakken Samosa met exotische saus (Indiaans)	0
	Sticks met kaas en druiven	0
	Singgara (Afrikaanse deegspecialiteit)	0
AN AN		
Aar	dappelpartjes	\bigcirc

Dranken (non-alcoholic)



Coca Cola 🔘	
Mirinda (Spanje) 🔿	
Royal Crown Cola (USA)	0
0	

Canada Dry Ginger Ale

 \bigcirc



San Pellegrino Mineraalwater (Spanje) \bigcirc





Grolsch	0
Chang Beer (Thailand)	0
Red Stripe (Jamaica)	0
Heineken 🔿	
Miller Draft (USA)	0

Sterling (USA)

<u>Vruiten</u>



Pepinovruit ("Meloenpeer") \bigcirc \bigcirc \bigcirc \bigcirc

 \bigcirc

Hoofdmenu's

	Chicken Tikka Masala (Indiaans)
	Pizza Slices
	Patat
Da	ll Bhat (Rijstgerecht uit Nepal)
Van	ille-Garnalen
Stea	ık
	ardappel ovenschotel

 \bigcirc

Dessert





Vanillevla





Indiaans Griesdessert \bigcirc



Yoghurt met verse vruiten O



Indiaanse Melkballetjes

 \bigcirc

In de volgende sectie vragen we jou om aan te geven hoe je in de getoonde situatie voelde. Er zijn een aantal woorden die je gevoelens beschrijven. Kruis telkens aan in hoeverre de woorden best bij je stemming in deze setting passen.

Hoe zou je je gevoelens tijdens het verblijf beschrijven?

benauwd	0000000	vrij
onprettig	0000000	prettig
koel	0000000	vrolijk
afhankelijk	0000000	onafhankelijk
vreemd	0000000	vertrouwd
algemeen negatief	0000000	algemeen positief
vervelend	0000000	ontspant
wanhopig	0000000	hoopvol
ongelukkig	0000000	gelukkig
melancholiek	0000000	tevreden
geërgerd	0000000	plezierig
ontevreden	0000000	tevreden
rustig	000000	ongewonden
anganmilikald	0000000	opgewonden
ongeprikkelu	0000000	
doi	0000000	gelukkig
relaxed	0000000	gestimuleerd
slaperig	0000000	opgewekt
traag	0000000	wild
dominant	0000000	onderdanig
controlerend	0000000	geprikkeld
autonoom	0000000	geleid
invloedrijk	0000000	beïnvloed
5		