

# UNIVERSITY OF TWENTE.

## **To Queue or not to Queue**

A study on minimizing balking in movie theatres

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## **Abstract**

This study is focused on influencing people's queuing behaviour at the point that they have seen a queue but have not yet decided to join it. The main focus lays on influencing people who would, upon seeing a long queue, opt to balk. The setting that was chosen for this study was the movie theatre where balking occurs regularly. Two ways of influencing are tested, namely by presenting waiting time information (via a clearly visible television screen) and by presenting distractions (showing trailers via a projector on a big white wall). These two approaches were chosen where earlier research has addressed their positive influence on the waiting experience. Next to queuing behaviour other variables were tested such as the estimated waiting time, expected waiting experience and emotional state. Customer profile and frequency of movie visits served as covariates. The experimental setting consisted of a 2 (information vs. no information) x 2 (distraction vs. no distraction) x 4 (customer profile: social, apathetic, cinema buff, frequency of movie visits) between-subjects factorial design and data were collected via an online questionnaire. Results show that distractions have an effect on emotional state (pleasure and arousal), but does not have an effect on queuing behaviour. Waiting time information did show to have an effect on queuing behaviour and can lessen balking behaviour through influencing the estimated waiting time of participants. This study delivers a focus shift in literature from waiting experience to waiting perception. Results provide service organizations with new insights on how to attract people to a waiting situation, even if the waiting experience is not optimal. The basis for social psychological research on balking behaviour is set in this study, however to gain a better understanding of this phenomenon, observational and experimental research designs are recommended

**Keywords:** Balking, Queuing behaviour, Queue perception, Movie Theatre, Waiting time information, Distraction, Customer profile, Emotional state.

## **1 Introduction**

Every week on peak days, movie theatres all over the world are challenged with long queues filled with enthusiastic moviegoers. Things are looking up for the movie industry, the last couple of years people have found their way back to the movie theatre and marketing budgets seem to get bigger every time (MPAA, 2015). Good news for the movie industry of course, but the growing number of visitors that come to the movie theatre put pressure on movie theatres' operation management. Long waiting lines seem to be inevitable. One of the main challenges of movie theatres can therefore be characterized as a capacity challenge in which the main focus lays on serving the growing number of people and keeping them satisfied.

Waiting lines are nothing new. As long as there have been people there have been queues. With society becoming more civilized, the way we queue became more organized. Nonetheless a queue in its basic principle, being a line or sequence of units waiting their turn to be attended or to proceed, is timeless. Professor Dick Larson, one of America's foremost scholars on queuing theory (giving him the nickname Dr. Queue), argues that queuing research emerged about 100 years ago in Denmark. Back when the Danish scientist Agner Krarup Erlang did exploratory research on queue models to describe the Copenhagen telephone exchange system (Larson, 1987).

Initially, scientific literature on waiting lines mainly existed of mathematic research on queuing models. These mathematical theories were solely concerned with the objective reality of various 'queue management' techniques (Maister, 1985). It was not until the 1980's that research expanded to more social psychological studies on queuing. Sasser, Olsen and Wyckoff (1978) for example found in their research that, from an operations management perspective, in certain cases social psychological solutions proof to be more effective than mathematical solutions. In other words, in certain cases managing waiting time experience proofs to be more effective than managing the objective waiting time. In general, researchers agree that waiting experience has a strong effect on overall satisfaction with the service that is provided by an organization (Katz, Larson & Larson, 1991; Taylor, 1994; Pruyn & Smidts, 1998; Allard, Van Riel, Semeijn, Ribbink & Bomert-Peters, 2012).

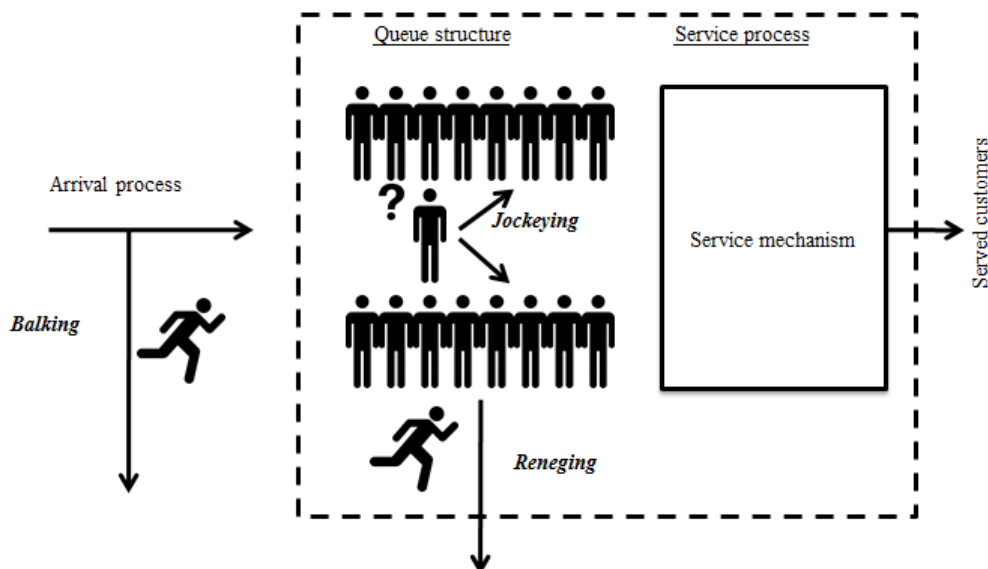
When it comes to waiting lines Reid and Sanders (2009) found that, next to simply waiting in line until being served, there are three behavioural patterns that can be distinguished. One could wait in line and leave before being served (referred to as reneging);

one could switch from one line to another line (referred to as jockeying); or one could leave before joining a waiting line (referred to as balking) (see Figure 1.1).

Most of existing literature on waiting experience is focused on people who actually stand in line, the current study however is aimed at widening the scope by transcending the waiting experience and focusing solely on the phase that occurs before a person has actually started waiting (arrival process). In this phase a person perceives a waiting line for the first time and still has to decide whether he will join the line or not join the line (and balk).

One may argue that balking visitors have a negative perception on the expected waiting time, therefore also affecting their overall satisfaction of the service provided by the movie theatre (Pruyn & Smidts, 1998; Maister, 2005; Houda & Taoufik, 2009). Next to that, seeing a lot of people leave, might have an even more negative effect on customers who observe this.

Having a better understanding of balking helps in finding ways to better manage visitor satisfaction. However, there is also a financial aspect associated with balking (Osuna, 1985). One could state that balking costs money. There is not only a cost associated with providing a service, but also a cost associated with keeping visitors waiting. If a visitor decides to balk, this can be seen as a loss of potential revenue (Hassin, 1986; Houda & Taoufik, 2009).



**Figure 1.1** - Reneging, jockeying and balking

When focusing on the busy movie theatres again, it is known that visitors have to deal with contingencies like missing the beginning of a film, ending up with bad seats or maybe even worse, the possibility of the film selling out when being faced with a long line. These threats might have different effects on different people. A regular moviegoer might for example be more skilled in anticipating the course of the waiting lines at a particular movie theatre than someone who goes to the movies no more than twice a year. However in general it can be stated that long waiting lines have a negative influence on emotions, which means people may feel uncomfortable, uncertain, frustrated, irritated, demoralized, stressed and even frightened (Dubé-Rioux, Schmitt & Leclerc, 1988; Gardner, 1985; Katz et al., 1991; Maister, 1985; Osuna, 1985). Audience that does not want to or cannot cope with these emotions might choose not to enter a waiting line at all and balk.

This study focuses on the different types of moviegoers, their perception of waiting lines, and the influence information and distraction have on this perception. By clearly showing information about the waiting time or by showing a distraction, visitors' expectations and emotions might be influenced (Maister, 1985; Hui, Alan & Zhou, 2006). In other words, this study aims to describe the effect information and distraction have on the perception of a waiting line from the perspective of someone who has not joined the waiting line yet. The reasoning behind this approach is that when people with a tendency to balk perceive a waiting line in which information or distraction is provided, their desire to balk decreases.

To conclude this chapter the main research question is proposed. This specific study is aimed at investigating if an instalment of the external cues information and distraction in a waiting line leads to less balking in movie theatres. The following research question is formulated: 'How can information and distraction alter waiting line perceptions and expectations, leading to less balking behaviour in movie theatres?'

## 2 Theoretical Framework

### **2.1 Waiting Lines and Balking**

Having to wait in a long waiting line is generally a frustrating experience for people (Maister, 1985; Katz et al., 1991; Davis & Heineke, 1994; McDougall & Levesque, 1999; Nie, 2000; Dabholkar, 2015). As people experience a greater squeeze on their time, even short waits seem longer than ever before. It has been known for years in service literature that the real issue in queue management is not the actual waiting time, but the perceptions people have on the waiting time (Davis et al., 1994; McGuire, Kimes, Lynn, Pullman & Lloyd, 2010). If firms can shorten the perceived waiting times for customers, then customers will feel more satisfied with the service provided (Katz et al., 1991; Dabholkar, 2015). This study is aimed at altering that perception in the phase that occurs before joining a queue and actually partaking in the waiting process. In this phase, one perceives a queue from the outside after which a decision making process follows. One can either decide to join the queue or to not join the queue and to leave, in other words balk. The objective of the current study is to find out ways to minimize this balking behaviour.

Literature on queuing systems initially only consisted of mathematical models (Pazgal & Radas, 2008). Thus when Udagawa and Nakamura (1957) coined the term balking for the first time, it was described accordingly: *‘An arriving item may not join the queue if there are any items in the syste’* (Ancker & Gafarian, 1962). Because mathematical models of queuing systems do not consider psychological costs of waiting in line, these models have been criticized as being inappropriate for service providers (Carmon, Shantikumar & Carmon, 1995; Pazgal et al., 2008). With service literature focusing more on psychological aspects and solutions in queuing models, the term balking is reformulated as follows: *‘The occurrence of a person not joining a queue for it being too long’* (Reid & Sanders, 2009).

It is not easy to state when a specific queue is deemed a long queue. Pazgal and Radas (2008) found in their experiment that for every line longer than a certain critical length, people balk. For every line shorter than this critical length people join the queue. This critical length is not universally known and differs per person. Depending on a customer’s expectation regarding the waiting time, which is formed through accumulated experience and affected by subjective factors (time perception, importance of service, attractiveness of waiting environment etc.), he or she decides whether to balk or not (Zohar, Mandelbaum, Shimkin, 2002). For example,

regular customers of a certain organization will have more experience in how long the estimated waiting time will be. Moreover customers who expect to wait a few seconds will behave differently in the case they expect to wait several minutes or even hours. These expectations might differ if past experience consists of short waits or long waits. So expectation is influenced by numerous factors related to customer profiles and environmental characteristics (Maister, 1985; Zakay & Hornik, 1996; Levine, 1997). One might argue that, next to fixed factors like customer profiles and past experience, the expectation people have is based on their perception of a waiting line or waiting area. This study focuses on this perception and is aimed at finding ways to alter the perception people have of a waiting line.

Roughly two ways of reducing perceived waiting time have been distinguished in literature, namely by providing *information* on the waiting period or by inserting *distracting stimuli* during the waiting time (Maister, 1985; Katz et al., 1991; Zakay & Hornik, 1991).

## **2.2 Balking Behaviour and Information**

Over the years a lot of research has been done on waiting time perception and the role information plays in it. Queuing literature traditionally focused on minimizing the objective waiting time through operations management in order to decrease dissatisfaction with waiting (Carmon, Shantikumar & Carmon, 1995; Baker & Cameron, 1996). However, later on, researchers started exploring the psychological ramifications of waiting for service. Osuna (1985) for example, proposed a theoretical model of the psychological stress individuals experience during a wait and shows that if individuals cannot observe the service process and are uncertain about the duration of the wait, then stress increases during the waiting experience. Later on, research in marketing supported the relationship between waiting time perception and service satisfaction (Maister, 1985; Katz et al., 1991; Taylor, 1994; Taylor, 1995; Dabholkar, 2015).

Nowadays it has been widely accepted that providing delay duration information is a management intervention that can positively affect the expectations consumers have of a delay without changing objective delay duration (Hui et al., 2006). Therefore, providing delay information may affect both perception of the delay duration (Katz et al., 1991; Antonides, Verhoef & Van Aalst, 2002; Hossfeld, Egger, Schatz, Fiedler, Masuch & Lorentzen, 2012) and their emotional feelings during the delay (Hui & Tse, 1996).

Literature distinguished several ways in which information about the waiting line can be provided. For example, a service organization can provide information by giving a waiting time guarantee to customers, however the danger of giving guarantees is not being able to meet them (Hui & Tse, 1996). Kumar, Kalwani and Dada (1997) found that satisfaction with service decreases when the waiting time guarantee is not met. Another way a service organisation can give information is by communicating your relative position in the queue, also called queuing information. Call centres often use this type of queuing information to inform callers about their delay (Hui & Tse, 1996). Instead of giving a waiting time guarantee, service organizations can also give information about the estimated waiting period (Clemmer & Schneider, 1993). However Hui & Tse (1996) found that providing this kind of information in the case of long waits does not necessarily make people perceive the waiting period as more acceptable. However, it can be argued that in case organizations have a large throughput rate, estimated waiting time information can positively influence a customer's perception on a long waiting line.

Whitt (1986) adds to this presupposition by stating that in low information settings, where people can only choose a queue based on the number of people waiting in it, people automatically use queue length as a reference for waiting time. Thus, when people have a choice between two queues they automatically choose the queue with less people in it. The underlying process in this case is focused at waiting time estimation. People automatically prefer short queues over long queues, where they estimate the waiting time to be lower.

Therefore, one can imagine that providing information on waiting time can guide people in their waiting time estimation and change people's preferences in picking a queue. A long queue does not necessarily mean a long objective waiting time, however, people can still experience the waiting time to be long. Maister (1985) proposed an explanation for the difference in objective and experienced waiting time in which he states that uncertain waits are longer than known waits, where the uncertainty leads to associated feelings like uneasiness and anxiety. Taylor (1994) proposed in her research on waiting experience that there are two main negative affective reactions that can be used to describe the waiting experience, namely *uncertainty* with associated feelings like anxiety, uneasiness and unsettlement, and *anger* with associated feelings like irritation, annoyance and frustration. Much of the reasons for anger however can be attributed to the uncertainty involved in



waiting. Waiting time information can take away the uncertainty about waiting time which can make customers feel better (Larson, 1987).

As a result of the literature found on information and balking it can be argued that providing a clearly visible and acceptable waiting time estimation can guide people in their waiting time information and therefore convince people to join a waiting line, whereas this might not be the case in a queue without this information. The information that is provided takes away the uncertainties of an unknown wait, therefore removing barriers to join the queue. Following from this the first hypothesis is formulated.

**H1:** Providing information on estimated waiting time in queues guides people in their waiting time estimation and takes away uncertainties of an unknown wait, therefore leading to less balking behaviour in movie theatres as opposed to queues without this kind of information.

### **2.3 Balking behaviour and Distractions**

Next to the role of information research has also focused on the role distractions play in waiting situations. Zakay (1989) stated that individuals possess cognitive timers that use attentional resources to process temporal information. In other words, the more people pay attention to the passage of time, the slower it seems to pass (Hornik, 1984). In addition Maister (1985) proposed that unoccupied time feels longer than occupied time. Specifically, it is important for service organizations to distract people from paying attention to time passage.

There are several ways in which people can be distracted from time. Pruyn and Smidts (1993) distinguished two groups of distractions, namely background distracters and foreground distracters. Design elements in the waiting area like music, lighting and architecture can be seen as background elements. These distracters directly and positively influence satisfaction with service. However, foreground distracters like infotainment and advertising are supposed to affect people's internal clock by means of distracting the attention from the passage of time itself (Zakay, 1989).

Several types of foreground distracters have been tested. Katz, Larson and Larson (1991) for example did a study on the effect of dynamic news boards on waiting time perception in a bank. They found that showing a dynamic news board during the wait did not significantly affect perceived waiting time. However it did make the waiting experience more pleasant. Smidts and Pruyn (1994) had a similar result in their experiment with television

screens in waiting rooms of outpatient departments. The results of their study showed that people who had the opportunity to watch television perceived the waiting time to be longer than it actually was. However Jones and Peppiatt (1995) conducted the same type of experiment in which they studied the effect of a television screen consistently broadcasting the same channel in a small retail store. Their results showed that the television screen significantly lowered perceived waiting times, supporting Maister's proposition. So it can be argued that distractions do not necessarily lower perceived waiting time, but can make waiting time more pleasant. In addition, the effectiveness of a TV screen as a waiting environment distracter increases when the content that is being displayed is congruent to the waiting context (Borges, Herter & Chebat, 2015). Reversal theory suggests that when people are in situations where boredom or anxiety can be present (i.e., the waiting line in front of the ticket box at the movie theatre), they are more focused on time passage, which makes time drag on and go slowly. However, when being distracted by an entertaining environment time seems to pass more quickly. This is because negative emotions of boredom or anxiety are reversed to more positive emotions (Apter, 2007; Van Hagen, Galetzka & Pruyn, 2014). However to offer an optimal pleasant experience, an optimal level of activation is needed, where overstimulation will have a negative effect on pleasantness of the experience (Apter, 2007; Massara, Liu & Melara 2010).

All of the previously named researches were focused on the effects of distractions during the waiting time and come to the overall conclusion that a 'distracted wait' with an optimal level of activation, seems to be more desirable than a wait without distraction or an overstimulated wait. However when it comes to studying the effect of distractions on overall queue perception and the expected waiting experience people have of a waiting line, no research has been found. In order to study how to influence the expected waiting experience of a waiting line, it has to be clear what elements the waiting experience consists of. As stated earlier, up to this point in time, focus in literature was aimed the actual waiting experience and not expected waiting experience. However, one may argue that the key components on which the waiting experience is measured, also serve as key components to measure the expected waiting experience, as being part of the perception people have of the waiting situation. Pruyn and Smidts (1998) distinguished a cognitive waiting experience and an affective waiting experience. The cognitive component reflects the perception of the time span in terms of long or short. This perception can be influenced by distractions, where

attention is distracted from the passage of time (Zakay, 1989). The affective component consists of the emotional responses towards the waiting experience which consists of the fairness of the wait, annoyance, boredom and stress. Looking at enhancing the expected waiting experience people have of waiting lines in the movie theatre, a case could be made for foreground distracters. For example a big screen displaying trailers for upcoming movies might show people that there is a distraction present which could make the wait more pleasant.

To conclude this paragraph, the second, third and fourth hypothesis will be introduced. As has been found in literature, when using a (TV) screen as a distracter which shows content which is congruent to the waiting context, waiting is made to be more pleasurable and in addition, perceived waiting times might be lowered, positively influencing emotional responses.

**H2:** Implementing a screen that is displaying movie trailers to the waiting context will have a more positive effect on expected waiting experience as opposed to waiting lines without such a distraction.

The third and fourth hypotheses focus on the interaction effect of information and distraction in queues. The purpose of these hypotheses is to test whether the effect of a combination (information + distraction) has a different effect on expected waiting experience in comparison with queues in which only information or distraction is presented. It can be argued that people who experience time pressure rather receive waiting time information than a distraction. However, when this information is present and an additional distraction is provided, the willingness to join a queue may be higher.

**H3:** The effect of waiting time information in queues on queue perception is greater when it is presented with a distraction as opposed to queues in which no distraction is presented.

**H4:** The effect of distraction on expected queue perception is greater when it is presented with waiting time information as opposed to queues in which no waiting time information is presented.

## **2.4 Balking in the Movie Theatre**

Going to the movies is arguably one of the most popular leisure activities of all time. With accessible prices and diverse movies to choose from, the movie theatre industry is appealing to a large part of the population and therefore keeps on growing every year (MPAA, 2015).

Not surprisingly, movie theatres regularly have to deal with a large flow of visitors. This is especially the case during peak hours when many people line up in front of ticket boxes to buy tickets for a movie they want to see.

#### **2.4.1 Emotional state**

While long lines at first thought might seem beneficial to the movie theatre, there are also downsides. The long lines impose uncertainties on the visitors. Moviegoers might arrive late to the movie they want to see for example. It is also possible that there are only bad seats available or even worse; the movie is sold out before they could buy a ticket. So the contingencies might lead to people having a certain expectation about a waiting line and therefore ultimately lead to balking behaviour, which in turn means a loss of potential revenue. In other words, there is a financial cost associated with balking behaviour. Each person that turns away from the waiting line can be seen as a loss of potential revenue (Houda et al., 2009). So minimizing balking behaviour is not only a service optimization problem, but also a cost minimization problem.

It can be argued that emotions play a big part in arousing balking behaviour. When being confronted with a long line and having to deal with the contingencies described above, people may be overwhelmed by a whole array of negative emotions. This can lead to people feeling uncomfortable, uncertain, frustrated, irritated, demoralized, stressed and even frightened (Dubé-Rioux et al., 1988; Gardner, 1985; Katz et al., 1991; Maister, 1985; Osuna, 1985). Audience that does not want to, or cannot cope with these emotions might choose not to enter a waiting line at all and balk.

Meharabian and Russel (1974) found that environments evoke reactions that influence people's behaviour. They formulated this more clearly in the stimulus-organism-response (SOR) model. In this model environmental stimuli influence approach and avoidance behaviour through emotions. *Avoidance* behaviour is negative behaviour that is stimulated by the environment (wanting to leave, not wanting to return etc.). *Approach* behaviour stands for all positive behaviour stimulated by the environment (wanting to stay, feeling connected to the space etc.). It can be argued that increasing the attractiveness of a waiting line impacts emotion.

By designing the waiting line in a conscious manner and by adding the correct environmental stimuli, approach behaviour can be stimulated (Van Hagen, 2011). Where in

the current study information and distraction are added as environmental stimuli, the following hypothesis is formulated.

**H5:** Queue information and queue distraction will affect queue perception through its effect on emotional state.

#### **2.4.2 Customer profiling**

When trying to distinguish customer profiles in the movie theatre, most research is focused on motives. Austin (1986) for example has shown that there are different motives to visit a movie. In his research Austin distinguishes seven types of motives visitors may have, ranging from 'Learning and information' to 'Learning about self'. Later on Cuadrado and Frasquet (1999) bundled Austin's motives and developed three groups of movie visitors, namely *social* visitors, *apathetic* visitors, and *cinema buffs*. The motives of the *social* group can differ, but are mainly focused at social aspects like going out with friends, have good conversations or just to have fun. The *apathetic* group does not have any strong motives to visit the movie theatre and the motive for the *cinema buff* group is the experience of visiting the movie theatre and the movie itself.

With having different motives to visit a movie theatre, people also have different expectations of the experience itself. It can be argued that social visitors do not really care about long waiting times, where the main objective of visiting the movie theatre is (re-) connecting with friends or family. Waiting in a queue does not prevent the social visitor from reconnecting with friends or family. Following this rational, the cinema buff tolerates the long lines as his or her desire to watch a certain movie is greater than the disgust of having to wait a long time to see it. In contrast, an apathetic visitor who does not have strong motives to visit the movie, might be more prone to balk when being confronted with a long waiting line. Therefore it can be argued that adjustments to the waiting line, like the presentation of waiting time information or a distraction might have a bigger effect on queuing behaviour of apathetic visitors as opposed to the effect it has on the social visitor or the cinema buff.

To test this statement, the following hypothesis is formulated.

**H6:** The effect of queue information and queue distraction on expected waiting experience is more strongly moderated by the apathetic customer profile as opposed to the social and the cinema buff profiles.

## 2.5 Research Model

After having introduced concepts and variables that are of importance to this study the research model can be made. There are two independent variables, namely *information* and *distraction*. The objective of this research is to measure the effect of these two variables on the dependent variable *queue perception* and ultimately its effect on *balking behaviour*. In this research customer profile will be taking into account as a moderating variable, in which the apathetic customer profile is expected to have a stronger effect on the relationship between the independent variables and the dependent variable. Moreover, emotional state is included as the mediating variable, where it may explain the relation between the independent variables and the dependent variable. Whilst not stated in the research model, an interaction effect between queue information and queue distraction is expected. The research model in Figure 2.1 shows the set-up of the current study.

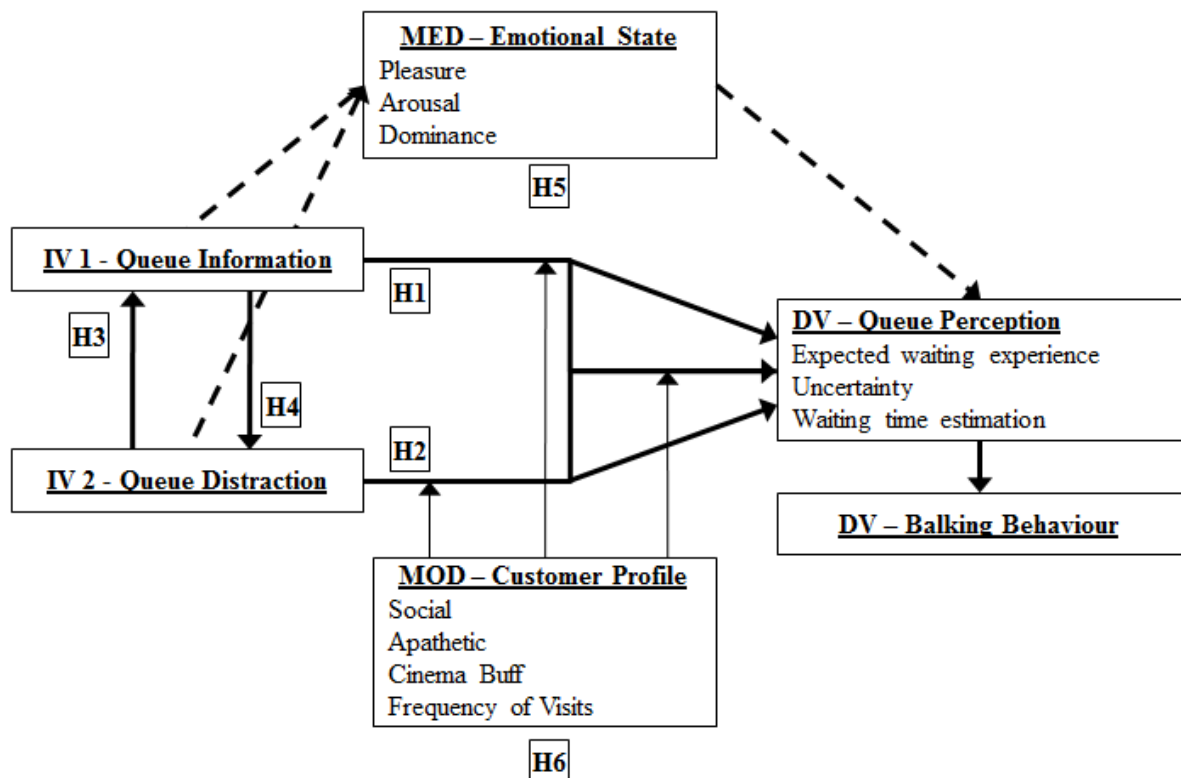


Figure 2.1 – Research model of balking behaviour in the movie theatre

### 3 Methodology

#### 3.1 Design

The experiment that is conducted in this study has a 2 (information vs. no information) x 2 (distraction vs. no distraction) x 4 (social, apathetic, cinema buff profile, frequency of movie visits) between-subjects factorial design, leading to a total of four scenarios in this study which will all be controlled for the previously mentioned three customer profiles and the frequency of movie visits. The scenarios are presented in Table 3.1. Both independent variables have two conditions, either being present or not.

		<u>Queue information</u>	
		<i>No</i>	<i>Yes</i>
<u>Queue Distraction</u>	<i>No</i>	<i>Control</i>	<i>Information</i>
	<i>Yes</i>	<i>Distraction</i>	<i>Combined</i>

**Table 3.1** – Table of 2x2 Factorial Design - Presenting Four Scenarios

#### 3.2 Procedure

A between-subjects design was chosen for this experiment, which means that every participant is shown only one condition. This way, respondents are only confronted with one scenario instead of four, which significantly cuts the survey duration and therefore helps keep the dropout rate low. Next to that, by showing only one condition, participants are kept as unbiased as possible, minimizing carryover effects.

The main disadvantage of a between-subjects design is that twice the number of respondents are needed in comparison to a within-subjects design. This can make a between-subjects design more time consuming and more expensive. However, with the low dropout rate in a between-subjects design, this does not necessarily have to be the case. Another disadvantage is a bigger error variance as compared to a within-subjects design. However, by taking customer profiles into consideration as a control variable, this can be controlled for.

### **3.3 Participants**

In total 283 filled in the survey, which was cut back to 255 people, after cleaning the data. Looking at the overall gender distribution of the participants shows us that 111 participants were male and 144 were female. The mean age was 27.25 years old with ages ranging from 16 to 71 years old (See Table 3.2). The majority of the sample has a degree in higher vocational education or an academic degree (64.1%). The other 35.9% of the sample have a highest degree from intermediate vocational education, lower vocational education, high school or primary school (See Appendix A).

When comparing gender distribution between the four groups of participants, it can be concluded that for the control, information, and distraction scenario, females are slightly overrepresented (60.0%). In the combined scenario however, this distribution is more or less 50.0% for both genders, with male participants being slightly overrepresented (52.3%). The total numbers are comparable with the numbers of the overall population that visits the movie theatre, which in 2015 skewed slightly towards women, similar to the composition of the overall population (MPAA, 2015; Bioscoopmonitor, 2015).

When looking at the age distribution it can be concluded that male and female participants are approximately the same age in each scenario, with ages of all participants being more or less between 25 and 30 years old. The only exception in this are the female participants in the distraction scenario with a mean age of 30.46, however this difference is caused by a few outliers. When looking at the overall population of movie visitors in 2015, the group aged between 25 and 39 years old, accounted for nearly a quarter of all movie visits (24%), being the biggest contributor, followed by age group 40 – 49 (13%) (MPAA, 2015; Bioscoopmonitor, 2015).

It can be concluded that neither in age distribution nor gender distribution there are big differences between overall population and the sample that is used. Therefore not posing a direct threat to the external validity of the results. Furthermore, there are no clear differences between scenarios when it comes to age and gender distribution, therefore it can be stated that from this perspective there are also no real threats to the internal validity.



	<u>Gender</u>	<u>N</u>	<u>%</u>	<u>Age (Mean)</u>
<b>Control</b>	<i>Male</i>	26	10.2	27.96
	<i>Female</i>	35	13.7	25.51
	<i>Total</i>	61	23.9	26.56
<b>Information</b>	<i>Male</i>	24	9.4	26.46
	<i>Female</i>	41	16.1	25.63
	<i>Total</i>	65	25.5	25.94
<b>Distraction</b>	<i>Male</i>	27	10.6	28.52
	<i>Female</i>	37	14.5	30.46
	<i>Total</i>	64	25.1	29.64
<b>Info*Distr</b>	<i>Male</i>	34	13.3	27.03
	<i>Female</i>	31	12.2	26.68
	<i>Total</i>	65	25.5	26.86
<b>Total</b>	<i>Total Male</i>	111	43.5	27.49
	<i>Total Female</i>	144	56.5	27.07
	<i>Total Overall</i>	255	100.0	27.25

**Table 3.2** - Demographic descriptive of the participants in the research

### **3.4 Stimulus material**

The stimulus materials that will be used in this research are pictures. For each scenario that is distinguished in Table 3.1 there is a picture showing the corresponding waiting line setting (See Appendix B). A pre-test is performed in order to test if participants perceived the presented scenarios in the way that was intended.

Advantages of this approach are the fact that the shown stimulus material could be highly controlled for external influences, where effects of the materials are tested in a pre-study. Next to that, a very specific set up for each scenario could be developed, creating a concentrated focus on the manipulations. This way a first exploration for the proposed theory could be executed in a simple and quick manner.

#### ***3.4.1 Pre-test***

In order to perform the manipulation check all four pictures – presenting the scenarios – were shown in randomized order, each followed by four questions.

Firstly participants were asked to name the three most prominent things they observed in the picture. This is done to control if people really observe the waiting time information and the distraction as was intended. Secondly, the degree to which people feel informed was

assessed. Participants had to indicate on a 5-point scale (anchored by ‘totally disagree’ and ‘totally agree’), if they agreed with the following statement: ‘I feel informed’. The next question measured the degree to which participants observe the waiting line as being attractive. Participants fill in their findings on a similar 5-point scale. Lastly, participants are asked the following question: ‘What do you think of the length of the waiting line?’ This is measured on a 5-point scale ranging from ‘very short’ to ‘very long’. Also, people were asked to rate the length of the waiting line on a 5-point scale, ranging from ‘very short’ to ‘very long’ (See Appendix C – Pre-test questionnaire).

A total of 19 people took part in the pre-test of which 13 were male and 6 were female. Participants were between the ages of 19 and 71 with the mean age being 27,83. Firstly participants described the three most prominent things they saw on the picture. For all pictures frequently named objects were ‘long waiting line’ ‘chaos’ ‘people waiting’ and ‘busyness’. When confronted with the information scenario all the participants mentioned that the estimated waiting time was indicated. When confronted with the distraction scenario the majority of the participants (78,9%) referred to the possibility to watch trailers during the waiting time.

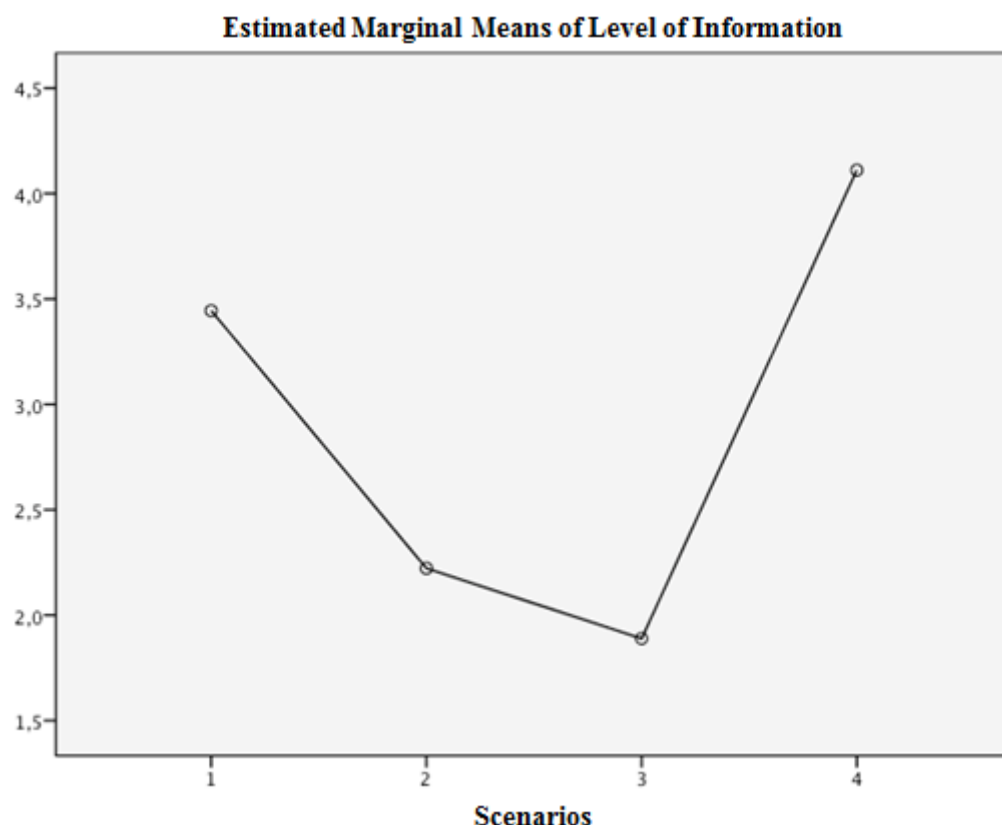
To measure if there is a significant difference between the four pictures, a repeated measures ANOVA was conducted in which the effect of the three items (‘Information’, ‘Attractiveness’, and ‘Queue length’) was compared within the scenarios. An alpha level of .05 was used for all statistical tests. The mean and standard deviation for each item in each scenario can be seen in Table 3.3.

	Control	Information	Distraction	Combined
Information	1.89 (.90)	3.44 (.86)	2.22 (1.11)	4.11 (.90)
Attractiveness	1.72 (.83)	1.94 (.87)	2.94 (1.11)	3.61 (1.04)
Length	4.11 (.47)	4.00 (.34)	3.83 (.51)	3.61 (.61)

**Table 3.3** – Mean and standard deviation of Information, Attractiveness and Queue Length split by scenario (N=19).

### 3.4.1.1 Perceived level of information

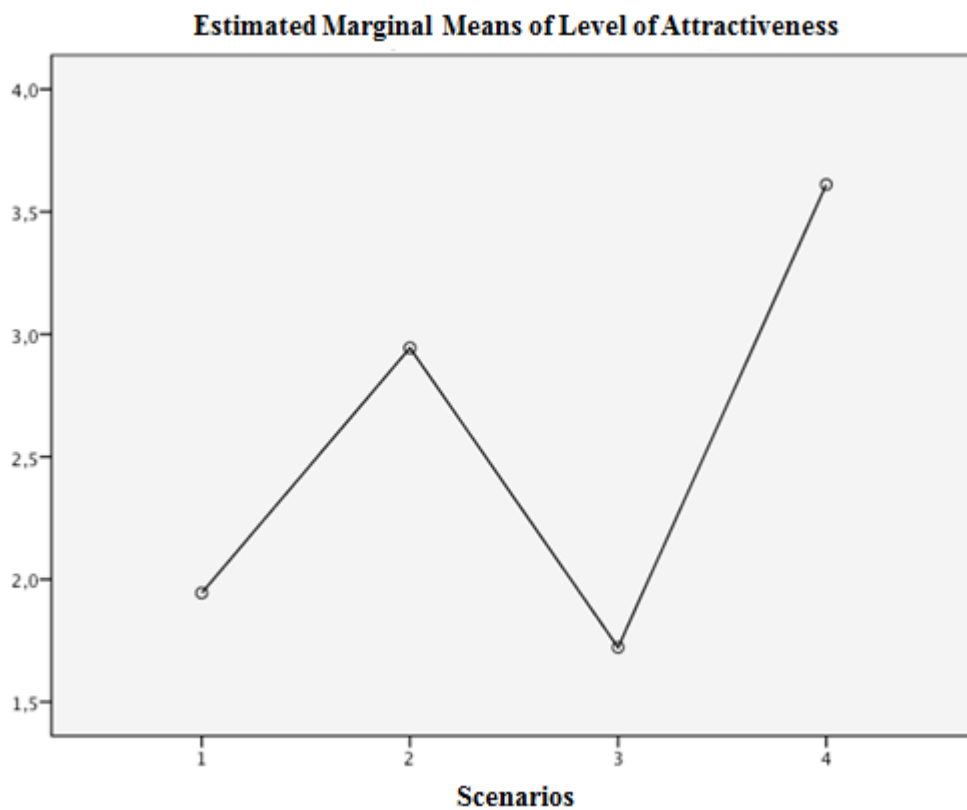
The perceived level of information showed a significant result, Wilk's Lambda = .234,  $F(3,15) = 16.348$ ,  $p = .00$ . This means that there is a significant difference between the conditions in this experiment. In order to study these differences more carefully, pairwise comparisons were done. The results show a significant difference between the Information scenario ( $M=3.44$ ,  $SD=.86$ ) and the Control scenario ( $M=1.89$ ,  $SD=.90$ ),  $p = .00$ , and the Information scenario and the Distraction scenario ( $M=2.22$ ,  $SD=1.11$ ),  $p = .01$ . However the Combined scenario ( $M=4.11$ ,  $SD=.90$ ) did not significantly differ from the mean scores in the Information scenario,  $p = .06$ . These outcomes were expected, where in the Combined scenario there also is waiting time information provided. Furthermore, the Distraction scenario differs significantly from Combined scenario ( $p = .00$ ), but not from the Control scenario ( $p = .23$ ). These outcomes were also expected, where both the Control scenario and the Distractions scenario do not provide a waiting time estimation. Conclusively, scores in the Combined scenario differ significantly from scores in the Control scenario ( $p = .00$ ).



**Graph 3.1** – Estimated Marginal Means of the Level of Information split by scenario in which scenario 1 = information scenario, 2 = distraction scenario, 3 = control scenario, and 4 = combined scenario

### 3.4.1.1 Perceived level of attractiveness

When focussing on the perceived attractiveness also a significant result is recorded, Wilk's Lambda = .301,  $F(3,15) = 11.61$ ,  $p = .00$ . The results of the pairwise comparisons show a significant difference between the Distraction scenario ( $M=2.94$ ,  $SD= 1.11$ ) and the Control scenario ( $M=1.72$ ,  $SD=.83$ ),  $p = .01$ , and the Distraction scenario and the Information scenario ( $M=1.94$ ,  $SD=.87$ ),  $p = .01$ . The Combined scenario ( $M=3.61$ ,  $SD=1.04$ ) does not significantly differ from the Distraction scenario,  $p = .21$ . These outcomes were expected, where in the Combined scenario there also is distraction provided, adding to the attractiveness of the queue. The Information scenario does not significantly differ from the Control scenario ( $p = .16$ ), but does significantly differ from the Combined scenario ( $p = .00$ ). These outcomes were also expected, where both the Control scenario and the Information scenario do not provide a distraction which might add to perceived attractiveness. Lastly, the difference between the Combined scenario and the Control scenario did show significant scores ( $p = .00$ ).

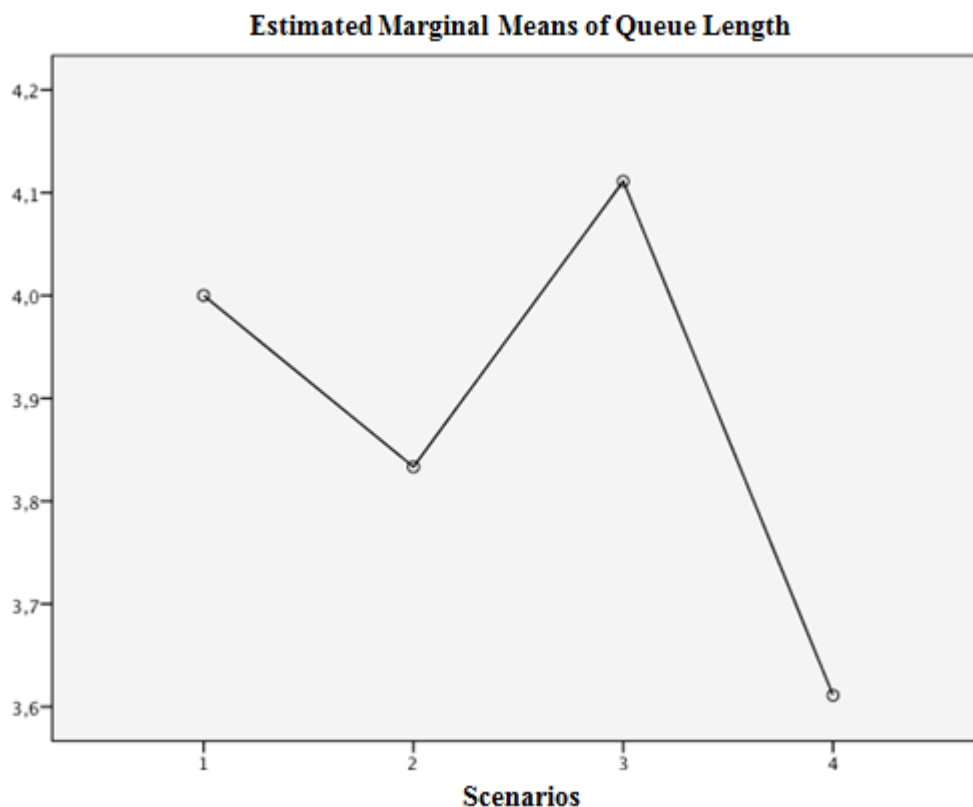


**Graph 3.2** – Estimated Marginal Means of the Level of Attractiveness split by scenario in which scenario 1 = information scenario, 2 = distraction scenario, 3 = control scenario, and 4 = combined scenario

### 3.4.1.3 Perceived queue length

Lastly the perceived queue length is measured. Because all the scenarios show the same queue, only non-significant scores were expected. However a significant result is recorded, Wilks' Lambda = .596,  $F(3,15) = 3.39$ ,  $p = .046$ . This means that queue length in the scenarios was not seen as equal. Pairwise comparisons show that there are significantly different scores between Combined scenario ( $M=3.61$ ,  $SD=.61$ ) and the Control scenario ( $M=4.11$ ,  $SD=.47$ ),  $p=.01$ , and the Combined scenario and the Information scenario ( $M=4.00$ ,  $SD=.34$ ),  $p=.00$ . The Combined scenario and the Distraction scenario also differed significantly ( $M=3.83$ ,  $SD=.51$ ),  $p=.04$ .

So results show that people observed the queue in the Combined scenario as being shorter than in the Control scenario and the Information scenario. This outcome was not expected, because in every picture queue length is the same. It can be argued that this outcome is because of the small sample size, and will disappear within the larger sample size. However it is a liability that has to be taken into mind.



**Graph 3.3** – Estimated Marginal Means of Queue Length split by scenario in which scenario 1 = information scenario, 2 = distraction scenario, 3 = control scenario, and 4 = combined scenario

### **3.5 Research Instrument and Measures**

Data are collected by means of a digital survey. The first part of the survey focuses on customer profile. After this, participants are confronted with the scenario. The scenario consists of a small introductory text (See Text box 3.1), followed by one of the four pictures of the waiting line. After being introduced to the scenario, participants were immediately asked what type behaviour they would show when being confronted with the presented waiting line: *'When taking the scenario into mind, would you join this queue?'* The participants received three answer possibilities, being *'I would join the queue and wait'*, *'I would join the queue, but if the wait takes too long, I would leave'*, and lastly *'I would not join the waiting line and leave immediately'*.

The answer possibilities were formulated this way in order to reproduce the three types of queuing behaviour one could show in this case, namely to join, to renege or to balk. After this initial confrontation the survey focuses on customer profile, emotional state, and waiting line perception. The questionnaire concludes with several questions on the demographic features gender, age, and education.

Scenario setting:

Imagine it being a Saturday night. You have been talking about meeting up and going out. You decide to go to the movie theatre. The movie you want to see starts in 10 minutes, however when walking in to the movie theatre you are confronted with the following queue.

**Text box 3.1** - Introductory text to the scenario

#### ***3.5.1 Customer profile***

To determine customer profile a scale is used consisting of nine items in total (see Appendix C – Profiling). Cuadrado and Frassetto (1999) developed a construct measuring three types of visitor, being apathetic ( $\alpha = .652$ ), cinema buff ( $\alpha = .663$ ), and social ( $\alpha = .646$ ). Each construct consists of three items. A 7-point Likert scale (1= Strongly disagree, 7 = Strongly agree) was used to measure the responses of the participants. Also one question was focused on the frequency of movie theatre visits. Frequency of visits also serves as a control variable throughout this study.

### 3.5.2 Emotional state

The emotional state is measured on the basis of the PAD (Pleasure, Arousal, Dominance) scale with bipolar items (7-point scale) (Russel & Mehrabian, 1974). A specific question is asked (e.g.: How do you feel when seeing the queue for the first time), after which people can rate their emotions. Because the survey is Dutch, Geuens and Brengman's (2003) tested and validated translation will be used. Each state (pleasure, arousal and dominance), consists of six bipolar items - measured on a 7-point scale - leading to a total of 18 questions (See Appendix C – pleasure, arousal, dominance). The pleasure subscale ( $\alpha = .805$ ), the arousal subscale consisted ( $\alpha = .697$ ), and the dominance subscale ( $\alpha = .754$ ) all consisted of 6 items. Outcomes of the constructs have been rescaled to scores measured in a -1.0 to 1.0 range.

### 3.5.3 Waiting line perception

There are no existing scales measuring pre-waiting queue perception, however it can be argued that by looking at a queue people start to have expectations about the waiting experience. Those expectations can be measured by reformulating the items on existing waiting experience scales to the simple future verb tense. In other words, queue perception is measured by focusing on the waiting expectation.

The scale that is used was originally developed to measure cognitive waiting experience (perception of time span being either long or short) and affective waiting experience (emotional responses to waiting) (Pruyn and Smidts, 1998). By altering the items in the scale, one could say that now cognitive and affective waiting *expectations* are being measured instead of experience. The cognitive component of the appraisal is measured on a 7-point scale ranging from 1 – very short to 7 – very long. The affective component of the appraisal consists of five semantic differential items 7-point scales on which subjects are asked to rate the expected *irritation*, *fairness*, *annoyance*, *boredom* and *stress* during the wait ( $\alpha = .675$ , See Appendix C – Waiting line perception).

In addition to the cognitive and affective appraisal scales of Pruyn and Smidts (1998), another four items are added to the survey measuring uncertainty. Taylor (1994) developed a scale measuring feelings of uncertainty during the wait. One might argue that because of the many contingencies in the movie theatre, these uncertainties come up before having joined a queue. Four items were averaged to make up the uncertainty scale: *uncertain*, *anxious*, *uneasy*, and *unsettled* ( $\alpha = .776$ , See Appendix C - uncertainty).

## **4 Results**

### **4.1 Sample characteristics**

In total data of 283 respondents was collected. After cleaning the data by deleting unfinished surveys and several clear outliers, the total size of the sample was cut back to 250 cases. Before the analyses were executed the dataset was tested for normality and the variance of data in groups is tested on homogeneity. Firstly all outliers were removed using the outlier-labelling rule (Tukey, 1977). The Shapiro Wilk's test ( $p > .05$ ) was used to test for normality (Shapiro & Wilk, 1965; Razali & Wah, 2011). Next to this test, also a visual inspection of the histograms, normal Q-Q plots and box plots was performed, which showed that the data collected on most of the dependent variables were approximately normally distributed for each scenario.

In short the results of the normality tests indicate that all dependent variables are normally distributed except for Dominance, Waiting Experience in the distraction scenario and Uncertainty in the control scenario. These results imply that chances of false positive results increase on the non-normally distributed samples when the ANOVA is used. However, the ANOVA is not very sensitive to moderate deviations from normality; simulation studies using a variety of non-normal distributions, have shown that the false positive rate is not affected very much by the violation of this assumption (Glass, Peckham & Sanders, 1972; Lix, Keselman & Keselman, 1996; Blanca, Arnau, López Montiel, Bono & Bendayan, 2013). This is because of the fact that when a large number of random samples is taken from a population, the means of those samples are approximately normally distributed, even when the distribution of the population is not normal. Normality is not the rule with real data (Blanca et al., 2013).

### **4.2 Main effects**

A factorial between groups analysis of variance (ANOVA) was used to investigate the effects of waiting time information and queue distraction on queue perception and ultimately queuing behaviour. Next to that results have been controlled for the effect of customer profile and frequency of movie visits by means of a covariate analysis of variance (ANCOVA). An overview of all outcomes of the ANOVA and ANCOVA analyses can be found in Table 4.1, and means and standard deviations can be found in Table 4.2.



	<u>Information</u>			<u>Distraction</u>			<u>Information*Distraction</u>		
	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>p</i>	<i>F</i>	<i>df</i>	<i>P</i>
<b><u>Queue perception</u></b>									
<i>Expected waiting experience</i>	.34	1	.56	.46	1	.50	.51	1	.48
<i>Social</i>	.42	1	.52	.49	1	.50	.45	1	.50
<i>Apathetic</i>	.44	1	.51	.42	1	.52	.46	1	.50
<i>Cinema buff</i>	.36	1	.55	.43	1	.51	.52	1	.47
<i>Frequency</i>	.31	1	.58	.44	1	.51	.49	1	.49
<b><i>Uncertainty</i></b>	.03	1	.86	1.67	1	.20	.00	1	.96
<i>Social</i>	.14	1	.71	1.64	1	.20	.00	1	.95
<i>Apathetic</i>	.16	1	.69	1.47	1	.23	.00	1	.96
<i>Cinema buff</i>	.03	1	.87	1.66	1	.20	.00	1	.96
<i>Frequency</i>	.02	1	.88	1.62	1	.20	.00	1	.97
<b><i>Estimated waiting time</i></b>	12.15	1	<b>.00</b>	.65	1	.45	.02	1	.90
<i>Social</i>	11.31	1	<b>.00</b>	.53	1	.47	.00	1	.95
<i>Apathetic</i>	11.74	1	<b>.00</b>	.54	1	.46	.01	1	.91
<i>Cinema buff</i>	12.25	1	<b>.00</b>	.58	1	.45	.01	1	.93
<i>Frequency</i>	12.38	1	<b>.00</b>	.54	1	.47	.01	1	.93
<b><u>Emotional state</u></b>									
<b><i>Pleasure</i></b>	.09	1	.76	3.94	1	<b>.048</b>	.39	1	.53
<i>Social</i>	.23	1	.63	3.84	1	.051	.28	1	.59
<i>Apathetic</i>	.15	1	.70	3.77	1	.053	.35	1	.56
<i>Cinema buff</i>	.10	1	.75	3.97	1	<b>.047</b>	.36	1	.55
<i>Frequency</i>	.06	1	.80	3.82	1	.052	.32	1	.57
<b><i>Arousal</i></b>	.01	1	.93	3.36	1	.07	.09	1	.77
<i>Social</i>	.20	1	.66	3.42	1	.07	.18	1	.68
<i>Apathetic</i>	.05	1	.83	3.14	1	.08	.12	1	.74
<i>Cinema buff</i>	.01	1	.94	3.35	1	.07	.10	1	.76
<i>Frequency</i>	.01	1	.91	3.39	1	.07	.08	1	.78
<b><i>Dominance</i></b>	3.76	1	.054	.81	1	.37	1.30	1	.26
<i>Social</i>	4.18	1	<b>.048</b>	.75	1	.39	1.00	1	.31
<i>Apathetic</i>	3.89	1	.050	.74	1	.39	1.20	1	.27
<i>Cinema buff</i>	3.82	1	.052	.80	1	.37	1.22	1	.27
<i>Frequency</i>	3.86	1	.051	.84	1	.36	1.37	1	.24

**Table 4.1** – Overview of ANOVAs for variables Information and Distraction

	<u>No information</u>	<u>Information</u>	<u>No distraction</u>	<u>Distraction</u>	<u>No Info*No Distr</u>	<u>Info*Distr</u>
	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>	<i>Mean (SD)</i>
<b><u>Queue perception (1 through 7)</u></b>						
<i>Expected waiting experience</i>	4.92 (.65)	4.87 (.67)	4.92 (.67)	4.87 (.65)	4.98 (.63)	4.90 (.66)
<i>Uncertainty</i>	3.80 (1.45)	3.83 (1.20)	3.70 (1.39)	3.92 (1.30)	3.68 (1.45)	3.81 (1.33)
<i>Estimated waiting time</i>	4.81 (1.03)	4.34 (1.09)	4.52 (1.10)	4.63 (1.07)	4.75 (1.03)	4.58 (1.08)
<b><u>Emotional state (-1 through 1)</u></b>						
<i>Pleasure</i>	.37 (.33)	.38 (.33)	.33 (.31)	.41 (.35)	.31 (.30)	.37 (.33)
<i>Arousal</i>	-.03 (.27)	-.02 (.24)	-.06 (.25)	.01 (.27)	-.05 (.26)	-.03 (.26)
<i>Dominance</i>	.13 (.17)	.18 (.21)	.14 (.20)	.16 (.18)	.10 (.18)	.15 (.19)
<b><u>Customer profile (1 through 7)</u></b>						
<i>Social</i>	4.63 (1.09)	4.83 (1.12)	4.76 (1.15)	4.71 (1.07)	4.71 (1.22)	4.73 (1.11)
<i>Apathetic</i>	3.60 (.88)	3.77 (.82)	3.72 (.88)	3.64 (.83)	3.67 (.96)	3.68 (.85)
<i>Cinema buff</i>	5.39 (1.06)	5.41 (1.00)	5.40 (1.03)	5.40 (1.02)	5.40 (1.07)	5.39 (1.02)
<i>Frequency</i>	5.20 (1.31)	5.32 (1.29)	5.23 (1.30)	5.29 (1.30)	5.10 (1.38)	5.26 (1.30)

**Table 4.2** – Overview of Mean scores and Standard Deviation (SD) in different scenarios

#### **4.2.1 Queuing behaviour**

Because queuing behaviour was set-up as a categorical variable, a Chi-square test of independence was used comparing the queuing behaviours in different scenarios (Agresti & Kateri, 2011). When looking at the effect of *information*, a significant effect was found ( $X^2(2) = 6.50, p = .04$ ). When looking at the effect of *distraction* on queuing behaviour, a non-significant effect was recorded ( $X^2(2) = .56, p = .76$ ). These results show that waiting time information has an effect on queuing behaviour, as opposed to distraction, which has no significant effect on queuing behaviour.

#### **4.2.2 Queue perception**

To recall, the variable queue perception existed out of three sub-variables, namely *expected waiting experience*, *uncertainty*, and *estimated waiting time*. Outcomes per sub-variable are presented in this order.

##### **4.2.2.1 Effects on Expected Waiting Experience**

When looking at the effects of *information* and *distraction* on *expected waiting experience* no significant results were measured. Also when controlling for *customer profile* and *frequency of movie visits* no significant results were recorded and there was no significant interaction effect measured. These results show that neither information nor distraction influence the expected waiting experience.

##### **4.2.2.2 Effects on Uncertainty**

When it comes to the effect of *information* and *distraction* on *uncertainty*, also no significant results were produced. Next to that the ANCOVA did not show any significant results for *customer profile* or *for frequency of movie visits*. Also for this variable there was no significant interaction effect measured.

##### **4.2.2.3 Effects on Estimated Waiting Time**

For the last sub-variable, *estimated waiting time*, the ANOVA showed a significant effect of *information*,  $F(1, 245) = 12.15, p = .00$ . So there is a significant difference in scores between the scenarios with ( $M = 4.34, SD = 1.09$ ) and the scenarios without ( $M = 4.81, SD = 1.03$ ) waiting time information. When controlling the effect for the three *customer profiles*, the ANCOVA showed there to be statistically significant effects for the waiting time scenarios on estimated waiting time for all the customer profile *social*  $F(1, 244) = 11.32, p = .00$ ,

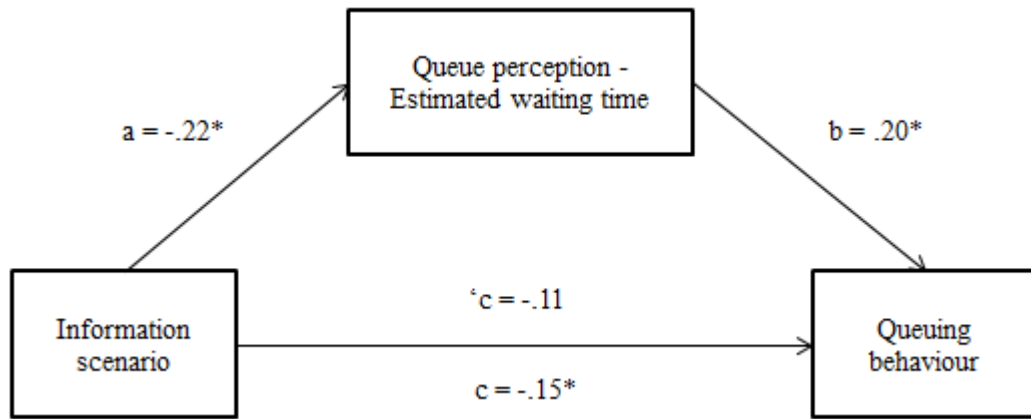
*apathetic*  $F(1, 244) = 11.76, p = .00$ , and *cinema buff*  $F(1, 244) = 13.58, p = .00$ , and *frequency of movie visit*  $F(1, 244) = 12.38, p = .00$ .

Looking at the effect of *distraction* on *estimated waiting time*, the ANOVA did not record a significant effect. The ANCOVA also did not show statistically significant effects when controlling for the customer profiles and frequency of movie visits. Furthermore no significant interaction effect measured between the information and distraction scenarios. Implying that the effect distraction and information have on each other does not change the effect on the scores of estimated waiting time.

#### 4.2.2.4 Mediation effect of Queue Perception on Queuing Behaviour

The significant effect of the information scenario on queuing behaviour has been controlled for the mediation effect of queue perception. Looking at the three sub-variables of the variable queue perception only the variable ‘estimated waiting time’ recorded significant outcomes. A simple linear regression was calculated to predict queue perception based on scenario type.

In step 1 of the mediation model, the effect of *waiting time information* on queuing behaviour is measured, while ignoring the mediator. This effect was significant,  $b = -.15, R^2 = .04, F(1, 247) = 10.56, p = .00$ . Step 2 showed that the predictor variable (*waiting time information*) was also significantly related to the mediator *estimated waiting time*,  $b = -.22, R^2 = .05, F(1, 246) = 12.29, p = .00$ . Step 3 of the mediation process showed that the mediator *estimated waiting time* was related to *queuing behaviour*,  $b = .20, R^2 = .04, F(1, 247) = 5.74, p = .00$ . Step 4 of the analysis revealed that controlling for the mediator *estimated waiting time*, *waiting time information* was no longer a significant predictor of *queuing behaviour*  $b = -.11, R^2 = .05, F(2, 246) = 6.79, p = .09$ , as opposed to the independent variable *estimated waiting time*, which was still significant  $b = -.18, R^2 = .05, F(2, 246) = 6.79, p = .00$ . These results suggest that the effect of waiting time information in queues on queuing behaviour is fully mediated by queue perception – or more specific – by estimated waiting time. An overview of the beta scores between the variables can be seen in figure 4.1.



**Figure 4.1** - Standardized regression coefficients for the relationship between Information scenario and Queuing behavior as mediated by Estimated waiting time. The standardized regression coefficient between the Information scenario and Queuing behavior, controlled for Queue perception (Estimated waiting time) is indicated as 'c.

\*  $p < .05$

### 4.2.3 Emotional state

In order to measure the emotional state of participants, three scales have been used, namely *pleasure*, *arousal*, and *dominance*. The results of the ANOVA are presented in that particular order.

#### 4.2.3.1 Pleasure

Looking at the effect of *information* on *pleasure*, the ANOVA did not show a significant effect. Also when controlling for the customer profiles and the frequency of movie visits, the ANCOVA did not show any significant scores.

When focusing on the distraction scenario however, the main effect on pleasure recorded significant results,  $F(1, 246) = 3.94$ ,  $p = .048$ . Which means that providing a distraction in the waiting line ( $M = .41$ ,  $SD = .35$ ) did lead to a significant higher score on the emotion pleasure as opposed to scenarios without this distraction ( $M = .33$ ,  $SD = .31$ ). The ANCOVA reported a marginally significant effect of the customer profile *social* on pleasure in scenarios with distraction  $F(1, 245) = 3.84$ ,  $p = .051$ . For the profile *apathetic*, also a marginally significant effect on pleasure in distraction scenarios was recorded  $F(1, 245) = 3.77$ ,  $p = .053$ . For the profile *cinema buff* a statistically significant effect on pleasure in distraction scenarios was recorded  $F(1, 245) = 3.97$ ,  $p = .047$ . The significance of this effect means that the higher participants score on the items for *cinema buff*, the more likely they are to score high on the emotions pleasure when presented with a scenario with distractions.

However, because the difference in significance compared to the customer profiles *social* and *apathetic*, this can effect is also applicable to people with these customer profiles. Lastly the outcomes were controlled for frequency of movie visits. Outcomes show a marginally significant score on the effect of distraction  $F(1, 245) = 3.82, p = .052$ . This result shows that the more frequent somebody visits the movie theatre, the more likely he or she is to score high on the emotion pleasure. However this result is only marginally significant. There was no significant interaction effect measured. Implying that the effect distraction and information have on each other does not change the effect on pleasure.

#### 4.2.3.2 Arousal

The ANOVA did not show a significant effect of the information scenario on the level of arousal that was measured and neither. Also when controlling for the customer profiles and the frequency of movie visits, the ANCOVA did not show any significant scores.

In the distraction scenario the ANOVA showed a marginally significant main effect of distraction on arousal  $F(1, 227) = 3.36, p = .07$ . Scores in scenarios with distraction ( $M = .01, SD = .27$ ) differed marginally significantly from scores measured in the scenarios without distraction ( $M = -.06, SD = .25$ ). The effect of distraction on arousal was controlled for the three customer profiles and the frequency of visits. The ANCOVA did show marginally significant scores controlled for all profiles: *social*  $F(1, 226) = 3.42, p = .07$ , *apathetic*  $F(1, 226) = 3.14, p = .08$ , and *cinema buff*  $F(1, 226) = 3.35, p = .07$ , and *frequency of movie theatre visits*  $F(1, 226) = 3.39, p = .07$ . There was no significant interaction effect measured, implying that the effect distraction and information have on each other does not change the effect on arousal.

#### 4.2.3.3 Dominance

The ANOVA recorded a marginally significant effect of the information scenario on the level of dominance that was measured  $F(1, 225) = 3.764, p = .054$ . This means that the effect of waiting time information on dominance ( $M = .1754, SD = .208$ ) in comparison with scenarios without waiting time information ( $M = .1258, SD = .171$ ) is marginally significant. The effect of the information scenario on dominance was controlled for the three customer profiles and the frequency of visits. The ANCOVA showed there to be a statistically significant effect for the waiting time scenarios on arousal controlled for the customer profile *social*  $F(1, 224) =$

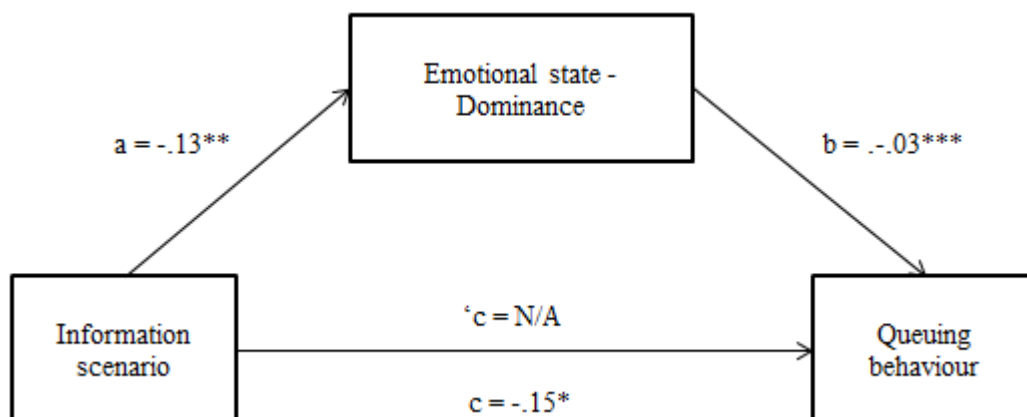
4.177,  $p = .042$ . The other two profiles *apathetic*  $F(1, 224) = 3.89$ ,  $p = .05$  and *cinema buff*  $F(1, 224) = 3.82$ ,  $p = .05$ .

In the distraction scenario the ANOVA did not show a significant main effect of distraction on arousal and the ANCOVA recorded no statistically significant outcomes of the effect of distraction on dominance controlled for the customer profiles and frequency of movie visits. Lastly, there was no significant interaction effect measured between information and distraction.

#### 4.2.3.4 Mediation effect of Dominance on Queuing Behaviour

The significant effect of the *waiting time information* on queuing behaviour has been controlled for the mediation effect of the emotion *dominance*. This was the only emotional state which recorded a significant effect. A simple linear regression was performed to predict queue perception based on scenario type.

In step 1 the relation between *waiting time information* and *queueing behaviour* has to be calculated. This has already been done in paragraph 4.2.2.4 and a significant relation was found. Step 2 showed that the effect of the predictor variable (*waiting time information*) on the mediator *dominance* was also marginally significant,  $b = .13$  ( $R^2 = .02$ ,  $F(1, 227) = 3.82$ ,  $p = .052$ ). Step 3 of the mediation process showed that the mediator *dominance* was not significantly related to *queueing behaviour*,  $b = -.03$ ,  $R^2 = .00$ ,  $F(1, 227) = .14$ ,  $p = .704$ . This non-significant relation between dominance and queuing behaviour cancels out the possibility of a mediation effect. An overview of the beta scores between the variables can be seen in figure 4.1.



**Figure 4.2** - Standardized regression coefficients for the relationship between Information scenario and Queuing behavior as mediated by the emotional state Dominance. The relation between Dominance and Queuing behavior was not significant.

\*  $p < .05$  \*\*  $p < .10$  \*\*\*  $p > .10$

### **4.3 Overview of hypotheses**

After analysing the results, a look can be taken at the previously formulated hypotheses. In table 4.1, on the next page, an overview is presented of all the hypotheses either supported or not.

<b><u>Hypothesis</u></b>	<b><u>Supported</u></b>
<b><i>H1</i></b> Providing information on estimated waiting time in queues guides people in their waiting time estimation and takes away uncertainties of an unknown wait, therefore leading to less balking behaviour in movie theatres as opposed to queues without this kind of information.	<i>Partially</i>
<b><i>H2</i></b> Implementing a screen that is displaying movie trailers as a distraction to the waiting context will have a more positive effect on expected waiting experience as opposed to waiting lines without such a distraction, therefore leading to less balking behaviour.	<i>No</i>
<b><i>H3</i></b> The effect of waiting time information in queues on expected waiting experience is greater when it is presented with a distraction as opposed to queues in which no distraction is presented.	<i>No</i>
<b><i>H4</i></b> The effect of distraction on expected waiting experience is greater when it is presented with waiting time information as opposed to queues in which no waiting time information is presented.	<i>No</i>
<b><i>H5</i></b> Queue information and queue distraction will affect queue perception through its effect on emotional state.	<i>No</i>
<b><i>H6</i></b> The effect of queue information and queue distraction on queue perception is more strongly moderated by the apathetic customer profile as opposed to the social and the cinema buff profiles.	<i>No</i>

**Table 4.3** – Overview of (non-)supported hypotheses



## 5 Discussion and Conclusion

### 5.1 General discussion

The purpose of this study was to answer the main research question that was formulated in the introductory chapter. To recall, this question was formulated as follows: '*How can information and distraction alter waiting line perceptions and expectations, leading to less balking behaviour in movie theatres?*' By means of a scenario-based online experiment the relation between waiting time information and distraction, and their influence on queue perception and ultimately queuing behaviour has been tested. Since this study proposed a new approach to waiting experience literature, a pre-test was done, focussing on waiting time information (present vs. not present) and distraction (present vs. not present) which had to be clearly visible from outside the queue. Emotional state has been taken into account as a mediator, customer profile and frequency of movie visits have been taken into account as moderators and have been controlled for throughout the study.

Firstly results from the study indicate there to be a clear effect of *waiting time information* on *balking behaviour*, where the implementation of waiting time information in queues has led to less balking. An unexpected outcome is the fact that *information* had no significant effect on the sub-variable of queue perception, *uncertainty*. A possible explanation for this outcome may be fact that the scenario did not arouse any feelings of uncertainty of participants. However, the relation between waiting time information and balking was fully mediated by another sub-variable of *queue perception*, namely *estimated waiting time*. The outcome means that estimated waiting time can be seen as a stronger predictor of balking behaviour as opposed to waiting time information. This result suggests that people who are confronted with a queue without waiting time information, but who still estimate the waiting time to be acceptable, will still join the queue. The opposite is true for people who estimate the waiting time to be unacceptable. One could state that the scenarios with waiting time information in the current study guided participants in their appraisal to deem the estimated waiting time of a queue to be acceptable or not. The provided waiting time information was set at 10 minutes, being enough to get to the movie in time in the scenario that was set-out. Therefore one could argue that the waiting time information was likely to be seen as acceptable. Hui & Tse (1996) found that providing this waiting time information in the case of long waits does not necessarily make people perceive the waiting period as more

acceptable. However, in a movie-theatre setting with a large throughput rate, estimated waiting time information can positively influence a customer's perception on a long waiting line, acting as guidance in their waiting time estimation, ultimately leading to less balking behaviour. This effect of waiting time information was found in earlier studies and it has been widely accepted that providing delay duration information can positively affect the expectations consumers have of a delay without changing objective delay duration (Hui et al., 2006). However, where previous literature was aimed at waiting time information during the waiting experience, the current study shows that this effect can be translated to the perception from outside the waiting lines, triggering approach behaviour. To conclude, it can be stated that Hypothesis 1 is partially confirmed, where *waiting time information* did not show to have an effect on *uncertainty*, but did show to have an effect on *balking behaviour*. This last effect showed to be fully mediated by *waiting time estimation*.

The effect of waiting line *distraction* on *queuing behaviour* was found to be non-significant. This result means that the presence of a big screen which displays movie trailers did not lead to less balking behaviour. Regarding the effect of *distraction* on *queue perception* (with sub-variables *expected waiting experience*, *uncertainty* and *estimated waiting time*) also no significant results have been recorded. This means Hypothesis 2 is rejected. Distraction did show to have a significant effect on the emotional states of participants. People who were presented the distraction scenarios reported significant scores on *pleasure*, and marginally significant scores on *arousal*. Nonetheless these results did not have an effect on balking behaviour, so it can be concluded that emotional state is not a predictor of (balking) behaviour. Previous studies, focusing on the effect of distractions in waiting environments recorded comparable outcomes (Pruyn & Smidts, 1993). Earlier research focused on different types of distracters in waiting environments and measured their effect on satisfaction with service, emotional state and perceived waiting time (Katz et al., 1991; Smidts & Pruyn, 1994; Borges et al., 2015). Not all studies showed a lower perceived waiting time, but it could be argued that distractions do make waiting time more pleasurable.

When looking at the interaction effect of *distraction* on *information* and vice versa, it can be concluded that no significant results have been recorded. As discussed earlier in this chapter, scenarios with either information or distraction do report significant results. When information and distraction were combined, no significant results could be reported (See Table 4.1). A possible explanation for this is the fact that participants are presented with too

much cues in the combined scenario (high population density, waiting time estimation, big screen displaying trailers). One might argue that the sum of *information* and *distraction* is smaller than the parts. According to literature on this subject, the optimal level of activation is surpassed leading to overstimulation, which has a negative effect on pleasantness of the experience (Apter, 2007; Massara, Liu & Melara 2010, Van Hagen, Galetzka & Pruyn, 2014). These results lead to the rejection of both Hypothesis 3 and Hypothesis 4.

Looking at the effect of *waiting time information* and *distraction* on *emotional state* and ultimately on the effect of all three sub-variables of *queue perception* (*expected waiting experience*, *uncertainty* and *estimated waiting time*) results showed the following outcomes. The *information* scenarios had a significant effect on the emotional state *dominance*. This was an expected outcome, where dominance is focused at the degree to which people feel in control over the situation. The information provided participants with a clear estimation on waiting time, which put them in control over the waiting situation. An unexpected outcome was the fact that there were no significant results recorded on the *queue perception* sub-variable *uncertainty*. As stated before, a possible explanation for this outcome may be fact that the scenario did not arouse any feelings of uncertainty of participants. Next to that *dominance* did not mediate the effect between *waiting time information* and *estimated waiting time*. Which is expected, because the underlying process between *waiting time information* and *estimated waiting time* is rational rather than emotional. This result is in accordance with earlier research on waiting experience. Hui, Tse and Zhou (2006) for example state that nowadays it has been widely accepted that providing waiting time information is a management intervention that can positively affect the expectations consumers have of a delay without changing objective delay duration. Providing delay information may effect both perception of the delay duration (Katz et al., 1991; Antonides et al., 2002; Hossfeld et al., 2012) and their emotional feelings during the delay (Hui & Tse, 1996).

The *distraction* scenarios had a significant effect on the emotional state *pleasure*, and a marginally significant effect on the emotional state *arousal*. These result were expected where the big screen which displays movie trailers is aimed at stimulating these specific emotional states. However, where Van Hagen (2011) argues that making the environment more pleasant helps in making the wait more agreeable, in the current study, the significant effects on emotional state do not lead to a significant effect of distraction on the sub-variables of queue perception, being expected waiting experience, uncertainty, and estimated waiting

time. A possible explanation is the fact that participants in the current study are not really experiencing the distraction. This can be because the scenario has not put them in the waiting situation, but rather still outside the waiting situation. Another explanation could be that the distraction cue is not experienced as intended, because moving images, audio and storyline are not experienced. While there were some significant effects between the scenarios and emotional state, the latter plays no part in affecting *expected waiting experience*, *uncertainty*, and *estimated waiting time*. Therefore Hypothesis 5 is rejected.

Looking at the moderating effect of customer profiles on the relation between the scenarios and queue perception. It was expected that the customer profile *apathetic* was the strongest moderator in this case. It can be concluded that there is no moderating effect recorded regarding customer profile, where there were no clear differences between the measured effects without the control. A possible explanation for this might be the fact that the experiment is done via an online questionnaire and people were not able to show their natural behaviour in a real-life movie theatre setting, which ultimately really determines the customer profile. These non-significant results imply that Hypothesis 6 is also rejected.

## **5.2 Limitations**

The objective of this study was to find evidence of external cues committing people to a queue or waiting area. Because queuing literature on this subject is not very extensive yet, a less complex research setup was chosen in order to find evidence for the posed theorem. The stimulus materials in this study therefore were photographs of queues, which were visually altered by using the graphics editor Adobe Photoshop. The limitation this approach proposes is mostly aimed at the quality of the data, which therefore directly affects the external validity of the research. It can be argued that participants did not experience the scenario as it was intended because only a short text was provided and a picture was shown. Concrete limitations following this research setup are for example the absence of audio, movement, interaction and time pressure.

### **5.3 Conclusion**

This study proposed ways of altering queuing behaviour, before the waiting process had started, by mainly focusing on influencing queue perception. The objective that was formulated in the main research question was to minimize balking behaviour. What sets apart this research is the fact that for the first time balking behaviour is studied from a social psychological standpoint. There are two important findings in this research.

Firstly, results from the study showed that only *waiting time information* was able to lessen *balking behaviour*. The effect of *information* on *balking behaviour* was fully mediated by *estimated waiting time*. This means that balking behaviour can be lessened by influencing the estimation people have of the waiting time. One way to do this is by providing waiting time information, as was done in this study. However one may argue that there are more ways to influence estimated waiting time (i.e., developing queue designs which makes the queue seem shorter or about creating a waiting area instead of a queue).

Secondly, looking at the distraction scenario, it can be concluded that while distraction did have an effect on emotional state (pleasure and arousal), it did not have a significant effect on queue perception (expected waiting experience, uncertainty, and estimated waiting time), nor did it influence (queuing) behaviour. So emotional state was not a predictor of behaviour.

These two findings can be combined into one overall conclusion to the research, namely: In trying to influence balking behaviour and lure people into a queue, the emotional route should be avoided where emotions do not influence balking behaviour. Focus should be on the rational approach which is aimed at lowering the estimated waiting time participants have of a queue, for example by providing them with information on the estimated waiting time.

### **5.3 Implications and further research**

The current study was aimed at delivering a focus shift in literature from waiting experience to waiting perception. One could say that understanding how to attract people to waiting situations is a different discipline than understanding how to offer a great waiting experience, where waiting experience is not necessarily experienced from outside the waiting line. A lot of research has been done focusing solely on waiting experience, however if people are confronted with busy queues or waiting areas, one might argue that people are immediately looking for cues upon which their decision can be based to join or to leave the queue. Where

marketing activities of any organisation are aimed at generating a certain approach behaviour in people towards a brand, organisation or institute, the main challenge that follows is to minimize the number of bottlenecks so that this stream of people is served at full potential, maximizing revenues. Therefore it is both important to commit people to the waiting line by means of a positive queue perception and at the same time creating a pleasant waiting experience.

The experimental setting in this study was a queue in the movie theatre, accordingly the stimulus materials that have been used in this study have been altered as to be credible instalments in that particular setting. However the basic rationale behind these manipulations can be translated to other areas in for example leisure, service and retail industries. Alterations for implementation in these areas should be focused on providing clearly visible waiting time information and providing distractions which are suitable to the setting. One might argue that the insights of this study are especially applicable to the retail clothing industry, where long lines play a big factor in losing revenue (Lu, Musalem, Olivares & Schilkrut, 2013). Therefore an interesting opportunity for future research is to break out of the movie theatre setting and test the proposed approach to minimize balking behaviour in service organizations in other industries such as the supermarket industry and the retail clothing industry. This would explain if outcomes of the research are uniformly interpretable.

Because of the fact that the current study is the starting point of a new approach in waiting experience literature, further research should firstly focus on testing the outcomes of the current study. The main challenge for future research on this topic lies in creating a setting in which the feelings one has when confronted with a (long) queue are stimulated, while at the same time experience some sort of time pressure. Alternative and more suitable research methods are for example participant observation and qualitative interviews with balking people. This would make for a richer data source. Another way to do this is by creating an experimental setting in which the desired conditions are met.

However studies like the current, which are focused at improving the perception of queues might be short sighted. Studies on waiting experience and queueing in general focus more on breaking out of the queuing patterns and creating a new ways of waiting by designing waiting environments instead of real queues. Therefore it is interesting to shift focus from doing research on queue perception, but focus on the perception of the waiting environment as a whole instead.

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## Appendices

### **Appendix A – Distribution of sample divided by education**

<b><u>Level of education</u></b>	<b><u>N</u></b>	<b><u>%</u></b>
Elementary school	2	0.8
High school	33	12.9
Lower vocational education	6	2.4
Intermediate vocational education	48	18.8
Higher vocational education	93	36.5
University	73	28.6
<i><u>Total</u></i>	<i><u>255</u></i>	<i><u>100</u></i>

**Table A** – distribution of sample as divided per highest completed education

## Appendix B – Stimulus material (Pictures)



Picture 1 – The control scenario



Picture 2 – The information scenario



Picture 3 – The distraction scenario



Picture 4 – The combined scenario

## **Appendix C – Pre-test questionnaire**

**Intro** - Goedendag, Op de volgende pagina's krijgt u een aantal afbeeldingen te zien en stellingen te lezen. Het invullen van de vragenlijst zal ongeveer 10 minuten tijd in beslag nemen en de antwoorden zullen anoniem worden verwerkt. U heeft altijd de mogelijkheid te stoppen met de vragenlijst wanneer u om persoonlijke redenen uw deelname niet langer wilt voortzetten. Ik hoop natuurlijk dat u de vragenlijst volledig invult. Als u vragen of opmerkingen heeft kunt u deze aan het einde van de vragenlijst doorgeven. Wilt u op de hoogte worden gehouden van de onderzoeksresultaten? Vul dan uw e-mailadres aan het einde van de vragenlijst in. Alvast bedankt!

Juan Pérez Nijhuis

Master Student Communication Science

Universiteit Twente

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om op elk moment, zonder opgaaf van redenen, deelname aan dit onderzoek te kunnen beëindigen.

☐ Ik ga akkoord en ga verder naar de vragenlijst

**Dem. 1** - Wat is uw geslacht?

☐ Man

☐ Vrouw

**Dem. 2** - Wat is uw leeftijd? Vul deze hieronder in.

**Q1**



**Q1.1** - Benoem de 3 zaken op de foto hierboven die je het meest opvallen. Scheid de antwoorden met een komma.

**Q1.2** - In hoeverre ben jij het eens met de volgende stelling? Ik voel me geïnformeerd.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q1.3** - In hoeverre ben je het eens met de volgende stelling? Ik vind de wachtrij attractief.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens



**Q1.4** - Wat vind jij van de lengte van de wachtrij op de foto?

- ☐ Heel kort
- ☐ Kort
- ☐ Normaal
- ☐ Lang
- ☐ Heel lang

**Q2**



**Q2.1**- Benoem de 3 zaken op de foto hierboven die je het meest opvallen. Scheid de antwoorden met een komma.

**Q2.2** - In hoeverre ben jij het eens met de volgende stelling? Ik voel me geïnformeerd.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q2.3** - In hoeverre ben je het eens met de volgende stelling? Ik vind de wachtrij attractief.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q2.4** - Wat vind jij van de lengte van de wachtrij op de foto?

- ☐ Heel kort
- ☐ Kort
- ☐ Normaal
- ☐ Lang
- ☐ Heel lang

**Q3**



**Q3.1** - Benoem de 3 zaken op de foto hierboven die je het meest opvallen. Scheid de antwoorden met een komma.

**Q3.2** - In hoeverre ben jij het eens met de volgende stelling? Ik voel me geïnformeerd.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q3.3** - In hoeverre ben je het eens met de volgende stelling? Ik vind de wachtrij attractief.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q3.4** - Wat vind jij van de lengte van de wachtrij op de foto?

- ☐ Heel kort
- ☐ Kort
- ☐ Normaal
- ☐ Lang
- ☐ Heel lang

**Q4**



**Q4.1** - Benoem de 3 zaken op de foto hierboven die je het meest opvallen. Scheid de antwoorden met een komma.

**Q4.2** - In hoeverre ben jij het eens met de volgende stelling? Ik voel me geïnformeerd.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q4.3** - In hoeverre ben je het eens met de volgende stelling? Ik vind de wachtrij attractief.

- ☐ Helemaal niet mee eens
- ☐ Niet mee eens
- ☐ Neutraal
- ☐ Mee eens
- ☐ Helemaal mee eens

**Q4.4** - Wat vind jij van de lengte van de wachtrij op de foto?

- ☐ Heel kort
- ☐ Kort
- ☐ Normaal
- ☐ Lang
- ☐ Heel lang

## **Appendix D – Research survey**

**Intro 1** - Goedendag! Op de volgende pagina's krijgt u een aantal stellingen te lezen over uw gedrag in de bioscoop, specifiek gericht op de wachtrij. Het invullen van de vragenlijst zal ongeveer 5 minuten tijd in beslag nemen en de antwoorden zullen anoniem worden verwerkt. U heeft altijd de mogelijkheid te stoppen met de vragenlijst wanneer u om persoonlijke redenen uw deelname niet langer wilt voortzetten. Ik hoop natuurlijk dat u de vragenlijst volledig invult. Als u vragen of opmerkingen heeft kunt u deze aan het einde van de vragenlijst doorgeven. Wilt u op de hoogte worden gehouden van de onderzoeksresultaten? Vul dan uw e-mailadres aan het einde van de vragenlijst in. Alvast bedankt!

Juan Pérez Nijhuis

Master student Communication Studies,

Universiteit Twente

Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om op elk moment, zonder opgaaf van redenen, deelname aan dit onderzoek te kunnen beëindigen.

☐ Ik ga akkoord en ga verder naar de vragenlijst

**Profiling** - Onderstaande stellingen hebben betrekking op jouw redenen voor het bezoeken van een bioscoop. Geef aan in hoeverre je het eens bent met onderstaande stellingen.

1. Ik bezoek de bioscoop om een leuke tijd te hebben met mijn vrienden

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

2. Ik ga naar de bioscoop om mijn vrienden gezelschap te houden

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

3. Ik bezoek de bioscoop om de film echt te ervaren

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

4. Ik ga naar de bioscoop om een film op een groot scherm te zien

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

5. Ik bezoek de bioscoop om sociale contacten te onderhouden

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

6. Ik bezoek een bioscoop om samen met mijn vrienden te zijn

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

7. Ik bezoek een bioscoop als ik niets anders te doen heb

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

8. Ik bezoek de bioscoop omdat ik een film fan ben

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

9. De bioscoop geeft mij een speciaal gevoel

*Helemaal mee oneens*

☐ ☐ ☐ ☐ ☐ ☐

*Helemaal mee eens*

☐

**Frequency** - Hoe vaak bezoekt u de bioscoop?

- ☐ Meer dan één keer per week
- ☐ Gemiddeld één keer per week
- ☐ Gemiddeld twee keer per maand
- ☐ Gemiddeld één keer per maand
- ☐ Gemiddeld acht keer per jaar
- ☐ Gemiddeld vier keer per jaar
- ☐ Minder dan vier keer per jaar

**Scenario** - Voor het hierop volgende gedeelte is het van belang om u in te leven in het onderstaande scenario. Lees eerst de tekst en scroll vervolgens naar onder om de bijbehorende foto te zien.

Je hebt een vrije avond voor je en je hebt zin om iets te gaan doen. Na korte tijd te overleggen besluit je om naar de bioscoop te gaan. De film die je graag wilt zien begint over 10 minuten. Echter, bij binnenkomst in de bioscoop zie je de volgende wachtrij.



**Image** – One of four images is shown to the participant

**Reaction 1** - Met in achtneming van het geschetste scenario, wat zou je doen bij het zien van de bovenstaande wachtrij?

- ☐ Ik zou aansluiten bij de rij en wachten
- ☐ Ik zou aansluiten bij de rij, maar als het te lang duurt alsnog vertrekken
- ☐ Ik zou niet aansluiten bij de rij en vertrekken

**Reaction 2** - Hoe lang verwacht je dat de wachttijd zal duren?

- ☐ Heel kort
- ☐ Kort
- ☐ Een beetje kort
- ☐ Normaal
- ☐ Een beetje lang
- ☐ Lang
- ☐ Heel erg lang

**Pleasure** - Geef hieronder aan welke emoties opkomen bij het zien van de wachtrij

*Een gelukkig gevoel*

☐ ☐ ☐ ☐ ☐

*Een ongelukkig gevoel*

☐ ☐

*Een behaaglijk gevoel*

☐ ☐ ☐ ☐ ☐

*Een geërgerd gevoel*

☐ ☐

*Een tevreden gevoel*

☐ ☐ ☐ ☐ ☐

*Een ontevreden gevoel*

☐ ☐

*Een aangenaam gevoel*

☐ ☐ ☐ ☐ ☐

*Een bedrukt gevoel*

☐ ☐

*Een hoopvol gevoel*

☐ ☐ ☐ ☐ ☐

*Een wanhopig gevoel*

☐ ☐

*Een ontspannen gevoel*

☐ ☐ ☐ ☐ ☐

*Een verveeld gevoel*

☐ ☐



**Arousal** - Bij het zien van de wachtrij spelen de volgende gevoelens een rol

*Een gestimuleerd gevoel*

☐ ☐ ☐ ☐ ☐

*Een opgewonden gevoel*

☐ ☐ ☐ ☐ ☐

*Een uitzinnig gevoel*

☐ ☐ ☐ ☐ ☐

*Een zenuwachtig gevoel*

☐ ☐ ☐ ☐ ☐

*Een wakker gevoel*

☐ ☐ ☐ ☐ ☐

*Een geprikkeld gevoel*

☐ ☐ ☐ ☐ ☐

*Een ontspannen gevoel*

☐ ☐

*Een rustig gevoel*

☐ ☐

*Een traag gevoel*

☐ ☐

*Een futloos gevoel*

☐ ☐

*Een slaperig gevoel*

☐ ☐

*Een niet geprikkeld gevoel*

☐ ☐

**Dominance** - Geef aan in hoeverre onderstaande gevoelens een rol spelen bij het zien van de wachtrij

*Een vrij gevoel*

☐ ☐ ☐ ☐ ☐

*Een ongedwongen gevoel*

☐ ☐ ☐ ☐ ☐

*Een zelfstandig gevoel*

☐ ☐ ☐ ☐ ☐

*Een superieur gevoel*

☐ ☐ ☐ ☐ ☐

*Een dominant gevoel*

☐ ☐ ☐ ☐ ☐

*Een autonoom gevoel*

☐ ☐ ☐ ☐ ☐

*Een geremd gevoel*

☐ ☐

*Een gemanipuleerd gevoel*

☐ ☐

*Een begeleid gevoel*

☐ ☐

*Een minderwaardig gevoel*

☐ ☐

*Een onderdanig gevoel*

☐ ☐

*Een geholpen gevoel*

☐ ☐

**Waiting line perception.** - Hoe erg verwacht je dat onderstaande emoties plaats gaan vinden tijdens het wachten?

	<i>Helemaal mee oneens</i>					<i>Helemaal mee eens</i>	
Irritatie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eerlijkheid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ergernis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verveling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Uncertain** - Geef aan in welke mate onderstaande gevoelens een rol spelen bij het zien van de wachtrij.

	<i>Helemaal mee oneens</i>					<i>Helemaal mee eens</i>	
Onzeker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Angstig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ongemakkelijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rusteloos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Dem. 1** - Wat is uw geslacht?

**Dem. 2** - Wat is uw leeftijd? Vul deze hieronder in

**Dem. 3** - Wat is uw hoogst afgeronde opleiding

- ☐ Geen opleiding
- ☐ Basisschool
- ☐ Middelbare school
- ☐ LBO
- ☐ MBO
- ☐ HBO
- ☐ WO

**Slot 1** - Wilt u op de hoogte worden gehouden van de resultaten van het onderzoek? Vul dan hieronder uw email adres in. Bedankt voor uw deelname aan mijn onderzoek!

