

## *Behavioral research*

*The moderating effect of the mere presence, recall and the secure attachment style on people's subjective emotional rating when watching short movie clips.*

Supervisors: PhD R.I. Pozharliev and Prof. Dr. W. J. M. I. Verbeke

Name: Guido Lotte

Student number: 415872

Rotterdam, July 2015

## Abstract

This study primarily investigates if the mere presence (condition with two persons), recall and the secure attachment style moderate the effect of people's emotional rating when watching short movie clips.

According to previously studies, several hypotheses are be made:

H1: Higher ratings on valence are expected in the together condition compared to the alone condition.

H2a: Higher ratings on valence are expected when viewing short movies with a friend compared to viewing them with a stranger.

H2b: Higher ratings on arousal are expected when viewing short movies with a friend compared to viewing them with a stranger.

H3: Higher ratings on valence are expected for the high secure group as opposed to the low secure group.

H4: High secure group compared to the low secure group will recall more positive stimuli then the negative stimuli.

The experiment was performed at the behavioral lab at the T-building of the Erasmus University. The emotion was measured by valence and arousal. During the experiment participants saw three types of movie clips (positive, natural and negative) in the alone condition and in the together (with another person). Before the experiment, participants filled in a questionnaire to find which participants had the secure attachment style. One week after the experiment participants were asked what stimuli they could recall from the experiment.

This study found that there is a significant interaction between ratings on valence in together condition with friends compared to the together condition with strangers. Participants rated higher on valence, perceived the stimuli more positive together with a friend.

Also was found that there was a significant interaction between the high secure group and the recall of positive stimuli. The high secure group recalled more positive stimuli compared to the negative stimuli.

**Keywords: (secure) attachment style, mere presence, emotion, recall, valence, arousal, condition, ratings, alone-condition, and together-condition.**

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## Introduction

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Emotions are an important part of any creature alive. There is a lot of research done about why we have these emotions. People show emotions to inform others of their own emotional state, so people do not process emotions alone, but more in a social context (Keltner & Haidt, 1999). But what if there is a situation where people don't have a direct interaction with one another, for instance watching a movie in the cinema? We watch movies together or alone, no matter in what condition, we always have and show these emotions. It is found that people in the mere presence condition (presence of another person) show more of their emotional feelings than when they are alone (Platania & Moran P., 2001).

In this present experiment people are asked to see short movie clips. The emotional feelings of participants will be measured and compared between the "alone-condition" and the "together-condition" (mere presence condition). This research aims to find a difference in emotional rating when watching a movie clip alone or together.

The "together-condition" can be either with a friend or with a stranger. Depending on the relation of the two persons, the rating on valence (emotion) could be different. It is found that partner responsiveness shapes the emotional outcomes of people, instead of just having two persons together (Kane S. H., McCall, Collins, & Blascovich, 2011):

*"Although mere presence can serve as an important safety signal, partner responsiveness should play the key role in shaping attachment behavior and emotional outcomes."*

In this research we also aim to find if there is a difference in emotional rating when the together-condition is with two friends or with two strangers.

The difference in condition and the group relation are not the only variables/factors that have an effect on the differences in emotions people have. It is also found that the attachment styles (secure, avoidant and anxious) have different effects on how a person processes emotions (different affect regulations) (Kobak & Amy, 1988).

The attachment theory is often used in behavioral research and it is a very important theory to understand human behavior better especially when situations are stressful. In several researches is found that the secure attached people are more aroused compared to the other styles (Shaver & Mikulincer, 2002) and that secure attached people recall more positive stimuli then negative (Pereg & Mikulincer, 2004).

In this research, the attachment theory is included as another variable that could have an influence on the rating on emotions.

In summary, this research aims to find if the mere presence, the recall of stimuli and secure attachment style moderates the effect on emotional ratings when watching short movie clips.

The order of the content in this research is as follows:

First, the theory background will be discussed. Each variable (emotion, experimental condition, relationship, attachment style and recall) will be explained. After each variable is explained, there will be a hypotheses based on our expectations and the theory.

After the theory is explained, the method and process of this research will be explained. In this chapter, the participants, process, research and statistical method, location and stimuli, will be explained.

In the following part the results will be discussed. The research questions and the hypotheses will be answered here.

The last part of this thesis will consist of a general discussion, managerial implications, limitations and future research.

## Theory

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In this chapter the five major variables emotion, condition, relationship, attachment styles and recall will be discussed separately. After each variable is theoretically described, five hypotheses, in total, will be presented.

### **Emotion**

Emotions have been researched a lot, that's why there are many methods to research this phenomenon. Since the past half-century emotion scientists have been researched a lot in the natural way, but also in controlled laboratory environments. These researchers selected movie clips (films) to elicit emotions in a better way (Rottenberg, Ray, & Gross, 1995).

Emotion is a term that describes behavioral processes. According to Kaplan, Dalal and Luchman (2013) emotions are as follows:

*‘Emotions represent intense affective, valenced reactions and are directed at a specific cause’.*

According to M. Cabanac (2001), emotion is any mental experience with high intensity and high hedonicity (pleasure). Emotions are referred, for example, to fear, joy or anger. In this research they found that pleasure is the main driver that allows the brain to make trade-offs among various motivations. By this, the researcher means that pleasure is the key that determines the emotion.

Maybe more importantly is why there is the emotion phenomenon. It is found that emotions have a social function (Keltner & Haidt, 1999). They found that emotions could be explained in four situations: individual level, dyadic level (two individuals), group level and cultural level.

This present research will focus on the individual level and the dyadic level. At the individual level, emotions are occurring to inform and prepare an individual. At the dyadic level, emotional expressions will help individuals to know others' emotions (for coordinating social interactions), as a deterrent for other individuals' social behavior and to help individuals to respond to significant social events.

Emotions can be measured by: self-reported measures, observational measures and psychophysiological measures (Kaplan, Reeshad, & Luchman, 2013). To understand better what to measure in emotions, it is important to know that emotions have two underlying dimensions: valence (pleasantness and unpleasantness) and arousal (activation) (Russell & Barrett, 1999). Valence can be measured on a scale of ‘‘positive’’ to ‘‘negative’’; arousal can be measured on a scale of ‘‘no impact at all’’ to ‘‘high impact’’.

Films (movie clips) are useful stimuli to elicit emotions in laboratory context. In past research emotions have been researched a lot, not only in the natural way, but also in laboratory environments. In emotion science, film elicitors of emotion have been used since past half-century (Rottenberg, Ray, & Gross, 1995). In the past, researchers selected film clips to have a dataset of films that elicit emotions.

P. Philippot (1993) found 12 films that elicited emotional states and found success for eliciting: amusement, sadness, and a neutral state (Philippot, 1993).

Gross and Levenson (1995) targeting eight emotions: amusement, anger, contentment, disgust, sadness, surprise, a neutral state and fear. They found that emotions occur as bursts of activity or waves. Films are capable of eliciting mild or strong emotional responses, without creating a sense of harm or ethical violation (Gross & Levenson, 1995).

Films (or in this case short movie clips) have the ability to elicit cognitively emotional states, and on the other hand films impose relatively high levels of cognitive demand on participants (Rottenberg, Ray, & Gross, 1995). They also found that films are very useful in capturing attention and that emotions are a relatively rapid phenomenon. Compared to other techniques, films are more naturalistic (because they resemble everyday life situations) than facial movement or hypnosis.

In their research a baseline (resting points) is used, but the drawback is that people will be deactivated. Using a movie clip that occurs neutral feelings, as a baseline will help against these drawbacks. It is also found that longer movie clips are often less effective than shorter films. For this research movie clips are used from one minute to three minutes. Rottenberg (1995) also found that there are three psychological contexts that should be taken into account when elicitation of emotions using films: timing, order, and prior viewing. To elicit emotions there should be a negative and a positive stimuli, and as mentioned earlier, a baseline (neutral movie clip).

To measure the valence (pleasure) and arousal (impact), a visual measure was created. In the research of P. J. Lang (1985) the Self-Assessment Manikin (SAM) was used for the first time. This SAM-scale was a visualization of the pleasure and arousal degrees.

In the past, researchers have had problems with measuring emotional responses (verbal) to advertising (Morris, 1995). To measure a big audience from all over the world, a visual measurement was needed. The traditional SAM-scale has a nine-point scale with a character that smiles or is unhappy (valence) and a scale with a character that has its eyes closed and wide open (arousal). In appendix 1 the SAM-scale can be seen. Advantages are that people are more likely to hold their attention, easy to understand and fast responses.

### **Experimental Condition**

In this research two conditions will be compared: the alone-condition and the together-condition (mere presence). In the presence of another person, people rate their emotional feelings higher, because they are more self-conscious about their emotions (Keltner & Haidt, 1999). But as mentioned earlier, according to B. Guerin (1986) the mere presence is a minimal condition to elicit social facilitation effect (Guerin, 1986). In this research, the later findings of the mere presence of Keltner & Haidt (1999) will be studied again.

In this present research, it is assumed that people will rate higher on emotional feelings (higher valence) when seeing movie clips in the together-condition. This leads to the first hypotheses:

#### ***Hypotheses 1:***

***Higher ratings on valence are expected in the together condition compared to the alone condition.***

### **Relationship**

In the together condition, the participants can be together as friends or as strangers. As mentioned earlier, it is found that both situations could lead to different emotional outcomes (Jakobs, Fischer, & Manstead, 1997). Together with friends could be seen as a “safe environment”, so people could have more positive emotional feelings. Also friends are perceived as co-acting participants, whereas strangers are the evaluative participants (Wagner & Smith, 1991).



When together with a stranger one evaluate the others emotion, in their research it was expected that people would give a lower rating on emotion (valence and arousal). In this research it is assumed that people would rate higher on valence and arousal when they are with a friend compared with a stranger. This leads to the following hypotheses:

***Hypotheses 2a:***

***Higher ratings on valence are expected when viewing short movies with a friend compared to viewing them with a stranger.***

***Hypotheses 2b:***

***Higher ratings on arousal are expected when viewing short movies with a friend compared to viewing them with a stranger.***

**Secure attachment style**

Bowlby's attachment theory describes that all mammals have a behavioral system from the day they were born (Bowlby, 1969/1982). This attachment behavior system makes it more likely to survive and reproduce in later phases. There are two different types of attachment styles: the insecure attachment style and the secure attachment style. People with the insecure attachment style have characteristics like, a high need of social approval and a high need of self-reliance. People with the secure attachment style people have characteristics like, confident, calm and easily dealing with threats (Ein-Dor, Mikulincer, Doron, & Shaver, 2010).

According to M. Mikulincer and colleagues (2003), attachment styles were first measured in the research named '*Romantic Love as an Attachment Process*' of (Hazen & Shaver, 1987). In this research they used self-report measures to indicate what attachment style participants have. In appendix 2 is an example of their self-reported measure.

Depending on a person's attachment styles, the emotion can be processed differently (Kobak & Amy, 1988). Several researchers have found that secure people show their feelings more towards others and express their emotions in a more open way, compared to the insecure attachment styles (Shaver & Mikulincer, 2002).

Besides, it is found that secure attached people are socially more competent, then insecure attached people (Hazan & Shaver, 1987). Secure attached people are more likely to interact with others, because they have a sense of trust in others, even if the other person highly reacted in an anger way, the secure attached people stay calm and try to find a way to solve this problem (Shaver & Mikulincer, 2002).

Bowlby's (1973) hypotheses that secure attached people have more optimistic believes when dealing with threatening situations.

According to these findings, this present research aims to find if secure attached people rate higher on valence then people with an insecure attachment style. This leads to the following hypotheses:

***Hypotheses 3:***

***Higher ratings on valence are expected for the high secure group as opposed to the low secure group.***

**Recall**

People don't only process emotions differently, people also recall differently depending on the attachment style they have (Rowe & Carnelley, 2003). In the research of Rowe & Carnelley (2003), for instance, participants recall more positive attachment words when they have a secure attachment style.

Several researchers found that the different attachment styles not only differ people's behaviors (Ein-Dor, Mikulincer, Doron, & Shaver, 2010), but also differ in cognitive reactions (they have different effects on memory) (Rowe & Carnelley, 2003).

It is found that secure-attached people can recall negative affect/unpleasant emotional memories well (Fraley, Garner, & Shaver, 2000) and (Hesse, 1999).

However, in the research of (Pereg & Mikulincer, 2004) is found that secure-attached people recall more positive information and unstable negative information. In their research, people process social information better.

It is also found that people with this attachment style cognitively react better on positive affections (Mikulincer & Sheffi, 2000). In their study, secure-attached people recalled significantly more positive affections then the other attachment styles.

According to (Kane H. S., McCall, Collins, & Blascovich, 2012) people feel emotionally secure, not because of the physical presence of others, but their emotional presence.

Geen (1971) researched the social facilitation of long-term recall. He found that people in the presence of another person significantly recalled more than people that participated alone. In another research by Geen, for long- and short-term recall, he found that aroused people being observed (in the mere presence condition) showed poor short-term recall than less aroused people, but they were significantly better in the long-term recall (Geen, 1973).

In another research by Rowe and Carnelley (2003) is found that secure-attached people recalled more positive attachment words and reported more positive affect than people with an insecure attachment style.

According to these findings above, the following hypotheses is formed:

***Hypotheses 4:***

***High secure group compared to the low secure group will recall more positive stimuli than the negative stimuli.***

## Method

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In this chapter the overall research method will be described. Also the statistical method, participants, location, stimuli, procedure, and data collection will be discussed here.

*Research method.* To perform this experiment a psychology software tool E-Prime2 is used. This program allows researchers to create a presentation for the stimuli, interaction possibilities, collect data and analyze them. E-prime2 is a commonly used program in behavioral research with the possibility to collect data highly accurate. The data of all the participants were transferred to Microsoft Excel, ordered and transferred to SPSS 21(Statistics for Mac) for statistical analysis.

*Statistical method.* To research the interaction between the variables and the condition, the Paired Sample T-test and the Repeated Measure ANOVA are used. The Independent Sample T-test is used to compare the different groups, for instance, the together-condition with the alone-condition.

*Participants.* For this research 60 participants were asked to participate in this experiment. The participants were divided between 31 men and 29 women to have a balance in nature, with a mean age of 24,95.

*Location.* The location for the experiment was at the Behavioral Lab in the T-Building of the Erasmus University in Rotterdam. This Behavioral Lab is a common place where experiments for behavioral research take place. In this work, a 15-inch monitor is used, 5 feet away from the participant. The room is a typical laboratory room, with no other stimuli then the computers. Cameras are used to record participant's behavior (the videos are not used for this research).

The rooms that were used for the experiment were ten by six meters long. There were two computers in the "alone-room" and four computers in the "together-room". The participants in the together-condition were watching the stimuli behind one computer. Both rooms can be closed and people are not allowed to talk in the hallways.

*Stimuli.* Participants were exposed to six short movie clips, with an average length of 1:30 minute. To measure the valence and arousal, three types of stimuli were used: positive, neutral and negative.

The positive stimulus was a short movie of Mr. Bean visiting Queen Elizabeth and Mr. Bean on an exam. For the neutral stimuli, a general nature movie clip was used (2x). At last, the negative stimulus was a movie about the horrors of the Nazi and a movie of the Holocaust during the World War 2.

*Procedure.* In the first phase of this research, participants were asked to fill in a questionnaire to indicate which participants have a secure attachment style. This questionnaire can be seen in appendix 3. During this questionnaire they were asked to give certain dates that they could participate in the experiment to watch the movie clips alone and together (phase 2).

During the second phase, participants came to the Behavioral Lab at the Erasmus University (T-Building) to participate in the experiment. At the experiment, we counterbalanced the following:

The first 30 people started seeing the stimuli alone, and then together, and exactly the opposite for the last 30 participants. Also the first 30 participants saw first the negative stimuli, then neutral, and then positive (alone-condition). In the together condition they saw the positive stimuli first, then neutral, then negative. For the last 30 participants it was exactly the opposite (participants saw every time different movie clips).

For this research the spaces between every film will be filled up with self-report assessment periods (works as a short baseline to give a participant a rest mode). The participants were asked to see six short movie clips (three alone, and three together) and after each movie clip they could rate their valence (emotion) and their arousal (impact) on a seven point SAM-scale (where 1 was "low emotion" or "low impact" and where 7 was "high emotion" or "high impact").

During the switching positions of the experiment (alone to together, and together to alone) we asked the participants their age, and to rate on a scale from one to seven how well they knew the other person in the together-condition to measure the relationship variable (where 1 was "not at all" and 7 "very well"). The period of this experiment was from 01-01-2015 until 27-03-2015; it took about 10 - 15 minutes in total. Each stimuli was around 1:30 minutes long.

At the third phase, participants were asked by e-mail what they could recall of this experiment. It was a free recall test, so participants could fill in anything they could remember.

*Data collection.* Each variable has a different method of data collection. To give a clear overview, each variable will be explained shortly:

Emotion: The emotion is measured as two components: valence and arousal. For this research self-reported measures for arousal and valence will be used. After every movie clip the participants are asked to rate their emotion (valence) and impact (arousal) by a seven-point SAM-scale. After every session, E-prime saves the output in a file on the computer.

Experimental condition: A counterbalance method was used to influence equally counteractions between the stimuli (order of types of stimuli) and participants (order of condition), so that this won't influence the outcomes.

Relationship: To measure the relationships between the participants in the together-condition, the question "How well do you know the other participant?". A seven-point scale was used to indicate the relationship, where 1 was "not at all" and 7 "very well".

Attachment style: As mentioned earlier, to indicate which participants have the secure attachment style, a questionnaire is used, which is commonly used in previous researches (appendix 3). Sixteen questions were asked to indicate what style the person has. Every question contained a 7-point Likert-scale varying from strongly agree (1) to strongly disagree (7) as endpoints and '4' as a neutral point. Questions 1, 3, 7, 12, 15, and 16 belong to the anxious attachment style (insecure), questions 2, 5, 8, 10 and 13 belong to the avoidant attachment style (insecure) and for the secure attachment the questions 4, 6, 9, 11 and 14 were used.

Recall: To measure the recall of the participants, a free recall test, similar as the test Becker and colleagues (1999) used. One week after the experiment, the participants received an e-mail where they answered the question "what can you recall from the experiment last week? If so, please describe as best you can". When the data was collected, the answers were rated between a scale from 1 to 5, where 1 was "did not recall", 3 was "did recall" and 5 was "did recall in detail".

## Results

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In this section the results of the five hypotheses will be discussed. First, the results of the attachment style questionnaire, the group relation and the stimuli will be presented. After that, the results of the behavioral research will be presented with the answers to the five hypotheses.

*Secure attachment style.* In the questionnaire, every question contained a 7-point Likert-scale varies from strongly agree (1) to strongly disagree (7) as endpoints and '4' as a neutral point. A median split approach was performed to indicate the two groups (median of 3). The "low secure group" was considered as above 3 ( $M= 4.20$ ,  $SD=1.09$ ) and the "high secure group" was considered as below 3 ( $M = 2.08$ ,  $SD = 0.43$ ).

*Group relation.* A 7-point scale was used to measure the relationship of the participants, where 1 was "not at all" and 7 "very well". A median split approach was performed to indicate the two groups (median of 5). The "Friends" group was considered as above 5 ( $M= 6.11$ ,  $SD= .887$ ) and the "Strangers" group was considered as below 5 ( $M= 1.91$ ,  $SD= 1.212$ ).

*Recall stimuli.* There are three types of stimuli (positive, neutral and negative). As mentioned in the *method* section the recall was measured with a 5-point scale. To research if the secure attachment group recalls more positive stimuli, two average groups are made: average recall Positive, with all the Mr. Bean movies ( $M= 2.97$ ,  $SD= .913$ ) and average recall Negative, with the Nazi and Holocaust movies ( $M= 2.45$ ,  $SD= .914$ ).

*Behavioral research.* First a paired sample T-test was performed to indicate if there are higher ratings on valence in the together condition ( $M= 3.95$ ,  $SD= .493$ ) compared to the alone condition ( $M= 3.97$ ,  $SD= .539$ ). There was no significant main effect between the rating on ValenceTogether and the rating on ValenceAlone ( $p < .742$ ). A p-value of  $<0.05$  was considered significant during this research.

In the second research a repeated measure ANOVA was performed to find the interaction between the rating on Valence and Group relation, as within subject-factors condition Valence together (M= 3.95, SD= .493) and Valence alone (M= 3.97, SD= .539) and as between-subject factor's Group relation, consists of Friends (M= 6.11, SD= .887) and the "Strangers" group was considered as below 5 (M= 1.91, SD= 1.212). We found a significant interaction between the rating on Valence (together and alone) and the Group relation [F (1,58) = 4.491, p < .038]. The mean ratings for valence of both condition are as followed: Friends alone (M= 3.92), Friends together (M= 4.01) and Strangers alone (M= 4.04), Strangers together (M= 3.84), see figure one here below for the graph.

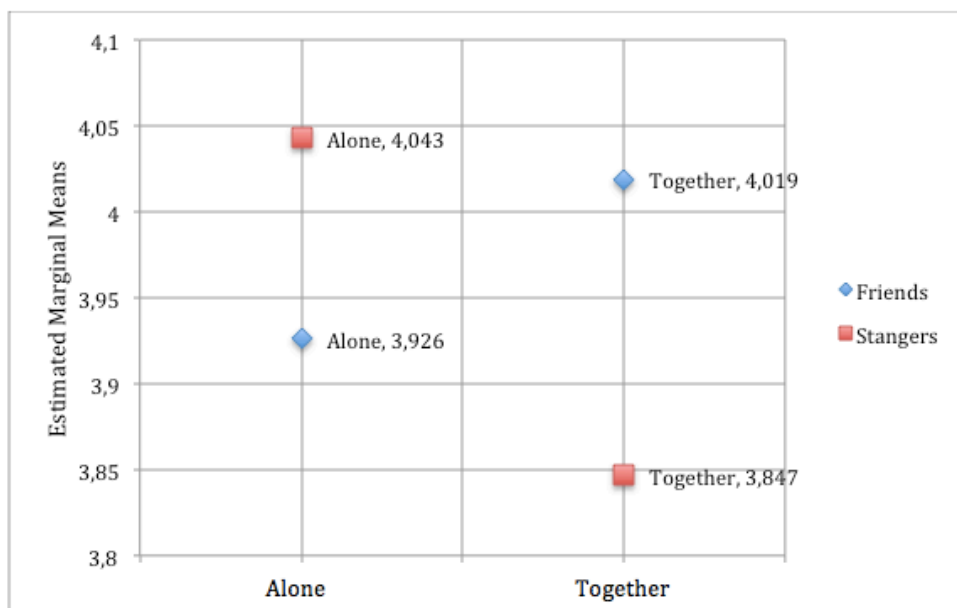


Figure 1: Interaction between rating on Valence and Group relation.

For the third research, again a repeated measure ANOVA was performed to find the interaction between the rating on Arousal and the Group relation, as within subject-factors condition Arousal together (M= 3.74, SD= .894) and Arousal alone (M= 3.85, SD= 1.007) and as between-subject factor's Group relation, consists of Friends (M= 6.11, SD= .887) and the "Strangers" group was considered as below 5 (M= 1.91, SD= 1.212). We found no significant interaction between the rating on Arousal (together and alone) and Group relation ( $p < .775$ ). The mean ratings for Arousal in the together condition are as follow: Friends alone (M= 3.92), Friends together (M= 3.85) and Strangers alone (M= 3.73), Strangers together (M= 3.59).



We also researched if the high secure attachment style has an effect on the rating on Valence. We assumed that the high secure group would rate higher (more positive) on Valence compared to the low secure group. For this we also performed a repeated measure ANOVA to find an interaction between the rating on Valence and the Secure group, as within subject-factors condition Valence together (M= 3.95, SD= .493) and Valence alone (M= 3.97, SD= .539) and as between-subject factor's Secure group, consists of High secure group (M= 2.08, SD= .433) and low secure group (M= 4.20, SD= 1.097). An insignificant interaction between the Valence (together and alone) and Group relation ( $p < .173$ ) was found.

The last study is to indicate if the high secure group will recall more positive stimuli than negative stimuli compared to the low secure group. First, we selected the high secure group by ‘select cases’ and then performed a Paired Sample T-test to find if there is an interaction between the secure attachment group: High secure group (M= 2.08, SD= .433), Low secure group (M= 4.20, SD= 1.097) and recall: PositiveRecall (M= 2.97, SD= .913), NegativeRecall (M= 2.45, SD= .914). A significant interaction between the variables was found [ $F(1,58) = 15,304, p < .003$ ].

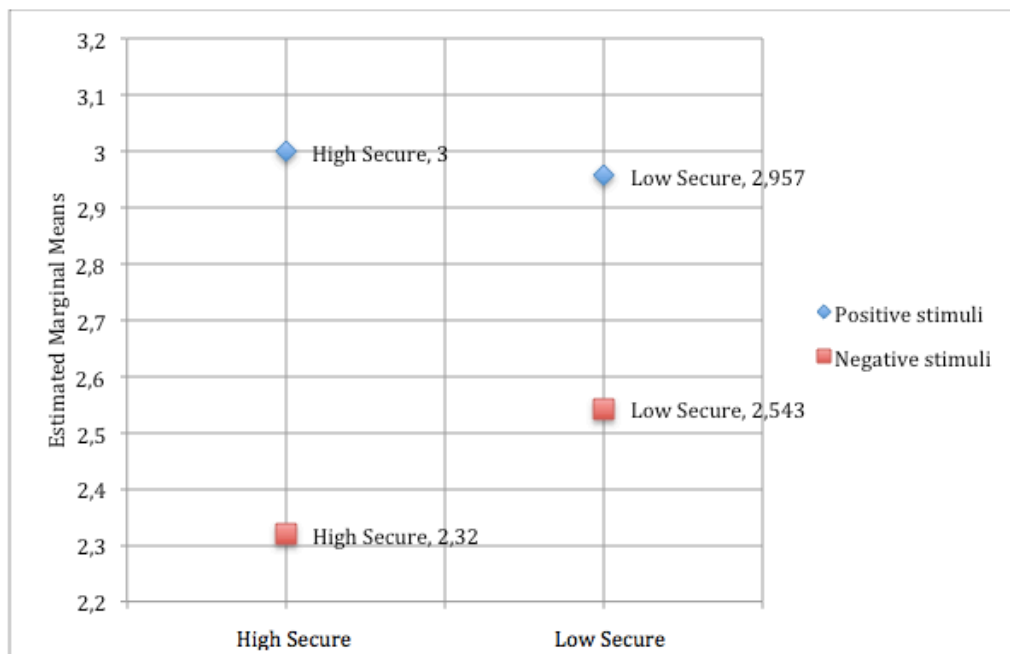


Figure 2: Interaction between High secure group and recall

## General discussion

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This study primarily investigated if mere presence, recall and the secure attachment style moderate the effect of people's emotional rating when watching short movie clips. There was no statistical significance found between the ratings on valence in the together condition compared to the alone condition. In this research, participants did not rate higher on valence when they were together compared to when they were alone. These findings are not in line with the findings of Keltner & Haidt (1999). This difference in outcome could be explained by the fact that in this present research there were only 60 participants, in other behavioral researches they use 100+ participants.

However, as mentioned earlier, in the research of B. Guerin (1986) is found that the mere presence condition is a minimal condition to elicit social facilitation, and therefore people doesn't process certain stimuli more positively. These last findings are more in line with the findings in this present research.

For the second hypotheses (a) we found conformation. It is found that there were higher ratings on valence when viewing short movies with friends compared to viewing them with a stranger. This is in line with the research of Jakobs (1997) and Wagner and Smith (1991). In this present research we found that friends together rate higher on valence then friends alone. These findings are in line with previous researches. When people are together with friends, they perceive this as a 'save environment' (Jakobs, Fischer, & Manstead, 1997). The biggest difference in rating is between friends together and strangers together, friends together rate higher then strangers together. Strangers alone rate higher on valence then strangers together. This last finding is in line with the study of Wagner & Smith (1991), where they found that the strangers in mere presence evaluate each other and the ratings were lower, and in the alone condition ratings were higher.

For the second hypotheses (b) we found no statistical significance between the ratings on arousal when together with a friend compared with a stranger. This means that there is no statistical interaction effect found between the ratings on arousal when together with friends compared to together with a stranger. This is not in line with the findings of Jakobs (1997), where the ratings with friends were higher.

In this present research we found that the friends in general (alone and together) rate higher on arousal, then the strangers. Also friends together rate higher then strangers together, what is in line with the previous studies. The insignificance result could be explained by the fact that the mean ratings are close to each other and that the sample was too small, a larger sample could generate a clearer view of the ratings.

We did not find conformation for the third hypotheses. There was no interaction found between the high secure group and the ratings on valence. This is not in line with previous studies of Shaver & colleagues (2002) and Hazen & colleagues (1987). High secure people are more positive in general, can easily interact with others, show their emotional feelings more towards others and they can deal with threats (negative perceptions) better then low secure people.

In early research was found that secure attached people see the world as save and as long as they are together with a trusted person, they can deal with stressful situations. But recent research has found that secure attached people have learned enough self-regulation skills (in their childhood) to deal with (emotional) distresses (Miculincer & colleagues, 2003). They do not need help from others. They know how to cope with different emotional situations. They also found that secure attached people develop autonomy and individuality (promote self-actualization) in the later phases of live. This suggests that high secure people do not need people around them to feel save or show their emotional state, they can ‘survive’ on their own. These findings are more in line with the findings of this present research.

For the last hypotheses we found a significant interaction between the high secure group and recall. The high secure group recalled more positive stimuli then negative stimuli, compared to the low secure group. These findings are in line with the theories of Pereg & Mikulincer (2004), Mikulincer & Sheffi (2000) and Geen (1971 & 1973). The high secure group recalled significantly more movies from Mr. Bean (positive stimuli) then the War movie clips (negative stimuli). These findings could be explained as that positive stimulus has a bigger impact on the high secure group then negative stimuli. But, as mentioned earlier, according to the data, we cannot assume that the positive stimuli have bigger impact (more aroused) on the high secure group then negative stimuli, because there was no significant relation between the secure group and the rating on arousal. This can be studied in further researches.

## Managerial implications

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In this chapter the managerial implications will be described for marketers/managers. There will be five implications described.

This study has found that people, in the mere presence condition (presence of another person), rate higher on valence when they are together with a friend. Marketing activities (for example, promotions and advertisements) will be more “effective”/perceived more positive in a together condition with friends.

It was also found that high secure attached people recalled more positive stimuli than negative stimuli. A few implications for marketers can be made.

First, marketers should research their target audience for where they make use of certain media together with friends. The marketing activity (for example: commercials) will be perceived more positive, what could lead to better associating with the brand/product or it could lead to brand preferences.

Second, in the cinema people watch movies mostly together with friends. Marketers should consider advertising in the cinema more often, because this will probably create a stronger/more positive view of the brand/product.

Third, marketers should use this approach for products/brands that are often associated negatively. This study found that even negative stimuli were rated more positively when people are together with friends.

Fourth, when marketers create marketing-campaigns with the purpose of creating better recall for their target audience, they should first research which people have the secure attachment style. These people will be the target group for their marketing-campaign. The movie-ads should be associated positively; they will recall the product/brand much better.

Fifth, managers should try to combine the high secure attached people in a situation together with friends. This approach will create an optimal outcome for the marketing-campaigns; people will perceive the ads more positive and recall them much better.

## Limitations & Further research

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In the final chapter the limitations of this present study will be described and some aspects of further research will be mentioned.

For this study, a few limitations can be made. In this chapter they will be described.

First, we did not take the backgrounds of participants into account. For example, current life status, demographics and education were not part of this study, but this could definitely change people's subjective emotional rating. Besides, it will also be valuable information when studying the mediation effect of the other attachment style (insecure).

Second, for this study the mean age was quite low (24,95), there were no 65+ participants involved in this research. In further research they should be included, especially when the study makes use of World War 2 stimuli. These stimuli could be perceived more negatively, because this group of people actually experienced these events.

Third, in this research a few hypotheses were not confirmed, while other studies found confirmation. In this study a quite small sample was used (60). In other similar studies they use around 80 to 100 participants and this could probably lead to more significant results.

Fourth, in further research the relationship between participants and attachment style should be researched more. These are important variables when studying their attachment style and in behavioral research in general.

Fifth, in further research the impact of the positive stimuli should be researched in more detail. In this research the high secure attached people recalled more positive stimuli. This was not due to the fact that the positive stimuli had a bigger impact on them (higher arousal), since this was insignificant.

## Works Cited

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- Wagner, H., & Smith, J. (1991). Facial expression in the presence of friends and strangers. *Journal of Nonverbal Behavior* , 15(4), 201-214.
- Becker, E. S., Roth, W. T., Andrich, M., & Margraf, J. (1999). Explicit memory in anxiety disorders. *Journal of Abnormal Psychology* , 108(1), 153-163.
- Bowlby, J. (1969/1982). ATTACHMENT AND LOSS VOLUME I ATTACHMENT. *New York: Basic Books* , 2nd, 1-326.
- Borden, R. J., & Walker, J. W. (1978). Influence of self-observation versus other-observation on immediate and delayed recall. *the Journal of General Psychology* , 99(2), 293-298.
- Cabanac, M. (2001). What is Emotion? *Behavioural Processes* , 60, 69-83.
- Ein-Dor, T., Mikulincer, M., Doron, G., & Shaver, R. P. (2010). The Attachment Paradox: How Can So Many of Us (the Insecure Ones) Have No Adaptive Advantages? . *Perspectives on Psychological Science* , 5(2), 123-141.
- Fraley, R. C., Garner, P. J., & Shaver, R. P. (2000). Adult Attachment and the Defensive Regulation of Attention and Memory: Examining the Role of Preemptive and Postemptive Defensive Processes . *Journal of Personality and Social Psychology* , 79(5), 816-826.
- Guerin, B. (1986). Mere Presence Effects in Humans: A Review. *Journal of Experimental Social Psychology* , 22, 38-77.
- Geen, R. G. (1973). Effects of being observed on short-and long-term recall. *Journal of experimental psychology* , 100(2), 395.
- Geen, R. G. (1971). Social Facilitation of long-term recall. *Psychonomic Science* , 24(2), 89-90.
- Grinnell, R. (2008). *Delayed-recall*. vawww.psychcentral.com:  
<http://psychcentral.com/encyclopedia/2008/delayed-recall/>
- Gross, J. J., & Levenson, W. R. (1995). Emotion Elicitation using Films . *Cognition and Emotion* , 9 (1), 87-108.
- Hazen, C., & Shaver, P. (1987). Romantic Love Conceptualized as an Attachment Process. *Journal of Personality and Social Psychology* , 52(3), 511-524.

- Hesse, E. (1999). State of mind with respect to attachment and its effects on parenting behavior. . *Handbook of attachment: Theory, research, and clinical applications* , 395-433.
- Jakobs, E., Fischer, H. A., & Manstead, S. A. (1997). Emotional Experience As A Function of Social Context: The Role Of The Other. *Journal of Nonverbal Behavior* , 21(2), 104-130.
- Kane, H. S., McCall, C., Collins, N. L., & Blascovich, J. (2012). Mere presence is not enough: Responsive support in a virtual world. *Journal of Experimental Social Psychology* , 48(1), 37-44.
- Kaplan, S., Reeshad, S. D., & Luchman, N. J. (2013). Measurement of Emotions. *Research methods in occupational health psychology* .
- Keltner, D., & Haidt, J. (1999). Social Functions of Emotions at Four Levels of Analysis. *Psychology Press Ltd* , 13, 505-521.
- Kobak, R., & Amy, S. (1988). Attachment in Late Adolescence: Working Models, Affect Regulation, and Representation of Self and Otherssentiation. *Child Development* , 59, 135-146.
- Mikulincer, M., & Orbach, I. (1995). Attachment styles and repressive defensiveness: The accessibility and architecture of affective memories. . *Journal of Personality and Social Psychology* , 68, 917-925.
- Mikulincer, M., & Sheffi, E. (2000). Adult Attachment style and Cognitive Reactions to Positive Affect: A Test of Mental Categorization and Creative Problem Solving. *Motivation and Emotion* , 24(3), 149-174.
- Mikulincer, M., Shaver, R. P., & Pereg, D. (2003). Attachment Theory and Affect Regulation: The Dynamics, Development, and Cognitive Consequences of Attachment-Related Strategies . *Motivation and Emotion* , 27(2), 77-102.
- Morris, J. D. (1995). Observations: SAM: the Self-Assessment Manikin; an efficient cross-cultural measurement of emotional response. *Journal of advertising research* , 35(6), 63-68.
- Pereg, D., & Mikulincer, M. (2004). Attachment Style and the Regulation of Negative Affect: Exploring Individual Differences in Mood Congruency Effects on Memory and Judgment. *Society for Personality and Social Psychology, Inc.* , 30 (1), 67-80.
- Philippot, P. (1993). Inducing and Assessing Differentiated Emotion-Feelings States in the Laboratory. *Cognition and Emotion* , 7 (2), 171-193.

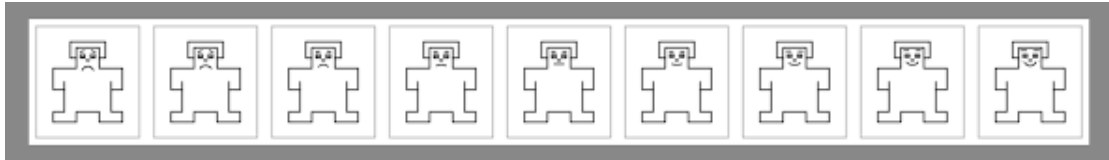
- Platania, J., & Moran P., G. (2001). Social Facilitation as a Function of the Mere Presence of Others . *The Journal of Social Psychology* , 141(2), 190-197.
- Shaver, R. P., & Mikulincer, M. (2002). Attachment-related psychodynamics . *Attachment & Human Development* , 4(2), 133-161.
- Russell, J. A., & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. . *Journal of Personality and Social Psychology* , 76, 805-819.
- Rowe, A., & Carnelley, B. K. (2003). Attachment style differences in the processing of attachment-relevant information: Primed-style effects on recall, interpersonal expectations, and affect . *Personal Relationships* , 10, 59-75.
- Rottenberg, J., Ray, D. R., & Gross, J. J. (1995). Emotion elicitation using films. *Cognition & Emotion* , 9.1, 87-108.



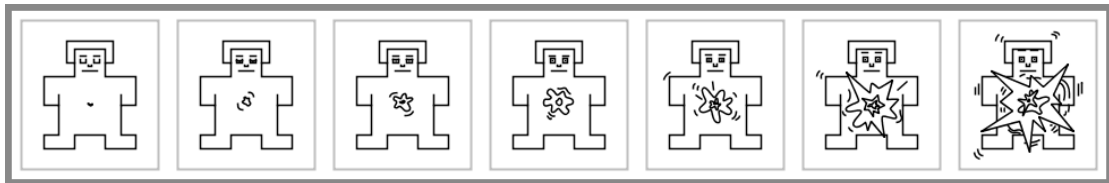
# Appendix 1 SAM-Scale

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Valence



Arousal



## Appendix 2      Self-reported Measure

**Table 1**  
*Information on Love-Experience Scales*

Scale name	Sample item	No. of items	$\alpha$
Happiness	My relationship with _____ (made/makes) me very happy.	4	.84
Friendship	I (considered/consider) _____ one of my best friends.	4	.78
Trust	I (felt/feel) complete trust in _____.	4	.83
Fear of closeness	I sometimes (felt/feel) that getting too close to _____ could mean trouble.	3	.64
Acceptance	I (was/am) well aware of _____'s imperfections but it (did/does) not lessen my love.	2	.67
Emotional extremes	I (felt/feel) almost as much pain as joy in my relationship with _____.	3	.81
Jealousy	I (loved/love) _____ so much that I often (felt/feel) jealous.	4	.82
Obsessive preoccupation	Sometimes my thoughts (were/are) uncontrollably on _____.	3	.70
Sexual attraction	I (was/am) very physically attracted to _____.	4	.80
Desire for union	Sometimes I (wished/wish) that _____ and I were a single unit, a "we" without clear boundaries.	3	.79
Desire for reciprocation	More than anything, I (wanted/want) _____ to return my feelings.	3	.70
Love at first sight	Once I noticed _____, I was hooked.	4	.70

## Appendix 3      Questionnaire Attachment style

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1. I feel a certain amount of anxiety in my relationships with others.
2. I want to get close to other, but I keep pulling back.
3. My desire to be close to others scares people away.
4. I often discuss my problems and concerns with others.
5. I don't like it when others get too close to me.
6. I turn to others in times of need.
7. I often need reassurance from others in my relationships.
8. I try to avoid getting too close to others.
9. I seek out others for comfort and reassurance.
10. I try to maintain a certain amount of distance between myself and others.
11. I enjoy giving support to others.
12. I find that others don't want to get as close as I would like.
13. I'm very self-reliant in my dealings with others.
14. Others seek me out for support and comfort in times of need.
15. I get nervous if others are not available if I need them.
16. I worry about being neglected or ignored by others in my relationships.

Anxious attachment style: 1, 3, 7, 12, 15, and 16. (Insecure)

Avoidant attachment style: 2, 5, 8, 10 and 13. (Insecure)

Secure attachment style: 4, 6, 9, 11 and 14.