Effect of color in bank environments when being in high risk or low risk situations

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Summary

In the presented studies it has been tried to investigate the influence of risk and color in a bank environment. Colors can have an unconscious influence on the behavior of a person in a service environment, there are warm colors which are more arousing and especially red is a signal of danger on the other hand there are cool colors which are more relaxing and calming, especially blue is a signal of safety. Risk can be divided into high risk and low risk, high risk is characterized by high price, high involvement and more request for information about the problem while low risk is characterized by a low price, lower involvement and less eagerness to obtain information. Color and risk can trigger the processing style used. Two processing styles can be distinguished, global processing style is seeing the environment as a whole and local processing style is seeing mainly the details in an environment. It was hypothesized that in high risk situations, the main color in the environment needs to be blue in order to induce a global processing style which leads to approach behavior. In low risk situations, the main color in the environment needs to be blue in order to induce a local processing style which leads to approach behavior. Also it was hypothesized that the color blue had a positive influence on pleasure and dominance and arousal was expected to be higher in the red environment. Furthermore it was expected that the cool color blue had a positive influence on trust. Perceived control, satisfaction, trust and perceived credibility were expected to be higher when being in a low risk situation.

The constructs were measured during two studies, the first study was an online study and the second study was an actual simulated bank environment. The results of the first study show that dominance was higher in a blue bank environment compared to a red bank environment. The second study was more fruitful, the results from this second study show that pleasure was significantly higher in low risk situations in combination with a red bank environment. Furthermore arousal and dominance were higher in low risk situations. Perceived control,

satisfaction, perceived credibility and trust were significantly higher in blue bank environments.

Samenvatting

Gedurende dit onderzoek is geprobeerd de invloed van kleur en risico in bankomgevingen te onderzoeken. Kleur kan een onbewuste invloed hebben op het consumentengedrag in een service omgeving. Er kan een tweedeling gemaakt worden wat betreft kleuren, er zijn warme kleuren die over het algemeen opwekkend zijn en vooral rood is voor veel mensen een signaal van gevaar. Aan de andere kant zijn er koele kleuren, deze maken mensen meer ontspannen en kalm, vooral blauw is een signaal van veiligheid. Risico kan onderverdeeld worden in hoog risico en laag risico. Hoog risico wordt gekenmerkt door een hoge prijs, hoge betrokkenheid en grote vraag naar informatie, laag risico wordt gekenmerkt door een lagere prijs, lagere betrokkenheid en minder vraag naar informatie. Kleur en risico kunnen invloed hebben op de processing style die een persoon gebruikt. Er zijn twee soorten processing styles, global processing style waarbij de persoon zich richt op het algemene overzicht en local processing style waarbij de persoon zich richt op de details in een bepaalde omgeving of situatie. In dit onderzoek wordt gesteld dat in hoge risico situaties, de hoofdkleur blauw moet zijn om een globale processing style teweeg te brengen met als gevolg een toenadering van de consument. Aan de andere kant in lage risico situaties, moet de hoofdkleur rood zijn om een lokale processing style teweeg te brengen met als gevolg een toenadering van de consument. Verder werd er gesteld dat in een blauwe bankomgeving pleasure en dominance hoger zijn en arousal groter is in een rode bankomgeving. Verder werd er verwacht dat de kleur blauw een positieve invloed had op vertrouwen. Van controle, tevredenheid, vertrouwen en geloofwaardigheid werd verwacht dat ze hoger waren in een lage risico situatie.

De constructen werden gemeten gedurende twee onderzoeken. Het eerste onderzoek was een online vragenlijst en het tweede onderzoek was gehouden in een gesimuleerde bankomgeving. De resultaten van het eerste onderzoek laten zien dat dominance was hoger in een blauwe online bankomgeving. De tweede studie was succesvoller, de resultaten lieten zien dat pleasure significant hoger was wanneer een persoon in een lage risico situatie was gecombineerd met een rode omgeving. daarnaast waren arousal en dominance hoger in lage risico situaties. Controle, tevredenheid, geloofwaardigheid en vertrouwen waren significant hoger in de blauwe bankomgeving.

Table of Content

1. Introduction **7**

2. Theoretical Framework **9**

2.1. S-O-R paradigm **9**

2.1.1. Color **9**

2.2. Pleasure Arousal and Dominance **12**

2.3. Riskiness of the situation **14**

2.3.1 Processing styles **15**

2.3.2 Regulatory focus theory **16**

2.3.3 Risk, color and processing styles **17**

2.3.4. Perceived Control **17**

2.3.5 Satisfaction **18**

2.3.6 Trust **18**

2.3.7. Perceived Credibility **19**

2.4. Approach or Avoidance **20**

3. Methods Study 1 ..... **21**

3.1. Design and Participants **21**

3.2. Procedure **21**

3.3. Scenario development **21**

3.4 Measures **24**

3.5. Pretest **26**

3.6. Codebook Processing styles **26**

4. Results Study 1 ..... **28**

4.1. Manipulation checks **28**

4.2 Positive And Negative Affect Scale **28**

4.3 Perceived Threat **29**

4.4 Perceived Concern **29**

4.5 Pleasure **29**

4.6 Arousal **30**

4.7 Dominance **30**

4.8 Perceived control **31**

4.9 Satisfaction **31**

4.10 Perceived Credibility **31**

4.11 Approach **32**
4.12 Avoidance **32**
4.13 Trust **32**
4.14 Processing styles **33**
4.15 Summary Results Study 1 ..... **33**
5. Methods Study 2 ..... **34**
5.1. Design and Participants **34**
5.2. Procedure **34**
5.3. Scenario development **36**
5.4 Measures **37**
5.5. Pretest **38**
6. Results Study 2 ..... **39**
6.1. Manipulation checks **39**
6.3 Perceived Threat **41**
6.4 Perceived Concern **42**
6.5 Pleasure **42**
6.6 Arousal **44**
6.7 Dominance **44**
6.8 Perceived control **45**
6.9 Satisfaction **46**
6.10 Perceived Credibility **47**
6.11 Approach **47**
6.12 Avoidance **48**
6.13 Trust **48**
6.14 Environmental appraisal **49**
6.15 Reassuring environment **49**
6.16 Processing styles **50**
6.17 Summary Results Study 2 ..... **50**
7. Conclusion and Discussion **51**
7.1 Conclusions study 1 ..... **51**
7.2 Conclusions study 2 ..... **51**
7.3 Discussion **53**
References **57**

1. Introduction

All of us have to deal with banks and their products some day. It can be personal such as opening an account and taking out a mortgage, or professional such as investing in stocks or trying to get a loan for the start up a business. Especially more complex situations such as mortgages, loans and investments need a more extensive consideration before purchasing.

Many services of banks are offered through the internet, but many customers still prefer face to face contact in the bank environment itself (Greenland & McGoldrick, 2005). Often potential clients are invited to the bank in order to discuss their possibilities concerning the products they intent to purchase. The environment in which they discuss the product is then a very import aspect which has an influence on consumer behavior (Turley & Miliman, 2000). Although many banks have been trying to change the style, layout and ambience of their buildings in order to have more positive results, this has not been really successful yet (Mintel, 2000). The service environment in banks is especially important because it is just one of the few elements which are tangible and available to the customer (Greenland & McGoldrick, 2005).

It is important for customers that they feel comfortable in the bank environment. This influences among others the potential purchase of a product from a bank, or the perception about that specific bank. There are several elements which have an influence on how a person feels in a bank environment, for example color, light and layout (Bitner, 1992). Furthermore the riskiness of the situation plays a role. Probably the riskier the situation, the more extensive information a person wants to obtain and the more involved the person is. On the other hand when a person potentially is in a low risk situation, he or she would not request very extensive information and he or she is not extensively involved (Bitner & Obermiller, 1985; Laurent & Kapferer, 1985).

When being in a high risk situation, a so called global processing style is used, when a person uses this processing style he or she focuses on the environment as a whole instead of focusing on details (Förster & Higgins, 2005; Förster, 2011). And when being in a low risk situation a more detailed view is used, this is incorporated in the local processing style which induces a more detailed view over the environment (Förster & Higgins, 2005; Förster, 2011). Processing styles potentially can be triggered by using colors in an environment. Red aspects in an environment are associated with danger and it has a positive influence on arousal, which leads to a local processing style to avoid threats and cope with the situation they are in (Elliot & Maier, 2007; Förster, 2011). On the other hand blue aspects in an environment are associated with safety and it has a negative influence on arousal, this causes a global processing style to broaden the person's view and cope with the situation (Elliot & Maier, 2007; Förster, 2011). When a person potentially is in a high risk situation, an environment with the dominant color blue is needed in order to focus on aspects in general. On the other hand when being in a low risk situation, an environment with the dominant color red is needed in order to obtain the local view of the situation.

The presented studies examine the influence of color when being in a high risk or low risk situation in a bank environment. In the next section the a theoretical framework of the research will be further discussed. First the S-O-R paradigm (Stimulus-Organism-Response) will be discussed followed by color, risk and processing styles. After that the methods of this research will be described followed by the results and the conclusions.

2. Theoretical Framework

In this section an overview is given of the influence colors could have when being in high risk and low risk situation. In Figure 1 a total overview is given of the framework which is proposed and tested during these studies.

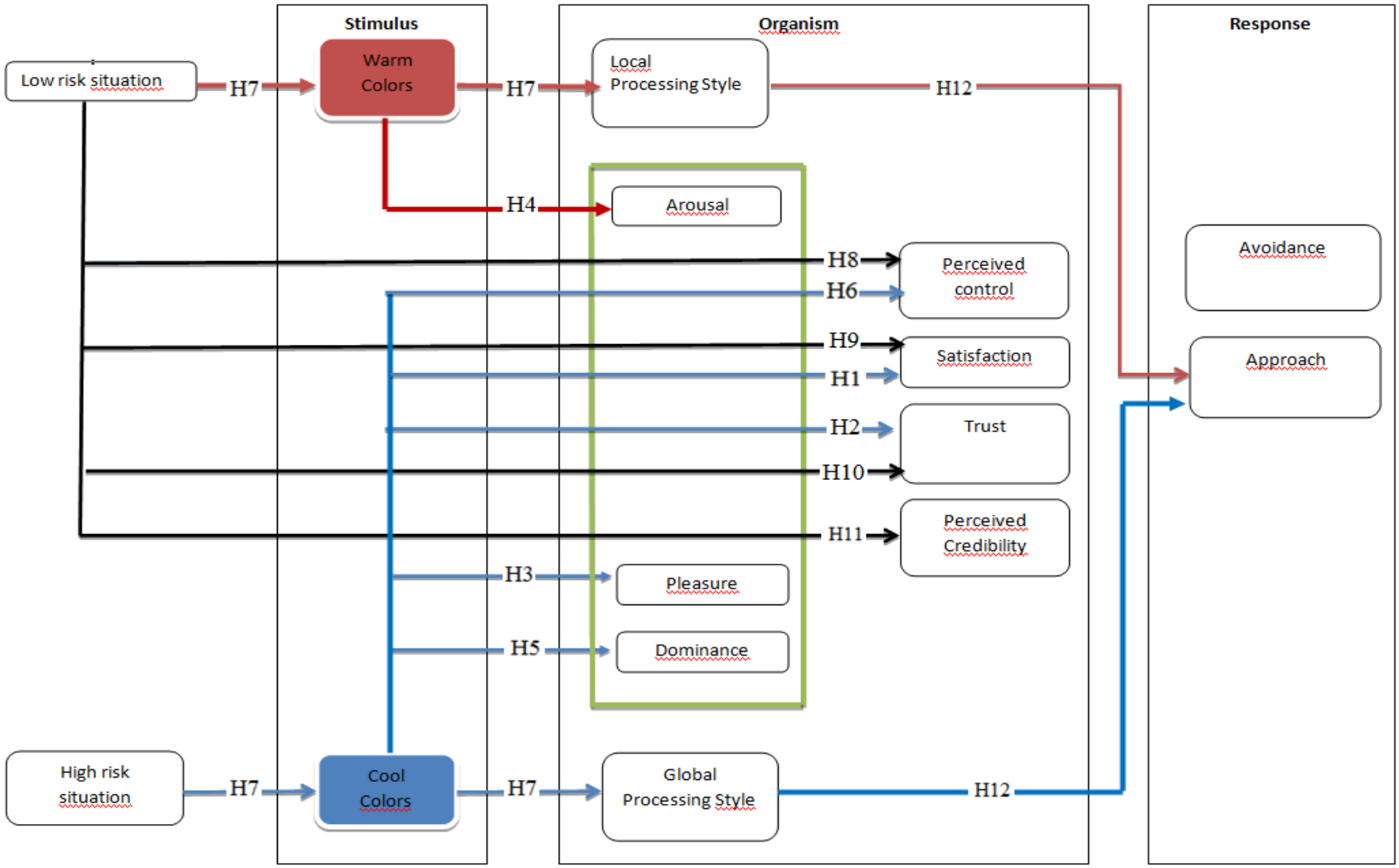
2.1. S-O-R paradigm

Service environments differ from each other and people evaluate these environments differently. The evaluations and responses to service environments can be explained using the S-O-R paradigm, the S stands for stimulus, the O stands for organism and the R stand for response (Mehrabian & Russell, 1974).

2.1.1. Color

The stimulus in the S-O-R paradigm is the service environment (Mehrabian & Russell, 1974). The service environment is an environment in which many aspects play a role. As stated before people can be in the same service environment but they can experience this same place differently. The color of the environment, the lights, the shapes, the spatial arrangements and the temperature in the environment are just a couple of examples of aspects in a service environment which consciously or unconsciously affect consumer behavior (Bitner, 1992).

The decision making process in a service environment can be influences by a number of contextual factors (Kliger & Gilad, 2012). One of these factors is color, which can have an influence on the consumers and employees of an organization (Bitner, 1992). Color can be divided into three main dimensions namely brightness, saturation and hue. From these three dimensions five main colors can be established using the Munsell color system, namely: yellow, green, blue, purple and red. Furthermore five intermediate colors can



Figuur 1. Model

be withdrawn from these dimensions, namely green-yellow, red-yellow, green-blue, red-purple and blue-purple (Valdez & Mehrabian, 1994). When wavelengths are used on a scale to categorize colors, two groups develop, colors with short wavelengths and colors with long wavelengths also to be called cool colors (short) and warm colors (long) (Crowley 1993).

Warm colors are for example red, yellow and orange and cool colors are for example blue, violet and green. An advantage of warm colors is that people are physically drawn to warm colors but then again warm colors were found rather unpleasant in the service environment itself. In the service environment itself it was found that cool colors were more attractive and pleasant then warm colors (Babin, Hardesty, Suter, 2003). When performing tasks in a red environment, afterwards people experience more anxiety and feel more stress (Stone & English, 1998). Cool colors are associated with calmness and they have a relative low arousal value in comparison to warm colors. Cool colors have a more relaxing and calming influence on people (Bellizzi, Crowley & Hasty, 1983).

Color is a very important key in the evaluation of service environments (Labrecque & Milne, 2010). It can be a common persuasion which is embedded in the service environments nowadays (Crowley, 1993). Color can be used to attract and to draw customer's attention in a service environment and eventually persuade consumers to buy a product or to use a service. Furthermore it has an influence on the image creation of a company. (Bellizzi et. al. 1983). Color can also influence buying behavior, purchasing speed, pleasure and purchasing speed (Belizzi & Hite, 1992). People in a blue environment feel more satisfied, the relaxing and calming influence of the color blue makes them more comfortable and therefore more satisfied (Belizzi & Hite, 1992).

An essential aspect for banks and the bank environment is that they look reliable and off course are reliable. It is important in bank environments that people have a good and trustworthy feeling about the bank itself and the environment. When customers feel that they

can trust a certain service provider, they are more satisfied than when they have the feeling that they cannot trust this service provider (Chung & Kwon, 2008). Color can have an influence on the trustworthiness of an organization. From a study of Chang & Lin (2010) emerged that the cool color blue implies trustworthiness. In the blue environment people feel more certain and secure about the other party they are dealing with. Later in this report trust and satisfaction will be further discussed. On the basis of the abovementioned information the following hypotheses is stated:

Hypotheses 1. When being in a blue (red) environment, satisfaction is significantly higher (lower)

Hypotheses 2. When being in a blue (red) colored bank environment, trust levels are significantly higher (lower).

2.2. Pleasure Arousal and Dominance

Organism stands for the evaluation of the service environment (Mehrabian & Russell, 1974). The evaluation of the service environment is an affective response to the environment which can be explained according to the the Pleasure- Arousal – Dominance model of Mehrabian & Russel (1974). This is one of the most widely used models to analyze the influences of environments on the emotional state of persons. They state that the emotional reaction of individuals in a retail environment can be represented in three dimensions namely: Pleasure, Arousal and Dominance.

The first dimension, pleasure - displeasure involves the degree to which a person feels pleased or unpleased (happy or unhappy, content or discontent) (Mehrabian & Russel, 1974). Cool colors seem to be more pleasing than warm colors, they give persons a more relaxing and calming feeling (Valdez & Mehrabian, 1994). People in a blue environment feel for example more satisfied, happy and relaxed (Belizzi & Hite, 1992).

The second dimension is Arousal-nonarousal, this dimension measures the intensiveness of the emotion. Among others it is focused on feelings of stimulation, excitement and boredom. Warm colors seem to be more arousing and stimulating than cool colors (Valdez & Mehrabian, 1994). As mentioned before performing in an environment with mainly warm colors makes people more stressed and they are more concerned (Stone & English, 1998) Too many elements in the environment can make that people's arousal level is too high which causes negative emotions. The opposite is also the case, too little elements in the environment makes that the arousal level of a person is too low which also causes negative emotions (Berlyne, 1967). In addition, a relation is found between pleasure and arousal. Pleasure is at its highest level when the arousal level is average. The environment and its stimulants is experienced unpleasant when the level of arousal is too high or too low. This relation can be seen as a turned around U (Berlyne, 1967). An optimal level of arousal is needed in order to perform well in a certain environment (Baker & Cameron, 1996).

The third and final dimension is Dominance-Submisiveness, this is defined as "a feeling of control and influence over one's surroundings and others versus feeling controlled or influenced by situations and others" (Mehrabian, 1996, p. 263). Valdez and Mehrabian (1994) found that darker colors have a positive influence on dominance. Furthermore Valdez & Mehrabian (1994) showed that dominance increased when the saturation of the color also increased. Another result was that when the brightness of the color increased, dominance on the other hand decreased. In addition, the results of the study of Valdez and Mehrabian (1994) showed that the hue red-purple caused the lowest score on dominance. So it can be expected that in the blue environment, dominance is higher. Dominance and perceived control are seen as similar constructs so it would be likely that blue also has a positive influence on perceived control. Later on in this report perceived control will be further discussed. From the information obtained above we can state the following hypotheses:

Hypotheses 3. Pleasure is significantly higher (lower) in blue (red) bank environments.

Hypotheses 4. Arousal is significantly higher (lower) in red (blue) bank environments.

Hypotheses 5. Dominance is significantly higher (lower) in blue (red) bank environments

Hypotheses 6. When being in a blue (red) environment, perceived control is significantly higher (lower)

2.3. Riskiness of the situation

In the financial sector amongst others a division can be made between high risk situations and low risk situations. High risk situations are often characterized by a high price and therefore a higher risk when making a wrong choice. This makes that people are more involved in the process and more active in obtaining information about a certain situation (Bitner & Obermiller, 1985; Laurent & Kapferer, 1985). In a bank a high risk situation is the risk of losing a substantial amount of money.

Low risk situations on the other hand are characterized by low involvement. People are likely to be more passive when being in a low risk situation. Furthermore they are less motivated and less anxious to obtain much information (Bitner & Obermiller, 1985; Laurent & Kapferer, 1985). A low risk situation in a bank is for example opening a current account or savings account.

The study of Kliger and Gilad (2012) asked the participants the average amount of money they would bet on the lottery. One group was in a red environment while the other group was in a green environment. It turned out that participants in the green environment tended to bet more on the lottery than participants in the red environment. The results showed that color has an influence on how risky a person perceived the situation and the decisions to

be made, the green color made that people were willing to take more risk and the red color made that people were not so willing to take risk (Kliger & Gilad, 2012). The increased risk taking effect of green could be similar to blue since these are both cool colors.

2.3.1 Processing styles

In general people process information in different ways. The processing of information can be done using a global processing style and a local processing style. When using a global processing style , people are focused on the environment as a whole. On the other hand people using a local processing style are more focused on details (Förster, 2011). An illustration of the difference between global processing and local processing is the global dominance hypothesis of Navon (1977), he presented the participants large letters which were made up of small letters. The majority of the participants saw the large letters first and after that the small ones. Another example is that people see the forest first instead of the trees.

Colors can trigger the processing styles used by a person (Förster, 2011). According to Förster (2011) the color blue activates a global processing style and improves creative thought. The color red activates a local processing style and decreases creative thought. As mentioned before, according to Valdez & Mehrabian (1994) the color red has a positive influence on arousal, arousal is in general higher in red colored environments in comparison to blue colored environments. When arousal and anxiety are high, people tend to use a local processing style (Isen & Daubman, 1984). On the other hand according to Valdez & Mehrabian (1994) the color blue has a negative influence on arousal, people are less aroused in a cool colored environments instead of warm colored environments. This would also make it very likely that when people are in a blue environment, they tend to use a global processing style. Furthermore the color red is a signal of danger and when a person needs to achieve a goal, the color red induces a motivation in order to avoid threats, this narrows the scope of

attention and decreases task performance (Elliot & Maier, 2007). On the other hand the color blue is a signal of safety and when a person needs to achieve a goal, this blue color causes a broader scope of attention and improves task performance (Elliot & Maier, 2007; Mehta & Zhu, 2009).

2.3.2 Regulatory focus theory

The regulatory focus theory makes a difference between promotion focus and prevention focus. The theory is based on self-regulatory systems, and it tries to explain the relation between motivation and the way a person achieves a certain goal (Higgins, 1997). "Promotion focus is representing goals as aspirations and accomplishments and prevention focus represents goals as responsibilities and safety" (Förster & Higgins, 2005 p. 632). "People in a promotion focus prefer eager approach strategies of goal pursuit and people in a prevention focus prefer vigilant avoidance strategies" (Förster & Higgins, 2005 p. 632). For example a student needs to do an exam, the goal is passing that exam. When being in a promotion focus (seeing goals as aspirations, accomplishments and preferring eager approach strategies) the student would be eager to get a good result, for example he or she would read extra materials on the other hand when being in a prevention focus (seeing goals as responsibilities and safety and preferring vigilant avoidance strategies) the student wants to be sure that he or she fulfills all the course requirements, he or she would be careful of not missing a part (Higgins, 1997). According to Förster and Higgins (2005) people who use a promotion focus fit a global processing style and people who use a prevention focus fit a local processing style. In addition global processing style is associated with high risk taking (promotion) and local processing style is associated with low risk taking (prevention) (Förster & Higgins, 2005).

2.3.3 Risk, color and processing styles

When being in a high risk situation, it is necessary that the person in question feels safe and is sure that the problem is going to be solved (goal achievement and task performance). Furthermore it is important in a high risk situation that a person keeps the overview of the situation and makes sure he or she knows everything about the risky situation in order to solve it. The information above stated that blue is signal of safety, makes that people take more risk, improves task performance and induces a global processing style (Elliot & Maier, 2007; Mehta & Zhu, 2009; Förster, 2011). Therefore it can be stated that in a high risk situation, the main color needs to be blue (signal of safety) in order to keep a general overview of the situation (global processing style) and to achieve a goal (task performance).

On the other hand when being in a low risk situation, people are less concerned and less involved in the situation, but it might be very important to solve problem. Therefore a red colored environment would be most suitable. The red color is a signal of danger, makes people less risk taking and it makes that people feel more aroused (Elliot & Maier, 2007; Valdez & Mehrabian, 1994; Kliger & Gilad, 2012). In addition the color red induces a local processing style, a more detailed look at the environment (Förster, 2011).Therefore in a low risk situation, the main color needs to be red in order to focus on details (local processing style) and to achieve a goal (task performance). On the basis of the abovementioned information the following hypothesis are formulated:

Hypothesis 7. When being in a high (low) risk situation, the main color needs to be blue (red) in order to induce a global (local) processing style.

2.3.4. Perceived Control

Perceived control occurs when a person is in an environment, in which he or she is able to achieve his or her goal. People do no experience control when the environment keeps them

from achieving their goal (Ward & Barnes, 2001). In high risk situations, people experience more uncertainty. Furthermore when being in a high risk situation, achieving a goal is probably more difficult in comparison to a low risk situation. It is therefore likely that people experience less control when they are in a high risk situation. Therefore the following hypothesis is formulated:

> *Hypotheses 8. When being in a low (high) risk situation, perceived control is significantly higher (lower)*

2.3.5 Satisfaction

When an organization is offering a service, it is important that consumers are satisfied with the offered service (Jones & Sasser, 1995). Customer satisfaction has a positive influence on the organization, for example because people will be more positive about the organization, which can lead to increased sales and a better reputation (Reichheld, 1996). Satisfaction actually occurs when the service or product suit the particular consumer and when a problem is solved in a good manner. Within the context of this study, the outcome is not central but the situation and the environment the person is in. When a person is in a high risk situation, it would be very likely that the person is less satisfied than when a person is low risk situation, mainly because the person in question is not aware of the actual outcome. He or she is uncertain about the situation. The following hypotheses is proposed:

> *Hypotheses 9. When being in a low (high) risk situation, satisfaction is higher (lower).*

2.3.6 Trust

Trust is a very broad concept, which has a lot of different definitions, the following definition is used frequently: “Trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action

important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer, Davis & Schoorman., 1995, p. 712).

In risky bank situations, uncertainty plays a big part. In a certain way the client of the bank depends on the bank to solve the risky situation which makes the client vulnerable. The higher the risk, the more vulnerable the client gets, because he or she is not able to control the situation. The opposite is also the case, when a client is in a low risk situation, the client is less vulnerable and feels more in control (Mayer et. al. 1995). Trust is only needed when risk arises (Mayer et. al. 1995). When risk is higher, a higher amount of trust is needed and when risk is low, a smaller amount of trust is needed.

Hypotheses 10. When being in a low (high) risk situation, trust levels are significantly lower (higher)

2.3.7. Perceived Credibility

The credibility of a an organization is based on the believability, accuracy, trustworthiness of the organization. Also giving complete and accurate information is a sign of credibility (Flanagin & Metzger, 2007). When a person is in a risky situation, the organization needs to be credible in order to solve the problem. Otherwise the client will find another party in order to solve the problem. The higher the risk, the more credible the organization needs to be in order to solve the risky problem. This is because there is more uncertainty in high risk situations. On the basis of the abovementioned information, the following hypotheses is stated:

Hypotheses 11. When being in a low (high) risk situation, the credibility of the organization needs to be lower (higher).

2.4. Approach or Avoidance

The final part of the S-O-R paradigm is response, the responses to a service environment can be divided into approach and avoidance behaviors (Mehrabian & Russell, 1974). The approach behavior involves positive reactions to the service environment, this could be positive decision making. Avoidance behavior involves negative reactions to the service environment (Turley & Bolton, 1999). On the basis of the abovementioned information it is stated that:

> *Hypothesis 12. When being in a high (low) risk situation, blue (red) will lead to approach behavior*

3. Methods Study 1

3.1. Design and Participants

This study consists of a 2 (risk: high vs. low) x 2(color: cool vs. warm) factorial design with subjects randomly assigned to conditions. In total 83 people participated in this research. There were 25 males and 58 females. The ages ranged from 17 until 61 years old, the mean age was 38 years old.

3.2. Procedure

First participants were be asked to fill out Panas after that they were invited to take a look at a screenshot of a bank website in which either cool colors are explicitly presented or warm colors. The participants were asked to read a scenario which is either high risk or low risk. After they read the scenario they were asked to fill out a questionnaire about the online environment. In Figure 3.1 and Figure 3.2 you will find the screenshots of the bank websites.

3.3. Scenario development

A scenario is developed which is either high risk or low risk. The high risk scenario is about a student who is very enthusiastic about starting a university education. Everything is settled, the student has successfully completed all his tests and also all paper work is correctly filled out. But just two days before the start of the academic year, the student gets a phone call of the student administration that he did not pay his tuition fee yet, something went wrong with the money transfer from his bank. The tuition fee is 1.700 Euros. The university needs to obtain the tuition fee before the start of the academic year in order to sign in the student for the courses. The student risks to not be able to start his university education. As soon as possible the student goes to the website of the bank in order to solve the problem.

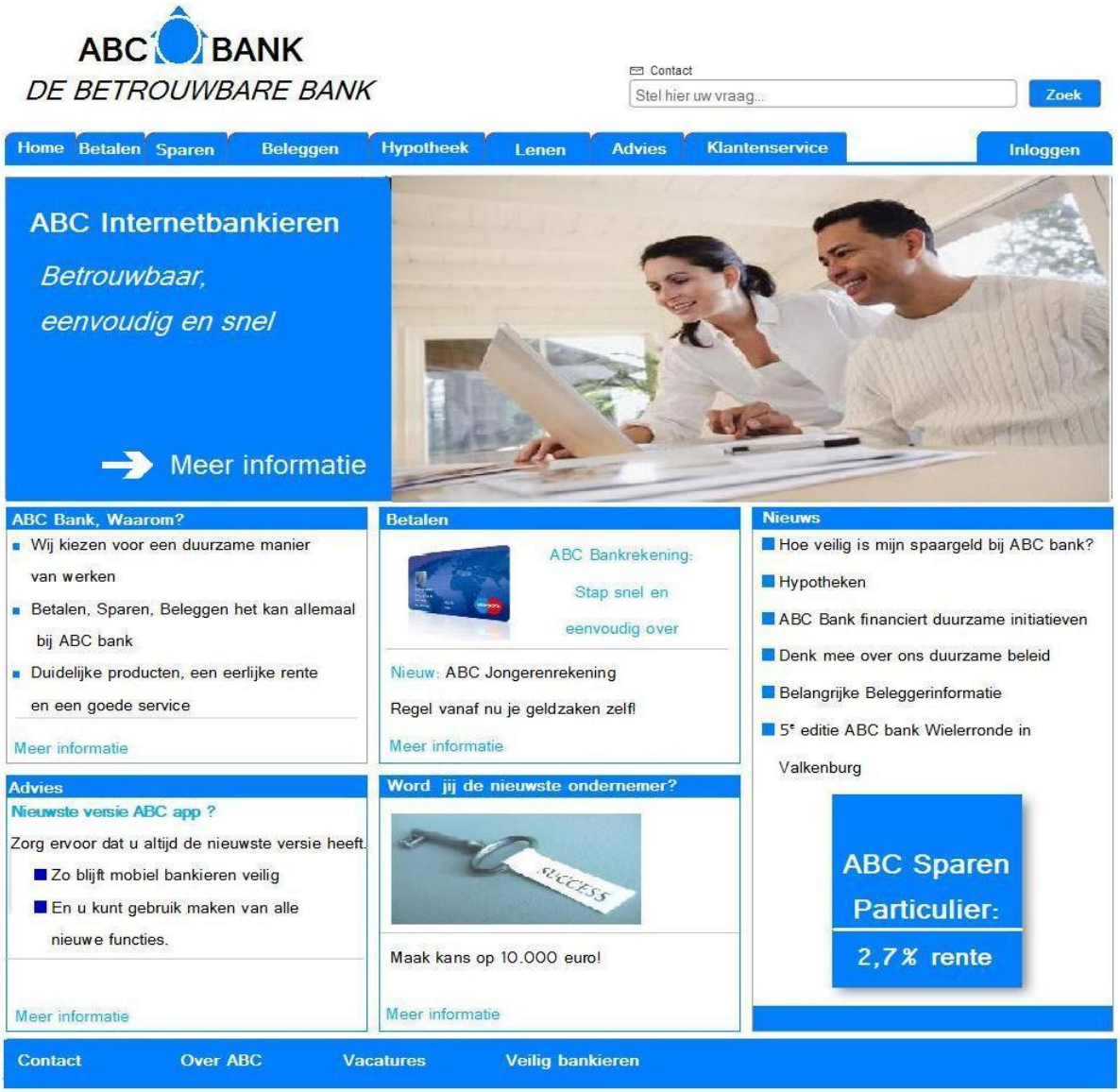


Figure 3.1. Blue online environment

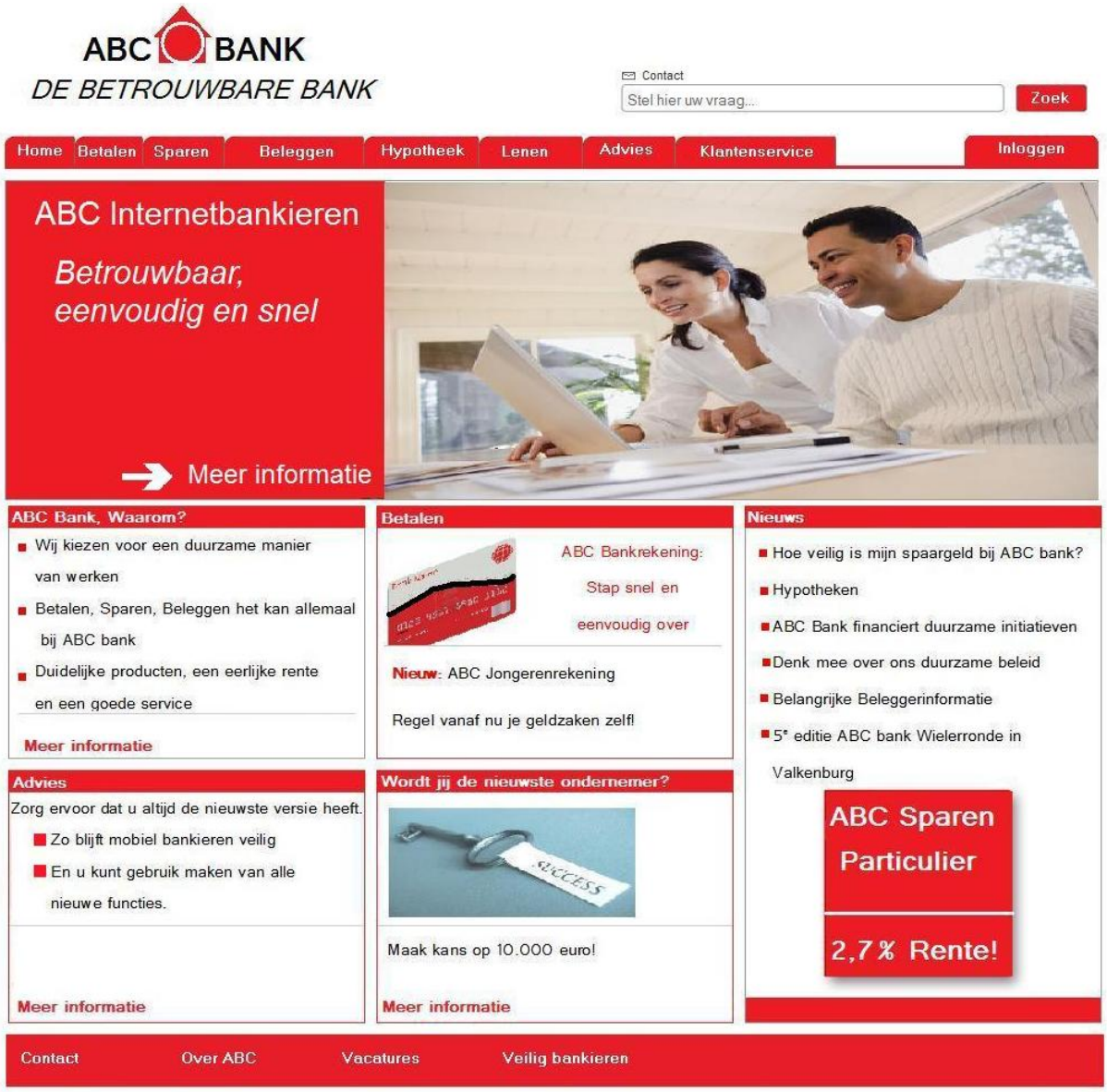


Figure 1.2 Red online environment

The low risk scenario is about a student who is very enthusiastic about going on a trip to Berlin with the student union. He has been looking forward to this for a long time already. The price of this trip is 100 Euros and it needed to be paid ultimately one week before the trip. Two weeks before the trip the student already transferred the money to the student union. After one and a half week the student gets a phone call whether or not he is still willing to go on the trip to Berlin, because they did to receive his money yet. This was probably due to a mistake during the transaction. The student risks to not be able to go on a trip to Berlin. As

soon as possible the student goes to the website of the bank in order to solve the problem. In appendix A you can find the scenarios used for this research.

3.4 Measures

Before the participants started the questionnaire, they needed to fill out the *PANAS, positive and negative affect schedule* (Watson, Clark, & Tellegen, 1988). This scale consists 20 items to measure the mood of the participant. 10 items were positive (e.g. Interested, Excited, Strong) and 10 items were negative (e.g. Afraid, Nervous, Ashamed) responses ranged from 1 (strongly disagree) to 7 (strongly agree). The 10 positive items form a reliable scale ($\alpha = .86$), the negative items also form a reliable scale ($\alpha = .90$).

The perceived threat was measured, using one item: " I feel threatened in this situation" responses ranged from 1 (strongly disagree) to 7 (strongly agree). *Perceived concern* was measured using "I feel concerned about how the situation will end" responses ranged from 1 (strongly disagree) to 7 (strongly agree). And *Perceived risk* was measured using the item: "the described situation is risky" responses ranged from 1 (strongly disagree) to 7 (strongly agree).

The *Pleasure Arousal Dominance* (PAD) from Mehrabian & Russel, (1974) was used to measure emotions of the respondent. The scale used consisted of 18 items. *Pleasure* was measured using 6 items (e.g. Happy – Unhappy, Satisfied – Unsatisfied) *Arousal* was measured using 6 items (e.g. Excited – Calm, Awake – Sleepy) and this is also the case for *Dominance* (Lost – In control, Submissive – Dominant) Participants were asked to rate their feelings on the basis of the opposite adjectives. Responses ranged from 1 to 7. The 6 items for measuring *Pleasure* form a reliable scale ($\alpha = .93$). The alpha of the 6 items for measuring *Arousal* was $\alpha = .80$. The 6 items for measuring *Dominance* form a reliable scale ($\alpha = .79$).

After PAD was measured the construct *Perceived Control* was further researched, based on the dominance scale of Mehrabian and Russel (1974). The scale used in this questionnaire consisted of 4 items. (e.g. "I feel that I am in control", "In this bank the client is king") responses ranged from 1 (strongly disagree) to 7 (strongly agree). The 4 items form a reliable scale ($\alpha = .78$).

Furthermore *Satisfaction* was measured using just a single item namely: "I feel satisfied about the environment I am looking at", responses ranged from 1 (strongly disagree) to 7 (strongly agree). *Perceived Credibility* was measured based on the scale of Newell & Goldsmith (2001), the scale used in the questionnaire consisted of five items. (e.g. "I feel that this bank has a lot of experience" , "I have got the feeling that this bank is honest) responses ranged from 1 (strongly disagree) to 7 (strongly agree). The 5 items form a reliable scale ($\alpha = .92$).

Approach/ Avoidance was measured using two items "I would like to return here" responses ranged from 1 (strongly disagree) to 7 (strongly agree) and "I would like to leave immediately" responses ranged from 1 (strongly disagree) to 7 (strongly agree). *Trust* was measured based on the scale of Hess (1995), the scale used in the questionnaire consisted of five items. (e.g. "I have the feeling that this bank is going to solve my problem", ("It seems to me that this bank is trying to fulfill my needs") responses ranged from 1 (strongly disagree) to 7 (strongly agree). The 5 items form a reliable scale ($\alpha = .94$).

Finally the *Processing Style* used was measured using a photograph of a jungle and the participants were asked to describe this picture. More details remarked entail a local processing style and more general remarks entail a global processing style. At the end of the questionnaire a test was done in order to find out whether a person was colorblind or not. In appendix B you find the questionnaire used for the research.

3.5. Pretest

Before the actual research was conducted a small pretest was held among five participants. This pretest showed that the screenshots of the website needed to be exposed more frequently during the questionnaire. This was solved by adding the screenshot to nearly every page of the questionnaire. Furthermore some spelling errors were remarked, which were corrected immediately.

3.6. Codebook Processing styles

In order to measure the processing styles used by the participants, the responses needed to be analyzed, this was done using a codebook. A global processing style is characterized as a global look at the environment, people do not pay much attention to specific details when using this processing style (Förster, 2011). First of all the length of the answer was taken into account, an answer with two lines or less was considered as global processing style. Furthermore the answers of all the participants were extensively analyzed and the following words indicate a global processing style:

- Paradijs
- Dieren
- Beesten
- Tropisch
- Jungle
- Planten
- Kleurig, kleuren, kleurrijk
- Mooi
- Vol, volgepakt
- Natuur
- Oerwoud
- Wildernis
- Groen
- Bos
- Regenwoud
- Oase
- Utopia

On the other hand when using a local processing style, the person is focused on the details in an environment and not so much on the environment as a whole (Förster, 2011). The length of the answer was also taken into account, more than two lines was considered as local processing style. Furthermore the determinants of a local processing style were:

- Naming specific animals
- Naming specific aspects on the picture (waterfall, mountains, etc.)
- Naming details
- Assumptions about the relationship between the animals
- Opinion about the picture
- Description of color use
- Guessing the location

  Assumptions about the ambience

After the abovementioned aspects were analyzed in every answer, the number of determinants of global and local processing styles were counted and finally it was shown which processing style was used most by every participant.

4. Results Study 1

4.1. Manipulation checks

In order to measure whether the scenarios developed were effective in manipulating the seriousness of the situation, one item was used. The item was "the described situation is risky" responses ranged from 1 (strongly disagree) to 7 (strongly agree). The participants in the low risk condition did not perceive the situation as less risky (M=4.24 SD=1.51) in comparison to the participants in the high risk condition (M=4.57, SD=1,51), t(.98)= 80.96, ns). Although the manipulations did not work, it was decided to continue analyzing the remaining results.

4.2 Positive And Negative Affect Scale

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate whether or not there were differences between the mood of the participants before starting the questionnaire. With the positive affect scale no significant results were found. The main effect of risk was nonsignificant (F(1,79)= .12, ns). The main effect of color was nonsignificant (F(1,79)= .41, ns). Also no interaction effect was found (F(1,79)= .81, ns).

This was also the case for the negative affect scale, the main effect of risk was nonsignificant (F(1,79)=.73, ns). and the main effect of color was nonsignificant (F(1,79)= .36, ns. No interaction effect was found (F(1,79)=.00, ns). The results show that the mood of the participants did not differ before starting the actual study. This means that the positive and negative affect scale will not be used as covariates in order to determine the influences on the results of this construct. In Appendix C, Table 4.1 and 4.2 you find an overview of the main results.

4.3 Perceived Threat

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on perceived threat. The main effect of risk was nonsignificant ($F(1,79)= 1.59$, ns). The main effect of color was nonsignificant ($F(1,79)= 1.27$, ns). Also no interaction effect was found ($F(1,79)= 1.43$, ns). In Appendix C, Table 4.3 you find an overview of the main results for the construct threat of the situation.

4.4 Perceived Concern

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on Perceived Concern. The main effect of risk was nonsignificant ($F(1,79)= 1.23$, ns). The main effect of color was also nonsignificant ($F(1,79)= .10$, ns). Furthermore there was no interaction effect found ($F(1,76)= 2.85$, ns). In Appendix C, Table 4.4 you find an overview of the main results for the construct perceived concern about the situation.

4.5 Pleasure

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on pleasure. The main effect of risk was nonsignificant ($F(1,79)= .01$, ns). The main effect of color was nonsignificant ($F(1,79)= .15$, ns). Also no interaction effect was found ($F(1,79)= .00$,ns). Hypotheses 3 was not confirmed. In Appendix C, Table 4.5 you find an overview of the main results for the construct pleasure.

4.6 Arousal

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on arousal. The main effect of risk was nonsignificant ($F(1,79)= 2.66$, ns). The main effect of color was nonsignificant ($F(1,79)= 3.30$, ns). No interaction effect was found ($F(1,79)= 1.39$, ns). Hypotheses 4 was not confirmed. In Appendix C, Table 4.6 you find an overview of the main results for the construct arousal.

4.7 Dominance

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on dominance. The main effect of risk was nonsignificant ($F(1,79)= 2.50$, ns). The main effect of color was significant ($F(1,79)= 5.8$, $p<.05$). It turns out that dominance is higher when looking at a blue online environment instead of a red online environment (see Table 4.7). Hypothesis 5 was therefore confirmed. No interaction effect was found ($F(1,79)= .26$, ns). In Table 4.7 you find an overview of the main results for the construct dominance.

Table 4.7

Dominance

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Dominance	2.75*	.60	2.48	.37	Dominance	2.50	.51	2.70	.51

* P<.05 ** P<.01 ***P<.001

4.8 Perceived control

A 2 (risk: high vs. low) x 2(color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on perceived control of the participant. The main effect of risk was nonsignificant (F(1,79)=.76, ns). The main effect of color was nonsignificant (F(1,79)=.76, ns). No interaction effect was found (F(1,79)= .45, ns). Hypotheses 6 and 8 were not confirmed. In Appendix C Table 4.8 you find an overview of the main results for the construct perceived control.

4.9 Satisfaction

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on satisfaction. The main effect of risk was nonsignificant (F(1,79)=1.63, ns). The main effect of color was also nonsignificant (F(1,79)= .38, ns). Furthermore no interaction effect was found (F(1,79)= .06 , ns). Hypotheses 1 and 9 were not confirmed. In Appendix C, Table 4.9 you find an overview of the main results for the construct satisfaction.

4.10 Perceived Credibility

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on perceived credibility. The main effect of risk was nonsignificant (F(1,79)= .00, ns). The main effect of color was nonsignificant (F(1,79)=.48, ns). No interaction effect was found (F(1,79)= 1.13, ns). Hypotheses 11 was not confirmed In Appendix C, Table 4.10 you find an overview of the main results for the construct perceived credibility.

4.11 Approach

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on approach behavior of the participants. The main effect of risk was nonsignificant (F(1,79)= 1.29, ns). The main effect of color was also nonsignificant (F(1,79)= .11, ns). Also no interaction effect was found (F(1,79)= .33, ns). Hypotheses 12 was not confirmed. In Appendix C, Table 4.11 you find an overview of the main results for the construct approach

4.12 Avoidance

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on avoidance behavior of the participant. The main effect of risk was nonsignificant (F(1,79)= .48, ns). The main effect of color was also nonsignificant (F(1,79)= 1.03, ns). No interaction effect was found (F(1,79)= .001, ns). In Appendix C, Table 4.12 you find an overview of the main results for the construct avoidance.

4.13 Trust

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on trust. The main effect of risk was nonsignificant (F(1,79)= 1, ns). The main effect of color was also nonsignificant (F(1,79)= 00, ns). No interaction effect was found (F(1,79)= .37, ns). Hypotheses 2 and hypotheses 10 were not confirmed. In Appendix C, Table 4.13 you find an overview of the main results for the construct trust.

4.14 Processing styles

A 2 (risk: high vs. low) x (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate the effects of risk and color on the processing style used. The main effect of risk was nonsignificant ($F(1,79)= 1.39$, ns). The main effect of color was also nonsignificant ($F(1,79)= .29$, ns). Furthermore no interaction effect was found ($F(1,79)= .59$, ns). Hypotheses 7 not confirmed. In Appendix C, Table 4.14 you find an overview of the main results for the construct processing style.

4.15 Summary Results Study 1

The goal of the first study was to examine what the influences were of color and risk on an online bank environment. The manipulations of risk did not succeed during this study and only one significant result was found namely Dominance was higher when looking at a blue online environment instead of a red online environment. Because this first study was very disappointing and without any clues about what happened during the process, it was decided to conduct a second study in an simulated bank environment.

5. Methods Study 2

The first study was focused on the use of warm and cool colors in online bank environments when being in a high risk or low risk situation, this second study focuses on the use of warm and cool colors in actual bank environments when being in a high risk or low risk situation.

5.1. Design and Participants

The second study also consists of a 2 (risk: high vs. low) x 2(color: cool vs. warm) factorial design with subjects randomly assigned to conditions. The participants of the research were students from the University of Twente. In total 80 people participated in this research. There were 31 men who participated and 49 women. The ages ranged from 18 until 30 years old, the mean age was 22,55 years old. From the participants, 32.5% was in the first year of their studies, 27.5% was in their second year of studies, 20% was in their third year, 11.3% was in their fourth year and finally 8.8% of the participants was in their fifth year of their study.

5.2. Procedure

Similar to the first research, participants will be asked to fill out PANAS (Positive and Negative Affect schedule) first. After that participants were invited to a simulated bank environment in which either cool colors are explicitly presented or warm colors. The participants were asked to read a scenario which is either high risk or low risk. After they read the scenario they were asked to fill out a questionnaire about the environment they were in. In Figure 5.1 and Figure 5.2 you find the pictures of the simulated environment.

Figure 5.1 Blue bank environment

Figure 5.2 Red bank environment

5.3. Scenario development

The scenarios are similar to the ones used in the first research. The only difference is that the scenario is focused on the actual bank environment instead of the online bank environment. Similar to the first research, the high risk scenario is about a student who is very enthusiastic to start a university education. Everything is settled, the student has successfully completed all his tests and also all paper work is correctly filled out. But just two days before the start of the academic year, the student gets a phone call of the student administration that he did not pay his tuition fee yet, something went wrong with the money transfer from his bank. The tuition fee is 1.700 Euros. The university needs to obtain the tuition fee before the start of the academic year in order to sign the student in for the courses. The student risks to not be able to start his university education. As soon as possible the student makes an appointment with his bank in order to arrange this potentially disastrous mistake.

The low risk scenario is also about a student who is very enthusiastic about going on a trip to Berlin with the student union. He has been looking forward to this for a long time already. The price of this trip is 100 Euros and it needed to be paid ultimately one week before the trip. Two weeks before the trip the student already transferred the money to the student union. After one and a half week the student gets a phone call whether or not he is still willing to go on the trip to Berlin, because they did to receive his money yet. Probably a mistake is made during the transaction. The student risks to not be able to go on a trip to Berlin. As soon as possible the student makes an appointment with his bank in order to arrange this potentially disastrous mistake. In appendix D you find the scenarios used during the research.

5.4 Measures

The constructs measured in the second study are similar to the constructs used in the first study namely: *PANAS, Perceived Threat, Perceived Concern, Perceived Risk, Pleasure, Arousal, Dominance, Perceived Control, Satisfaction, Trust, Approach, Avoidance, Perceived Credibility* and *Processing Style.*

There were two additions in this study, the first one was *environmental appraisal.* The *environmental appraisal scale* based on Bitner (1990) was used to measure the attractiveness of the environment. The scale used in the questionnaire consisted of 24 items, participants were asked to rate the environment on the basis of opposite adjectives. (e.g."Awful – Beautiful", "Traditional – Modern", "Calming – Activating", "Small – Large") . responses ranged from 1 to 7. The 24 items form a reliable scale (α =.93). The second addition was one item, which was used to measure how reassuring the environment was, namely "this environment is reassuring for me" responses ranged from (strongly disagree) to 7 (strongly

agree). In appendix E you find the questionnaire used for the second study and in Table 5.1 you find the alphas of the constructs used.

Table 5.1

Alphas Constructs Study 2

Construct	Alpha
Panas 1	.81
Panas 2	.90
Pleasure	.85
Arousal	.64
Dominance	.75
Perceived Control	.74
Perceived Credibility	.93
Trust	.88

5.5. Pretest

Before the actual research was conducted a small pretest was held among five participants. This pretest showed that not every participant was fully aware of the fact that the environment they needed to imagine to be in was not on the pictures in the scenario, but the actual room they were in at that moment. This was solved by telling the participants that the room they were in, was the environment which was meant in the survey. Furthermore some textual errors were remarked and these were solved.

6. Results Study 2

6.1. Manipulation checks

In order to measure whether the scenarios developed were effective in manipulating the riskiness of the situation, one item was used. The item was "the described situation is risky" responses ranged from 1 (strongly disagree) to 7 (strongly agree).

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analyse of variance (ANOVA) was conducted in order to investigate whether the participants perceived the low risk condition less risk than the participants in the high risk condition. The main effect of risk was significant ($F(1,76)= 11$, $p<.05$) (see Table 6.1). The results show that when a participant was in a high risk situation, he or she perceived the situation more risky than the participants in the low risk situation. The main effect of color was nonsignificant ($F(1,76)=.94$, ns) and also no interaction effect was found ($F(1,76)=.30$, ns).

Table 6.1

Perceived Risk

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Risk	4.15	1.67	4.50	1.74	Perceived Risk	4.93**	1.50	3.73	1.69

* P<.05 ** P<.01 ***P<.001

6.2 Positive And Negative Affect Scale

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANOVA) was conducted in order to investigate whether or not there were differences between the mood

of the participants before starting the questionnaire. The results show that the mood of the participants differed before starting the actual study.

Concerning the positive affect scale, the main effect of risk was nonsignificant ($F(1,76)= .69$, ns). The main effect of color was significant ($F(1,76)= 9.71$, $p<.05$). The mood of the participants when entering a blue environment was more positive than the mood of the participants entering a red environment (see Table 6.2). No interaction effect was found ($F(1,76)= 1.03$, ns).

The negative affect scale showed similar results. The main effect of risk was nonsignificant ($F(1,76)= .01$, ns). The main effect of color was significant ($F(1,76)= 4.86$, $p<.05$). The mood of the participants when entering a red environment was more negative that the mood of the participants entering a blue environment (see Table 6.3). No interaction effect was found ($F(1,76)=2.22$, ns). This means that the positive and negative affect scale will be used as covariates in order to determine the influences on the results of this construct.

Table 6.2

Positive Affect Scale

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Positive Affect Scale	4.64**	.72	4.14	.73	Positive Affect Scale	4.46	.65	4.32	.87

* P<.05 ** P<.01 ***P<.001

Table 6.3

Negative Affect Scale

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Negative Affect Scale	1,78	.69	2.13	.75	Negative Affect Scale	1.94	.56	1.96	.87

* P<.05 ** P<.01 ***P<.001

6.3 Perceived Threat

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on perceived threat. The main effect of risk was significant ($F(1,76)= 5.80$, $p<.05$). The results show that the experienced threat of the situation was significantly higher when being in a high risk situation in comparison to a low risk situation (see Table 6.4). The main effect of color was nonsignificant ($F(1,76)= .00$, ns). Also there was no interaction effect found ($F(1,76)= 2.38$, ns). In Table 6.4 you find an overview of the main results for the construct perceived threat of the situation.

Table 6.4

Perceived Threat

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Threat	3.93	1.87	3.95	1.84	Perceived Threat	4.42*	1.65	3.45	1.92

* P<.05 ** P<.01 ***P<.001

6.4 Perceived Concern

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on Perceived Concern. The main effect of risk was nonsignificant ($F(1,76)= 3,35$, ns). The main effect of color was also nonsignificant ($F(1,76)= 1,80$, ns). Furthermore there was no interaction effect was found ($F(1,76)= 3,19$, ns). In appendix F, Table 6.5 you find an overview of the main results for the construct perceived concern about the situation.

6.5 Pleasure

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on pleasure. The main effect of risk was nonsignificant ($F(1,76)= 3.51$, ns). The main effect of color was significant ($F(1,76)= 6.66$, $p<.05$). The data show that there is a difference between a blue or a red environment for pleasure (see Table 6.6). The pleasure turned out to be higher when people were in a red environment. Also an interaction effect was found ($F(1,76)= 4,90$, $p<..05$) The pleasure score turned out to be significantly higher when being in a red environment in a low risk situation. Effects of color were only found in the low risk situation, namely less pleasure in a blue environment. In high risk situations no effect of color was found (see Figure 6.1). It turned out that hypotheses 3 was not confirmed.

Table 6.6

Pleasure

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Pleasure	4.56	1.22	5.27*	.71	Pleasure	5.10	.75	4.73	1.26

* P<.05 ** P<.01 ***P<.001

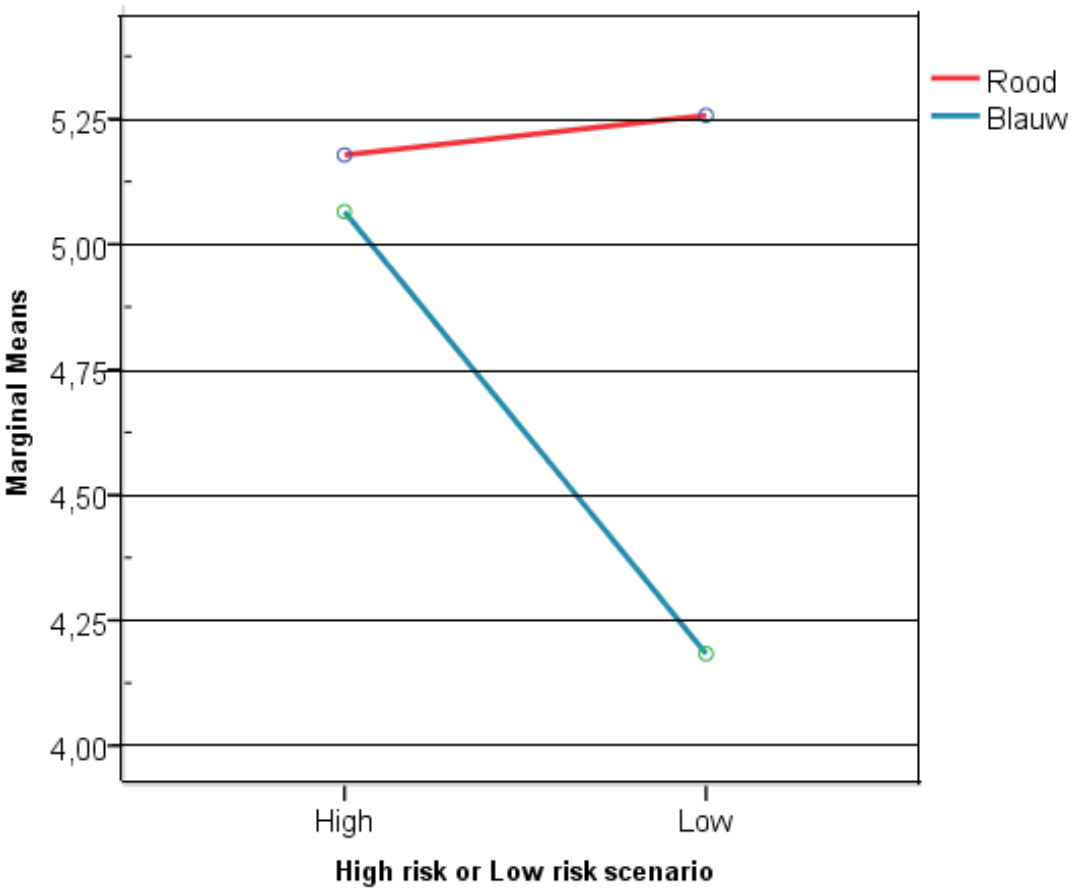


Figure 6.1 Interaction Effect Pleasure

6.6 Arousal

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on arousal. The main effect of risk was significant ($F(1,76)=6.62$, $p<.05$). The results show that arousal was significantly higher when being in a low risk situation in comparison to a high risk situation (see Table 6.7). The main effect of color was nonsignificant ($F(1,76)= .50$, ns). No interaction effect was found ($F(1,76)= 1.35$, ns). In Table 6.7 you find an overview of the main results for the construct arousal. It turned out that hypotheses 4 was not confirmed.

Table 6.7

Arousal

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Arousal	2.84	.70	2.69	.64	Arousal	2.6	.65	2.95*	.65

* P<.05 ** P<.01 ***P<.001

6.7 Dominance

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on dominance. The main effect of risk was significant ($F(1,76)= 4.99$, $p<.05$). The results show that dominance was significantly higher when being in a low risk situation in comparison to a high risk situation (see Table 6.8). The main effect of color was nonsignificant ($F(1,76)= .37$, ns). No interaction effect was found ($F(1,76)= .20$, ns).

Hypotheses 5 was not confirmed. In Table 6.8 you find an overview of the main results for the construct dominance.

Table 6.8

Dominance

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Dominance	4.45	.77	4.30	.99	Dominance	4.16	.82	4.59*	.91

* P<.05 ** P<.01 ***P<.001

6.8 Perceived control

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on perceived control of the participant. The main effect of risk was nonsignificant ($F(1,76)=2.45$ ns). The main effect of color was significant ($F(1,76)=8.6$ $p<.05$). The data show that when being in a blue environment the participants perceived that they had more control than when they were in a red environment (see Table 6.9). No interaction effect was found ($F(1,76)= 1.13$ ns). In Table 6.9 you find an overview of the main results for the construct perceived control. Hypotheses 6 and 8 were not confirmed.

Table 6.9

Perceived Control

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived control	4.51**	.85	3.81	.98	Perceived control	4.01	.94	4.31	1.01

* P<.05 ** P<.01 ***P<.001

6.9 Satisfaction

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on satisfaction. The main effect of risk was nonsignificant ($F(1,76)=1.94$, ns). The main effect of color was significant ($F(1,76)= 5.09$, $p<.05$). The data show that the satisfaction is higher when being in a blue environment instead of a red environment (see Table 6.10). Furthermore no interaction effect was found ($F(1,76)= 1.15$, ns). In Table 6.10 you find an overview of the main results for the construct satisfaction. Hypotheses 1 was confirmed but Hypotheses 9 was not confirmed.

Table 6.10

Satisfaction

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Satisfaction	4.65*	1.27	3.85	1.61	Satisfaction	4.02	1.37	4.48	1.60

* P<.05 ** P<.01 ***P<.001

6.10 Perceived Credibility

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on perceived credibility. The main effect of risk was nonsignificant ($F(1,76)= .11$ ns). The main effect of color was significant ($F(1,76)= 9.13$ $p<.05$). The data show that when being in a blue environment the credibility of the organization was higher than when they are in a red environment (see Table 6.11). No interaction effect was found ($F(1,76)= .00$, ns). In Table 6.11 you find an overview of the main results for the construct credibility. Hypotheses 11 was not confirmed.

Table 6.11

Perceived Credibility

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Credibility	3.80 **	.87	2.99	1.21	Perceived Credibility	3.44	1.07	3.35	1.18

* P<.05 ** P<.01 ***P<.001

6.11 Approach

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on approach behavior of the participants. The main effect of risk was nonsignificant ($F(1,76)= .57$ ns). The main effect of color was also nonsignificant ($F(1,76)= 3.2$, ns). Also no interaction effect was found ($F(1,76)= .39$, ns). In Appendix F, Table 6.12

you find an overview of the main results for the construct approach. Hypotheses 12 was not confirmed.

6.12 Avoidance

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on avoidance behavior of the particpant. The main effect of risk was nonsignificant ($F(1,76)= .85$ $p<..05$). The main effect of color was also nonsignificant ($F(1,76)= .74$, ns). No interaction effect was found ($F(1,76)= .01$, ns). In Appendix F, Table 6.13 you find an overview of the main results for the construct approach

6.13 Trust

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on trust. The main effect of risk was nonsignificant ($F(1,76)= .84$ ns). The main effect of color was significant ($F(1,76)= 8.50$ $p<.05$). The data show that there is a difference between a blue or a red environment for trust. The trust score turned out to be higher when people were in a blue environment (see Table 6.14). No interaction effect was found ($F(1,76)= .29$, ns). In Table 6.14 you find an overview of the main results for the construct trust. Hypotheses 2 was confirmed, but hypotheses 2 was not confirmed.

Table 6.14

Trust

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Trust	4.6**	.88	3.93	1.22	Trust	4.37	1.05	4.17	1.18

* P<.05 ** P<.01 ***P<.001

6.14 Environmental appraisal

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on environmental appraisal. The main effect of risk was nonsignificant (F(1,76)= 1.40, ns). The main effect of color was nonsignificant (F(1,76)= .30, ns). Also there was no interaction effect was found (F(1,76)= .00, ns). In Appendix F, Table 6.15 you find an overview of the main results for the construct environmental appraisal.

6.15 Reassuring environment

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on how reassuring the environment is. The main effect of risk was nonsignificant (F(1,76)= .77, ns). The main effect of color was also nonsignificant (F(1,76)= 1.82, ns). Furthermore there no interaction effect was found (F(1,76)= .009, ns). In Appendix F, Table 6.16 you find an overview of the main results for the construct reassuring environment.

6.16 Processing styles

A 2 (risk: high vs. low) x 2 (color: cool vs. warm) univariate analysis of variance (ANCOVA) with Positive and Negative affect as covariates was conducted in order to investigate the effects of risk and color on the processing style used. The main effect of risk was nonsignificant ($F(1,76)= .457$, ns). The main effect of color was also nonsignificant ($F(1,76)= .017$, ns). Furthermore no interaction effect was found ($F(1,76)= 1.06$, ns). In Appendix F, Table 6.17 you find an overview of the main results for the construct satisfaction. Hypotheses 7 was not confirmed.

6.17 Summary Results Study 2

The goal of the second study was to investigate the influence of risk and color in actual bank environments. The manipulations of this second study succeeded, people perceived the situation more risky in the high risk condition in comparison to the low risk condition. The mood of the participants differed before starting the questionnaire, therefore positive and negative affect were used as covariates. The main effect of risk on Perceived Threat was significant. The participants perceived more threat when they were in the high risk condition compared to the low risk condition. The main effect of color on pleasure was significant. People felt more pleasant in the red environment compared to the blue environment. Furthermore an interaction effect was found, participants in the low risk condition and in a red environment felt more pleasant than the participants in the blue environment. The arousal level was significantly higher in the low risk condition compared to the high risk condition. This was also the case for dominance, people in a low risk situation felt more dominant than in a high risk situation. Perceived control, satisfaction, perceived credibility and trust were significantly higher in a blue environment.

7. Conclusion and Discussion

The goal of this study was to investigate the influence of risk and color in online bank environments and actual bank environments. The first study was conducted using a scenario and a screenshot of an online bank environment and the second study was conducted using also a scenario and in an actual simulated bank environment.

7.1 Conclusions study 1

This first study was not as successful as hoped, the manipulations for risk did not work and only one significant result was found namely: people felt more dominant when looking at a blue online environment in comparison to a red online environment. As mentioned before in this report, Valdez and Mehrabian (1994) found that darker colors have a positive influence on dominance, dominance increased when the saturation of the color also increased and when the brightness of the color increased, dominance on the other hand decreased. Furthermore Valdez and Mehrabian (1994) showed that the hue red-purple caused the lowest score on dominance. This could be an explanation for the fact that dominance was higher in the blue online environment in comparison to the red online environment.

7.2 Conclusions study 2

The results of the second study were far more interesting than the results of the first study. Also the manipulations of the second study succeeded. Perceived risk was higher in the high risk condition compared to the low risk condition. Also perceived threat was significantly higher in the high risk condition in comparison to the low risk condition. Because the probability of meaningful loses is higher in the high risk condition than in the low risk condition, people feel more threatened.

Pleasure was significantly higher in a red environment instead of a blue environment. In low risk situations in a red environment, pleasure was significantly higher than in a high

risk situation. It turns out that effects of color were only found in the low risk situation. The color blue in combination with low risk causes that pleasure is significantly lower, probably because the stimulants in the environment are too little in order to feel more pleasant in a blue environment.

Arousal was significantly higher when being in a low risk situation in comparison to a high risk situation. The expectation was that only the color red had a positive influence on arousal. The high risk scenario was about a mistake which was made during the transaction of the tuition fee. On the other hand the low risk scenario was about the transaction of the money for a city trip to Berlin. All the participants of the second study were students who already started their education at the university and already paid their tuition fee. They might feel that this is not going to happen to them. On the other hand everyone, especially students, wants to go on a trip. This might be more realistic and exciting to them and therefore more arousing.

Dominance was significantly higher when being in a low risk situation in comparison to a high risk situation. The uncertainty in a low risk situation is lower than in a high risk situation. Furthermore in a low risk situation there is less at stake, people have fewer to lose in comparison to a high risk situation. In a low risk situation people are more certain that everything is going to be all right. Therefore people feel more dominant in a low risk situation in comparison with a high risk situation.

Perceived control, satisfaction, perceived credibility and trust were significantly higher in the blue environment in comparison to the red environment. According to Walters, Apter and Svebak (1982) people under pressure prefer cool colors and when people are in a relaxed situation they prefer warm colors. As well as in the high risk condition as in the low risk condition of this research people are somehow under pressure, this could be one explanation for the fact that scores for perceived control, satisfaction, perceived credibility and trust are higher in the blue environment, because they feel more comfortable in the blue environment

under pressure. Furthermore the blue color is a signal of safety, while the red color is a signal of danger (Elliot & Maier, 2007). This could have an influence on perceived control, satisfaction, perceived credibility and trust. As already stated in this report, Belizzi and Hite (1992) stated that people are more satisfied in a blue environment furthermore according to Chang & Lin (2010) people perceive the color blue as more trustworthy than the color red.

7.3 Discussion

In this paper, it has been tried to analyze the influence of color and risk in online bank environments and actual bank environments. The first study was not as successful as hoped, the manipulations for risk did not work and only one significant result was found namely people felt more dominant in a blue environment in comparison to a red environment. The manipulation checks were done only using one item, therefore it is questionable whether this measurement is valid measuring the riskiness of the situation. Furthermore an explicit pretest on the scenarios were not held.

Another possible explanation for the lack of results is that the scenario used in the first study was specifically directed to students. The average age was 38 years old. It could be the case that the participants were not able to imagine themselves in the position of a student who is dealing with tuition fee problems or paying for a city trip to Berlin.

In general the reach of an online survey is very broad but on the other hand the results obtained can be very poor or incomplete. This could be also an explanation for the fact that nearly no significant results were found in the first study. Therefore it would be wise to conduct this research in a more controlled area, where the researcher is sure that the participants take a close look at the scenario and the stimulus materials and that the questionnaires are filled out completely.

During the pretest of the second study, participants were not sure which environment they needed to assess. Some of the pretest participants thought that with the environment was meant the pictures below the scenario. To make sure that the participants were going to assess the right room, it was decided to mention before the participants started the questionnaire that the environment is the actual environment he or she was in.

The screenshots used for the study contain a lot of white elements in it. Almost half of the 'website' of ABC bank is colored white instead of blue or red, but the blue color and especially the red color used in the screenshots are very intense and dominant. The intense red color could be a signal of danger for people and on the other hand the blue color is a signal of safety (Elliot & Maier, 2007). As stated before in this report, Valdez and Mehrabian (1994) found that the dominance was significantly lower when being in a red/purple hue. This could be an explanation why the people felt more dominant in the blue colored condition compared to the red colored condition. In general danger does not make people feel more dominant, while safety can make people feel more dominant. Another explanation could be that the intense red color is not according to the expectations of persons, people do not always expect such a strong color when dealing with banks. When expectations are not met people might feel less dominant because they have to figure out a new way of dealing with the situation.

In the second study dominance was also analyzed, the results of the second study showed that dominance was higher in a low risk situation compared to a high risk situation. In the first study there was a main effect of color found. One of the reasons for this difference could be that in the first study the colors used were very intense and very 'present' on the screen while the colors in the actual bank environment were subtle and not as intense as the colors used in the first study. Furthermore the first study was an online setting and the second study was a 'real life setting'. Probably during the first study people mainly filled out this questionnaire in their own home, while the second study was only filled out in an university

building. This could have influenced the way people perceived the situation and processed the colors they were confronted with.

The influence of color and risk on the constructs dominance and perceived control are remarkable because these two constructs are considered to be similar. The correlation between the two constructs in the first study was (R)=.18, P>.05) and between the two constructs in the second study was (R)=.334, P<.05). This makes that the two constructs can be considered as two different aspects. The difference between the influence of risk and color on dominance and the influence of color on perceived control could also be due to the way of asking the questions. Dominance is measured using opposite adjectives really focused on how the person felt while perceived control is measured using a set of four statements which were more an evaluation of the situation and the environment.

An interaction effect was found of risk and color on pleasure. In a low risk situation, in combination with the color red, people felt more pleasant. According to Berlyne (1967) too many elements in the environment can make the arousal level of people too high which causes negative emotions, on the other hand too little elements in the environment makes that the arousal level of a person is too low which also causes negative emotions. An optimal level of arousal is needed in order to perform well (Baker & Cameron, 1996). The amount of stimulants in the environment, low risk and red, were just the optimal amount to cause positive emotions. The combination of low risk and red probably makes that there are just the exact amount of elements in the environment to cause positive emotions, in this study the construct pleasure. In addition, it turns out that when the participant was in a high risk situation, the color does not have an impact on the emotional state of a person. An explanation for this could be that the participant is too focused on the high risk situation that he or she does not open up for the influences of the colors in the environment. Their attention is totally focused on the high risk situation.

The evaluative constructs such as perceived control, satisfaction, perceived credibility and trust were significantly higher in the blue environment in comparison to the red environment. While risk had significant influences on the physiological constructs such as threat, arousal and dominance. Color can have an influence on the mindset of a person. As stated before red is a signal of danger and blue is a signal of safety (Elliot & Maier, 2007). It is therefore likely to state that when a person is in a blue environment perceived control, satisfaction, perceived credibility and trust are significantly higher than in a red environment.

A limitation of this study was that the study was conducted in a simulated area, which was not a real bank environment. An actual bank environment could look more professional and more reassuring than the simulated bank environment. Therefore it would be very interesting to see what the results are in a real bank environment. Also lightning was not included in the study, so it is not exactly clear what the impact of this aspect of the environment is. The participants of the second study were all students it would be therefore very interesting to see what really happens with clients who really have a high risk or low risk problem in a bank situation.

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Appendixes

Appendix A. Scenarios Study 1

Scenario high risk in Dutch

Je gaat naar de website van je bank, omdat er iets helemaal mis is gegaan met de betaling van het collegegeld. Je wilt niets liever dan met een universitaire studie starten. Al je vrienden gaan naar de universiteit en alles is geregeld, je hebt alle voortesten gehaald en al het papierwerk is goed ingevuld. Ook heb je eindelijk na een lange zoektocht een geschikte kamer gevonden met de leuke huisgenoten. Maar twee dagen voordat het academische jaar begint, krijg je een telefoontje van de studentenadministratie dat je het collegegeld nog niet betaald hebt. Je schrikt hiervan, er moet iets mis zijn gegaan met de overschrijving bij je bank. Het collegegeld is maar liefst 1.700 euro! De universiteit moet het collegegeld voor het begin van het academische jaar binnen hebben anders mogen zij, je niet inschrijven voor een opleiding. Je riskeert dat je niet kunt starten met je universitaire opleiding en dat je moet wachten tot februari. De opleiding was zo dichtbij maar ineens lijkt deze heel ver weg.

Nadat je de computer opgestart hebt, surf je naar de website van je bank. Je probeert zo snel mogelijk een oplossing te vinden voor het probleem. Het is voor jou van essentieel belang om dit probleem hier op te lossen om te voorkomen dat je vertraging oploopt en pas volgend jaar februari kunt beginnen. **Stel je voor dat je op dit moment het probleem met behulp van de website moet oplossen.**

Scenario low risk in Dutch

Je kijkt al een lange tijd uit naar de reis naar Berlijn, je praat er al weken over en nu is het bijna zover! De prijs van de trip was 100 euro en het moet een week voor de reis betaald zijn. Twee weken voor de reis heb je het geld overgemaakt, na anderhalve week krijg je een

telefoontje of je nog wel meegaat naar Berlijn omdat men geen betaling van je heeft ontvangen. Berlijn was zo dichtbij maar nu ineens zo ver weg.

Nadat je de computer opgestart hebt, surf je naar de website van je bank. Je probeert zo snel mogelijk een oplossing te vinden voor het probleem. Het is voor jou van belang om dit probleem op te lossen om te voorkomen dat je niet mee kunt naar Berlijn. **Stel je voor dat je op dit moment het probleem met behulp van de website moet oplossen.**

Appendix B. Questionnaire Study 1

Deze schaal bestaat uit een aantal woorden welke verschillende gevoelens en emoties weergeven. Lees elk woord en kruis het juist antwoord naast het woord aan. Geef aan in hoeverre je, je zo voelt op dit moment.

	Helemaal niet	**Niet**	**Matig**	**Neutraal**	**Een beetje**	**Behoorlijk**	**Extreem**
Geïnteresseerd	1	2	3	4	5	6	7
Bedroefd	1	2	3	4	5	6	7
Opgewonden	1	2	3	4	5	6	7
Overstuur	1	2	3	4	5	6	7
Sterk	1	2	3	4	5	6	7
Schuldig	1	2	3	4	5	6	7
Angstig	1	2	3	4	5	6	7
Vijandig	1	2	3	4	5	6	7
Enthousiast	1	2	3	4	5	6	7
Trots	1	2	3	4	5	6	7
Prikkelbaar	1	2	3	4	5	6	7
Alert	1	2	3	4	5	6	7
Beschaamd	1	2	3	4	5	6	7
Geïnspireerd	1	2	3	4	5	6	7
Nerveus	1	2	3	4	5	6	7
Vastberaden	1	2	3	4	5	6	7
Oplettend	1	2	3	4	5	6	7
Schrikachtig	1	2	3	4	5	6	7
Actief	1	2	3	4	5	6	7
Bang	1	2	3	4	5	6	7

VRAGENLIJST

Deze enquête gaat over serviceomgevingen. Het invullen van de vragenlijst zal ongeveer 5 á 10 minuten in beslag nemen. De gegevens die worden verkregen zijn anoniem. De enquête begint met een aantal algemene vragen, vervolgens staan er een aantal stellingen geschreven en de bedoeling is dat je aangeeft in welke mate het eens of oneens bent met een stelling.

Leeftijd: …..

Geslacht:

- Man
- Vrouw

Studiejaar: …..

Graag zou ik u willen vragen alvorens u aan de vragenlijst begint, het bijgevoegde scenario en de afbeelding goed in u op te nemen.

	Helemaal oneens	**Oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje eens**	**Eens**	**Helemaal mee eens**
Ik voel me bedreigd in deze voorgestelde situatie	1	2	3	4	5	6	7
Ik ben bezorgd over de afloop van de situatie	1	2	3	4	5	6	7
De beschreven situatie is risicovol	1	2	3	4	5	6	7

Neem even de tijd om je in te leven in de situatie, vervolgens kunt u, uw gevoelens bepalen aan de hand van de tegenovergestelde bijvoeglijke naamwoorden die hieronder staan.

Gelukkig								Ongelukkig
Vrolijk								Boos
Tevreden								Ontevreden
Voldaan								Zwaarmoedig
Hoopvol								Wanhopig
Ontspannen								Verveeld

Stimulerend								Ontspannen
Opgewonden								Kalm
Uitzinnig								Loom
Onrustig								Sloom
Helemaal Wakker								Slaperig
Opgewonden								Rustig

Beïnvloedbaar								Invloedrijk
Volgzaam								Leidend
Volgend								Sturend
Onder de indruk								Gewichtig
Onderdanig								Dominant
Verloren								In controle

	Helemaal oneens	**Oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje eens**	**Eens**	**Helemaal mee eens**
Ik voel dat ik de situatie onder controle heb	1	2	3	4	5	6	7
Ik heb het gevoel dat ik voldoende aandacht krijg in deze bank	1	2	3	4	5	6	7
In deze bank is de klant koning	1	2	3	4	5	6	7
Ik ben in staat om de oplossingen te vinden die ik zoek	1	2	3	4	5	6	7

	Helemaal mee oneens	**Mee oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje mee eens**	**Mee eens**	**Helemaal mee eens**
Ik ben tevreden met de voorgestelde webomgeving	1	2	3	4	5	6	7

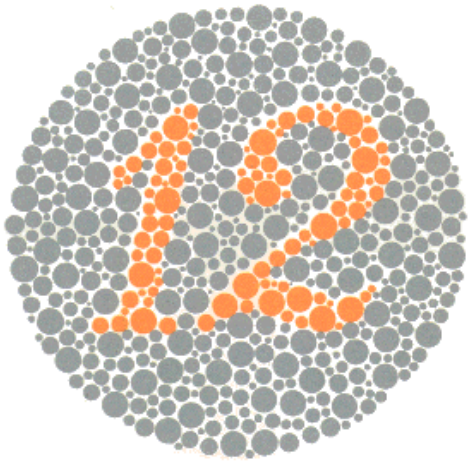
	Helemaal mee oneens	**Mee oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje mee eens**	**Mee eens**	**Helemaal mee eens**
Ik heb het gevoel dat deze bank veel ervaring heeft	1	2	3	4	5	6	7
Ik heb het gevoel dat deze bank bekwaam is in wat zij doen	1	2	3	4	5	6	7
Ik heb het gevoel dat deze bank kennis van zaken heeft	1	2	3	4	5	6	7
Ik vertrouw deze bank	1	2	3	4	5	6	7
Ik heb het gevoel dat deze bank eerlijk is	1	2	3	4	5	6	7

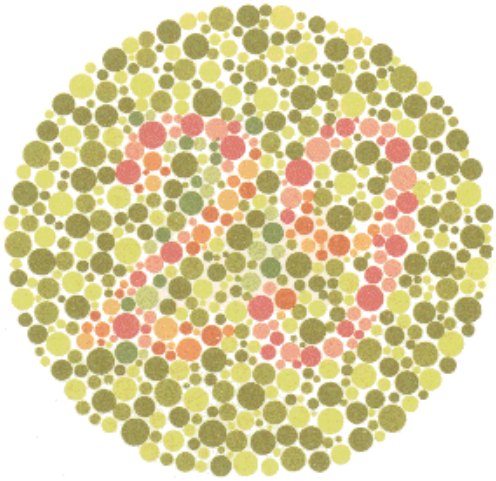
	Helemaal mee oneens	Mee oneens	Een beetje oneens	Neutraal	Een beetje mee eens	Mee eens	Helemaal mee eens
Ik zou hier graag terugkomen	1	2	3	4	5	6	7
Ik zou hier meteen weggaan	1	2	3	4	5	6	7

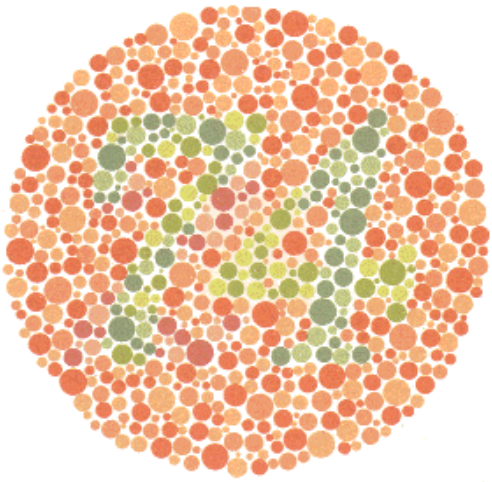
	Helemaal mee oneens	Mee oneens	Een beetje oneens	Neutraal	Een beetje mee eens	Mee eens	Helemaal mee eens
Ik heb het gevoel dat deze bank mijn probleem gaat oplossen	1	2	3	4	5	6	7
Deze bank voldoet aan mijn behoeftes	1	2	3	4	5	6	7
Ik heb het gevoel dat ik weet wat ik kan verwachten van deze bank	1	2	3	4	5	6	7
Deze bank lijkt mij oprecht betrokken bij het oplossen van problemen	1	2	3	4	5	6	7
Ik heb het gevoel dat ik deze bank kan vertrouwen	1	2	3	4	5	6	7

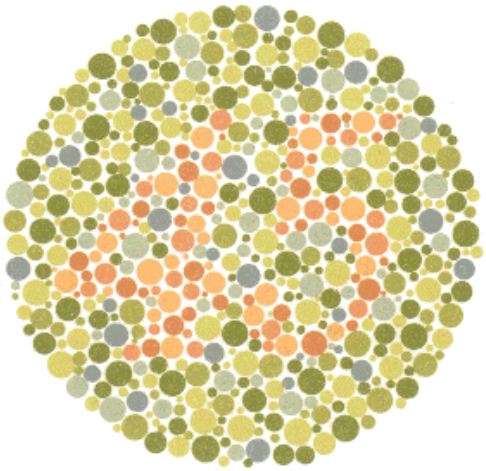
Tenslotte zou je willen proberen om deze onderstaande foto te beschrijven?

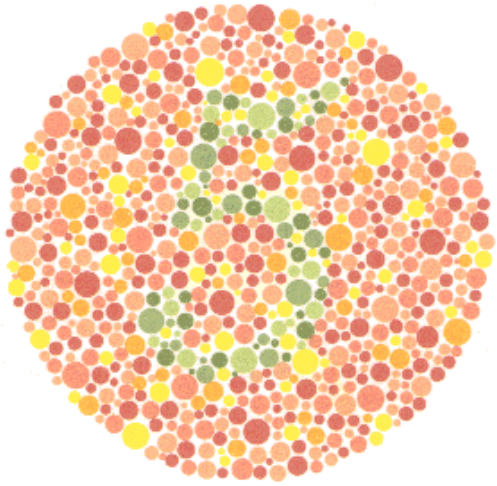
Tenslotte nog een klein testje.
Bekijk de volgende plaatjes en geef in het vierkant ernaast aan welk cijfer u ziet. Als u geen cijfer herkent, vul dan XX in.

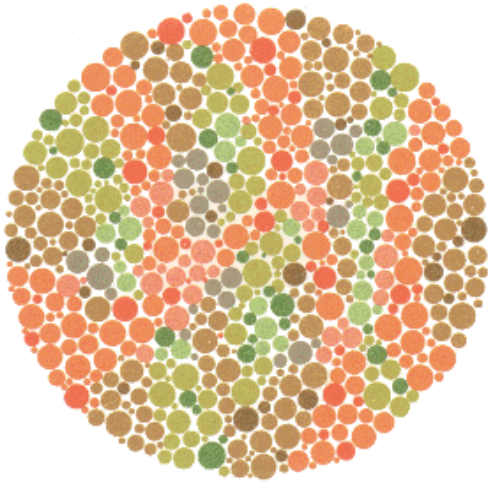












Appendix C. Results Study 1

Table 4.1

Positive Affect Scale

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Positive affect scale	1.84	.84	2.04	.93	Positive affect scale	2.04	.96	1.86	.82

* P<.05 ** P<.01 ***P<.001

Table 4.2

Negative Affect Scale

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Negative affect scale	3.49	1.81	3.93	1,58	Negative affect scale	3.95	1.78	3.46	1.61

* P<.05 ** P<.01 ***P<.001

Table 4.3
Perceived Threat

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Threat	3.49	1.81	3.93	1,58	Perceived Threat	3.95	1.78	3.46	1.61

* P<.05 ** P<.01 ***P<.001

Table 4.4

Perceived Concern

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Concern	4.61	1.87	4.60	1.55	Perceived Concern	4,81	1.72	4.39	1.67

* P<.05 ** P<.01 ***P<.001

Table 4.5

Pleasure

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Pleasure	2.77	.88	2.69	.71	Pleasure	2,74	.77	2.72	.84

* P<.05 ** P<.01 ***P<.001

Table 4.6

Arousal

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Arousal	1.78	.55	1.98	.49	Arousal	1.80	.49	1.97	.55

* P<.05 ** P<.01 ***P<.001

Table 4.8

Perceived Control

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived control	4.09	1.07	3.89	.88	Perceived control	3.89	.97	4.09	.99

* P<.05 ** P<.01 ***P<.001

Table 4.9

Satisfaction

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Satisfaction	3.98	1.59	4.14	.97	Satisfaction	3.88	1.48	4.24	1.09

* P<.05 ** P<.01 ***P<.001

Table 4.10

Perceived Credibility

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Credibility	4.03	1.21	3.90	.98	Perceived Credibility	3.94	1.06	3.95	1.14

Appendix D. Scenarios Study 2

Scenario high risk, Dutch version

Je hebt een afspraak gemaakt met de contactpersoon van je bank, omdat er iets grandioos mis is gegaan met de betaling van het collegegeld. Je wilt niets liever dan met een universitaire studie starten. Al je vrienden gaan naar de universiteit en alles is geregeld, je hebt alle voortesten gehaald en al het papierwerk is goed ingevuld. Ook heb je eindelijk na een lange zoektocht een geschikte kamer gevonden met de leuke huisgenoten. Maar twee dagen voordat het academische jaar begint, krijg je een telefoontje van de studentenadministratie dat je het collegegeld nog niet betaald hebt. Je schrikt hiervan, er moet iets mis zijn gegaan met de overschrijving bij je bank. Het collegegeld is maar liefst 1.700 euro! De universiteit moet het collegegeld voor het begin van het academische jaar binnen anders mogen zij, je niet inschrijven voor een opleiding. Je riskeert dat je niet kunt starten met je universitaire opleiding en dat je moet wachten tot februari. De opleiding was zo dichtbij maar ineens lijkt deze heel ver weg.

Aangekomen bij de bank meld je je bij de balie en de vrouw achter de balie verzoekt je vriendelijk om even plaats te nemen totdat de persoon waarmee je de afspraak hebt eraan komt. Even later komt je contactpersoon eraan en die begeleidt je naar een aparte ruimte om het probleem op te lossen. Het is voor jou van essentieel belang om dit probleem hier op te lossen om te voorkomen dat je vertraging oploopt en pas in februari kunt beginnen. **Stel je voor dat je op dit moment bij de bank zit om het probleem op te lossen.**

Scenario low risk in Dutch

Je hebt een afspraak gemaakt met de contactpersoon van je bank omdat er iets mis is gegaan met de betaling van een reis naar Berlijn. Je kijkt al een lange tijd uit naar de reis naar Berlijn, je praat er al weken over en nu is het bijna zover! De prijs van de trip was 100 euro en het

moet een week voor de reis betaald zijn. Twee weken voor de reis heb je het geld overgemaakt, na anderhalve week krijg je een telefoontje of je nog wel meegaat naar Berlijn omdat men geen betaling van je heeft ontvangen. Berlijn was zo dichtbij maar nu ineens zo ver weg.

Aangekomen bij de bank meld je je bij de balie en de vrouw achter de balie verzoekt je vriendelijk om even plaats te nemen totdat de persoon waarmee je de afspraak hebt eraan komt. Even later komt je contactpersoon eraan en die begeleidt je naar een aparte ruimte om het probleem op te lossen. Het is voor jou van belang om dit probleem op te lossen om te voorkomen dat je niet mee kunt naar Berlijn. **Stel je voor dat je op dit moment bij de bank zit om het probleem op te lossen.**

Appendix E. Questionnaire Study 2

Deze schaal bestaat uit een aantal woorden welke verschillende gevoelens en emoties weergeven. Lees elk woord en kruis het juist antwoord naast het woord aan. Geef aan in hoeverre je, je zo voelt op dit moment.

	Helemaal niet	**Niet**	**Matig**	**Neutraal**	**Een beetje**	**Behoorlijk**	**Extreem**
Geïnteresseerd	1	2	3	4	5	6	7
Bedroefd	1	2	3	4	5	6	7
Opgewonden	1	2	3	4	5	6	7
Overstuur	1	2	3	4	5	6	7
Sterk	1	2	3	4	5	6	7
Schuldig	1	2	3	4	5	6	7
Angstig	1	2	3	4	5	6	7
Vijandig	1	2	3	4	5	6	7
Enthousiast	1	2	3	4	5	6	7
Trots	1	2	3	4	5	6	7
Prikkelbaar	1	2	3	4	5	6	7
Alert	1	2	3	4	5	6	7
Beschaamd	1	2	3	4	5	6	7
Geïnspireerd	1	2	3	4	5	6	7
Nerveus	1	2	3	4	5	6	7
Vastberaden	1	2	3	4	5	6	7
Oplettend	1	2	3	4	5	6	7
Schrikachtig	1	2	3	4	5	6	7
Actief	1	2	3	4	5	6	7
Bang	1	2	3	4	5	6	7

VRAGENLIJST

Deze enquête gaat over serviceomgevingen. Het invullen van de vragenlijst zal ongeveer 5 á 10 minuten in beslag nemen. De gegevens die worden verkregen zijn anoniem. De enquête begint met een aantal algemene vragen, vervolgens staan er een aantal stellingen geschreven en de bedoeling is dat je aangeeft in welke mate het eens of oneens bent met een stelling.

Leeftijd: …..

Geslacht:

- Man
- Vrouw

Studiejaar: …..

Graag zou ik u willen vragen om eerst het bijgevoegde scenario en de omgeving goed in u op te nemen alvorens u aan de vragenlijst begint.

	Helemaal oneens	**Oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje eens**	**Eens**	**Helemaal mee eens**
Ik voel me bedreigd in deze voorgestelde situatie	1	2	3	4	5	6	7
Ik ben bezorgd over de afloop van de situatie	1	2	3	4	5	6	7
De beschreven situatie is risicovol	1	2	3	4	5	6	7

Neem even de tijd om je in te leven in de situatie, vervolgens kunt u, uw gevoelens bepalen aan de hand van de tegenovergestelde bijvoeglijke naamwoorden die hieronder staan.

Gelukkig								Ongelukkig
Vrolijk								Boos
Tevreden								Ontevreden
Voldaan								Zwaarmoedig
Hoopvol								Wanhopig
Ontspannen								Verveeld

Stimulerend								Ontspannen
Opgewonden								Kalm
Uitzinnig								Loom
Onrustig								Sloom
Helemaal Wakker								Slaperig
Opgewonden								Rustig

Beïnvloedbaar								Invloedrijk
Volgzaam								Leidend
Volgend								Sturend
Onder de indruk								Gewichtig
Onderdanig								Dominant
Verloren								In controle

	Helemaal oneens	**Oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje eens**	**Eens**	**Helemaal mee eens**
Ik voel dat ik de situatie onder controle heb	1	2	3	4	5	6	7
Ik krijg voldoende aandacht in deze bank	1	2	3	4	5	6	7
In deze bank is de klant koning	1	2	3	4	5	6	7
Ik ben in staat om de oplossingen te vinden die ik zoek	1	2	3	4	5	6	7

	Helemaal mee oneens	**Mee oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje mee eens**	**Mee eens**	**Helemaal mee eens**
Ik ben tevreden met de omgeving waarin ik mij bevind.	1	2	3	4	5	6	7

	Helemaal mee oneens	**Mee oneens**	**Een beetje oneens**	**Neutraal**	**Een beetje mee eens**	**Mee eens**	**Helemaal mee eens**
Ik heb het gevoel dat deze bank veel ervaring heeft	1	2	3	4	5	6	7
Ik heb het gevoel dat deze bank bekwaam is in wat zij doen	1	2	3	4	5	6	7
Ik heb het gevoel dat deze bank kennis van zaken heeft	1	2	3	4	5	6	7
Ik vertrouw deze bank	1	2	3	4	5	6	7
Ik heb het gevoel dat deze bank eerlijk is	1	2	3	4	5	6	7

	Helemaal mee oneens	Mee oneens	Een beetje oneens	Neutraal	Een beetje mee eens	Mee eens	Helemaal mee eens
Ik zou hier graag terugkomen	1	2	3	4	5	6	7
Ik zou hier meteen weggaan	1	2	3	4	5	6	7

	Helemaal mee oneens	Mee oneens	Een beetje oneens	Neutraal	Een beetje mee eens	Mee eens	Helemaal mee eens
Ik heb het gevoel dat deze bank mijn probleem gaat oplossen	1	2	3	4	5	6	7
Het lijkt mij dat deze bank aan mijn behoeftes probeert te voldoen	1	2	3	4	5	6	7
Ik heb het gevoel dat ik weet wat ik kan verwachten van deze bank	1	2	3	4	5	6	7
Deze bank lijkt mij oprecht betrokken bij het oplossen van problemen	1	2	3	4	5	6	7
Ik heb het gevoel dat ik deze bank kan vertrouwen	1	2	3	4	5	6	7

Bepaal aan de hand van de tegenovergestelde bijvoeglijke naamwoorden hoe je over de service-omgeving denkt waarin je je bevindt.

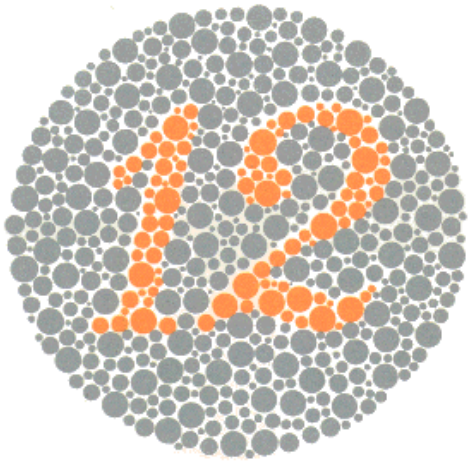
Lelijk								Mooi
Onvriendelijke uitstraling								Vriendelijke uitstraling
Amateuristisch								Professioneel
Onpraktische inrichting								Praktische inrichting
Stijlloos								Stijlvol
Onelegant								Elegant
Ouderwets								Modern
Eenvoudig								Luxe
Smerig								Schoon
Chaotisch								Ordelijk
Slecht onderhouden								Goed onderhouden
Rommelig								Netjes
Traditioneel								Eigentijds
Gewoon								Bijzonder
Niet leuk								Leuk
Onprettig								Prettig
Onplezierig								Plezierig
Ongezellig								Gezellig
Saai								Levendig
Oninteressant								Interessant
Rustgevend								Activerend
Klein								Groot

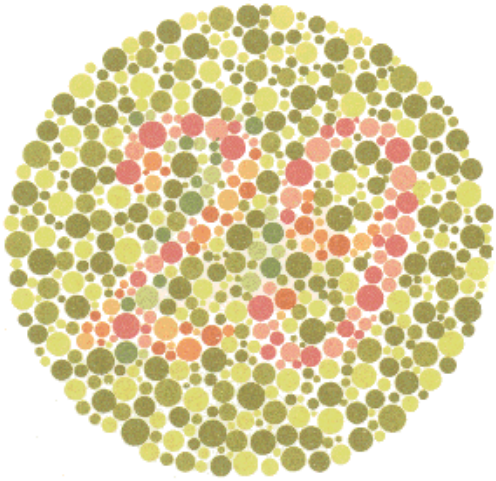
Lelijk uitzicht								Mooi uitzicht
Donker								Licht

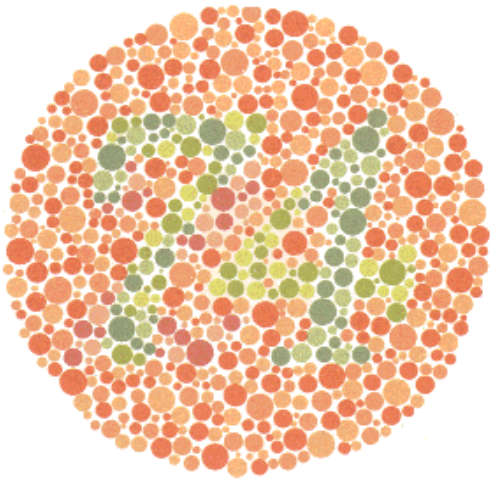
	Helemaal mee oneens	Mee oneens	Een beetje oneens	Neutraal	Een beetje mee eens	Mee eens	Helemaal mee eens
Deze omgeving stelt mij gerust	1	2	3	4	5	6	7

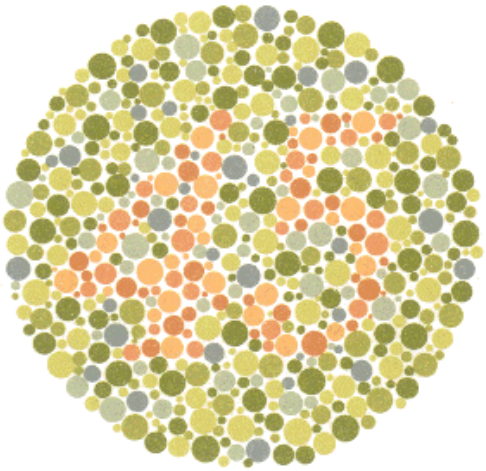
Zou je willen proberen om de onderstaande foto te beschrijven?

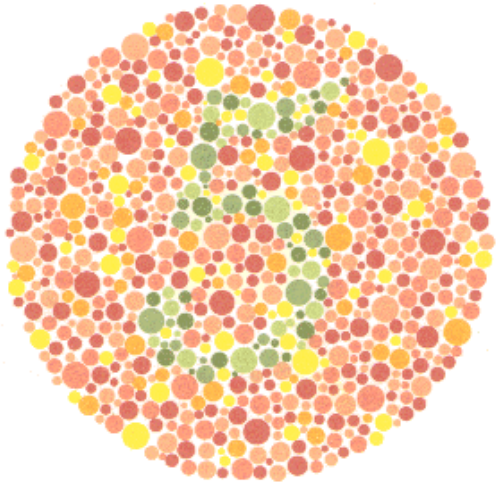
Tenslotte nog een klein testje.
Bekijk de volgende plaatjes en geef in het vierkant ernaast aan welk cijfer u ziet. Als u geen cijfer herkent, vul dan XX in.

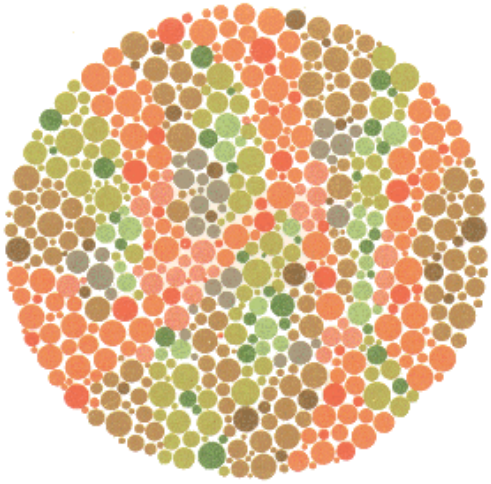












Appendix F. Results Study 2

Table 6.5

Perceived Concern

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Perceived Concern	4.90	1.89	5.37	1.41	Perceived Concern	5.48	1.54	4.80	1.76

* P<.05 ** P<.01 ***P<.001

Table 6.12

Approach

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Approach	4.12	1.29	3.48	1.66	Approach	3.68	1.40	3.93	1.62

* P<.05 ** P<.01 ***P<.001

Table 6.13

Avoidance

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Avoidance	3.28	1.55	3.38	1.55	Avoidance	3.18	1.55	3.48	1.54

* P<.05 ** P<.01 ***P<.001

Table 6.15

Environmental Appraisal

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Environmental Appraisal	4.19	.77	3.95	1.10	Environmental Appraisal	4.21	.79	3.93	1.10

* P<.05 ** P<.01 ***P<.001

Table 6.16

Reassuring environment

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Reassuring environment	4	1.5	3.48	1.71	Reassuring environment	3.90	1.52	3.58	1.71

* P<.05 ** P<.01 ***P<.001

Table 6.17

Processing Styles

Color	Blue		Red		Risk	High		Low	
	M	SD	M	SD		M	SD	M	SD
Processing style	1.23	.42	1.28	.45	Processing style	1.28	.45	1.23	.42

* P<.05 ** P<.01 ***P<.001