



*The approach-avoidance tendency to
facial emotions in relation to personality
traits*

Bachelor Graduation Thesis

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Preface

This is the Bachelor Thesis written by Yu Kee Wong, student of Applied Psychology at Saxion, University of Applied Sciences. This Thesis is supervised by Miss Xijia Luo, PhD student at Radboud University. The First tutor from Saxion University of Applied Sciences is Mister Boyd Schreuder-Goedheijt and the Second tutor is Miss Elia de Kleine. The main reason for writing this Bachelor Thesis in English was to be sure that Miss Luo would be able to give feedback. Secondly, writing this thesis in English was a good preparation in case I wanted to get my masters' degree in the future.

I would like to express my gratitude to Mister Boyd Schreuder-Goedheijt for his expertise as the first tutor and Miss Elia de Kleine for her feedback as the second tutor. However, due to her pregnancy, a new second tutor has been assigned during the last stage of writing this thesis. Therefore, I would also like to thank Antoin de Weijer, the new second tutor of this thesis for his flexibility and his time. Lastly, I'd like to express my special thanks to Miss Xijia Luo, for being a supervisor that is always ready to answer questions and a supervisor that helped me to learn a lot about doing research in a University setting.

Glossary

AAT = Approach-Avoidance Task. Please read the 'Design and Method' for more in-depth explanation.

Approach-Avoidance tendency = the tendency to approach or avoid positive or negative stimuli such as angry facial emotions or happy facial emotions. Please read the 'Theoretical Background' for more in-depth explanation.

Applied Psychology (AP) = the bachelor's degree in Applied Psychology focuses on the practical application of psychology during psychological tests, assessments, counseling and training. After this study you can enter the labor market or you can opt for a master's degree.

Bias Score = the score acquired by subtracting the median pulling time from the median pushing reaction time (angry-push minus angry-pull, happy-push minus happy-pull and neutral-push minus neutral pull). Higher value of the bias score indicates a stronger approach tendency. Please read the 'Analysis' section of the Research design & method chapter for a more in-depth explanation.

Caucasians = The Merriam-Webster Dictionary (www.Merriam-Webster.com) is an online dictionary which describes the definition of Caucasians as following: of, or constituting, or characteristic of a race of humankind native to Europe, North Africa, and southwest Asia and classified according to physical features —used especially in referring to persons of European descent having usually light skin pigmentation.

Ecological validity = Ecological validity has typically been taken to refer to whether or not one can generalize from observed behavior in the laboratory to natural behavior in the world (Schmuckler, 2001).

EPI = Eysenck's' Personality Inventory. Please read the 'Design and Method' section for a more in-depth explanation.

FAS = Family Affluence Scale. Please read the 'Design and Method' section for a more in-depth explanation.

Function-Led assessments and tasks = Tasks and Assessments which are done in a setting that represents real life, more than construct driven assessments and tasks. Please read the Plan of Action for more information.

Mini-SPIN = Mini-Social Phobia Inventory. Please read the 'Design and Method' section for a more in-depth explanation.

1 Introduction

Facial expressions and emotions are intertwined. Facial expressions are one of the strongest ways of humankind to express emotion. One of the major functions to express emotions is to show others how we feel and what we think. Expressions of emotions might also influence others in how they behave towards us. Many different researchers have done research on facial expression and emotion. One of the pioneers is Paul Ekman, who describes a wide variety of facial expressions which are universal, such as: Joy, Surprise, Sadness, Anger, Disgust and Fear (Ekman, 1992). Due to the programmed approach-avoidance task, which consists of happy, angry and neutral facial emotions, it is chosen in this study to focus on those three particular facial expressions of emotions.

One of the theories that might help us understand more about facial expressions and emotion are approach-avoidance theories. The distinction between approach and avoidance motivations is fundamental and essential to the study of human behavior (Elliot, Chirkov, Kim, & Sheldon, 2001). Approach – avoidance theories aim to describe the major systems that motivate behaviors in reaction to either positive or negative stimuli, and to explain consistent patterns of individual differences in these behaviors (Corr, 2013).

1.1 The Current Research

The current study is supervised by Xijia Luo, a PhD student at the Radboud University. In collaboration with Bochum University (Germany) and two Chinese Universities she is conducting a study about approach-avoidance tendencies to different facial emotions in two models in two ethnical groups, Chinese and Caucasians. This topic is in their interest because of the possible biological and/or cultural differences between these two ethnicities. Miss Luo's research findings will be added to the academic literature on this subject.

The current research can be seen as a part of the study from Miss Luo. However, for this Bachelor Thesis, the decision has been made to not study possible between-culture differences. Instead, approach-avoidance tendencies to facial emotions is studied as well as whether a possible connection exists between personality traits and approach avoidance tendencies to facial emotions.

1.2 Research Problem

The approach-avoidance tendency to facial emotions

One of the reasons to conduct a study on approach-avoidance tendency to facial emotions in relation to personality traits was that until now, studies about Approach-Avoidance tendency to Facial Emotions are mostly based on the principle that positive stimuli foster approach tendencies and negative stimuli foster avoidance tendencies. In this way, Krieglmeier and Deutsch (2012) stated that angry facial emotions could be conceived as threatening stimuli and therefore foster avoidance tendency, which is in line with the principle of positive and negative stimuli fostering approach and avoidance respectively. However, according to Wilkowski and Meier (2010) angry facial emotions could be interpreted as aggression, and because of this, angry faces would foster approach tendency. Supporting this line of thought, Lobbestael, Cousijn, Brugman, & Wiers (2016) stated that the emotion of anger can be considered as an exception to the rule that positive stimuli foster approach tendencies and negative stimuli foster avoidance tendencies. So what kind of behavioral tendency would an angry face induce, approach or avoidance? Studying this will add to the academic literature about approach-avoidance tendencies to facial emotions.

Moreover, another reason to conduct more research about this topic was that a results of a study conducted by (Rinck, Telli, Kampmann, Woud, Kerstholt, te Velthuis, Wittkowski and Becker, 2013) suggested that automatic approach-avoidance tendencies have a causal role in social anxiety and Social Anxiety Disorder (SAD). Rinck et al. (2013) found that highly socially anxious participants could be trained to approach smiling faces more quickly by using the Approach-avoidance Task, compared to those that did not receive training. More knowledge about treatment of SAD is important because it is one of the most prevalent anxiety disorders in Switzerland, Italy, Holland, France and Germany (Lecrubier, Wittchen, Faravelli, Bobes, Patel and Knapp, 2000). Moreover, psychopathology is a very important field in which people are being treated or where people receive help to cope with their psychological restrictions. That is why, it is crucial to have more knowledge about the subject of approach-avoidance to facial emotions, by reason of the claim that it might contribute to future treatment of Social Anxiety Disorder (Rinck, Telli, Kampmann, Woud, Kerstholt, te Velthuis, Wittkowski & Becker, 2013).

Approach avoidance tendencies to facial emotions in relation to personality traits.

According to Gray (1987) there are two core systems that regulate behavior, the first one is the Behavioral Inhibition System (BIS) and the second one is the Behavioral Approach System (BAS). The BIS deals with aversive motivation and avoidance or withdrawal behavior and the BAS deals with appetitive motivation and approach behavior. In the light of Gray's behavioral systems, avoidance tendencies should have a relationship with BIS and approach tendencies should have a relationship with BAS.

In Smits and Boeck (2006)'s study, they investigated whether individual differences in surface of personality as described by the Big Five can be explained by BIS/BAS. They expected that BIS can predict Neuroticism to a large extent, because BIS and Neuroticism share the same feature of negative emotional sensitivity (Smits & Boeck, 2006). Subsequently, their conjecture was that Extraversion can be predicted by BAS to a large extent, because Extraversion primarily implies an approach tendency (Smits & Boeck, 2006). Smits and Boeck (2006) found that Neuroticism is highly positively related with BIS and negatively with several BAS measures. Furthermore, they found that Extraversion was positively related to all BAS scales and that Extraversion was negatively related to BIS. In addition, supporting this claim, Elliot and Thrash (2002) pose that BIS or avoidance behavior are strongly associated with negative emotionality, and negative emotionality is also strongly associated with Neuroticism.

Although it seems that BIS and BAS seem to relate with Neuroticism and Extraversion, it is not clear if approach and avoidance tendencies specifically share a relationship with neuroticism and extraversion.

1.3 Research Questions

1. Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?
2. Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

1.4 Objective of this research

One of the objectives of this research is to study whether participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions. It was in this studies' interest to clarify which facial emotions tend to induce approach or

avoidance tendencies and to contribute to the growing literature of research about the topic of approach-avoidance tendencies to facial emotions. Secondly, considering that it might contribute to the future treatment of Social Anxiety disorder, it was in this studies' interest to try to contribute to the expanding knowledge of this topic.

The second objective of this research is to study whether participants' approach-avoidance tendency towards three facial emotions is related to personality traits, because it is not clear if approach and avoidance tendencies specifically share a relationship with neuroticism and extraversion.

1.5 Report Outline

Chapter one of this thesis will give an introduction to the topic of approach-avoidance tendencies, the reasons for conducting this research and what the research objectives are. Secondly, Chapter two will consist of the literature background and theories regarding the topic of approach-avoidance tendencies, the possible connection between personality traits and approach-avoidance tendencies, how to study approach-avoidance behavior and what the research hypotheses are based on literature study. Furthermore, chapter three is going to describe the research design and method, the population and sample of the participants, explanation of the tasks and questionnaires, procedure and what kind of statistical analyses will be conducted to answer the research questions. Also, Chapter four will describe the results of the analyses. Consequently, Chapter five shall answer to the research questions and discusses unexpected outcomes and possible reasons for it. Lastly, Chapter six recommends and is going to suggest the possibilities of a follow up study and contains a plan of action on how to realize it.

2 Theoretical Background

2.1 Approach-Avoidance tendency

Aversive and appetitive stimuli direct organisms to certain behavioral tendencies.

For example, according to Phaf, Mohr, Rotteveel, & Wicherts (2014), Corr (2013) and Klein, Becker, & Rinck (2010) positive stimuli invoke approach behavior, whereas negative stimuli invoke avoidance behavior. Therefore, approach behavior are induced by positive stimuli, which are rewarding, and avoidance behavior are induced by negative stimuli, which are punishing. In other words, approach behavior is induced by pleasant or desirable stimuli whereas Avoidance behavior is induced by unpleasant stimuli. Stins, Roelofs, Villan, Kooijman, Hageraars & Beek (2011) give the following examples: the presence of food, a potential sexual mate, or a novel object that invites exploration induce approach, on the contrary, avoidance behaviors can be induced by dangerous or threatening situations, such as a predator or the sight of a dead conspecific. Other examples of avoidance behavior would be seeing a group of youngsters drinking alcohol on the street at night. Instead of passing them by, you choose to take a detour to avoid possible harassment. In this case, seeing the group of youngsters might induce thoughts of possible harassment, which is a negative stimulus. Therefore, taking a detour to avoid it is an example of avoidance behavior.

Several studies have shown that avoidance is associated with pushing objects away from oneself, and approach is associated with pulling the objects closer (Heuer et al., 2010; Klein et al., 2010). According to Heuer et al. (2010), Charles Darwin, during his lifetime had already stated that our intentions and movements like pushing an object away or pulling it towards us are strongly associated with each other. Darwin concluded that if we eagerly wish an object to move in any direction, we can hardly avoid moving our bodies in the same direction, although we may be perfectly aware that this can have no influence.

2.2 The approach-avoidance tendency and it's relation to Facial emotions

Ekman (1999) as one of the pioneers on the subject of facial emotions, stated that facial emotions are universal, which means that regardless of culture, every facial emotion can be recognized as the same emotion. These facial emotions tell others some important information about us. Not only does Ekman claim this, but Seidel, Habel, Kirschner, Gur, & Derntl (2010) and Adams, Ambady, Macrae, & Kleck (2006) support this claim as well. They claimed that Emotional faces show both the emotional state and behavioral intentions of an individual. Moreover, emotional faces can activate behavioral tendencies in the perceiver of the emotional faces, such as approach or avoidance tendencies. What's more, Adams et al. (2006) stated that the ability to detect another's intention to approach or avoid us is arguably a principal mediating factor governing social interaction.

Although it seems clear that positive stimuli induce approach behavior and negative stimuli induce avoidance behavior, it is not always the case. Krieglmeyer & Deutsch (2012) said that happy expressions convey an affiliation intention, whereas angry expressions convey an aggressive intention. Contrarily, Wilkowski and Meier (2010) said that angry and neutral Faces can foster approach behaviour while angry faces are interpreted as aggression. Supporting this line of thought, Lobbestael, Cousijn, Brugman, & Wiers (2016) stated that the emotion of anger can be considered as an exception to the rule that positive stimuli foster approach tendencies and negative stimuli foster avoidance tendencies, anger is the only negatively valenced emotion that is related to approach behavior. Therefore, one of the sub goals imbedded into the research questions is to see whether angry facial emotions elicit approach or avoidance tendency more.

2.3 The approach-avoidance tendency and it's relation to Personality Traits

The Merriam-Webster Online Dictionary describes Personality as following: 'the set of emotional qualities, ways of behaving, etc., that makes a person different from other people'. Each person is different in how they behave, react and what they find amusing or annoying. We can ascribe this to a difference in personality traits. According to

Matthews, Deary & Whiteman (2003), everyday conceptions of personality traits make two key assumptions. First, traits are stable over time and second, it is generally believed that traits directly influence behavior. There are different models describing and categorizing personality traits. One of them is the Five-Factor Model of Personality (FFM) often referred to as 'Big Five Model'. This model categorizes five trait dimensions: Openness to Experience, Extraversion, Agreeableness, Conscientiousness and Neuroticism (Soto & Jackson, 2013).

Several papers and studies have suggested that approach-avoidance tendencies are related to personality traits. For example, Ferris, et al. (2011) stated that personality traits reflect different levels of approach and avoidance temperaments, and the approach and avoidance nature of the personality traits predicts how they relate to approach and avoidance motivation. Besides, in an article written by Carver et al. (2000), it is suggested that extraversion can be characterized as the tendency to approach rewards, whereas neuroticism can be characterized as the tendency to avoid threats. In addition, Prabhakaran, R., Kraemer, D. J., & Thompson-Schill, S. L. (2011)'s study concluded that extraversion and neuroticism have influence on cognitive control abilities. By the same token, Keltner and Ekman (2000) state that studies have documented that extraversion and neuroticism relate to facial expressions of positive and negative emotion, respectively. Also, Elliot and Thrash (2002) pose that BIS or avoidance behavior are strongly associated with negative emotionality, which is also related to neuroticism. Although there are studies, papers and books such as Ferris et al. (2011), Prabhakaran et al. (2011), and Carver et al. (2000) suggest a relation between personality and approach-avoidance behavior, it is not clear if personality traits influence automatic approach-avoidance responses to facial emotions specifically.

As mentioned before, Rinck et al. (2013) suggested that approach-avoidance tendencies are linked to Social Anxiety Disorder (SAD). However, according to some studies, personality traits are suggested to be linked to SAD as well. First of all, in Glinksy and Page (2010)'s study, one of their purposes was to investigate if the degree of avoidant personality pathology was correlated positively with neuroticism and negatively with extraversion. They examined that changes occurred in neuroticism, extraversion and agreeableness, following group treatment for SAD. Besides,

treatment of SAD was associated with significant reductions in neuroticism. (Glinksy & Page, 2010). Furthermore, Kotov, Gamez, Schmidt and Watson (2010) conducted a meta-analysis in which they found that mental disorders are strongly linked to personality and have similar trait profiles. In their study, it seemed that neuroticism, in comparison to other Big-Five Personality dimensions, correlated the most with Anxiety, Depressive and Substance Use Disorders. Although, several other personality traits showed substantial effects independent of neuroticism. Greater attention to these constructs can significantly benefit psychopathology research and clinical practice (Kotov et al. 2010).

This study had chosen for the 'Big Five Model'. Firstly, due to the article of Carver et al. (2000) which stated that the factors neuroticism and extraversion might have a relation to approach-avoidance motivations. Secondly, Prabhakaran et al. (2011) used the EPI questionnaire which finds its basis in the five-factor model of personality and lastly, because Keltner and Ekman (2000) also suggest a relation between the personality dimensions of neuroticism/extraversion and facial emotions.

2.4 Studying approach-avoidance tendency, the Approach-avoidance task (AAT)

Chen & Bargh (1999) and Solarz (1960) state that avoidance is associated with pushing objects away from oneself, and approach is associated with pulling the objects closer. A task in which these pushing and pulling movements are represented is the AAT. The approach-avoidance task (AAT) is a task in which stimuli in the form of pictures are presented one by one on a computer screen. The participants' task is to respond as quickly as possible to each picture (stimulus) by pushing the joystick forward or pulling the joystick backwards. The AAT is based on the finding that approach and avoidance are responses associated with motive systems and emotional responding. Pleasant stimuli produces automatic approach tendencies, whereas negative stimuli produces automatic avoidance tendencies. In the AAT, when participants push the joystick away from themselves in response to a picture presented on the computer screen, the picture shrinks. When the joystick is pulled, the picture grows until it almost fills the screen. This zooming effect creates the visual impression that the pictures are coming closer upon pulling of the joystick and that they move away upon pushing it. Upon pulling or pushing, the faces grow or shrink in size, respectively.

The shrinking and growing of the pictures upon pushing and pulling simulates the approaching and avoiding of a facial emotion.

2.5 Conceptual model

Several studies have shown that avoidance is associated with pushing objects (muscle extension) away from oneself, and approach is associated with pulling the objects closer (muscle flexion) (Heuer et al., 2010; Klein et al., 2010 and Solarz 1960). Therefore, one of the possible options to study approach-avoidance behavior is to involve pushing and pulling movements that represent approaching or avoiding a stimuli.

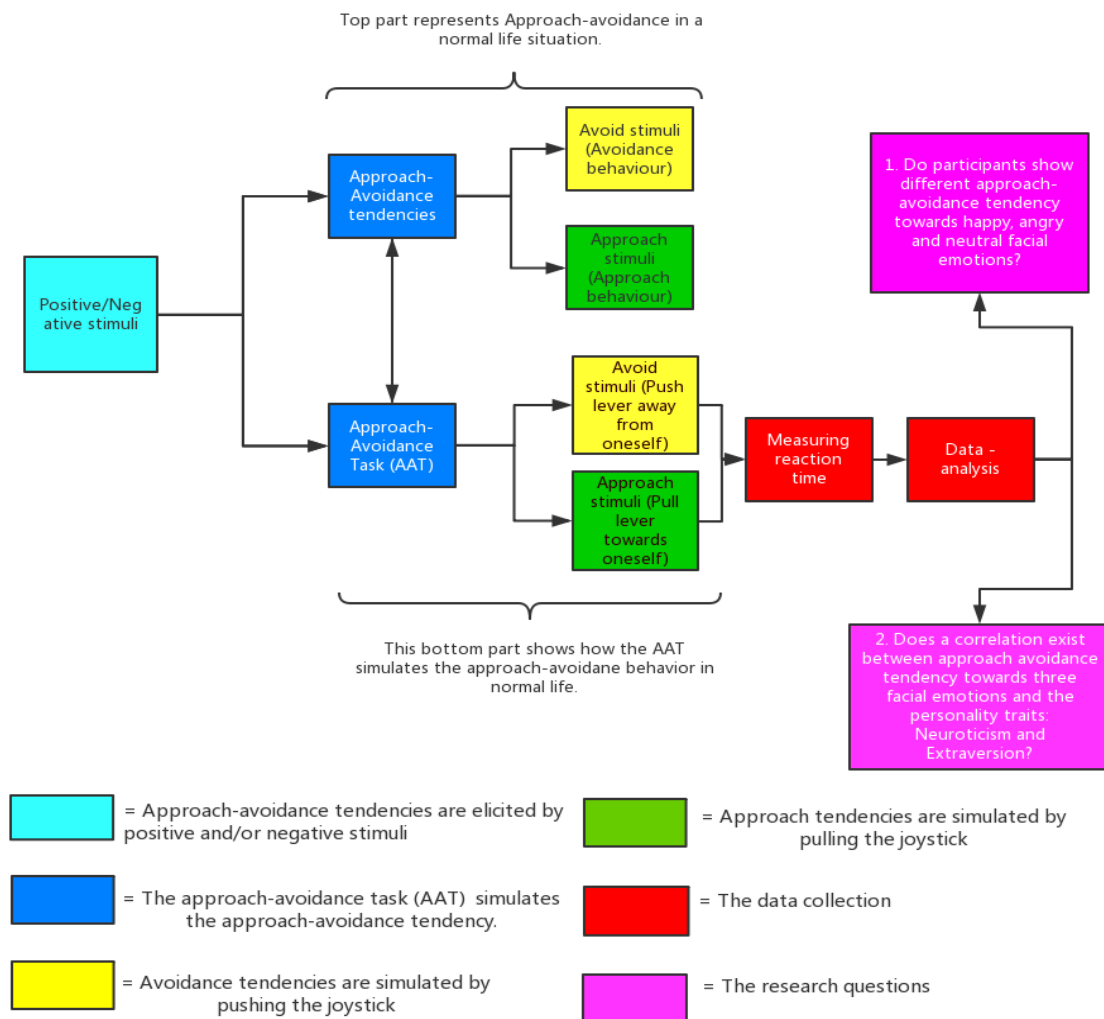


Figure 1. A schematic representation of how approach-avoidance tendencies might be related to personality traits. Likewise, how this study tries to replicate approaching and avoiding stimuli through the approach-avoidance task.

2.6 Research Questions and Hypotheses

1 *Research Question*

Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?

Hypothesis

Participants will approach Happy Facial Emotions more quickly than Neutral Facial Emotions and will approach Angry Facial Emotions the slowest.

2 *Research Question*

Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

Hypothesis

A correlation exists between approach-avoidance tendency and Neuroticism, also a correlation exists between approach-avoidance tendency and Extraversion. The higher the degree of neuroticism, the slower participants will approach all three facial emotions. And the higher the degree of extraversion, the faster participants will approach all three facial emotions.

3 Research Design and Method

3.1 Design and Method

The design of this experiment were experimental of nature, in which the experimental environment was as neutral as possible and outside influence was suppressed as much as possible. The participants were tested whether the experimental variable: facial emotions has an influence their approach-avoidance tendencies. In other words, whether the participants showed different approach-avoidance tendencies to happy, angry or neutral facial emotions.

3.1.1 Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?

To study whether participants showed different approach-avoidance tendency towards happy, angry and neutral facial emotions, the approach avoidance task is used. In the AAT, a total of 240 pictures were presented to the participants. These pictures consist of 80 happy, 80 angry and 80 neutral facial emotions. These pictures were presented in two colors: either brown or grey. The participants were instructed to pull the joystick lever in front of them towards themselves when they saw a picture with a grey filter, and were instructed to push the joystick lever away from themselves when they saw a picture with a brown filter. The participants had to react as quickly as possible, and the reaction time was measured by the joystick from a neutral position in the middle to the end of the movement. When the participant pushed or pulled the joystick in the correct direction, the picture would disappear and a black screen would be presented. Whenever the participant had put the lever of the joystick in a neutral position again and was ready for another picture, the fire button must be pressed so a new picture would be presented. This cycle would continue until all 240 pictures were finished, the participants had the opportunity to take a short break halfway through the pictures.

A repeated measures ANOVA was conducted to see whether a difference exists in how fast the participants push and pull at each emotion. If a significant difference was found, a paired samples t-test would be conducted to see where these differences occurred and how big these differences were. For the repeated measures ANOVA and the paired samples T-test, 'Bias-scores' were used as variables. The bias scores reflects the relative direction of the response tendency, in which positive values

indicate stronger approach than avoidance. Therefore, the three within subject factors of the ANOVA were the bias-scores of the angry, happy and neutral facial emotions. And the pairs made for the paired samples T-test consisted of the bias-scores of angry, happy and neutral facial emotions. IBM SPSS Statistics for Windows, version 22 was used for the analyses of this thesis. More in depth information about the repeated measures ANOVA will be given in the chapter 3.5.

3.1.2 Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

To study whether a correlation exists between approach-avoidance tendency and personality traits, the participants needed to fill in the Eysenck Personality Inventory (EPI). The EPI was presented on paper, after scoring the EPI, the sub scores Neuroticism and Extraversion were counted and put into SPSS. The participants would not be categorized into either neurotic or extravert, but instead, this study only used the sub scores. This decision was made because the sample size was not big enough to conduct a reliable analysis if the participants were divided into either neurotic or extravert. So by looking at the sub scores of the EPI, we were able to look more relatively at the personality traits of the participants.

A Pearson correlation analysis was performed to see whether a correlation existed between personality traits and approach-avoidance tendencies to happy, angry and neutral faces. The variables used in this analysis were the pushing and pulling reaction times toward the angry, happy and neutral facial emotions, as well as the extraversion sub-scores and the neuroticism sub-scores. These were all analyzed to see whether correlations existed.

3.2 Participants

Participants were recruited at the Saxion University of Applied Sciences. These participants were bachelor students and were randomly recruited by the researcher throughout the school. The participants were between the age of 18 and 25, and are born and raised in the Netherlands. During recruitment, participants were first asked what their age and nationality was, if they were not between 18-25 years old and did not have a Dutch nationality, they could not participate. Participants were informed of their rights as experimental participants, and after that they filled in a consent form to

help ensure they would show up at the designated time and space to participate in this experiment. From the fifty-six student that filled in the consent form, fifteen students did not come to the designated time and place to perform the experiment. A total of forty-one students were tested, from which 29 students were female and 12 male. These forty-one participants had different study backgrounds such as Applied Psychology, Accountancy, Nursery, Human Resource, Sport Marketing, IT management and Tourism Management. All participants participated in the study voluntarily. As the reward, two participants would be randomly chosen to win a €25 gift card.

3.3 Materials

3.3.1 Approach avoidance task

In the present study, the AAT was used to measure automatic approach and avoidance tendency to angry, happy and neutral facial expressions and adapted from the task in study by Heuer et al. (2007). Figure 2 shows a schematic representation of the AAT. With the data collected from the AAT, analyses were made to see whether participants were more inclined to push (avoid) or pull (approach) certain facial emotions. A longer reaction time to approach stimuli than avoiding indicated an avoidance tendency, and an approach tendency was indicated if it's the other way around. The stimuli in the AAT consisted of Caucasian and Chinese emotional faces, which were selected from the Asian Emotion Database of Nanyang Technology University in Singapore (Byrne, Pan, McCabe, Mellor, & Xu, 2015; Cho, Teoh, & Nguwi). Although the Asian faces were included in the task, the reaction times to the Asian faces were not analyzed. The Asian faces were not analyzed because, first, analyzing between-group differences (Caucasians versus Chinese) would go outside the scope of this study, and second, the reactions to Asian faces in a Caucasian research population could influence the data. The Caucasian faces were retrieved from the Radboud Faces Database (Langner, et al.,

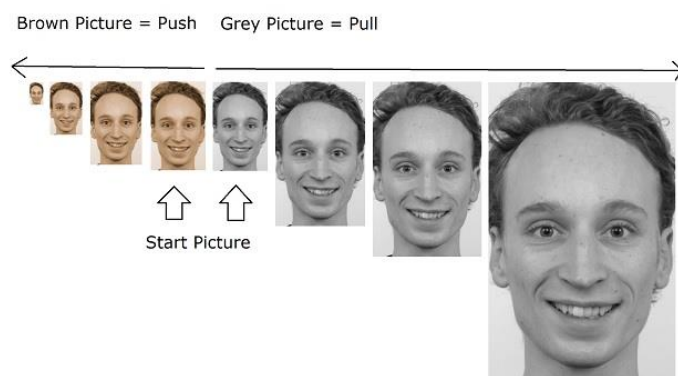


Figure 2: A Schematic Representation of the Approach-Avoidance Task.

2010). The pictures from the two databases were modified to be comparable in size, brightness, tone and background. In total 40 faces from two ethnical groups and genders presenting three emotions (i.e. happy, angry and neutral) were presented in grey and brown color filters to participants, which constituted 240 trials. Before the real trials started, participants had 10 trials to practice, in which the researcher accompanied participants, to make sure that participants understood the instruction correctly. The whole task took about 15 minutes. For the purpose of analyses, participants' reaction time to approach and avoid each emotional facial expression was recorded separately in order to compare their approach avoidance tendency to three emotions.



Figure 3: The Logitech “Attack™ 3” Joystick used for the Approach-Avoidance Task. Reprinted from: Logitech support: Attack™ 3 Joystick (n.d.). Copyright (n.d.) by Logitech. Retrieved from http://support.logitech.com/en_us/product/attack-3-joystick.

3.3.2 Eysenck Personality Inventory (EPI)

The EPI was chosen to measure the personality traits of the participants. The EPI is a multiple choice questionnaire with 57 items consisting of three scales: The E, N and L scales. The items are statements to which the participants have answer ‘Yes’ or ‘No’. The ‘E-score’ measures the degree of extraversion and the ‘N-score’ measures the degree of neuroticism (Sanderman, Arrindell, Ranchor, Eysenck, & Eysenck, 2012). The ‘Lie’ score measures how socially desirable the participant answers the questionnaire. The construct validity of the N, E and L scale are strong (Caruso, Witkiewitz, Belcourt-Dittloff, & Gottlieb, 2001). We will focus on the Neuroticism and Extraversion scales in this study instead of the Lie scale, because this study focuses on the personality traits of Neuroticism and Extraversion. This way we can analyze if personality traits have a connection with approach-avoidance tendency. The participants filled in the questionnaire on paper.

3.4 Procedure

Before the start of the experiment, the laptop needs to be set up with the right screen resolution. Afterwards, the joystick has been attached to the table to avoid it from moving around during the AAT, this was done by using double sided tape on the bottom

of the joystick. The experiment started with the researcher asking the participants if they knew what the procedure would be, and to the participants that did not know, the experimenter explained the procedure very shortly without spoiling the purpose of each task or questionnaire. Afterwards, the experiment would begin. The participants were instructed to fill in the questionnaires in the following order: EPI, MINI-Spin and FAS before moving on to the AAT.¹ This particular order was chosen due to practical reasons, since the only component of the experiment that has to be done on paper was the EPI, it was chosen to let the participant fill in the EPI first. After this, the participant could sit behind the laptop for the rest of the experiment, since the FAS, Mini-SPIN and AAT would all be done by using the laptop. The debriefing letter was given at the end of the experiment, in which is written shortly what the purpose of the experiment was. The experiment took an average of 20 minutes in total.

3.5 Analysis

3.5.1 Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?

To answer the question “Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions”. Data of the median reaction time of pulling and pushing away happy, angry and neutral facial emotions were obtained through the AAT. Median reaction time was chosen instead of the mean reaction time because the median reaction time is less affected by extreme values. Furthermore, the median reaction time was commonly used in the AAT (i.e. Heuer et al. 2010; Rinck et al. 2013). The bias scores were calculated for angry, happy and neutral faces separately, by subtracting the median pulling time from the median pushing time towards faces (angry-push minus angry-pull, happy-push minus happy-pull and neutral-push minus neutral-pull). Accordingly, the bias score reflects the relative

¹ Besides the AAT and EPI, the participants have been asked to fill in two very short questionnaires: the Mini-Social Phobia Inventory (Mini-SPIN) and Family Affluence Scale (FAS). The FAS consists of four items, and measures socio-economic status of participants. The Mini-SPIN consists of three items and is a social anxiety disorder screening tool. These two questionnaires are part of a different study, and were therefore not included in the materials section of this thesis.

direction of the response tendency, in which positive values indicate stronger approach than avoidance.

Table 1

An example of how the data looks like for one participant and how the bias scores are calculated.

Participant	Median Pull reaction time, Angry faces	Median Push reaction time, Angry faces	Bias score (approach value) Angry faces	Median Pull reaction time, Happy faces	Median Push reaction time, Happy faces	Bias score (approach value) Happy	Median Pull reaction time, Neutral faces	Median Push reaction time, Neutral faces	Bias score (approach value) Neutral faces
A	611	603.5	-7.5	609	601.5	-7.5	625	609	-16

Note. An example of how the data looks like for one participant and how the bias scores are calculated. The bias score reflects the relative direction of the response tendency, negative values indicate stronger avoidance than approach, and positive values indicate stronger approach than avoidance. Participant A tends to approach angry and happy faces more strongly compared to neutral faces.

Firstly, the data had been checked for outliers. After that, a Repeated Measures ANOVA was used with Emotion (happy vs. angry. vs. neutral) as within subject factors. If a significant difference exists between these factors of emotion, further paired samples T-test would be conducted to understand the exact differences between them.

3.5.2 Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

In order to analyze whether a correlation exists between ‘approach-avoidance tendency and the personality traits: extraversion and neuroticism’, a Pearson correlation analysis had been conducted. This was done by using the sub-scores of neuroticism/extraversion and the median push and pull time of each emotion, along with the bias scores of each emotion. In this way, even if no correlation was found between the bias scores and the degree of neuroticism/extraversion, it was possible to see if a correlation exists between push and pulling times in general towards the facial emotions. The Pearson correlation analysis was used and not the Spearman correlation analysis because the variables used in this analysis were of the interval level, and no variables of ordinal levels were used.

4 Results

The AAT collected the reaction times of participants pushing and pulling the joystick. Table 2 shows the mean pushing and pulling times towards happy, angry and neutral faces. This table gives an idea to which facial emotion most likely induces the strongest approach or avoidance tendency. Consequently, to really see if statistically differences exist, further analysis was needed.

Table 2

Mean push and pull times in milliseconds/ms with standard deviations.

	Picture type		
	Angry	Happy	Neutral
<i>Pull</i>	642 (66)	664(62)	640 (62)
<i>Push</i>	632 (62)	637 (72)	644 (81)

Note. Table 2 presents the mean push and pull reaction times in milliseconds/ms (with standard deviations) towards the three facial emotions. For example: all the pull reaction times towards angry faces have been collected, and the mean reaction time of those numbers is 642 ms with a standard deviation of 66. As stated above, this table gives some ideas and context before we conduct the analyses to which facial emotion most likely induces the strongest approach or avoidance tendency. At first glance, it seems that angry facial emotions has the lowest mean pulling time (642 ms), but also the lowest pushing time (632 ms). Further analysis is needed to know which facial emotion induce the strongest approach tendency.

By subtracting the mean pull time from the mean push time to each facial emotion, a bias score was calculated for each participant towards each facial emotion (see sub-chapter 'Analysis' for more information). This bias score gives an indication of which facial emotion induces more approach tendency. In table 2, mean values were used because these are not the bias scores but simply the average pushing and pulling times from participants. Figure 4 shows the Median bias score towards each emotion in a histogram. A greater value of the bias score indicates a stronger approach tendency. By analyzing the bias scores, it was possible to determine whether a statistically significant difference existed in the approach tendency towards the different emotions.

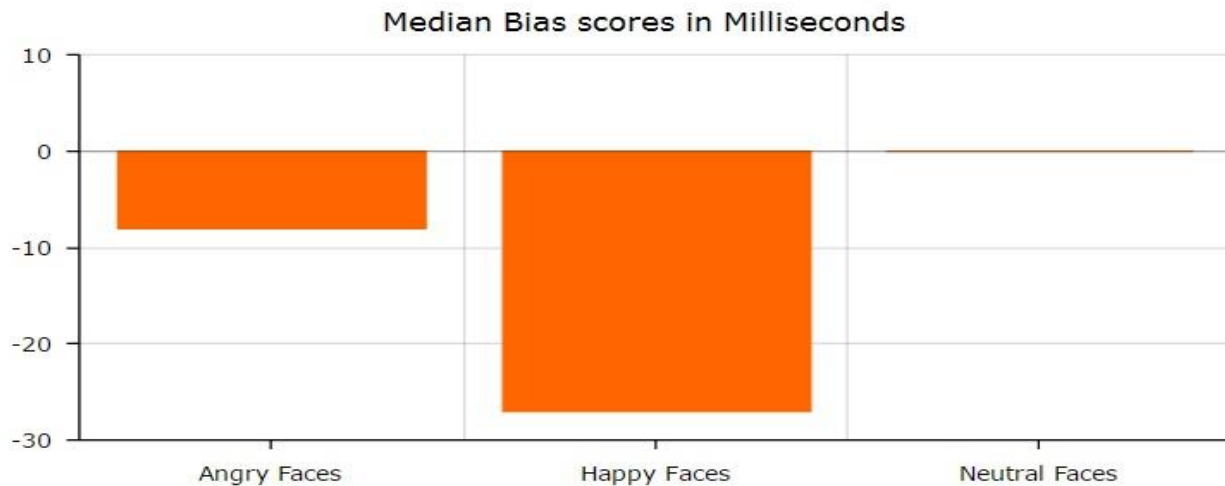


Figure 4. The median bias scores of Angry, Happy and Neutral faces. A higher bias score value indicates a stronger approach than avoidance and vice versa. Median bias score of angry faces was -8ms, happy faces was -27ms and neutral faces was 0ms.

4.1 Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?

The results of the repeated-measure ANOVA with a Greenhouse-Geisser correction determined that there was a significant main effect of “emotion”. The bias scores of the three facial emotions Angry, Happy and Neutral are statistically significantly different, $F(2, 70) = 7.1, p = .002, \eta p^2 = 0.15$).

To understand where the difference emerged, paired samples t-tests were conducted. The bias scores of participants towards Angry, Happy and Neutral faces were paired up with each other. Results showed that there was a statistically significant higher approach tendency towards angry facial emotions than happy facial emotions $t(40) = -2.07, p = .05$; a statistically significant higher approach tendency towards neutral facial emotions than angry facial emotions $t(40) = 2.12, p = .04$ and a statistically significant higher approach tendency towards neutral facial emotions than happy facial emotions $t(40) = -3.21, p = .003$.

In summary, a statistically significant difference exists in the approach tendencies. It seems that Neutral facial emotions induced the most approach tendency, angry faces induced the second most approach tendency and happy faces induced the least approach tendency.

4.2 Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

A Pearson correlation analysis was run to determine the correlation between the approach tendency towards angry, happy, neutral faces and the degree of neuroticism, extraversion. No statistically significant correlation has been found between the bias score of angry, happy and neutral faces, and the extraversion/neuroticism sub-scores. Also, no correlation between push and pull times across all facial emotions were statistically significant. The correlation coefficients all lie between -0.02 and 0.13 and the significance between 0.2 and 0.9.

5 Conclusion and Discussion

5.1 Conclusion

The main objectives of this study were to examine (a) whether approach-avoidance tendencies were different towards angry, happy and neutral faces and (b) whether a correlation exists between personality traits and approach-avoidance tendencies to those facial expressions.

5.1.1 Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?

The results of the current study show that there was a significant difference in the approach-avoidance tendencies towards angry, happy and neutral faces. The bias scores of the three facial emotions Angry, Happy and Neutral are statistically significantly different. However, the differences did not align with our expectations that happy facial emotions would induce the most approach tendency. Happy faces seemed to induce the least approach tendency compared to angry and neutral faces. Although it was not sure why these results did not align with our expectations that happy facial emotions would induce the most approach tendency, we will discuss the possible reasons for this outcome in the discussion part of the thesis.

5.1.2 Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

Regarding the correlation between the personality traits and the approach-avoidance tendency, there were no significant correlations found between the neuroticism/extraversion sub-scores and the bias scores of three emotions. The possible reasons for this outcome will be discussed in the 'Discussion' part of the thesis.

5.2 Discussion

5.2.1 Do participants show different approach-avoidance tendency towards happy, angry and neutral facial emotions?

5.2.1a the possible lack of situational context

Although a difference was found between the approach-avoidance tendencies to angry, happy and neutral faces, the expectations to which facial emotions would induce the most approach tendency was not in line with our hypothesis. It has been found in this study that both neutral and angry faces induced more approach tendency than happy faces. A factor that might have influenced this is a lack of context. Even though happy faces should communicate an affiliation intention (appetitive stimuli) and while angry expressions convey an aggressive intention, the relations between emotions and intentions can be modulated by the context. Aggressive intentions in some cases elicit approach tendencies (Krieglmeyer and Deutsch, 2012), this possibly due to the 'fight or flight' response. Consequently, when there is a lack of context, happy expressions might not communicate affiliation intention, because the emotional state or situational context of the participant might also influence their reaction to a certain stimuli. Rather, the perceiver of the happy expression might be more inclined to avoid the stimuli because of the confusion the stimuli gives, 'how to react to a sudden happy face without any reason'. According to Kret, Stekelenburg, Roelofs, & de Gelder (2013) situational context consist not only of facial expressions, but also the body expression and the surrounding scene. To interpret the facial expression and to make a decision how to react to it, the situational context and body expression might be needed. So the lack of a body expression that communicates congruent or incongruent intention of the facial emotion, and the lack of a surrounding scene to add clarity to the context might influence how we interpret facial expressions. Furthermore, Kret et al. (2013) posited that "the perception of emotional signals from faces, bodies and scenes depends on the natural context, but when threatening cues are presented, these threats attract attention, induce arousal, and evoke congruent facial reactions.

Another possible reason to why the results of this research did not match up with the hypotheses could be explained by the research conducted by Carver and Harmon-Jones (2009). According to Carver and Harmon-Jones (2009), unpleasant stimuli can evoke approach motivation. They suggest that anger results from a disruption of approach. This goal-frustration state of anger then results in increased approach

motivation of the organism to regain the goal. They compare this to non-human animal research. For example: when a rat is placed into the cage of another rat, the resident rat will attack the guest rat. In turn, the guest rat will attack the resident rat out of defence. In this case, the angry (negative stimuli) is the resident rat that attacks the guest rat. And out of defence, the guest rat approaches (attacks) the resident rat. In short, Harmon-Jones, Harmon-Jones and Price (2013) suggest that anger can evoke approach tendencies as well and that it does not have to always evoke avoidance tendencies.

5.2.1b the possible lack of ecological validity

Lastly, the ecological validity of the approach-avoidance task might be questioned by critics. The issue of ecological validity in psychological assessment has been expressed a number of times over the years via discussions of the limitations of generalizing sterile laboratory findings to the processes normally occurring in people's everyday lives (Parsons, 2016). In other words, within laboratories, the question of: 'do psychological assessments and the neutral environment in which these assessments and experiments are conducted represent the real-life situation well enough?' is very relevant. The discussion of ecology can also be ascribed to the approach-avoidance task, since the AAT uses the joystick to represent approach and avoidance behavior. Consequently, one might suspect that the joystick task does not represent the real life situation well enough. Because in real-life, a lot more factors are in play such as the situational context, the facial emotion, the body expression and the approach of a person instead of a picture.

On the other hand, several studies such as Heuer et al. (2010), Chen & Bargh (1999), Rotteveel and Phaf (2004), Rinck et al. (2013) and Solarz (1960) have said that approach-avoidance is associated with pushing object away from oneself and approach is associated with pulling the objects closer. And as stated before, Charles Darwin said that our intentions and movements like pushing an object away or pulling it towards us are strongly associated with each other as well. Moreover, Heuer et al. (2010), Chen & Bargh (1999), Rotteveel and Phaf (2004), Rinck et al. (2013) and Solarz (1960) have all studied approach-avoidance behavior with similar apparatus and obtained similar results to each other. Therefore, to say that the ecological validity of the approach-avoidance task is not viable at all would not be right. However, this

discussion might be a reason to think about how we can improve the apparatus of the approach-avoidance task in the future to make it even more ecological valid.

In Parsons (2016)'s book, he talks about the ecological validity in the neuropsychology field. Parsons (2016) says the following: a more ecological approach to neuropsychological assessment is to move from construct-driven assessments to tests that are 'representative' of the real-world 'functions' and proffer results that are 'generalizable' for prediction of the functional performance across a range of situations. Moreover, Parsons (2016) says that a "function-led approach" to creating neuropsychological assessments will include neuropsychological models that proceed from directly observable everyday behaviors backward to examine the ways in which a sequence of actions leads to a given behavior in normal functioning; and the ways in which that behavior might become disrupted. However, Function-led neuropsychological assessments can be time-consuming, require transportation, involve consent from local businesses, costly, and difficult to replicate or standardize across settings. Further, there are times when function-led assessments in real-world settings are not feasible for participants with significant behavioral, psychiatric, or mobility difficulties. From this perspective, how can one improve the ecological validity of the approach avoidance task? A suggestion will be given in the 'Recommendations' part of this thesis.

5.2.2 Does a correlation exist between approach avoidance tendency towards three facial emotions and the personality traits: Neuroticism and Extraversion?

A finding of our study that is worth mentioning, was that the present study might be among the first studies to investigate the correlation between the two personality traits and the approach-avoidance tendency towards three emotions. However, the results were not in line with our expectation. Elliot and Thrash (2002) stated that personality traits are strongly associated with Behavioral Inhibition System (BIS) and Behavioral Approach System (BAS). In turn, BIS and BAS are systems that are strongly correlate with approach and avoidance behavior. Therefore, the hypothesis was that there would be a correlation between approach-avoidance tendencies and personality traits.

However, Elliot and Thrash (2002)'s study did not use the approach-avoidance task, but used questionnaires instead to measure the behavioral (approach and avoidance) temperaments of participants. This is a different methodology which could explain the

discrepancies between our results and the results of Elliot and Thrash (2002)'s study. Secondly, Prabhakaran et al. (2011)'s study found that personality traits influence cognitive control abilities, we hypothesized that personality traits might influence behavioral tendencies as approach-avoidance tendencies as well. However, in the current study it seems that personality traits do not influence approach-avoidance behavior. No clear reason has been found to why this might be.

5.2.3 Approach-avoidance tendencies and therapy of social phobia

Study conducted by Rinck et al. (2013) suggested that automatic approach-avoidance tendencies have a causal role in social anxiety, and that they can be modified by a simple computerized training, and that this may open up new avenues in the therapy of social phobia (Rinck et al., 2013). They had demonstrated that it was possible to change avoidance tendencies of highly socially anxious (HSA) participants using the Approach-avoidance task. These training effects partly generalize to other situations involving automatic approach behavior as well. Furthermore, training these HSA participants to approach rather than to avoid smiling faces led to less self-reported anxiety after a threatening social task, thereby fostering recovery from stress.

Although the current studies' goal was not to contribute to the idea that the AAT can contribute to the future treatment of SAD, its goal was to contribute to the growing literature of the approach-avoidance tendency subject.

6 Recommendations and Suggestions

6.1 Trying another apparatus setup to see if similar results can be yielded

In this study, a difference had been found in the approach-avoidance tendencies of participants to angry, happy and neutral faces. However, these results did not line up with our expectations. As it is known, in the current study, the approach-avoidance task used a joystick. The joystick was used for pulling motion (arm flexion) representing approach behavior and pushing motion (arm extension) representing avoidance behavior. Even though a joystick has been used in several other studies such as Chen and Bargh (1999) and Rinck, et al. (2013), there are other studies that use slightly different apparatus to replicate approach-avoidance behavior. Rotteveel and Phaf (2004) used a apparatus with three buttons. Participants were instructed to move their right hand from a home button (placed in the middle of the stand) to a response button below or above on the stand (see Figure 5). As they pressed one out of two response buttons with the top or bottom side of their hand, they did not turn their hand when responding. Two different dependent measures could be obtained in this manner: the initiation time, or release time, of the home button and the movement time needed for reaching and pushing. By using this apparatus and setup, Rotteveel and Phaf (2004) showed that similar effects to those of Chen and Bargh (1999) and Solarz (1960) can be obtained with this experimental setup. No further advantages are expected by using a different setup, however, it might be interesting to see if the same results can be yielded by using the setup of Rotteveel and Phaf (2004).



Figure 5: Apparatus used by Rotteveel and Phaf (2004). This apparatus has three buttons. The participants start with their hand on the middle button, and responded to stimuli by either pushing the top or bottom button. Reprinted from “Automatic affective evaluation does not automatically predispose for arm flexion and extension” by M. Rotteveel, R.H. Phaf, 2004,

6.2 Suggestions to the roles which an applied psychologist can fulfill within an University setting

The possibilities for an applied psychology student in a University setting can be to support data collection. Like in the current study, the supervisor is a PhD student conducting academic research. A student of applied psychology is able to assist in data collection, and in return, the applied psychology student can use that collected data to conduct a bachelor thesis. Secondly, another possibility that an applied psychology student is possible to do is to be an intern at a university department. If possible, by allowing that student access to the department and assigning a supervisor to this student, this student can assist the supervisor daily during the working week. Next to this, the student might be able to conduct an own study as well, which is related to the supervisors topic. In this way, the PhD or Masters students may be able to work even more efficiently. Moreover, the applied psychology student will receive a lot of experience in conducting academic research. This experience will help the student in writing his or her bachelor thesis, additionally.

From the same perspective, a beginning applied psychology professional can benefit academic studies as well. Across the psychology departments of universities, a large amount of assessments, tests, tasks and questionnaires take place. An applied psychologist has gained a lot of experience during his study in communicating with participants and clients, conducting assessments, psychological evaluation and interviews. A possibility in the future might be to have research institutions hire applied psychologists to assist researchers in data-collection across the departments. In this way, the researchers across the psychology departments will be able to spend more time in designing studies, writing studies and publishing studies. This will benefit the university, the careers of researchers and applied psychologists as well.

6.3 Ideas that might improve the ecology the Approach-Avoidance Task in the future

A possible criticism against the approach-avoidance task was the ecological validity of the joystick movements and the lack of situational context. Considering the possible lack of ecological validity, what can be done to improve the approach-avoidance task to become more ecologic?

6.3.1 The possibility of using virtual reality in developing more ecologic tasks

A suggestion to improve the ecology of the approach-avoidance task is to study approach-avoidance tendencies using virtual reality. Virtual reality is mostly used as a way of entertainment nowadays in the form of virtual reality gaming. However, Virtual reality is also used in psychopathology and academic research. An example of the use of virtual reality in psychopathology is Virtual Reality Exposure Therapy (VRET). VRET has been used to successfully treat other adult anxiety disorders, including social anxiety disorder (SAD) (Price & Anderson, 2003). Furthermore, Parrish, Oxhandler, Duron, Swank, & Bordnick (2015) have used virtual reality in academic research. In their research, they had one experimental group: youth with SAD and one control group: youth without SAD. The participants were exposed to two social virtual environments, party and public speaking, as well as two neutral virtual environments. All participants reported higher ratings on the Subjective Units of Distress Scale (SUDS) during the party and public speaking scenarios compared to the two neutral environments. Moreover, youth with SAD reported significantly higher SUDS in the public and party environments than those without SAD. According to Parrish et al. (2015) the potential advantages of virtual reality compared to in-vivo experiments are as following: 1) an alternative option for clients who are unwilling or too fearful of in vivo exposure or who have difficulty imagining the feared situation; 2) the ability of the therapist to have complete control over the fear stimulus and the hierarchical order of the feared stimuli; 3) the option of the therapist to immediately stop exposure if it is too overwhelming for the client; and 4) the convenience, reduced time, and reduced cost of creating the context of feared stimulus within the office as compared to real-world in vivo exposure (Repetto, et al., 2013).

At the moment, one of the biggest companies in producing and developing virtual reality in games is Oculus VR. Oculus VR has developed the 'Oculus Rift', which is a virtual reality headset that is specially designed for virtual reality games. Likewise, in theory, it should be possible to program a virtual environment in which participants will be able to approach and avoid facial emotions in a virtual reality. In this virtual environment, the researchers will be able to program the environment however they want. In turn, the participants can use the 'Oculus Rift' to see the programmed reality by the researchers. Although this is only a theory and a suggestion, in the future it might be possible that academic research is going to make more use of virtual reality to make tasks and assessments more ecologic.



Figure 6: The 'Oculus Rift' developed by Oculus VR. Reprinted from: Oculus Rift Pre-orders Now Open, First Shipments March 28 (2016). Copyright (2016) by Oculus VR. Retrieved from <https://www3.oculus.com/en-us/blog/oculus-rift-pre-orders-now-open-first-shipments-march-28/>

If virtual reality is used in the future to study the approach-avoidance tendencies as done in this study, it might mean that the angry, happy and neutral facial emotions will be replaced by angry, happy and neutral virtual persons. These virtual persons do not only show the facial emotion, but they also show bodily signals and the environmental cues of the situation, which might make the approach-avoidance task even more ecologic.

Appendix

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2 Consent form and Debriefing letter Participants

2.1 Consent form

Overeenkomst medewerking afstudeeronderzoek Yu Kee Wong

Hierbij verklaart de onderstaande persoon deelname aan het onderzoek:

Naam:	Studiejaar:
Leeftijd:	Studie:
Geslacht:	Nationaliteit:
Woonplaats:	E-mail:

Beste student,

Als vierdejaars student Toegepaste Psychologie ben ik nu bezig met mijn afstudeerscriptie, en daarom ik ben op zoek naar participanten (**van Nederlandse nationaliteit en tussen de 18-25 jaar**) die mee willen doen aan mijn onderzoek. Op het moment kan ik nog niet precies vertellen waar het onderzoek over gaat, omdat het de resultaten of jullie gedrag kan beïnvloeden. Wel kan ik vertellen dat het onderzoek probeert bepaald gedrag te onderzoeken.

Je draagt bij aan dit onderzoek door een participant te zijn. Er zijn een aantal dagen waarop een testkamer is gereserveerd, **je kunt zelf aangeven op welke dag je zou willen deelnemen**. Het experiment zal plaatsvinden in één van de testkamers op de AMA (**Lokaal A3.03**) en bestaat uit drie korte vragenlijsten en een joystick taak, deze zullen op de dag zelf aan jullie worden uitgelegd. **Het experiment duurt ongeveer 20 minuten. Door deel te nemen maak je kans op het winnen van één van de twee VVV-bonnen t.w.v. €25.**

De gegevens die je verstrekt zullen anoniem behandeld worden. De onderzoeker verklaart dat de persoonsgegevens van proefpersonen nooit aan anderen dan de

verantwoordelijke onderzoekers zullen worden verstrekt, noch zullen in dit onderzoek verzamelde gegevens van individuele proefpersonen aan derden worden getoond. De onderzoeker verklaart dat iedere analyse van gegevens door derden anoniem geschiedt op basis van een proefpersoonsnummer. De koppeling van dit nummer aan persoonlijke gegevens is alleen bekend bij de betrokken onderzoekers.

Je kunt op elk moment, zonder verdere opgave van redenen, je medewerking aan het onderzoek stopzetten of je toestemming intrekken voor het gebruik van je data. Je kunt contact opnemen met mij via de e-mail: 332433@student.saxion.nl

Vriendelijke groet,

Yu Kee Wong, student Toegepaste Psychologie

2.2 Debriefing letter

Beste student,

In dit onderzoek heb je een joystick taak uitgevoerd en een aantal vragenlijsten ingevuld. Het doel van dit onderzoek is om te onderzoeken hoe mensen reageren op bepaalde gezichtsuitdrukkingen, zijn mensen meer geneigd om bepaalde gezichtsuitdrukkingen te vermijden of te benaderen? Dit doen we door jullie reactietijd te meten met de joystick. De vragenlijsten helpen ons om een idee te krijgen van je persoonlijkheid. We proberen hiermee te onderzoeken of er een mogelijk verband bestaat tussen persoonlijkheid en hoe mensen reageren op gezichtsuitdrukkingen.

We hebben je van tevoren niet verteld waar het onderzoek precies over gaat om mogelijke invloeden op de resultaten te vermijden. We willen je daarom ook vragen om de taken die je hebt uitgevoerd tijdens dit experiment niet te delen met je klasgenoten of anderen, omdat het kan zijn dat zij ook participeren aan dit onderzoek. We willen niet dat het doel van dit onderzoek bekend wordt totdat we klaar zijn met de data-verzameling.

Als je vragen hebt, schroom dan niet om die te stellen! Dit kan via de e-mail: 332433@student.saxion.nl.

Nogmaals bedankt voor je deelname, via de e-mail wordt je op de hoogte gehouden over of je één van de twee VVV-bonnen hebt gewonnen!

Hartelijke groet,

Yu Kee Wong

3 Final grading of thesis (Definitieve beoordeling scriptie)

Name student: Yu Kee Wong

Studentnummer: 332433

Thesis subject: The approach-avoidance tendency to facial emotions in relation to personality traits.

Date:

Final Grades of Thesis Applied Psychology

(Eindcijfers scriptie TP:)

Role	Name	Grade:
1 ^{ste} begeleider/beoordelaar		
2 ^{de} beoordelaar		
Externe deskundige		
Niet afgerond cijfer scriptie (in consensus vastgesteld door 1 ^e en 2 ^e beoordelaar)		

Final Grades of Final Assessment:

(Eindcijfers eindgesprek:)

Role	Name	Grade:
1 ^{ste} begeleider/beoordelaar		
2 ^{de} beoordelaar		
Externe deskundige		
Niet afgerond cijfer eindgesprek (in consensus vastgesteld door 1 ^e en 2 ^e beoordelaar)		

