2018

The effect of negative emotions on risk taking and the role of emotion driven impulsiveness

MASTER THESIS

CLINICIAL PSYCHOLOGY

FIRST SUPERVISOR: U. N. DANNER

A.P.F. TEN HAVE (4170571)

Universiteit Utrecht

Abstract

This study aims to provide insight in the processes behind risk behaviour. Using a non-clinical population, the following study is trying to build a fundament for existing theories behind risk behaviour that have support in clinical populations, by assuming that all emotions are experienced on a continuum. Therefore the effects of negative emotions on risk behaviour is studied, as well as the role that emotion driven impulsiveness plays. The study included 105 females. The Positive and Negative Affect Schedule (PANAS) was used to measure the emotional state. Risk taking was measured with the Balloon Analogue Risk Task (BART) and emotion driven impulsiveness was measured with the UPPS-P Negative Urgency Scale. Negative emotions did not affect the amount of risk taking behaviour. Emotion driven impulsiveness also did not influence the amount of risk taking, meaning other factors should be considered as well. However, a small effect was found for an increase of risk behaviour in the negative emotion condition, moderated for emotion driven impulsiveness. Accordingly, it can be concluded that emotion driven impulsiveness is a contributing factor in risk behaviour when induced with negative emotions. Once a solid foundation is build, tools could be developed to prevent risk behaviour and make life more bearable for people with psychopathology.

Introduction

Everyone experiences negative emotions, such as disappointment, sadness, anger, disgust. This commonly occurs from day to day life and often the consequences are mild. However, sometimes the emotions are not regulated properly, causing great internal discomfort. Then rash and impulsive actions can be undertaken to reduce the negative feelings. This is often when risk behaviours occur with troubling consequences. The latter is strongly linked to different types of psychopathology. Using a non-clinical population, the following study is trying to build a fundament for existing theories behind risk behaviour that have support in clinical populations, by assuming that all emotions are experienced on a continuum (Widiger & Trull, 2007). Therefore, the processes should be the same in a non-clinical population, but in a range of normative functioning. Hence, the following study examines whether there is a link between negative emotions, emotion driven impulsiveness and risk behaviour.

In folklore negative emotions have a bad influence on day to day judgements. A lot of research supports the bad influence of negative emotions as there is evidence for the influence of negative emotions on the increase of risk taking behaviour (Mittal & Ross, 1998; Drichoutis & Nayga; 2013; Berg, Latzman, Bliwise, Lilienfeld & Scott 2015; Tomko et al., 2015). Mano (1992) found that negative emotions, compared to a neutral state, led to increased risk taking. This effect was explained by the arousal associated with the emotional state, rather than the valence (positive or negative). The heightened arousal level associated with negative emotions would lead to restricted attentional capacity for warning signs or cues during a task. In turn this results in greater risk taking behaviour (Mittal & Ross, 1998).

When healthy individuals experience negative emotions that they can not tolerate, it is commonly seen that they are inclined to reduce this negative state. When these individuals are inadequate in performing adaptive coping behaviours, such as emotion regulation, drastic and impulsive actions can be undertaken to get rid of the emotions, called emotion driven

impulsiveness (Muraven & Baumeister, 2000; Cyders & Smith, 2008; Berg et al., 2015). The limited strength model explains that regulating emotions, among other cognitive functions, are a limited, exhausting resource and after over stimulation is not able to execute any form of control. Therefore, once the cognitive functions are limited due to depletion, maladaptive choices are often preferable than adaptive choices. This is because adaptive choices often concern restriction or interruption (e.g. restricted or interrupted drug use), and concern more control (Muraven & Baumeister, 2000). Emotion driven impulsiveness is a coping mechanism that require little or no inhibition and therefore is a desperate attempt to escape the negative emotions when other resources are depleted (Muraven & Baumeister, 2000). Individuals that engage in behaviours driven by emotion driven impulsiveness will do so based on a strong and immediate need to avoid undesirable stimuli, such as negative emotions or physical sensations. Avoidance is the coping mechanism and the immediate need for avoidance makes individuals act rash and impulsive (Cyders & Smith, 2008; Berg et al., 2015).

Research repeatedly found a link between emotion driven impulsiveness and psychopathology, as emotion driven impulsiveness seems to be an important underlying factor for many different types of psychopathology (Berg et al., 2015;Danner et al., 2013;Tomko et al., 2015). Risk behaviour is a common manifestation of people with psychopathology (i.e. bipolar disorder, depression and eating disorders) wherein emotion driven impulsiveness is often suggested to play a role (Tomko et al.;2015, Danner et al., 2013). Emotion driven impulsiveness is implicated in externalizing symptoms, such as aggression, alcohol and substance abuse (Berg et al., 2015) as well as internalizing symptoms such as anxiety and depression, attention-deficit/hyperactivity disorder (ADHD) and a variety of eating disorders (Danner, Sternheim & Evers, 2014).

Other studies, focussed on the role of negative emotions, found that they seem to trigger a focus on short-term goals and disregard beneficial longer-term goals (Paret, Steinmetz &

Schmahl, 2016; Danner, Sternheim,, Bijsterbosch, Dingemans, Evers & van Elburg,., 2016). Studies that examined patients with different types of psychopathology such as ADHD, substance abuse, bipolar disorder and eating disorders, often make disadvantageous decisions focussed on short term gains that lead to risky behaviours (Danner et al., 2016; Beauchaine, 2016; Paret, Steinmetz & Schmahl, 2016). The study of Danner et al. (2016) examined different types of eating disorders and found that anorexia patients that binge and purge do not adapt strategies to a gambling task unlike patients with a restricted diet form of anorexia nervosa and healthy controls. Paret, Steinmetz & Schmahl, (2016) found that borderline personality disorder patients discounted delayed rewards more strongly and also did not seem to adapt to a gambling task and therefore made worse decisions regarding the task. Since a negative emotional state influences the decision making in a maladaptive manner, bad decisions are made that result in risk behaviours (Mittal & Ross, 1998; Fehr-Duda, Epper, Bruhin & Schubert, 2011; Drichoutis & Nayga, 2013; Berg et al., 2015; Tomko et al., 2015). Risk behaviours that often occur are cutting, suicide attempts, substance abuse, violence, delinquency, sexual deviances and binge eating/ purging behaviour as they are experienced as effective in alleviating negative emotions (Goldschmidt et al., 2016). (Reddy et al., 2014, Berg et al., 2015). These behaviours partially emerge on the learned expectancies that they will alleviate negative emotions and once it does, the expectancy is strengthened over time. This could grow in to clinical addictions (e.g. binge eating, alcohol abuse, gambling) in effort to suppress negative emotions (Goldschmidt et al., 2016).

However, research to support the fundament for human functioning is scarce and the link between emotion driven impulsiveness and risk taking behaviour is not conclusive. Many researches focus on clinical populations with psychopathology (e.g. Berg et al., 2015, Danner et al., 2013.,Tomko et al., 2015), but research in a non-clinical population is critical to prove the existence of certain patterns behind risk behaviour in normative human functioning.

The current study focusses on a non-clinical population to build a foundation for the emotional processes in humans behind risk taking. Assuming heterogeneity among human functioning along a continuum, it is proposed that risk behaviour among psychopathology represent extreme levels of normal human processes (Widiger & Trull, 2007; Cyders & Smith, 2008). Therefore the response of a non-clinical population on negative emotions provides information about what humans are inclined to do. In psychopathology the emotions experience are often severe (Tomko et al., 2015) and this could explain the severity of the risk behaviours. More insight in the causes of risk behaviour can provide a foundation to develop tools for groups sensitive to risk behaviour to treat the underlying causes. The study aims to examine whether negative emotions lead to more risk taking behaviour and if emotion driven impulsiveness plays a role in healthy participants. The first hypothesis is that individuals that experience negative emotions will be taking more risk than the neutral condition. Second, a positive relation is expected between the amount of emotion-driven impulsiveness and risk taking. The final hypothesis is that when someone experiences negative emotions, emotion driven impulsiveness serves as a moderator and these individuals will show more risk behaviour.

Method

Participants

All 106 participants were recruited using flyers spread around the University of Utrecht. As a secondary purpose, the data will be used for eating disorder psychopathology research and therefore solely women are included aged between 18-40. There was no selection process concerning mental health, since the population is supposed to represent a realistic range of a non-clinical population. Therefore, the sample would include different kind of people that vary in character traits and intensity of the way emotions are experienced. The students were offered 'participant-hours' in return for their participation, which is part of every social sciences study followed at the University of Utrecht. Nevertheless, the study was not solely meant for students. Additional participants were found in a dance facility were students were asked as a favor and roommates in student flats that wanted to participate. In total one participant had to be excluded due to important missing data from an incompleted BART. The study was approved by the Ethics Committee of the University of Utrecht.

Measures

Negative emotions

Prior to the film fragment a test to extablish a baseline for emotions was conducted. After the movie fragment the same test was used to examine the effect of the emotion induction on the experience of negative emotions following a procedure outlined by Gross and Levenson (1997, Danner et al., 2013, Danner et al, 2016). This test consists one question that requires participants to rate the extent to which they are experiencing sadness at that moment, by using a seven-point Likert scale ranging from zero "not at all" to six "very strongly".

Emotion induction

A film fragment was used from the move "American History X". Within this film fragment two black man are being killed by a neo-Nazi. It takes about 3:19 min. The movie was

ranked to induce the most negative affect compared with 9 other fragments according to Schaefer, Nils, Sanchez & Philipot (2010) and was successful in inducing arousal. The evoked emotions mainly consists out of anger and disgust (Schaefer et al., 2010). The neutral condition is shown a fragment of a weather forecast meant to induce no emotion. The report was previously rated as affective in not changing the current emotional state (Schaefer et al., 2006; Danner et al., 2013).

Emotion driven impulsiveness

All participants filled in the UPPS-P (Lynam, Smith, Cyders, Fischer, & Whiteside, 2007). The UPPS-P is a 59-item Likert-type scale. The Negative Urgency scale of the UPPS-P is a 12-item Likert-type scale to measure one's tendency to act rash in response to intense negative mood states. Statements such as: 'I always keep my feelings under control', are asked to rate to the extent participants agree. The scale has consistently proven internally consistent and unidimensional (Cyders et al., 2007; Smith, Fischer, Cyders, Annus, Spillane, & McCarthy, 2007; Whiteside & Lynam, 2001). Reliability in the present study was good with a Cronbach's alpha of .80

BART

The Balloon Analogue Risk Task (BART; Lejuez et al., 2002) is used to test the amount of risk one takes. The BART is a computerized task in which participants have the opportunity to win or lose potential earnings, where persistent responding increases gains but also increases the risk of loss on each trial. The BART task consisted of 60 balloon trials. Participants were given the following instructions:

"Throughout the task, you will be presented with 60 balloons, one at a time. For each balloon you can click on the button labelled "Press This Button to Pump Up the Balloon" to increase the size of the balloon. You will accumulate 5 cents in a temporary bank for each pump. You will not be shown the amount you have accumulated in your temporary bank. At any point, you

can stop pumping up the balloon and click on the button labelled “Collect $$$.” Clicking this button will start you on the next balloon and will transfer the accumulated money from your temporary bank to your permanent bank labelled “Total Earned.” The amount you earned on the previous balloon is shown in the box labelled “Last Balloon.” It is your choice to determine how much to pump up the balloon, but be aware that at some point the balloon will explode. The explosion point varies across balloons, ranging from the first pump to enough pumps to make the balloon fill the entire computer screen. If the balloon explodes before you click on “Collect $$$,” then you move on to the next balloon and all money in your temporary bank is lost. Exploded balloons do not affect the money accumulated in your permanent bank. At the end of the task, you will receive gift certificates in the amount earned in your permanent bank.”

The participants are encouraged to earn as much money possible. To prevent expectancies the participant does not know when the balloon will pop since this differs per balloon. On each trial the computer screen displays a small balloon, a balloon pump, a reset button labeled “Collect $$$,” a box displaying the amount of money earned on the previous trial, a box displaying the total amount of money earned, and a box showing how much the balloon currently displayed would pay off (Lejuez et al., 2002). On each trial, each individual click on the pump inflates the balloon one degree (about .125” in all directions), and each balloon is programmed to pop between 1 and 128 pumps, with an average breakpoint of 64 pumps. At any point during each trial, the participants can stop pumping the balloon and click the “Collect $$$” button, which transfers money accumulated from that balloon to the permanent bank, updates the permanent bank amount on the display, and produces a slot machine payoff sound. In contrast, when a balloon explodes, a “pop” sound is heard, the balloon disappears, the money in the temporary bank is lost for that trial, and the next trial begins. The dependent variables are the adjusted mean number of pumps (i.e., pumps on the balloons which did not explode) and the number of balloons that did explode (Lejuez et al., 2002). The number

of exploded balloons in this research is preferable, since it provides an index of a more maladaptive form of risk taking, whereby risk exceeded an acceptable level and ultimately was punished, via explosion and loss of money. The impairment to learn from negative feedback is important in relation to psychopathology as it does with repeatedly popping the balloons (Hunt, Hopko, Bare, Lejuez & Robinson, 2005).

Procedure

Once participants were willing to participate, they were informed with an information letter with some information about the study's purpose, confidentiality and possible side effects of participation. However, it was deliberately chosen not to tell the whole purpose of the research since that may influence participants' behaviour and results of the study. The participants were free to quit at any time during examination without any justification. All participants had to sign an informed consent prior to participation and were able to ask questions during examination. Once the informed consent was signed a participation date was set. The participants did not know that there were two condition or what condition they participated in, as they were all randomized. The participant was seaded in front of a computer and the program was set up. The first questionnaire that appeared on the screen was the emotion check (Gross and Levenson, 1997; Danner et al., 2013). The emotion check was used to measure the current emotional state to set a baseline. Inquisit 4 software by Millisecond was used to program the study. The emotion check was automatically followed by the movie fragment to evoke negative or neutral emotions for the manipulation. Another emotion check takes place followed by the BART. It consists out of one trial to demonstrate the task and the real measurement directly followed. After completing the BART, demographic information is filled in an inquiry form. Information about sex, age, level of education and ethnicity was gained. Then the UPPS-P Negative Urgency scale was taken to measure the degree of emotion driven impulsiveness (Lynam, Smith, Cyders, Fischer & Whiteside, 2007). As well as a weight and height

measurement. Once the experiment was finished the participants were debriefed. The experiments all took place in rooms that were sound attenuated as much as possible with as little distracting stimuli as achievable.

Statistical analyses

All statistical analyses were conducted using SPSS version 25.0 for Windows. An independent samples T-test was used to compare the demographics of the groups (e.g., age, BMI, educational level). A repeated measures Analyses of Variance (ANOVA) was used to test whether the induction was successful. The differences in negative emotions was tested between the groups with two separate GLM analyses; one upfront emotion induction and one after, to compare the difference in emotional state. Further, an one-way between groups ANOVA was used to measure the difference in risk behaviour between groups. Following was a regression analysis, conducted with the mean score of the UPPS-P negative Urgency scale (emotion driven impulsiveness) as a predictor and as dependent variable the number of exploded balloons and the mean number of pumps of the BART that represent risk behaviour (Lejuez et al., 2002). Finally, an Analysis of Covariate Variance is used to the measure to what extent emotion driven impulsiveness influences the amount of risk behaviour during negative emotions. Emotion driven impulsiveness was the covariate, condition was the predictor and the dependent variable was risk behaviour.

Results

Assumptions

Prior to testing the data it was checked whether the assumptions were met. The assumption of independence was met, since all the participants participated once in this research. When the assumption of normality was checked, the Shapiro-Wilk statistic is an appropriate test for small to medium sized samples. The results where all non-significant except one. The number of exploded balloons in the control group did not meet this assumption since $W = .95$, $p = .044$. However, the Skewness and Kurtosis statistic are both close to zero and within the standardized z-scores ($-1.96 < z < +1.96$), suggesting that the groups of data are approximately normal distributed. The ANOVA is quite robust against moderate violations of this assumption, so it is decided to continue testing. When tested for the assumption of linearity some (small) outliers where found. However, removal led to more outliers so it was decided to leave the participants in. The results of the Levene's test where all non-significant ($\alpha > .05$) meaning that the assumption of homogeneity of Variance was met. After checking the assumptions a randomization check was executed to check whether the randomization procedure was successful and no differences exists between the two groups. Age, years of education, educational level did not differ between the two groups and these demographic features can be found in Table 1.

Table 1.

The mean and SD and t-test outcomes of demographic information (e.g. age), Mean and SD of emotional states during examination (emotion check 1, 2) and risk taking behaviour (e.g. BART number of pumps) per group (Negative, Neutral).

	Negative (N=52)		Neutral (N=53)		Independent samples T-test	
	Mean	SD	**Mean**	SD	t	Sig.
Age	**22.23**	2.50	**22.81**	3.65	-.95	.345
BMI	**22.94**	3.81	**22.09**	2.71	1.32	.191
Highest education *	**5.06**	1.56	**5.04**	1.40	.06	.950
Current situation **	**4.64**	1.02	**4.21**	1.50	1.74	.085
BART number of pumps	**28.96**	11.78	**26.64**	12.5		
Bart- Number of exploded balloons	**7.44**	4.38	**7.00**	4.00		
Emotion driven impulsiveness	**2.26**	.54	**2.3**	.54		

Negative = group induced with a negative movie fragment, BMI = Body Mass Index, BART = Balloon Analogue Risk Taking test.

*Highest education: -SD=HAVO, M=MBO, +SD=WO

**Current situation Negative condition: -SD = HBO, M = WO, +SD = Student Middelbare

Neutral Condition = -SD =MBO, M = HBO, +SD = Student middelbare

Negative emotion induction

Secondly, a repeated measures ANOVA was performed as well to see whether the emotion induction had succeeded. Emotiecheck 1 was used to establish a baseline of the emotions, prior to the movie fragment. After the fragment emotioncheck 2 was used to compare with emotion check 1. The groups differ significant in emotional state with F (1,103)= 33.41, p>.000, with a medium effect of proportion of variance η^2=.25. Conclusive, the emotion induction was successful and the manipulation group experienced more negative emotions then the control group.

Table 2

The Mean and SD of emotional states of the different groups and outcomes of repeated measures ANOVA.

Group	Negative emotion				Neutral			
	T0		**T1**		**T0**		**T1**	
	Mean	SD	**Mean**	SD	**Mean**	SD	**Mean**	SD
	26.02	23.46	**53.7**	25.39	**21.46**	20.97	**23.13**	20.5

T0 = Baseline, T1 = After the emotion induction

Risk taking behaviour

To test whether negative emotions influenced risk behaviour (H1) an One-Way Between

Groups ANOVA was performed to analyse the results of the BART task. The ANOVA indicated that there was no significant effect with F (1,103)= .968, p = .328. The negative condition also was not statistically significant for the number of exploded balloons F (1,103)= .362, p= .549, meaning that the two conditions did not differ in the amount of shown risk behaviour.

The effect of emotion driven impulsiveness on risk behaviour (H2) was analyzed using a regression analysis. It was hypothesized that there would be a positive correlation between emotion driven impulsiveness and risk behaviour. Emotion driven impulsiveness was not related to the number of Pumps on the BART task, β=.119, p=.225. R^2=.014. Emotion driven impulsiveness had no significant effect on the number of exploded balloons as well, β=.127, p=.196, with a R^2=.016. Therefore, the second hypothesis is rejected.

The final hypothesis (H3) was that the effect of negative emotions is intensified when the individual has a high emotion driven impulsiveness, and therefore is inclined to more risk behaviour. To analyse this an ANCOVA was used with emotion driven impulsiveness as moderator. The ANCOVA indicated that there was no significant effect of negative emotions, moderated by emotion driven impulsiveness, on the mean score of pumps, F (1,101)= .79, p = .374. The effect of negative emotions, moderated by emotion driven impulsiveness on number of exploded balloons was statically significant F (1,101)= 3.99, p= .048, with a small effect for the partial η^2= .038. With a M= 7.44, SD= 4.38 of popped balloons for the negative emotional group and a M= 7 and SD= 4 of popped balloons for the neutral emotions group as is shown in Figure 1. Accordingly, the hypothesis is partially accepted.

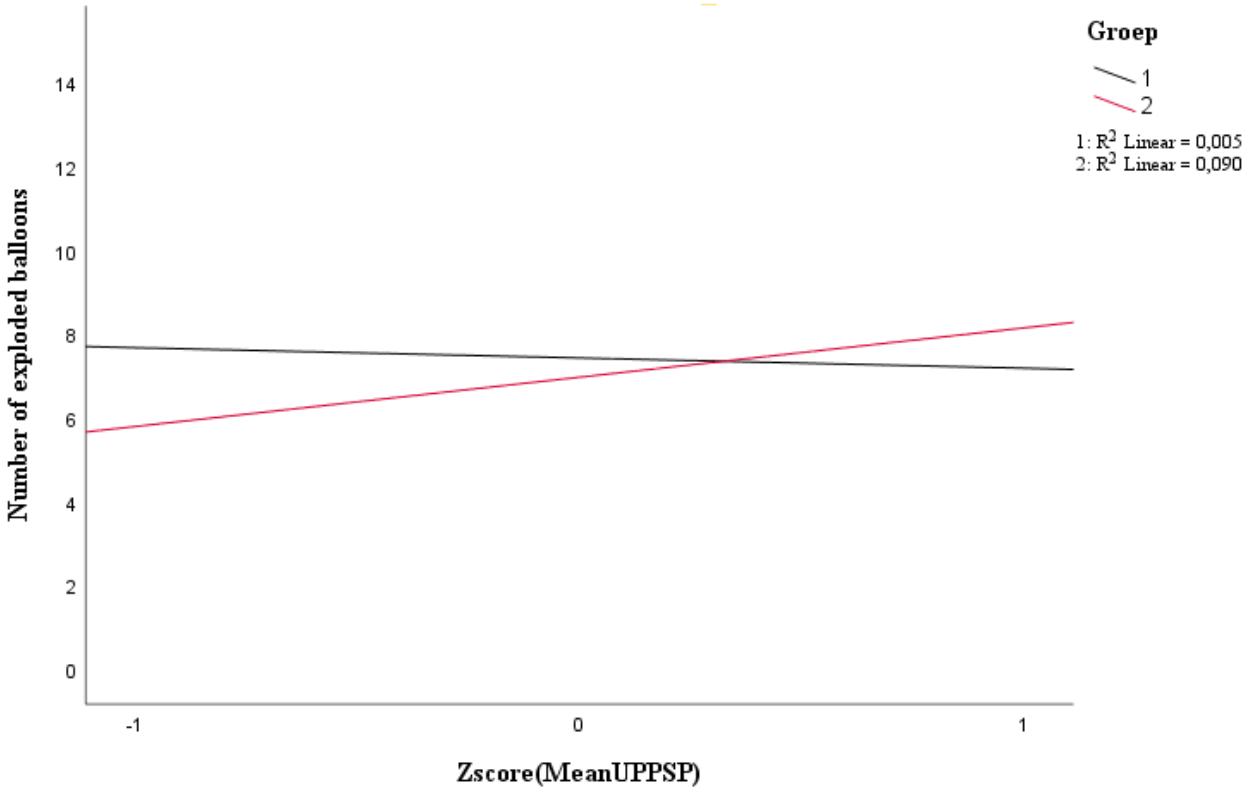


Figure 1. The number of exploded balloons in group 1 (neutral condition) and 2 (negative condition) when moderated for emotion driven impulsiveness. **Zscore(MeanUPPSP)** = Standardized Z-scores from the mean outcomes on the UPPSP- negative urgency scale.

Discussion

The aim of this study was to examine whether there exists a link between emotional state, emotion driven impulsiveness and risk behaviour. It is suggested that most individuals are inclined to reduce a bad emotional state and therefore act rash (Muraven & Baumeister, 2000), this effect was expected to be found in the current research. Therefore our first hypothesis was that when people experience negative emotions, their risk taking behaviour would increase. The results do not support this hypothesis, meaning that there is no evidence found which indicates that risk taking behaviour would increase when confronted with negative emotions. Second, it was hypothesized that there would be a correlation between emotion driven impulsiveness and risk behaviour. Unexpectedly, there was no correlation found, thus no evidence is found that higher emotion driven impulsiveness leads to more risk behaviour. It is also suggested that when one is experiencing negative emotions, emotion driven impulsiveness could serve as a moderator that would lead to more risk behaviour. This hypothesis is partially accepted since a difference with a small effect was found in the number of popped balloons, suggesting negative emotions influenced the amount of risk taking during the BART.

The emotion induction in the current study was successful. Meaning that the participants were under heightened emotional states during the BART. On the contrary of what was expected, no effect between negative emotions and risk behaviour was found suggesting that there is no link between negative emotions found in psychopathology and the presumed forthcoming risk behaviour. Despite the contradictory results, this still provides information about the working processes behind risk taking. A lot of research did find a link between negative emotions and risk behaviour (Mittal & Ross, 1998; Drichoutis & Nayga; 2013; Berg et al., 2015; Tomko et al., 2015). But most of the research used participants with psychopathology, which could suggest there are important differences between people with psychopathology and a non-clinical population. As suggested by Seo & Barett (2007) negative

emotions only led to more risk behaviour when one is unable to recognize their own feelings. These results are also in line with Baumeister & Muravens' (2000) study. The study suggested self-control as a muscle in the "limited strength model". A bad mood would exhaust the 'muscle' for self-control and therefore cause an impairment for self-control in following tasks, in this case the BART. However, in their discussion they mention that several studies failed to find a link between solely a negative mood and risk behaviour. The negative emotions by itself are not exerting self-control thus exhausting the muscle. Only when participants tried to alter their emotional state self-control impairments were found. This suggests it is not the negative emotional state causing impairments in self-control, but emotion regulation that is exhausting the muscle (Baumeister & Muraven, 2000). The emotion regulation of clinical samples is often dysfunctional (Goldschmidt, Lavender, Hipwell, Stepp & Keenan, 2016). Seo and Baretts' (2007) research emphasizes the importance of emotion regulation and provides an explanation for the found results. Additionally, emotion regulation seems to be an important factor in the process towards risk behaviour. Thus, as an implication for upcoming studies on this subject the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) could be considered.

Seo and Barett (2007) suggest that individuals differ in how they experience and handle their emotions and that this both affects their functioning. Participants that were experiencing negative emotions, but were able to recognize, understand and report in detail the extent of what they were experiencing, were more successful in regulating the feelings' influence on decision making (Seo & Barett, 2007; Goldschmidt et al., 2016). Consequently, they achieved higher results than those who were unable to recognize the negative feelings and even outperformed participants that did not experience negative emotions. This could be of great value in the current research as well. If this appears to be a difference between high-risk- and low-risk takers this could be a key difference between healthy subjects and subjects with psychopathology. The affective knowledge could be tested for with the conceptual and empirical examination of core

affective structure by Barrett & Russel (1998). Herein twenty-two affect-related adjectives are presented that represent the circumplex of core affect. During examination participants should indicate to which extent the adjective describes the feelings they experience in that moment on a 5-point likert scale (Seo & Barett, 2007). Accordingly, the participants that have difficulty recognizing their emotions should show more risk behaviour performing the BART.

Considering that the theory for the current research is mostly drawn from clinical samples, the capability to recognize ones feelings and therefore regulate them more correctly could be an important difference between the current non-clinical sample and clinical samples. Future research could therefore focus on using clinical samples as experimental group to compare with non-clinical samples.

Furthermore, it would be interesting to see what a different kind of induction would do. Mano (1992, 1994; Mittal & Ross, 1998) argued that the negative emotional state itself is not enough to act risky, but a form of motivation to action is necessary. Mano (1992) used an induction in the form of an in-class presentation, which heightened stress-levels. Perhaps the difference in active induction versus passive induction makes a movie fragment less successful to motivate to action. Liberman & Trope (2008) argued that personal engagement with the environment is an important factor to result in active coping strategies and motivate participants to try to reduce the negative state during the BART. Personal involvement is an important factor in the way emotions are experienced (Bandler, Keay, Floyd & Price, 2000; Liberman & Trope, 2008). The emotion induction used a move fragment that was placed in a different time zone, place, with movie characters that (most, if not all) participants do not identify themselves with. Psychological distance is according the Construal Level Theory (Liberman & Trope, 2008) an important factor in experiencing emotions. It is proven that when one watches the news about terrorist attacks, people significantly are more affected as soon as the attacks appear closer to where they live (Liberman & Trope, 2008). Therefore an induction wherein one is addressed

more personally, might activate a more active coping style. Neuroscientific research also addresses the different pathways of active and passive coping (Bandler et al., 2000). Situations wherein the individual is more engaged with the environment activate active neural pathways. Watching the movie fragment, the individual had no option to change the outcome. Therefore, a more passive pathway might be induced and the participants did not actively try to reduce their mood during the BART.

The expectation that emotion driven impulsiveness would lead to more risk behaviour once someone experiences negative emotions, is partially confirmed, with a small effect. There was no evidence found when risk behaviour was measured by the mean score of pumps. However, when the number of popped balloons was measured an small effect was found. In the present study the number of exploded balloons was preferable, since it provides more information about the ability to adapt and learn from previous mistakes (Hunt et al., 2005). In relation to psychopathology the inability to learn from negative feedback is crucial. Several studies find support for 'Gray's reinforcement sensitivity theory' (Bijttebier, Beck, Claes & Vandereycken, 2009). The theory opposes that people with psychopathology are less sensitive for punishment cause of neurological differences (Bijtebier et al., 2009). As a result participants under heightened emotional states, should be less sensitive for when the balloons pop compared to the participants in the neutral condition. Since the popping of a balloon implicates something negative (losing money), the participants in the neutral condition would try to avoid this from happening and collect the money earlier. The participants in the negative condition however, are less sensitive for this consequences and therefore keep making the same mistake, resulting in a difference in popped balloons (Hunt et al., 2005; Bijttebier et al., 2009). A questionnaire could be added, to test whether or not the sensitivity for reward has something to do with the results from the BART. For example, former studies on similar subjects used the Sensitivity for

Punishment and Sensitivity for Reward Questionnaires (SPSRQ; Danner et al., 2016; Torrubia, Ávila, Moltó & Caseras, 2001).

Conclusive words

The current research aimed to clarify how negative emotions lead to risk behaviour in people, since this is frequently seen in psychopathology. No direct link was found between negative emotions and risk behaviour. However, this study provides support for emotion driven impulsiveness as a factor contributing to risk behavior, once negative emotions are experienced. There should be looked into other factors contributing to risk behaviour besides emotion driven impulsiveness. A lot of factors could influence the effect of emotion driven impulsiveness, therefore these factors' relationship to emotion driven impulsiveness, and how they relate to risk behaviour, should be explored. Future directions should focus on factors such as capability to recognize ones emotions and emotion regulation and their link to risk behaviour. Insight in what causes the troublesome risk behaviours that is seen in a lot of people with psychopathology could provide a foundation to develop treatment tools for groups sensitive for risk behaviour. If a better insight in ones emotions is key to the decision making process in risk taking behaviour a lot of bad consequences, maybe even psychopathology itself, could possibly be prevented. Therefore, future research is needed to provide more information about the processes behind risk taking.

References

Bandler, R., Keay, K.A., Floyd, N. & Price, J. (2000). Central circuits mediating patterned autonomic activity during active vs. passive emotion coping. *Brain research Bulletin*. 53 (1), 95-104.

Barrett, L.F. & Russel, J.A. (1998). Independence and bipolarity in the structure of current affect. *Journal of Personality and Social Psychology*. 74, 967-984.

Beauchaine, T. P. & Hinshaw, S. P. (2016). *Child and Adolescent Psychopathology.* John Wiley & Sons.

Berg. B., Latzman, J. M., Bliwise, R.D., Lilienfeld, N.G. & Scott, O. (2015). Parsing the heterogeneity of impulsivity: A meta-analytic review of the behavioural implications of the UPPS for psychopathology. *Psychological Assessment.* 27(4), 1129-1146

Bijttebier, P., Beck, I., Claes, L. & Vandereycken, W. (2009). Gray's Reinforcement sensitivity theory as a framework for research on personality-psychopathology associations. *Clinical psychology review*, 29, 421-430. doi:10.1016/j.cpr.2009.04.002

Cyders., M. A. & Smith, G. T. (2008). Emotion-based Dispositions to Rash Action: Positive and Negative Urgency. *Psychology Bulletin. 134*(6), 807-828. doi: 10.1037/a0013341

Danner, U.N., Evers, C., Sternheim, L., van Meer, F., van Elburg, A., Geerets, T.A.M., Breteler, L.M.T., de Ridder, D.T.D., (2013). Influence of negative affect on choice behavior in individuals with binge eating pathology. *Psychiatry Research*. 207(1-2), 100-106. https://doi.org/10.1016/j.psychres.2012.10.016

Danner, U.N., Sternheim, L. & Evers, C. (2014). The importance of distinguishing between the different eating disorders (sub)types when assessing emotion regulation strategies. *Psychiatry Research*, 215, 727-732. http://dx.doi.org/10.1016/j.psychres.2014.01.005

Danner, U. N., Sternheim, L., Bijsterbosch, J. M., Dingemans, A. E., Evers, C. & van Elburg, A. A. (2016). Influence of negative affect on decision making in women with restrictive and binge-purge type anorexia nervosa. *Psychiatry Research.* 239, 39-46.

Drichoutis, A. C. & Nayga, R. M. (2013). Eliciting risk and time preferences under induced mood states. *The journal of Socio – Economics*. 45, 18-27. https://doi.org/10.1016/j.socec.2013.04.008

Fehr-Duda, H., Epper, T., Bruhin, A. & Schubert, R. (2011). Risk and rationality: The effects of mood and decision rules on probability weighting. *Journal of economic behaviour & Organization.* 78(1-2), 14-24. https://doi.org/10.1016/j.jebo.2010.12.004

Gay, P., Schmidt, R.E. & Van der Linden, M. (2010). Impulsivity and intrusive thoughts: Related manifesttions of self-control difficulties? *Cognitive Therapy and Research.* 35(4), 293-303. DOI https://doi.org/10.1007/s10608-010-9317-z

Goldschmidt, A. B., Lavender, J. M., Hipwell, A. E., Stepp, S. D. & Keenan, K. (2017). Emotion regulation and loss of control eating in community-based adolescents. *Abnorm Child Psychology.* 45(1), 283-191. doi: 10.1007/s10802-016-0152-x

Helmreich, I., Wagner, S., Mergl, R., Allgaier, A.K., Hautzinger, M., Henkel, V., Hegerl, U., & Tadic, A. (2011). The inventory of depressive symptomatology (IDS-C(28)) is more sensitive to changes in depressive symptomatology than the Hamilton Depression Rating Scale (HAMD(17)) in patients with mild major, minor or subsyndromal depression. *European Archives of Psychiatry Clinical Neuroscience.* 261(5), 357-367. doi: 10.1007/s00406-010-0175-1

Hunt, M. K., Hopko, D. R., Bare, R., Lejuez, C.W. & Robinson, E. V. (2005). Construct Validity of the Balloon Analog Risk Task (BART). *Assessment.* 12(4), 416-428. doi: 10.1177/1073191105278740

Lejuez, C. W., Read, J. P., Kahler, C. W., Richards, J. B., Ramsey, S. E., Stuart, G. L., et al. (2002). Evaluation of a behavioural measure of risk taking: The Balloon Analogue Risk Task (BART). *Journal of Experimental Psychology: Applied*, 8(2), 75–84.

Lynam, D., Smith G. T., Cyders, M. A., Fischer, S., Whiteside, S. A. (2007). The UPPS-P: A multidimensional measure of risk for impulsive behaviour. *Unpublished technical report.*

Mano, H. (1992). Judgments under distress: Assessing the role of unpleasantness and arousal in judgment formation. *Organizational behaviour and Human Decision processes,* 52(2), 216-245. https://doi.org/10.1016/0749-5978(92)90036-7

McEvoy, P. M., Watson, H., Watkins, E. R. & Nathan, P. (2013). The relationship between worry, rumination, and comorbidity: Evidence for repetitive negative thinking as a transdiagnostic construct. *Journal of Affective Disorders.* 151(1), 313-320. https://doi.org/10.1016/j.jad.2013.06.014

Mittal, V. & Ross, W.T. (1998). The Impact of Positive and Negative Affect and Issue Framing on Issue Interpretation and Risk Taking. *Academic Press*, 76(3), 298-324. https://doi.org/10.1006/obhd.1998.2808

Muraven, M. & Baumeister, R. F. (2000). Self- Regulation and Depletion of Limited Resources: Does Self-control resemble a Muscle ? *Psychological Bulletin*. 126(2), 247-259. doi: I0.I037//0033-2909.126.2.247

Paret, C., Jennen-Steinmetz, C. & Schmahl, C. (2016). Disadvantageous decision-making in borderline personality disorder: Partial support from a meta-analytic review. *Neuroscience & Bio behavioural reviews.* 72, 301-309. https://doi.org/10.1016/j.neubiorev.2016.11.019

Reddy, L.F., Lee, J., Davis, M. C., Altshuler, L., Glahn, D. C., Miklowitz, D. J. & Green, M. F. (2014). Impulsivity and risk taking in bipolar disorder and schizophrenia. *Neuropsychopharmacology,* 39, 456-463.

Schaefer, A., Nils, F., Sanchez, X., Philippot, P. (2006). A Multi-Criteria Vaidation of 70 emotion-inducing films. Technical report.

Schaefer, A., Nils, F., Sanchez, X., Philippot, P. (2010). Assessing the effectiveness of a large database of emotion-eliciting films: A new tool for emotion researchers. *Cognition and emotion*, 24 (7), 1153-1172. doi: 10.1080/02699930903274322

Seo, M. G. & Barret, L. F. (2007). Being emotional during decision making – good or bad? An empirical investigation. *Acad Manage Journal,* 50(4), 923-940.

Smith, G. T., Fischer, S. & Cyders, M. A. (2007). On the Validity and utility of Discriminating Among Impulsivity-like traits. *Sage Journals*, https://doi.org/10.1177/1073191106295527

Stephen, P. W. & Lynam, D. R. (2001). The Five factor model and impulsivity: using a structural model of personality to understand impulsivity. *Personality and Individual differences.* 30(4), 669-689. https://doi.org/10.1016/S0191-8869(00)00064-7

Tomko, R. L., Lane, S. P., Pronove, L. M., Treloar, H. R., Brown, W. C., Solhan, M. B., Wood, P. K &Trull, T. J. (2015). Undifferentiated negative affect and impulsivity in borderline personality and depressive disorders: A momentary perspective. *Journal of Abnormal Psychology, 124*(3), 740-753. http://dx.doi.org/10.1037/abn0000064

Torrubia, R., Ávila, C., Moltó, J. & Caseras, X. (2001). The sensitivity to punishment and sensitivity to reward questionnaire (SPSRQ) as a measure of Gray's anxiety and impulsivity dimensions. *Personality and Individual Differences,* 31(6), 837-862. https://doi.org/10.1016/S0191-8869(00)00183-5

Watson, B., Clark, D., Anna, L & Auke, T. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology.* 54(6), 1063–1070.

Widiger, T. A. & Trull, T. J. (2007). Plate tectonics in the classification of personality disorder. Shifting to a Dimensional Model. *American Psychologist*, 62(2), 71-83. DOI: 10.1037/0003-066X.62.2.71

Zevon, M. A., & Tellegen, A. (1982). The structure of mood change: An idiographic/nomothetic analysis. *Journal of Personality and Social Psychology,* 43(1), 111-122. http://dx.doi.org/10.1037/0022-3514.43.1.111

APPENDIX

Information letter

Informatiebrief voor deelnemers aan het onderzoek: Datum: 27.09.2017 “De effecten van emoties op gedrag”

Geachte mevrouw,

Via deze brief willen wij u uitnodigen om deel te nemen aan een onderzoek.

In deze brief bieden wij u informatie aan over het doel en de inhoud van het onderzoek. U kunt op basis van deze informatie zorgvuldig afwegen of u wilt meedoen. Als u nog vragen heeft dan kunt u die stellen aan de onderzoeker die aan het eind van deze informatiebrief genoemd staat. Wanneer u geïnteresseerd bent in deelname aan het onderzoek, kunt u dit aangeven aan de onderzoekers. Zij zullen vervolgens een afspraak met u maken voor uw deelname aan het onderzoek.

Waarom dit onderzoek en waar gaat dit onderzoek over?
Voor deelname aan dit onderzoek worden vrouwen van 18 jaar en ouder uitgenodigd. In dit onderzoek willen wij onderzoeken welke rol het oproepen van emoties heeft op het gedrag van mensen die in meer of mindere mate last hebben van afwijkend eetgedrag. Wij verwachten dat dit onderzoek belangrijke kennis oplevert over de relatie tussen emoties, persoonlijkheid en eetstoorniskenmerken. In eerste instantie willen wij dit in een groep mensen doen die niet specifiek last heeft van een eetstoornis. Mogelijk dat wij dit onderzoek later zullen herhalen bij mensen met eetstoornissen. Dit kan in de toekomst van nut zijn voor de voorlichting en behandeling van eetproblemen. Wij hopen dat u daarom wilt meewerken aan dit onderzoek.

Wat wordt er van deelnemers aan het onderzoek gevraagd?
Het gehele onderzoek zal lopen tussen oktober 2017 en augustus 2018. Er zal eenmalig een meting plaatsvinden van ongeveer 30 minuten. Dit kan op diverse locaties zijn en zal altijd in overleg met u afgesproken worden. Wanneer u besluit deel te nemen kunt u dit aan de onderzoekers laten weten. Een van hen zal rustig de tijd nemen voor het onderzoek en zal duidelijke uitleg geven. Tijdens het onderzoek zal u gevraagd worden om enkele vragenlijsten in te vullen, een taakje op de computer te doen en naar een kortdurend filmfragment te kijken. Het filmfragment wordt over het algemeen als aversief ervaren en kan daarom negatieve emoties oproepen. Tevens zult u gevraagd worden om een computertaakje uit te voeren. Na afloop van het onderzoek zullen wij uw ervaringen met deelname aan dit onderzoek bespreken en uiteraard heeft u de mogelijkheid om vragen te stellen.

Wat zijn de voor- en nadelen van deelname aan het onderzoek?
U heeft zelf geen voordeel van deelname aan dit onderzoek. Voor studenten van Universiteit Utrecht

kunnen voor dit onderzoek proefpersoonuren toegekend worden en u maakt kans op een bol.com voucher. Door mee te doen levert u een bijdrage aan de wetenschap. Met deze kennis hopen wij in de toekomstmensen met eetstoornissen beter te begrijpen en te behandelen. Er zijn geen risico's verbonden aan deelnemen aan dit onderzoek. Het is mogelijk dat zien van een filmfragment invloed heeft op uw stemming. Dit gevolg is echter van korte duur en wij nemen ruim de tijd om alles met u door te spreken.

Vertrouwelijkheid van gegevens

Voor dit onderzoek is het nodig dat uw gegevens worden verzameld en gebruikt. Elke deelnemer krijgt een code die bij uw gegevens hoort. Uw naam en andere persoonlijke gegevens die u direct kunnen identificeren worden daarbij weggelaten. Al uw gegevens blijven vertrouwelijk. Alleen de onderzoekers die direct betrokken zijn bij deze studie weten welke code u toebehoort. De sleutel voor de code blijft bij de onderzoeker. De onderzoeksgegevens zullen gebruikt worden voor wetenschappelijke publicaties. Tevens zullen de gecodeerde onderzoeksgegevens minstens 15 jaar lang bewaard worden, conform de wettelijke termijn hiervoor.

Vrijwillige deelname en beëindiging

Deelname aan dit onderzoek is geheel vrijwillig en u kunt, op ieder moment tussentijds en zonder opgave van redenen, besluiten te stoppen.

Wie voeren het onderzoek uit en welke mensen worden ervoor gevraagd?

Het onderzoek wordt uitgevoerd en is opgezet door de Universiteit Utrecht, afdeling Klinische Psychologie en Altrecht Eetstoornissen Rintveld. In totaal zullen er ca. 100 mensen deelnemen aan het onderzoek.

Waar kunt u terecht voor meer informatie?

Mocht u vragen hebben over het onderzoek, aarzelt u dan niet om vrijblijvend contact op te nemen met de onderzoeksleider, Dr. Unna Danner (e-mail: U.N.Danner@uu.nl). Als u klachten heeft over het onderzoek, kunt u dit melden aan de onderzoeker.

Wilt u meedoen aan het onderzoek?

U beslist zelf Bij deze informatiebrief is een formulier bijgesloten dat u kunt invullen wanneer u geïnteresseerd bent in deelname aan het onderzoek. U kunt nu meteen aangeven dat u geïnteresseerd bent, maar u kunt ook op een later moment contact met de onderzoekers opnemen. Als u niet geïnteresseerd bent in deelname aan het onderzoek, dan hoeft u het formulier niet in te vullen.

Wij hopen op uw deelname en danken u bij voorbaat hartelijk voor uw medewerking!

Met vriendelijke groet,

Dr. Unna Danner, senior onderzoeker & Sabrina Schröder, onderzoeksassistent

Afdeling Klinische Psychology Altrecht Eetstoornissen Rintveld Universiteit Utrecht Wenshoek 4, 3705 WE Zeist Heidelberglaan 1 S.Schroder@altrecht.nl 3584 CS Utrecht 030-6965477

Informed consent

De effecten van emoties op gedrag

Ik heb de informatiebrief voor de proefpersoon gelezen. Ik kon aanvullende vragen stellen. Mijn vragen zijn genoeg beantwoord. Ik had genoeg tijd om te beslissen of ik meedoe.

Ik weet dat meedoen helemaal vrijwillig is. Ik weet dat ik op ieder moment kan beslissen om toch niet mee te doen. Daarvoor hoef ik geen reden te geven.

Ik geef toestemming om mijn gegevens te gebruiken, voor de doelen die in de informatiebrief staan. Ik weet dat mijn onderzoeksgegevens na het onderzoek nog 15 jaar bewaard worden en daarna worden vernietigd.

Ik vind het goed om aan dit onderzoek mee te doen.

Naam proefpersoon:

Handtekening: Datum : __ / __ / __

_____

Ik verklaar hierbij dat ik deze proefpersoon volledig heb geïnformeerd over het genoemde onderzoek.

Als er tijdens het onderzoek informatie bekend wordt die de toestemming van de proefpersoon zou kunnen beïnvloeden, dan breng ik hem/haar daarvan tijdig op de hoogte.

Naam onderzoeker:

Handtekening: Datum: __ / __ / __

Syntax

```
* Encoding: UTF-8.



DESCRIPTIVES VARIABLES=Groep Leeftijd Opleiding Opleiding1
  /STATISTICS=MEAN STDDEV MIN MAX.




* Encoding: UTF-8.
*recoded UPPS-P.
RECODE  UPPS53 (4=1) (3=2) (2=3) (1=4) INTO UPPS53recoded.
EXECUTE.

RECODE  UPPS2 (4=1) (3=2) (2=3) (1=4) INTO UPPS2recoded.
VARIABLE LABELS  UPPS2recoded 'recoded'.
EXECUTE.

RECODE  UPPS7 (4=1) (3=2) (2=3) (1=4) INTO UPPS7recoded.
EXECUTE.

RECODE  UPPS12 (4=1) (3=2) (2=3) (1=4) INTO UPPS12recoded.
EXECUTE.

RECODE  UPPS17 (4=1) (3=2) (2=3) (1=4) INTO UPPS17recoded.
EXECUTE.

RECODE  UPPS22 (4=1) (3=2) (2=3) (1=4) INTO UPPS22recoded.
EXECUTE.

RECODE  UPPS29 (4=1) (3=2) (2=3) (1=4) INTO UPPS29recoded.
```

```
EXECUTE.

RECODE  UPPS34 (4=1) (3=2) (2=3) (1=4) INTO UPPS34recoded.

EXECUTE.

RECODE  UPPS39 (4=1) (3=2) (2=3) (1=4) INTO UPPS39recoded.

EXECUTE.

RECODE  UPPS44 (4=1) (3=2) (2=3) (1=4) INTO UPPS44recoded.

EXECUTE.

RECODE  UPPS50 (4=1) (3=2) (2=3) (1=4) INTO UPPS50recoded.

EXECUTE.

RECODE  UPPS58 (4=1) (3=2) (2=3) (1=4) INTO UPPS58recoded.

EXECUTE.

*Compute variable MeanUPPSP.

COMPUTE
MeanUPPSP=MEAN(UPPS2recoded,UPPS7recoded,UPPS12recoded,UPPS17recoded,UPPS22recoded,UPPS29recoded,UPPS34recoded,UPPS39recoded,UPPS44recoded,UPPS50recoded,UPPS58recoded,UPPS53).

EXECUTE.

*RANDOMISATIE T-TEST.

EXAMINE VARIABLES=Leeftijd Opleiding Opleiding1 BMI BY Groep

  /PLOT NPPLOT

  /STATISTICS DESCRIPTIVES

  /CINTERVAL 95

  /MISSING LISTWISE

  /NOTOTAL.
```

```
T-TEST GROUPS=Groep(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=Leeftijd Opleiding Opleiding1 BMI
  /CRITERIA=CI(.95).


*Betrouwbaarheid van UPPS-P. .
RELIABILITY
  /VARIABLES=UPPS53recoded UPPS59 UPPS50 UPPS44 UPPS39 UPPS34 UPPS29 UPPS2 UPPS7 UPPS12 UPPS17
    UPPS22
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE CORR
  /SUMMARY=TOTAL.


*Manipulation check: Normality.
EXAMINE VARIABLES=Emoties1 Emoties2
  /PLOT BOXPLOT NPPLOT
  /COMPARE VARIABLES
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.



*Repeated measures anova: Manipulationcheck..


GLM Emoties1 Emoties2 BY Groep
  /WSFACTOR=emotiecheck 2 Polynomial
  /METHOD=SSTYPE(3)
  /POSTHOC=Groep(BONFERRONI)
```

```
  /PRINT=DESCRIPTIVE ETASQ
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=emotiecheck
  /DESIGN=Groep.

*ASSUMPTIECHECK Normality H1.

EXAMINE VARIABLES=BARTpop BY Groep
  /PLOT BOXPLOT NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.

EXAMINE VARIABLES=PUMPaverage BY Groep
  /PLOT BOXPLOT NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.

*ANOVA Hypothese 1:Wanneer negatief affect word ervaren word er meer risico genomen.

UNIANOVA BARTpop BY Groep
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
   /PLOT=PROFILE(Groep) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO
    /PRINT ETASQ DESCRIPTIVE HOMOGENEITY
  /CRITERIA=ALPHA(0.05)
```

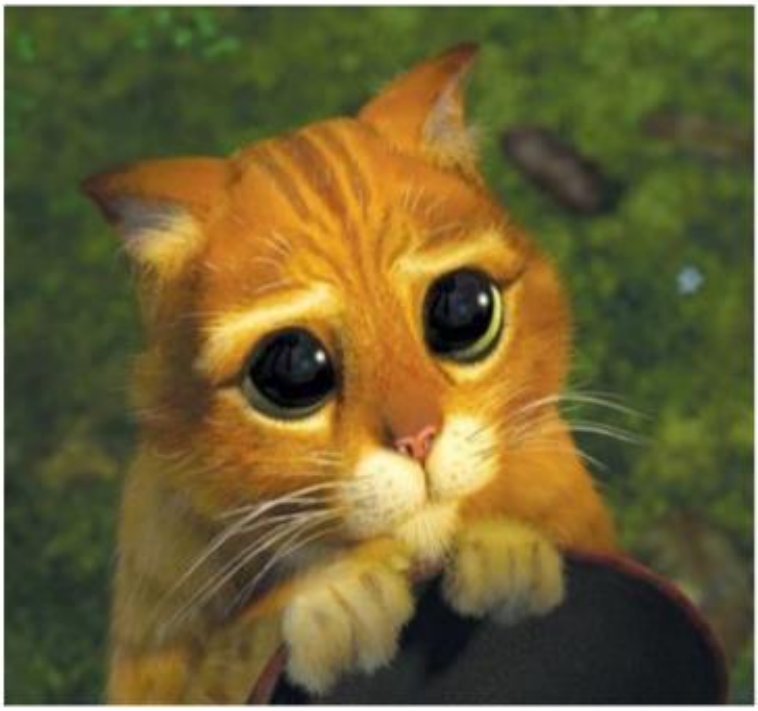
```
  /DESIGN=Groep.

UNIANOVA PUMPaverage BY Groep
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /PLOT=PROFILE(Groep) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO
  /PRINT ETASQ DESCRIPTIVE HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /DESIGN=Groep.

*Assumpties Hypothese 2: normaliteit.
EXAMINE VARIABLES=MeanUPPSP BY Groep
  /PLOT BOXPLOT STEMLEAF
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.

EXAMINE VARIABLES=BARTpop BY Groep
  /PLOT BOXPLOT NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.

EXAMINE VARIABLES=PUMPaverage BY Groep
  /PLOT BOXPLOT NPPLOT
  /COMPARE GROUPS
  /STATISTICS DESCRIPTIVES
```

```
  /CINTERVAL 95

  /MISSING LISTWISE

  /NOTOTAL.


*Assumptie Lineariteit.

REGRESSION

  /MISSING LISTWISE

  /STATISTICS COEFF OUTS R ANOVA

  /CRITERIA=PIN(.05) POUT(.10)

  /NOORIGIN

  /DEPENDENT BARTpop

  /METHOD=ENTER MeanUPPSP.


*REGRESSION ANALYSIS. Hoe hoger er gescoord word op emotion driven impulsiveness hoe meer risico gedrag er genomen word.

  REGRESSION

  /MISSING LISTWISE

  /STATISTICS COEFF OUTS R ANOVA

  /CRITERIA=PIN(.05) POUT(.10)

  /NOORIGIN

  /DEPENDENT PUMPaverage

  /METHOD=ENTER MeanUPPSP.


*HYPOTHESIS 3 ASSUMPTION NORMALITY..

EXAMINE VARIABLES=PUMPaverage BARTpop MeanUPPSP BY Groep

  /PLOT BOXPLOT HISTOGRAM NPPLOT

  /COMPARE GROUPS

  /STATISTICS DESCRIPTIVES

  /CINTERVAL 95

  /MISSING LISTWISE

  /NOTOTAL.
```

```
*ASSUMPTIE HOMOGENEITY OF REGRESSION H3.

UNIANOVA BARTpop BY Groep WITH MeanUPPSP

  /METHOD=SSTYPE(3)

  /INTERCEPT=INCLUDE

  /CRITERIA=ALPHA(0.05)

  /DESIGN=Groep MeanUPPSP Groep*MeanUPPSP.


UNIANOVA PUMPaverage BY Groep WITH MeanUPPSP

  /METHOD=SSTYPE(3)

  /INTERCEPT=INCLUDE

  /CRITERIA=ALPHA(0.05)

  /DESIGN=Groep MeanUPPSP Groep*MeanUPPSP.



*ASSUMPTIE: Linearity.

GRAPH

  /SCATTERPLOT(BIVAR)=MeanUPPSP WITH BARTpop BY Groep

  /MISSING=LISTWISE.


*Homogeneity of variance & the ANCOVA. H3: Wanneer negatieve emoties worden ervaren kan Negative urgency als moderator dienen en het effect op risicogedrag vergroten.

UNIANOVA BARTpop BY Groep WITH MeanUPPSP

  /METHOD=SSTYPE(3)

  /INTERCEPT=INCLUDE

  /EMMEANS=TABLES(Groep) WITH(MeanUPPSP=MEAN) COMPARE ADJ(BONFERRONI)

  /PRINT ETASQ DESCRIPTIVE HOMOGENEITY OPOWER

  /CRITERIA=ALPHA(.05)

  /DESIGN=Groep MeanUPPSP Groep*MeanUPPSP.



UNIANOVA PUMPaverage BY Groep WITH MeanUPPSP

  /METHOD=SSTYPE(3)
```

```
  /INTERCEPT=INCLUDE
  /EMMEANS=TABLES(Groep) WITH(MeanUPPSP=MEAN) COMPARE ADJ(BONFERRONI)
  /PRINT ETASQ DESCRIPTIVE HOMOGENEITY OPOWER
  /CRITERIA=ALPHA(.05)
  /DESIGN=Groep MeanUPPSP Groep*MeanUPPSP.
DESCRIPTIVES VARIABLES=MeanUPPSP
  /SAVE
  /STATISTICS=MEAN STDDEV MIN MAX.
  UNIANOVA BARTpop BY Groep WITH ZMeanUPPSP
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /EMMEANS=TABLES(Groep) WITH(ZMeanUPPSP=1) COMPARE ADJ(BONFERRONI)
   /EMMEANS=TABLES(Groep) WITH(ZMeanUPPSP=MEAN) COMPARE ADJ(BONFERRONI)
    /EMMEANS=TABLES(Groep) WITH(ZMeanUPPSP=-1) COMPARE ADJ(BONFERRONI)
  /PRINT ETASQ DESCRIPTIVE HOMOGENEITY OPOWER
  /CRITERIA=ALPHA(.05)
  /DESIGN=Groep ZMeanUPPSP Groep*ZMeanUPPSP.

GRAPH
  /SCATTERPLOT(BIVAR)=ZMeanUPPSP WITH BARTpop BY Groep
  /MISSING=LISTWISE.
```

Flyers



EFFECT VAN EMOTIES OP GEDRAG

VERDIEN 0,75 PPU EN MAAK KANS OP EEN ZALANDO CADEAUBON TWV €20!

Voor meer informatie en deelname mail naar

onderzoekemotie1@gmail.com

Waar?
Langeveldgebouw

Wat?
Een leuke taak en verschillende vragenlijsten

Wie?
Vrouwen tussen de 18 en 35 jaar

Het onderzoek duurt ongeveer 30 minuten

DOE MEE!

EFFECT VAN EMOTIES OP GEDRAG

VERDIEN 0,75 PPU EN MAAK KANS OP EEN ZALANDO CADEAUBON TWV €20!

Voor meer informatie en deelname mail naar

onderzoekemotie1@gmail.com

Waar?
Langeveldgebouw

Wat?
Een leuke taak en verschillende vragenlijsten

Wie?
Vrouwen tussen de 18 en 35 jaar

Het onderzoek duurt ongeveer 40 minuten

DOE MEE!