



*Compensatory Health Beliefs
and Behaviors on Alcohol
Consumption versus the Theory
of Planned Behavior*

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Abstract

Objectives. The extensive consumption of alcohol can be defined as a major problem in Western countries. Primarily students are affected by negative health outcomes resulting from alcohol consumption. The most popular theory to explain Behavior is the Theory of Planned Behavior. Although, the Theory of Planned Behavior a valid method to predict human behavior regarding alcohol consumption, its predictive value is limited.

In response to these limitations, there are other schools of thought which lead to an explanatory value to alcohol-related behavior. A crucial factor for the prediction of alcohol consumption is personality. Based on literature the personality traits Impulsivity and Sensation Seeking were chosen for this study. Although, most people know the negative consequences of drinking alcohol it is still a popular practice. The knowledge of the negative consequences and the and the contradictory desire to drink create a state of cognitive dissonance. To reduce this dissonance the Compensatory Health Beliefs and Behavior were also measures in this study. Therefore, this study measured the additional explanatory value of Sensation Seeking, Impulsivity, Compensatory Health Beliefs and Behavior to the Theory of Planned Behavior.

Design. Cross-Sectional Survey

Method. The total sample consists of 113 students were of 79% were female. The mean of the age amounts to 22years. The developed Compensatory Health Beliefs and Behavior scale, Personality Traits and the Theory of Planned Behavior were tested by Persons Correlation and a Hierarchical Regression Analyses. Further, a Mediator-Analysis by Hayes (2012) was conducted.

Results. A statistically correlation was found between the Compensatory Health Beliefs and regular alcohol consumption. There is no correlation found between the Compensatory Health Behavior and the consumption of alcohol. The Hierarchical Regression Analyses conducted a significant explanatory value from the Compensatory Health Belief to the Theory of Planned Behavior. Further, the Mediator-Analyses displays that the personality traits are add only explanatory value as a distal factor to the Theory of Planned Behavior.

Conclusions. The Results indicates that people who are inclined to drink more alcohol hold more Compensatory Health Beliefs. The Compensatory Health Behavior are statistical not significant. Therefore the major attention for the measure of implicit process for the prediction of alcohol-related behavior should have the Compensatory Health Beliefs.

Abstract:

Thema. De overmatige consumptie van alcohol is een groot probleem in de westelijke wereld. Vooral studenten zijn betrokken van de negatieve uitkomsten van het alcohol gebruik. De meest populaire theorie om gedrag te kunnen verklaren is de Theorie van Gepland gedrag. Hoewel de Theorie van Gepland Gedrag een valide methode is om alcohol gerelateerd gedrag te voorspellen en te verklaren, heeft het beperkingen. Op basis van deze beperkingen zijn er nog andere denkrichtingen welke tot een verklarende waarde voor alcohol gerelateerd gedrag toevoegen kunnen. Een belangrijke factor om gedrag te kunnen verklaren is persoonlijkheid. Gebaseerd op literatuur zijn voor deze studie de de persoonlijkheid traits impulsiviteit en sensatie zoeken gekozen. Hoewel de meeste mensen de negatieve consequenties van alcohol al kennen is het drinken van alcohol steeds een populair gedrag. De kennis over de negatieve uitkomsten en het verlangen naar het drinken ervan creëert een staat van cognitieve dissonantie. Om deze dissonantie te reduceren gebruiken de mensen de Compensatory Health Beliefs. In deze studie worden daarom gemeten of de Compensatory Health Beliefs, Behavior, Sensatie zoeken en Impulsiviteit een verklarende waarde aan de Theorie of gepland gedrag toevoegen.

Onderzoeksopzet. Cross-sectionele data.

Methoden. In totaal hebben 113 studenten aan de studie meegedaan. Ervan waren 79% vrouwelijk. De gemiddelde leeftijd is 22 jaar. De ontwikkelde Compensatory Health Beliefs and Behavior schalen, de persoonlijkheid traits en de theorie van Gepland gedrag worden met Persons Correlatie en een hiërarchische Regressieanalyse getoetst. Verder wordt een Mediator-Analyse van Hayes (2012) doorgevoerd.

Resultaten. Er is sprake van een significante correlatie tussen de Compensatory Health Beliefs en de consumptie van alcohol. Er is geen statistisch bewijs voor een correlatie tussen de Compensatory health Behavior and het drinken van alcohol. De hierarchische Regressieanalyse laat zien dat de Compensatory Health Beliefs verklaarende waarde aan de Theorie of gepland gedrag toevoegen. Verder, de Mediator-Analyse vertoont dat de persoonlijkheid traits alleen als distale factoren een toevoegende waarde aan het verklaren van alcohol gerelateerd gedrag hebben.

Conclusie. De Resultaten laten zien dat mensen die ertoe geneigd zijn veel alcohol te drinken meer Compensatory Health Beliefs gebruiken. Er is geen statistisch bewijs voor een toevoegende waarde van de Compensatory Health Behaviors aan de Theorie van gepland gedrag. Samenvattend, voor het verklaren van alcohol-gerelateerd gedrag zijn de Compensatory Health Beliefs een goede aanpak.

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1. 1. Introduction

Alcohol

The extensive consumption of alcohol can be defined as a major problem in Western countries. This is due to different reasons. First, cross-sectional studies have shown that Europe has the highest level of alcohol consumption worldwide (Parry, Patra, & Rehm, 2011). In the Netherlands alone 78.400 people considered to be alcohol-addicted (Van Rooij, Schoenmakers & van de Mheen, 2011). Second, the consequences emerging from the abuse of alcohol have a highly negative impact on several aspects of life. Due to heavy consumption, serious problems and potential consequences are demonstrated by the persons affected. The numerous negative health consequences range from high blood pressure and liver disease to cancer (Anderson & Baumberg, 2006; Barbor et. al, 2003; Corrao, Bagnardi, Zambon & Arico, 1999). Alcohol uses not only enhance the chance of those negative health effects dramatically, but also has negative outcomes regarding to other parts of life. Therefore social consequences can be caused by alcohol use. Examples for social consequences are: academic problems, unsafe sex, risk for injury and a high level of violence (Cranford, McCabe & Boyd, 2006). These consequences cannot be related to all classes of age equally: Primarily young people and students are affected by those social negative outcomes (Van Rooij, Schoenmakers & van de Mheen, 2011). The age group between 15 and 25 make up 10% to 30% of all alcohol-related hospital visits (Van Hoof, van der Lely, Pereira, & Van Dalen, 2012). According to Ham and Hoop (2003) there is increasing evidence for particularly high level of alcohol abuse among young people. These findings underline the seriousness and the extent of this problem for young people individually and for society as a whole.

When speaking about alcohol consumption by young people, the term binge drinking [BD] is a common phenomenon. This is a useful indicator for problem drinking among people (Wechsler & Nelson, 2001). Wechsler, Dowdall, Davenport and Rimm (1995) define binge drinking as drinking six units or more at one session. Based on the results of the European School Survey Project on Alcohol and other Drugs (Ledoux, Miller, Choquet, & Plant, 2001) it was found that in the year 2007 about 43% of the 15–16 year-old students reported that they had passed the norm for binge drinking in the last 30 days (Hibell et al., 2009). This fact is worrying when considering that a heavily consumption has been associated with a number of serious consequences.

Although alcohol is a legal drug, this fact alone does not mean it is not dangerous. Compared with illegal drugs is alcohol the most dangerous drug on the world (Lee & Forsythe, 2011). Due to this ambivalence, it is a high interest why those people still commit to alcohol abuse. There are theories that can be used to try to explain this behavior.

Theory of Planned Behavior

One of these theories which aim to explain the predictors of behavior is the Theory of Planned Behavior [TPB] by Aizen (1991). This theory is often used to model behavior and therefore also provides determinants for behavioral change (Armitage & Conner, 2001).

The TPB assumes that people generally make rational choices which determine their behavior (Armitage & Conner, 2001). The focus in the TPB is on the intention to act in a certain way. In the TPB, this intention to behave in a certain way is the determinant of the behavior (Norman & Conner, 2006). As in figure 1 illustrated is the intention itself in turn predicted by three other determinants: the attitude towards the behavior, subjective norm regarding the behavior and perceived control over. Attitude is defined by Maio and Haddock (2010) as a general evaluation of an object that is based on cognitive, emotional and behavioral information. Therefore, it depends on beliefs and the personal opinion over the consequences of a certain behavior. The attitude is shaped by prior experiences and the surrounding factors of a person. The subjective norm is a social component in the TBP which is defined as a perceived social pressure of group conformity from people that have a considerably high influence on the individual (Armitage & Conner, 2001). Especially alcohol consumption can be influenced by peers or the family (Wechsler & Nelson, 2001). Perceived behavior control is the third determinant and describes how people estimate the extent to which they are free to make their own decisions (Marcoux and Shope, 1997). To perform a certain action, people have to feel self-efficient to undertake that action. They also need to think that they are capable of behaving autonomously and intentionally. In alcohol consumption, this could be understood as the feeling to be able to control the own alcohol intake.

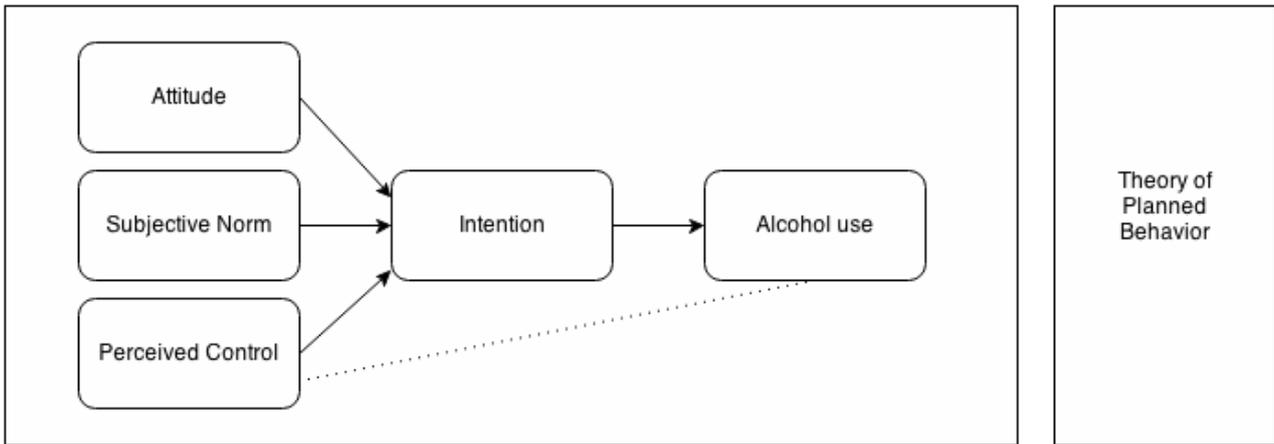


Figure 1. Theory of Planned Behavior [TPB]

Although, the TPB is a valid method to predict and explain human behavior regarding alcohol consumption, its predictive value is limited. According to Kuther (2002) the TPB explains decision making as a rational activity. The value of prediction of certain behavior ranges from 27% to 39% of the variance in intention and behavior (Armitage, Jones & Kaklamanou, 2012). The theoretical underpinnings of TPB are set in conscious decision making. One school of thought proposes that goal settings or behavior changes are characterized by a conscious reflection process (Prochaska, 1994). Nevertheless, it is not always clear what causes people to pursue a behavior. Some kinds of our thoughts and acts are not open for introspection and they are managed by unconscious processes (Peeters et al., 2012).). In response to these limitations of the TPB, there are other schools of thought with which alcohol-related behavior can be explained. Therefore, personality traits and Compensatory Health Beliefs will be explained in the following.

Personality Traits

A crucial factor to predict alcohol use is personality (LaBrie, Kenney, Napper & Miller, 2014). The trait of impulsivity [IMP] appears to be particularly important for understanding college students' alcohol use, because higher levels of impulsivity are consistently related to greater alcohol use and risk (LaBrie, Kenney, Napper & Miller, 2014). Although impulsivity has been conceptualized in a variety of ways, it generally refers to a tendency to act without thinking, take risks in the pursuit of excitement or new experiences, and an inability to control behaviors and emotions (Whiteside & Lynam, 2001). If people score high on impulsivity, it shows an indicator for a low level of self-control. People tend to react based on their impulses and do not think long before acting. Evidence was found, for the association with increased alcohol consumption and impulsivity (Whiteside & Lynam, 2001).

Impulsivity seems not to be the only personality trait that can account for extensive consumption of alcohol. The trait of sensation seeking [SS] appears to be particularly

important for the prediction of alcohol use. This personality trait is defined by the seeking of intense sensations and experience and the willingness to take physical or social risks for the satisfaction of such an experience (LaBrie, Kenney, Napper & Miller, 2014). A high consumption of alcohol can be considered as one of these experiences. Therefore it's interesting to measure if the personality trait can add explanatory value to the theory of planned behavior.

Although TPB and the Personality Traits IMP and SS are able to explain alcohol-related behavior, there is also an alternative model.

Compensatory Health Behavior and Compensatory Health Beliefs

When people face a desire to drink while also knowing about the negative health effects of heavy drinking a conflict can arise. Every human tries to reach a state of balance between maximal pleasure and minimal harm. In the context of this study, the alcohol consumption can be seen as the pleasure, and the harm would be the negative consequences for the drinker's health (Rabiau, Knäuper & Miquelon, 2006).

Although most people know about the negative consequences of increased consumption of alcohol drinking, the consumption of it is still popular. The knowledge of the negative consequences of drinking and the contradictory desire to drink may create an inconsistency. This inconsistency between cognitions and desires is called Cognitive Dissonance (Gleitman, Gross & Reisberg, 2011). Cognitive Dissonance is a discomforting experience that the person experiencing it wants to resolve in one or another way (Gleitman, Gross & Reisberg, 2011).

There are various reasons for the occurrence of Cognitive Dissonance, for example discrepancy in self-perception (e.g. having a healthy lifestyle) or the anxiety about disease that could be caused by an unhealthy behavior (Harmon-Jones & Harmon Jones, 2007). People tend to minimize these negative feelings by trying to justify their behavior (Rabiau, Knäuper & Miquelon, 2006). There are many strategies to avoid or minimize these feelings. One of these strategies are the Compensatory Health Beliefs.

According to Rabiau, Knäuper and Miquelon (2006), three strategies for self-regulation exist within the Compensatory Health Belief model: At first strategy, the strategy to make an effort to resist the desire. The second strategy is the revision of the unhealthy effect of the desire. The third strategy are the Compensatory Health Beliefs. These beliefs are based on the principle that the negative feelings and effects accrue from an unhealthy behavior. In order to balance this negative behavior, a healthy behavior is set into practice (Rabiau, Knäuper & Miquelon, 2006).

Rabiau, Knäuper and Miquelon (2006) assume that the only state where the Compensatory Health Beliefs are enabled is the conflict between the desired behavior and the personal goal of an individual. The value of this conflict depends on the strength of the effects through the unhealthy behavior. Also, the importance of the individual's goal is an indicator for the tension to use compensatory health beliefs (Fishbach, Friedman & Kurlanski, 2006; Trope & Fishback, 2000). Therefore, the Compensatory Health Beliefs can be activated to justify a desire. A problem of those beliefs is that actually many people do not carry out the behavior that should compensate the consumption of alcohol (Radke & Scholz, 2012). According to Radke & Scholz, (2012) one of the reasons, for the non-compensatory behavior, is the fact that the cognitive dissonance decreases over the time.

Further research over this topic showed that there is a distinction between the Compensatory Health Beliefs [CHBeliefs] and the Compensatory Health Behavior [CHBehavior]. According to the study of Kaklamanou et al. (2012) people tend to act ambivalent between their belief-and behavior-based Compensation. Based on the results of their study the participants do not believe in the CHBehavior therefore committed in the related compensatory behavior. This is only a partial solution and will not lead to long-term health goals.

The study from Kaklamanou, Artmiage and Jones (2012) sheds doubt onto the measurement (based on Knäuper et al.) of the CHBeliefs and CHBehavior. An inconsistency between CHBeliefs and CHBehavior was found. People do not believe in CHBeliefs whereas they are performing the CHBehavior. With this the discrepancy between CHBeliefs and CHBehavior can be measured. Because of the limited explanatory value of the Theory of planned behavior the Compensatory Health Beliefs, Compensatory Health Behaviors, Sensation seeking and impulsivity were tested to find out if they can add explanatory value to the prediction of behavior, as shown in Figure 2.

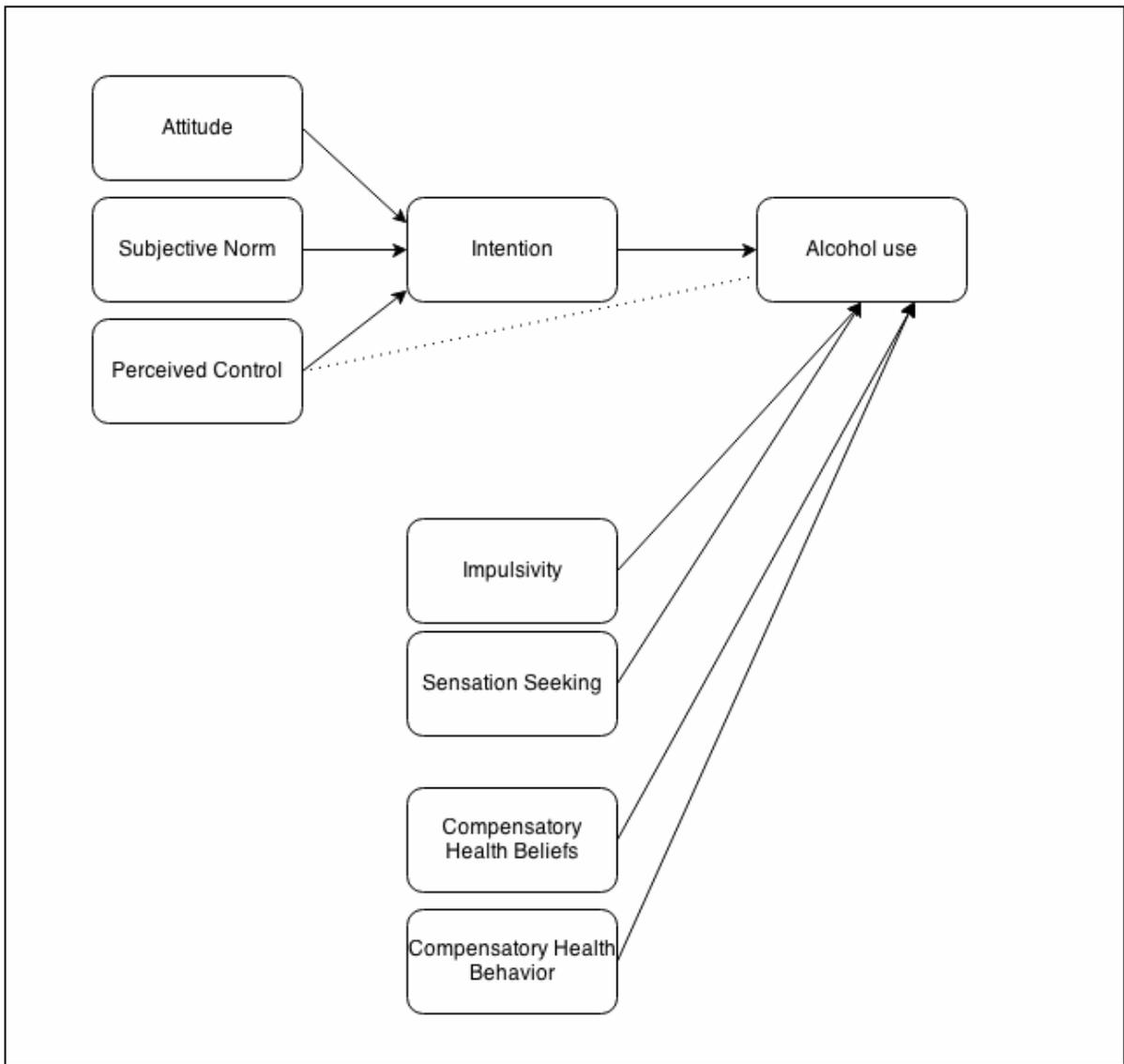


Figure 2. Theory of Planned Behavior model with extension by CHBehavior, ChBeliefs and Personality traits.

2. 2. Measures

Participants

An online survey was conducted in which Psychology students of the University of Twente participated, who had been recruited through the research system *Sona-Systems*. Furthermore, a link was posted in the social network platform *Facebooktm* to reach further students of the University of Twente. Through *Sona-System* 78 participants were recruited, 55 through Facebook. Combined, there has been a turnout of N=123 participants. Cases that could not be defined as students or where there was incompletely answered form were eliminated. Also, one person who reported that his or her last alcohol drink was longer than one year ago was not relevant for this study. The total sample consists of 113 students whereof 79% were female. The mean of the age amounts to 22years.

Procedure

A questionnaire with a total of 42 questions was developed. Beforehand, participants were asked to give their informed consent to the test survey. By a refuse or rejection to this question, the respondent's data was not further used for this analysis. The participation was anonymous.

The respondents had to complete the questionnaire via a link from www.thesistools.com. In the beginning of the questionnaire, participants were asked to give some demographic details about themselves, as gender and age. This information was used for the descriptive analyses of the sample. To lead the participants correctly through the different questions introduction were shown how to answer the following questions. At the end the participants had the opportunity to fill in their email-address to get more information about the study and the results. Participation was rewarded via a university-intern mandatory research participation system with half a point (of a total of 10 points required each two semesters).

To provide a better overview over the measured items in the questionnaires, a description of the scales used in the online survey will be given.

Dependent Measures: Alcohol consumption/ Binge drinking

The premise was that the respondent had consumed alcohol at least once in the past twelve months. If this was not the case, the respondent was directed past the items that inquired further information over the alcohol consumption in the past twelve months. People who

replied to have consumed alcohol in the past twelve months were directed to the question section about alcohol consumption. *Alcohol consumption* was based on three items. First, it was asked for the frequency of alcohol consumption during the week days (Monday to Thursday) and during the weekend days (Thursday to Sunday): ‘How many days (at the weekend or at the week days) have you consumed alcohol?’ The consumption was calculated as the number of weekend day (ranging from 1 to 3) and week days (from 1 to 4 days). Further, there was asked the average of alcohol glasses which the respondent drink over the weekend days (Thursday to Sunday). The answer possibilities ranged from eleven to zero glasses (i.e. the variable is coded negatively).

Based on of Wechsler, Dowdall, Davenport and Rimm (1995) binge drinking is defined as drinking more than six glasses alcohol at one session at the last four weeks. A question was developed to measure the use of binge drinking ‘How often did you drink six or more glasses alcohol-containing drinks in one day at the last four weeks?’

Independent Measures: Compensatory Health Beliefs/ Behavior

The original Compensatory Health Belief scale by Knäuper et al. (2004) was used to develop a CHBeliefs and CHBehavior scale regarding to alcohol consumption. The alcohol-related CHBehavior and CHBeliefs were examined and elaborated by experts, so there were examined six items for CHBehavior and three for CHBeliefs. The items were reformulated into the context of the consumption of alcohol. CHBeliefs was measured via three items, CHBehavior via six. The CHBeliefs items assess to what extent respondents believe that healthy lifestyle, drinking water and occasional drinking compensate for the negative consequences of alcohol consumption. CHBehavior items assess how often respondents behave in a certain way to compensate consequences of alcohol consumption by sleeping, healthy or unhealthy eating, drinking water, sporting and adhering to certain time intervals between drinking sessions. The questions could be answered from strongly disagree (1) to strongly agree (5).

According to Kaklamanou et al. (2012) there is an ambiguity between the behavior- and belief-based compensation. A high score on the CHBehaviors subscale means that people tend to not perform compensatory actions before or after alcohol consumption. A high score on the CHBeliefs subscale means that people tend to believe in the compensatory effect of the actions they can take before or after alcohol consumption.

To check for internal consistency Cronbach’s alpha was used. The measured Cronbach’s alpha for the CHBehavior scale was $\alpha = 0,651$ and for CHBeliefs $\alpha = 0,615$. Cronbach’s alpha is in both cases at an appropriate level and no corrections had to be made.

Independent Measures: Theory of Planned Behavior

The TPB predicts behavior through attitude, perceived control and subjective norm. In this context the behavior is binge drinking and alcohol consumption. To measure the attitude, a statement was given, which was supposed to evaluate the position towards alcohol consumption. A scale of positive and opposed negative feelings was listed. A five-point proximity scale was used to tally the answers. The nearer the position of the answer to one of the two feelings, the more does the respondent feels.

The variables perceived control and subjective norm followed. Here, the possibilities to answer (1) totally agree to (5) totally disagree were provided. The variable intention to reduce alcohol consumption in the future was measured through three statements. Again, the respondents answered using a 5-point-Likert-scale from (1) totally agree (5) totally disagree. The measured Cronbach's alpha for *Attitude* was $\alpha=0,828$, *Perceived Control* $\alpha=0,591$ and *Subjective Norm* was the measured Cronbach's alpha $\alpha=0,647$. Even if one item offered substantial change in Cronbach's alpha (0,773) the item was not deleted since the threshold of 0,6 Cronbach's alpha was already achieved. The Cronbach's alpha for *Intention* was $\alpha=0,929$.

Independent Measures: Substance Use Risk Profile Scale

As part of the survey the respondents had to complete question from the Substance Use Risk Profile Scale (SURPS, Conrod & Woicik, 2002). The SURPS is based on a model of personality dimensions, which pose a risk of initiating substance abuse. These can give a specific pattern, which suggests a tendency for substance abuse. According to Conrod & Woicik (2002) four dimensions are particularly predictive: hopelessness, anxiety sensitivity, impulsivity, and sensation seeking.

Empirical measurements demonstrate evidence that personality trait can influence alcohol-related behavior (Whiteside & Lynam, 2001). Especially impulsivity and sensation seeking can determine a possible excessive consume of alcohol (Whiteside & Lynam, 2001; LaBrie, Kenney, Napper & Miller, 2014). On these grounds, five items were chosen for the measurement of impulsivity (IMP) and sensation seeking (SS). Each item was scored on a scale of 1 (strongly agree) to 5 (strongly disagree). The personality traits hopelessness and anxiety sensitivity were not relevant to the aims of this study and thus were not included in the measurement. The Cronbach's alpha for *Sensation Seeking* was $\alpha=0,679$ and for *Impulsivity* about $\alpha = 0,687$. Since the threshold of 0,6 Cronbach's alpha was achieved no further corrections of the measure had to be taken and no item were deleted.

Analysis

For this study the software Statistical Packages for the Social Sciences [SPSS] version 21 was used for all statistical analyses. First, a Pearson's correlation analysis was conducted to see how the different variables correlate with each other and to measure the external validity of the developed Compensatory Health Belief Scale. Secondly, a hierarchical regression analysis was done. Further, a moderation/mediation analysis was conducted through the PROCESS plug-in for SPSS (Hayes, 2009). Missing values were case-wise excluded from the analyses by signing them with a 99.

To answer whether CHBehavior & CHBeliefs are related to BD or alcohol uses a Pearson's correlation coefficients r were calculated. Also the relation of IMP and SS to BD or alcohol uses were measured with Person's r . To check whether the measures of CHBehavior & CHBeliefs were approximately normally distributed skewness and kurtosis were calculated. The common threshold of ± 2 was used. The skewness and kurtosis of the measures ranged from 1.261 to -.196 and from 1.156 to -.816, respectively. It can be assumed that the measures are normally distributed. For SS and IMP were the skewness and kurtosis of the measures ranged from 1.261 to -.196 and from 1.156 to -.816, respectively. It can be assumed that the measures of the Impulsivity and Sensation Seeking to Binge drinking and alcohol use are normally distributed.

To answer whether CHBehavior & CHBeliefs add explanatory value to the TPB a hierarchical regression analysis was done. The analyses showed that for the regressions for BD and SG showed no multicollinearity of the predictor variables, with all Variance Inflation Factor [VIF] values between 1,026 and 1,103, thereby not exceeding the lowest standard of 2,5. The Change in F value from the TPB model to the extended model will indicate eventual added explanatory value. An α of 0,05 will be handled due sample size. Further analyses with Process by Hayes (2009) will determine moderator and/or mediator variables.

To check if the distal variables have an adding function to explain binge drinking or regular drinking a hierarchical regression analysis was done. In figure 3 can be seen how the extension by Impulsivity and Sensation Seeking as distal factors should work. The Distal factors Sensation Seeking and Impulsivity showed no multicollinearity, with all VIF values between 1,039 and 1,064, thereby not exceeding the lowest standard of 2,5.

The Moderation-Mediation Analysis PROCESS of Hayes (2012) is used to examine if any behavioral determinants are mediators. PROCESS is a plug-in for SPSS that can be downloaded, installed and used free of charge. This plug-in allows to perform different analyses at once that are either difficult to obtain with the usual SPSS-functions or would take further programming to obtain said measures. The results will allow conclusions over

eventual mediator effects within the given models. Eventual moderator effects were not investigated.

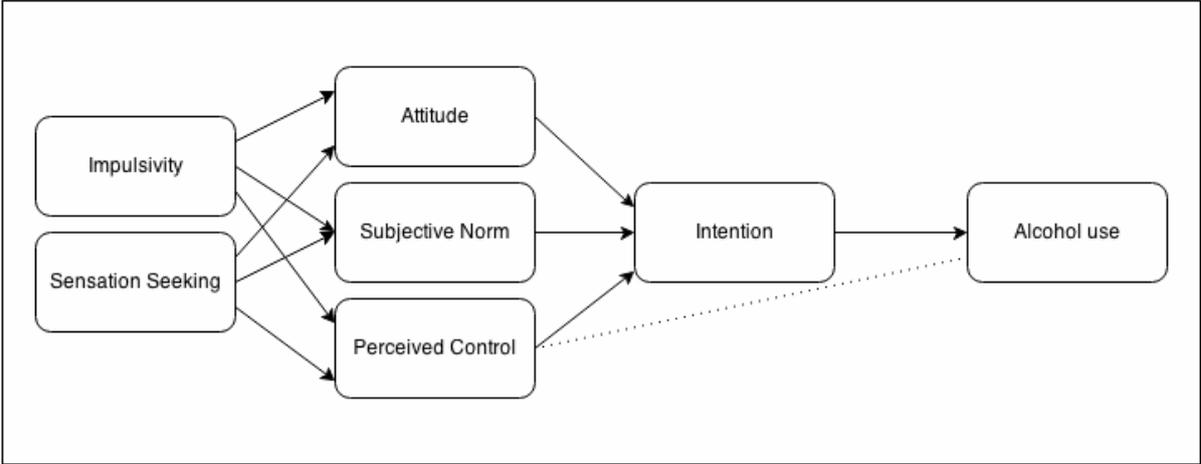


Figure 3. Theory of Planned Behavior model with extension by Impulsivity and Sensation Seeking as distal factors.

3. 3. Results

Descriptives

In table 1 are the Descriptive statistics for all Items.

Table 1 Descriptive statistics

	Minimum	Maximum	Mean	Standard Deviation
Binge Drinking	1	9	3,04	2,14
Amount of standard glasses (per week)	11	27	19,5	4,08
Attitude	5	25	16	4,08
Subjective Norm	3	14	7,6	2,29
Perceived Control	3	15	6,6	2,75
Intention	3	15	7,8	3,39
CHBehavior	6	25	12	4,85
CHBeliefs	3	13	7,21	2,47
Impulsivity	6	23	12,6	3,36
Sensation Seeking	8	30	18,4	4,39

Correlation

To compare validity of the developed CHBehavior and CHBeliefs Scales a correlation analysis was done with Pearson Correlation.

Table 2 shows that the CHBehavior ($r = .15$) and CHBeliefs ($r = .17$) do not correlate significantly with Binge Drinking. In consequence of these results further analyses based on BD were not conducted. A statistically significant negative correlation was found between the weekly total alcohol consumption and CHBeliefs ($r = -.32$), which indicates that people who are inclined to drink more alcohol hold more CHBeliefs. (i.e. the variable for alcohol consumption is coded negatively). With this Research Question 1 could only partially be confirmed. Research Question 2 indicates that Sensation Seeking and Impulsivity relates to binge drinking or alcohol consumption.

While the personality traits Sensation Seeking ($r = .21$) and Impulsivity ($r = .20$) correlated positively statistically significant with binge drinking, SS ($r = -.21$) and IMP ($r = -.35$) correlated negatively statistically significant with the negatively coded regular drinking behavior. This confirmed the assumption that people with a high score on SS and IMP tend to drink more alcohol and display more binge drinking behavior. Moreover a statistically significant negative correlation was found between attitude and CHBeliefs ($r = -.298$) which means that people tend to hold more CHBehavior when they have a negative state toward the reduction of their alcohol consumption to maximum five glasses at one day. Furthermore, a negative correlation was found between Intention to reduce alcohol consumption ($r = -.30$) and the CHBeliefs, which indicates that people who display an Intention to reduce their alcohol consumption hold more Compensatory Health Beliefs.

Table 2 Correlation between independent and dependent measures

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.BD	-	-,672**	,216*	,199*	,318**	,322**	-,229*	-,387**	,145	,170
2.SG		-	-,211*	-,353**	-,353**	,379**	,292**	,494**	-,111	-,324**
3.SS			-	,067	,067	-,089	-,232*	-,205*	,105	,112
4.IM				-	,223*	,140	-,133	-,236*	,237*	,080
5.AT					-	,187*	-,429**	-,619**	-,005	-,298**
6.PC						-	-,115	-,288**	-,006	,268**
7.SN							-	,516**	,020	-,098
8.IN								-	,096	-,298**
9.CHbeh									-	,093
10.CHbel										-

* $p < 0.05$ (1-tailed), ** $p < 0.01$ level (1-tailed)

Hierarchical Regression Analysis on alcohol consumption

A Hierarchical Regression Analysis with alcohol consumption was carried out. The analysis was conducted with three models (see: table 3).

The first model consists of the independent variables of the theory of planned behavior have on the dependent variable alcohol consumption. The analysis shows that 24.4% of the variance in the model can be explained by the determinants of the TPB. The analyses show

that the Model of the Theory of Planned behavior is statistically significant ($F_{(3,107)} = 11.319$; $p < 0,05$). The second model adds Compensatory Health Beliefs. The analysis shows that the extended model adds statistically significant explanatory value to the TPB ($F_{(1, 10)} = 3.941$; $p < 0,05$). Based on the results of model 2 there is statistical evidence that the CHBeliefs add explanatory value to the model of Theory of Planned Behavior. *Compensatory Health Beliefs* display a statistically significant negative standardized correlation coefficient to *standard glasses* ($\beta = -.300$; $p < 0,05$). Based on these results this connection is considered medium (Cohen, Manion & Morrison, 2011). The more *Compensatory Health Beliefs* are presents the more *standard glasses* were reportedly consumed. Summarized, the research question 3 can be answered affirmatively that CHBeliefs add explanatory value to the Theory of planned Behavior. The extended model explains 27.2% of the variance of alcohol consumption.

The third model adds the personality traits Sensation Seeking and Impulsivity. The analysis shows that the extended model does not add statistically significant explanatory value to the TPB ($F_{(2, 10)} = 1.571$; $p = 0,213$). Research Question 4 can be answered that Sensation Seeking and Impulsivity do not add explanatory value to the TPB and CHBeliefs. If Intention is added as a 4 model the explanatory value increased to 36%. This result show that the Intention adds statistically significant explanatory value to the TPB ($F_{(1,102)}=10.079$; $p < 0,05$.)

Table 3. Hierarchical Regression Analysis on Standardglasses.

		Model 1			Model 2			Model 3		
		B	SE(B)	β	B	SE(B)	β	B	SE(B)	β
Block 1	Attitude	-0.229*	0.102	-0.211	-0.174	0.104	-0.161	-0.173	0.103	-0.160
	Subjective Norm	-.0471	0.134	-0.307	-0.422*	0.135	-0.274	0.272	0.171	0.148
	Perceived Control	0.324*	0.169	0.177	0.329	0.167	0.180	-0.393	0.135	-0.256
Block 2	Compensatory Health Beliefs				-0.300*	0.151	-0.178	-0.282	0.151	-0.167
Block 3	Impulsivity							-0.111	0.110	-0.088
	Sensation Seeking							-0.105	0.083	-0.112
R ² -change		.244**			.028*			.022		
F (df1,df2)		11.319 (3,107)			3.941 (1, 104)			1.571 (2, 102)		

* $p < 0,05$, ** $p < 0,01$

Moderator-Mediator Analysis

The Moderator-Mediator PROCESS Analysis (Hayes, 2013) examined used to examine if any behavioral determinants are mediators. The Moderator-Mediator Analysis turned out a statistically significant direct effect of *attitude* on *regular drinking behavior* (Effect size = -0,20, $t_{(2)} = 2,35$, $p < 0,05$) and an indirect through *intention* was statistically significant (Effect size = 0,11, CI [0,05; 0,19]). This supports the Theory of planned behavior model. Also a direct effect of *subjective norm* on *regular drinking* was statistically significant (Effect size =

0,75, $t_{(2)} = 6,17$, $p < 0,05$). An indirect effect of *subjective norm* on *regular drinking* through *intention* was statistically significant (Effect size = -0,18, CI [-0,31;-0,07]). These results show a partial mediation which still does support TPB model. It should be noted at this point that the predictors within the TPB model are not prescriptive in a positive or negative direction. The directions of the predictors can change due to the context they are used to model without changing the validity of the TPB.

A direct effect of *Perceived Control* on *regular drinking* was statistically not significant (Effect size = 0,06, $t_{(2)} = 2,7$, $p = 0,05$). An indirect effect of *perceived control* on *regular drinking* through *intention* was statistically significant (Effect size = 0,08, CI [0,05; 0,29]). A direct effect of *Sensation Seeking* on *regular drinking* was statistically significant (Effect size = 0,09, $t_{(2)} = 1,27$, $p < 0,05$). An indirect effect of *Sensation Seeking* on *regular drinking* through *intention* was statistically not significant (Effect size = 0,15, CI [-0,54; 0,19]). A direct effect of *Impulsivity* on *regular drinking* was statistically significant (Effect size = 0,25, $t_{(2)} = 1,65$, $p < 0,05$). An indirect effect of *Impulsivity* on *regular drinking* through *intention* was statistically significant (Effect size = 0,35, CI [-0,34; 0,49]).

4. 5. Discussion

This study had several distinct purposes. Each of the findings along with their implication that can be drawn from the results of this study will be discussed. The relevant results about the research questions will be discussed. This is followed by suggestions for further research based on the results of this study and limitations to the generalizability of the results of this study.

One goal of this study was to examine whether the compensatory health beliefs and the compensatory health behaviors are related to binge drinking or alcohol use. The results partially confirm this question. There is a negative association between compensatory health beliefs and the regular consumption of alcohol. In other words, people who hold more compensatory health beliefs tend to drink more alcohol than people who hold less compensatory health beliefs and vice versa. This seems to be consistent with Knäuper et. al (2006) and Rabiau, Knäuper, and Miquelon (2006). It was hypothesized that people use compensatory health beliefs to compensate the high consumption of alcohol and the results support this. Compensatory health beliefs indeed seem to serve as a masking factor of an inconsistency created when one goal is to abstain from alcohol – possibly due to the awareness of its negative health effects – mismatches another goal to consume alcohol – possibly due to the need for social interaction and fitting in with the group. Earlier discussions that compensatory health beliefs serve as a reduction agent for Cognitive Dissonance (see Rabiau, Knäuper & Miquelon, 2006) are therefore partially supported by the findings reported in this paper. Binge drinking was not investigated since no connection was found between compensatory health beliefs and behaviors. Further, there was no association between Compensatory Health Behavior and regular consumption of alcohol. Although, there is an inconsistency between the CHBeliefs and the CHBehavior (Kaklamanou, Artmiage & Jones, 2012) there is no evidence for a predictive value from CHBehavior to regular alcohol consumption.

Another goal of this study was to determine whether personality traits sensation seeking and impulsivity are predictors for binge drinking or alcohol consumption. Sensation seeking describes the tendency to search for and engage in exciting and sometimes high risk activities. There is evidence that a high level of sensation seeking leads to a high consumption of alcohol and therefore may be a good predictor for alcohol-related behavior (Adams, Charnigo, Kaiser, Lynam, Milich, 2012). Based on the results sensation seeking and

impulsivity are good predictors. However it was found that they do not add value to the TPB model for alcohol consumption. That sensation seeking and impulsivity are found separately to be associated with alcohol consumption, but not in conjunction with the TPB and compensatory health beliefs and behaviors could be due to the distal property of sensation seeking and impulsivity. The results of the Mediator-Analyses Process (Hayes, 2012) show that when the personality traits act as distal factors. In other words, they add are good predictors for the distal factors within the Theory of Planned Behavior model of alcohol-related behavior (Figure 3).

Another goal of this study was to determine whether compensatory health beliefs and compensatory health behavior add explanatory value to the TPB. Since correlation-analysis found that binge drinking behavior is not associated with compensatory health beliefs and compensatory health behavior, all further analysis was done with regular alcohol consumption as the dependent variable. The results show that the compensatory health beliefs are relevant and add to the explanatory value of the TPB. Higher amounts of compensatory health beliefs are associated with higher amounts of alcohol consumed. Adding the compensatory health beliefs to the TPB model increases its explanatory quality. As expected the CHBeliefs add explanatory value to the TPB behavior. The explanatory value of the CHBeliefs are small but the fact that a particular part of alcohol-related behavior can be explain by the Compensatory Health Beliefs make it to a interesting aspect for the understanding of human behavior.

Another goal of this study was to determine whether impulsivity and sensation seeking add explanatory value to the TPB. The results of this study show that the impulsivity and sensation seeking add no explanatory value to the TPB. This contrasts that personality traits are seen as relevant for the prediction of alcohol-related behavior. A reason why this study failed to identify personality traits as adding explanatory value to the TPB may be that rational and personality based models are incompatible. The results of the Mediator-Analyses (Hayes, 2012) showed that the personal traits seem to be mediators to the TPB. Interesting is the fact that the distal factors are good predictors for Intention. Based on this, the impulsivity and sensation seeking add explanatory value to the TPB not directly but rather as distal determinants for the TPB.

This study only tried to determine whether impulsivity and sensation seeking add to the explanatory value of the TPB, but did not try to find the most probable alcohol consumption predicting personality traits and determine whether the TPB determinants add to their explanatory value.

With the results reported in this study along with the cited relevant literature support that the explaining behavior should incorporate more factors than are included in the TPB

(Armitage & Connor, 1998). CHBeliefs seem to play an important role in explaining alcohol related behavior while it may be up to future research to investigate how far CHBeliefs and CHBehavior reach within other contexts. In conclusion, the findings reported in the present study suggests that people tend to reduce their negative feelings with incorrect beliefs to decrease their cognitive dissonance and make themselves feel better though they still behave unhealthily. People tend to lie to themselves.

Limitations

One limitation to the generalizability of these findings is the narrow sample population. Since only Psychology students of University Twente participated it is questionable how far the findings fit other student or more general populations. Considering to the fact that a main part of the Study of Psychology is based on the construction and implementation of tests and surveys it can be an influence.

The narrow sample size can further have compromised the validity of the findings by reducing the significance levels of the tests. A broader sample could have gotten more precise and possibly more statistically significant findings. Another limitation is that mainly Psychology Students participated. It has been demonstrated that different disciplines of students show different alcohol consumption behavior (Jeuk, 2008). These differences have to be taken into account when referring to the findings of this study.

Another limitation that has to be taken into account is that all participants were gathered through a social networking site. Since not all studies use social networking sites to recruit their participants which could lead to a sampling error. It may be noted that the amount of studies that recruit their participants via social networking sites may increase rapidly in the future, that this issue may actually be a backwards compatibility problem.

A further limitation is the homogeneity of the sample. About 80% of the participants are female. According to Wechsler (2001) heavy alcohol consumption is most prevalent among men. Based on this the high rate (i.e. 78,8%) of female participants could have influenced the results adversely.

Suggestions for further research

This study presents evidence for the usefulness of alcohol-related Compensatory Health Beliefs in predication of alcohol behavior. As a consequence, there are some implications for further research on this topic. First, there was a limited variability of the population. Most of the respondents were female and Psychology students. To get a wider range of possible answers is a more mixed sample useful.

Also, there were no association between the Compensatory Health Behavior and the consumption of alcohol. This fact is important for future research. This suggests that Compensatory Health Belief is important in contrast to the Compensatory Health Behavior.

5. 5. References

- Ahlstrom, S. K., & Osterberg, E. L. (2004). International perspectives on adolescent and young adult drinking. *Alcohol Research and Health*, 28(4), 258-268.
- Adams, Z. & W., Kaiser, A. J (2012). Drinking motives as mediators of the-impulsivity-substance use relation: pathways for negative urgency, lack of premeditation and sensation seeking. *Addict Behavior*, 37, (7), 845-855.
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British journal of social psychology*, 40(4), 471-499.
- Armitage, C. J., Jones C. R. & Kaklamanou, D. (2012), A further look into compensatory health beliefs: A think aloud study. *British Journal of Health Psychology*, 18, 139-154.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50 (2), 179-211.
- Anderson, P., & Baumberg, B. (2006). Alcohol in Europe. *London: Institute of Alcohol Studies*, 2, 73-75.
- Babor, T., Caetano, R., Casswell, S., Edwards, G., Giesbrecht, N. & Graham K.(2003). *Alcohol: No Ordinary Commodity—Research and Public Policy*. Oxford: Oxford University Press.
- Beenstock, J., Adams, J., & White, M. (2011). The association between time perspective and alcohol consumption in university students: cross-sectional study. *The European journal of public health*, 21(4), 438-443.
- Belasen, A. & Hafer, R. W. (2013). IQ and alcohol consumption: International data. *Intelligence*, 41(5), 615-621.
- Blackmore, S. (2005). *Consciousness: A very short introduction*. Oxford University Press.

- Clark, A., Tran, C., Weiss, A., Caselli, G., Nikčević, A. V., & Spada, M. M. (2012). Personality and alcohol metacognitions as predictors of weekly levels of alcohol use in binge drinking university students. *Addictive behaviors*, 37(4), 537-540.
- Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of applied social psychology*, 28(15), 1429-1464.
- Corrao, G., Bagnardi, V., Zambon, A. & Arico, S. (1999). Exploring the dose-response relationship between alcohol consumption and the risk of several alcohol related conditions: a meta-analysis. *Addiction* 94, (10), 1551-1573.
- Cranford, J. A., McCabe, S. E. and Boyd, C. J. (2006), A New Measure of Binge Drinking: Prevalence and Correlates in a Probability Sample of Undergraduates. *Alcoholism: Clinical and Experimental Research*, 30, 1896–1905.
- Elliott, M. A., & Ainsworth, K. (2012). Predicting university undergraduates' binge-drinking behavior: A comparative test of the one-and two-component theories of planned behavior. *Addictive behaviors*, 37(1), 92-101.
- Fishbach, A. & Shah, J. Y. (2006). Self-control in action: Implicit dispositions toward goals and away from temptations. *Journal of Personality and Social Psychology*, 90 (5), 820-832.
- Gleitman, H., Gross, J. & Reisberg, D. (2011). Psychology (8th edition). New York, US: WW Norton & Company Ltd.
- Ham, L. S. & Hope, D. A. (2003). College students and problematic drinking: A review of the literature. *Clinical Psychology Review*, 23, 719-759.
- Harmon-Jones, E., & Harmon-Jones, C. (2007). Cognitive dissonance theory after 50 years of development. *Zeitschrift für Sozialpsychologie*, 38(1), 7-16.
- Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A. & Kraus, L. (2011). *The 2011 ESPAD Report – Substance Use Among Students in 36*

European Countries. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN).

Jeuk, O. E. (2008). *Binge drinking unter deutschen Erstsemesterstudenten: Eine Studie zum Alkoholkonsum von Erstsemesterstudenten*. University of Marburg.

Kaklamanou, D., Armitage, C. J. & Jones, C. R. (2013). A further look into compensatory health beliefs: A think aloud study. *British Journal of Health Psychology*, 18, 139-154.

Knäuper, B., Rabiau, M., Cohen, O., & Patriciu, N. (2004). Compensatory health beliefs: scale development and psychometric properties. *Psychology & Health*, 19 (5), 607-624.

Kuther, L.T., (2002). Rational decision perspectives on alcohol consumption by youth: Revising the theory of planned behavior. *Addict Behavior*, 27 (1), 35-47.

Labrie, J. W., Kenney, S. R., Napper, L. E., & Miller, K. (2014). Impulsivity and alcohol-related risk among college students: Examining urgency, sensation seeking and the moderating influence of beliefs about alcohol's role in the college experience. *Addictive behaviors*, 39(1), 159-164.

Ledoux, S., Miller, P., Choquet, M. & Plant, M. (2001). Family Structure, Parent-Child Relationships, and Alcohol and other drug use among Teenagers in France and the United Kingdom. *Alcohol and Alcoholism*, 37 (1),52-60.

Lee, A.G. & Forsythe, M. (2011). Is alcohol more dangerous than heroin? The physical, social and financial costs of alcohol. *International Emergency Nursing*, 19 (3), 141-145.

Maior, G., & Haddock, G. (2009). *The psychology of attitudes and attitude change*. Sage.

Marcoux, B. C., & Shope, J. T. (1997). Application of the theory of planned behavior to adolescent use and misuse of alcohol. *Health Education Research*, 12, 323-331.

- Mallett, K. A., Marzell, M., Varvil-Weld, L., Turrisi, R., Guttman, K., & Abar, C. (2011). One-time or repeat offenders? An examination of the patterns of alcohol-related consequences experienced by college students across the freshman year. *Addictive behaviors, 36*(5), 508-511.
- Monninkhof, E., van der Valk, P., van der Palen, J., Mulder, H., Pieterse, M., van Herwaarden, C. & Zielhuis, G. (2004). The effect of a minimal contact smoking cessation programme in out-patients with chronic obstructive pulmonary disease: a pre-post-test study. *Patient Education and Counseling 52* (3), 231-236.
- Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological review, 84*(3), 231.
- Norman, P. (2011). The theory of planned behavior and binge drinking among undergraduate students: Assessing the impact of habit strength. *Addictive Behaviors, 36*, 502–507.
- Norman, P., & Conner, M. (2006). The theory of planned behaviour and binge drinking: Assessing the moderating role of past behaviour within the theory of planned behaviour. *British Journal of Health Psychology, 11*, 55-70.
- Park, C. L. (2004). Positive and negative consequences of alcohol consumption in college students. *Addictive Behaviors, 29*, 311-321.
- Parry, C., Patra, J. & Rehm, J. (2011). Alcohol consumption and non-communicable disease: epidemiology and policy implications. *Addiction, 160* (10), 1718-1724.
- Paula, L. A., Grubaugh, A. L., Frue, B. C. & Egede, L. E. (2011). Associations between binge and heavy drinking and health behaviors in a nationally representative sample. *Addict Behavior, 36* (12), 1240-1245.
- Peeters, M., Monshouwer, K., Schoot, R. A., Janssen, T., Vollebergh, W. A., & Wiers, R. W. (2013). Automatic Processes and the Drinking Behavior in Early Adolescence: A Prospective Study. *Alcoholism: Clinical and Experimental Research*.

- Prochaska, J. O., Velicer, W. F., Rossi, J. S., Goldstein, M. G., Marcus, B. H., Rakowski, W., & Rossi, S. R. (1994). Stages of change and decisional balance for 12 problem behaviors. *Health psychology, 13*(1), 39.
- Rabiau, M., Knäuper, B., & Miquelon, P. (2006). The eternal quest for optimal balance between maximizing pleasure and minimizing harm: The compensatory health beliefs model. *British journal of health psychology, 11*(1), 139-153.
- Radtke, T., Scholz, U., Keller, R., Knäuper, B., & Hornung, R. (2011). Smoking-specific compensatory health beliefs and the readiness to stop smoking in adolescents. *British Journal of Health Psychology, 16* (3), 610-625.
- Spear, L. P. (2014). Adolescents and alcohol: Acute sensitivities, enhanced intake, and later consequences. *Neurotoxicology and Teratology, 41*, 51-59.
- Stickley, A., Koyanagi, A., Kuposov, R., Razvodovsky, Y. & Ruchkin, V. (2013). Adolescent binge drinking and risky health behaviors: Findings from northern Russia. *Drug and Alcohol Dependence, 133* (3), 838-844.
- Van Hoof, J. J., Van der Lely, N., Rodrigues Pereira, R. & Van Dalen, W.E.(2010). Adolescent alcohol intoxication in the Dutch hospital Departments of Pediatrics. *Journal of Studies on Alcohol and Drugs, 71*, 366-372.
- Van Rooij, A. J., Schoenmakers, T. M., Van de Mheen, D. (2011). Nationaal Prevalentie Onderzoek Middelengebruik 2009: De kerncijfers [National Prevalence Study on Substance Use 2009: Core Statistics]. Rotterdam, IVO.
- Wechsler, H., Dowdall, G. W., Davenport, A., & Rimm, E. B. (1995). A gender-specific measure of binge drinking among college students. *American Journal of Public Health, 85*(7), 982-985.
- Wechsler, H., & Nelson, T. F. (2001). Binge drinking and the American college students: What's five drinks?. *Psychology of Addictive Behaviors, 15*(4), 287.

Weitzman, E. R., Nelson, T. F., & Wechsler, H. (2003). Taking up binge drinking in college: The influences of person, social group, and environment. *Journal of Adolescent Health, 32*(1), 26-35

Whiteside, S. P., & 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.

6. 6. Appendix

Appendix 1. Online survey

Informed Consent

1. Ik stem geheel vrijwillig in met deelname aan dit onderzoek. Ik behoud me daarbij het recht voor om elk moment zonder opgave van redenen mijn deelname aan dit onderzoek te beëindigen.

Ja

Nee

Demografische Gegevens

2. Jouw geslacht

Man

Vrouw

3. Jouw leeftijd

<20

21

22

23

24

25

26

27

28

29

30

>30

4.Jouw Sona System Nummer (niet verplicht)

5.Ben je op dit moment student

Ja Nee

6.Zo ja kies jouw opleiding

HBO

Universiteit

Anders

Geen Student

Alcohol gebruik

7.Heb je in de afgelopen 12 maanden alcohol gedronken?

Ja

Nee

8.Op hoeveel van de 4 doordeweekse dagen (hiermee wordt bedoeld maandag t/m donderdag) drink je gemiddeld genomen alcoholhoudende drank?

4 dagen

3 dagen

2 dagen

1 dag

minder dan 1 dag

ik drink nooit alcohol op doordeweekse dagen

9.Hoeveel glazen drink je dan gemiddeld op zo'n doordeweese dag?

11 of meer glazen

7-10 glazen

6 glazen

5 glazen

4 glazen

3 glazen

2 glazen

1 glas

0 glazen

10.Op hoeveel van de 3 weekenddagen (hiermee wordt bedoeld vrijdag t/m zondag) drink je gemiddeld genomen alcoholhoudende drank?

3 dagen

2 dagen

1 dag

minder dan 1 dag

ik drink nooit alcohol op weekend dagen

11.Hoeveel glazen drink je dan gemiddeld op zo'n weekenddag?

11 of meer glazen

7-10 glazen

6 glazen

5 glazen

4 glazen

3 glazen

2 glazen

1 glas

0 glazen

12.Hoe vaak heb je de afgelopen 4 weken zes of meer glazen alcoholhoudende drank op een dag gedronken?

Nooit of bijna nooit

1 keer

2 keer

3 keer

4 keer

5 keer

6 keer

7 keer

7 keer of meer

Compensatory Health Behavior

Wanneer je in de afgelopen 12 maanden alcohol drinkt, hoe vaak heb je toen vooraf of achteraf onderstaande acties ondernomen om de gevolgen van het drinken te compenseren.

13.Veel water gedronken tijdens of na het drinken.

Nooit of bijna nooit

Ongeveer een kwart van de keren

Ongeveer de helft van de keren

Ongeveer driekwart van de keren

Bijna altijd of altijd

14.Extra gezond gegeten voor of na het drinken.

Nooit of bijna nooit

Ongeveer een kwart van de keren

Ongeveer de helft van de keren

Ongeveer driekwart van de keren

Bijna altijd of altijd

15. Door de week geen snoepjes of andere ongezond voedsel gegeten.

Nooit of bijna nooit

Ongeveer een kwart van de keren

Ongeveer de helft van de keren

Ongeveer driekwart van de keren

Bijna altijd of altijd

16. Extra gesport voor of na het drinken.

Nooit of bijna nooit

Ongeveer een kwart van de keren

Ongeveer de helft van de keren

Ongeveer driekwart van de keren

Bijna altijd of altijd

17. Door de week geen alcohol gedronken om in het weekend wel alcohol te kunnen drinken.

Nooit of bijna nooit

Ongeveer een kwart van de keren

Ongeveer de helft van de keren

Ongeveer driekwart van de keren

Bijna altijd of altijd

18. Extra (lang) geslapen voor het drinken.

Nooit of bijna nooit

Ongeveer een kwart van de keren

Ongeveer de helft van de keren

Ongeveer driekwart van de keren

Bijna altijd of altijd

Compensatory Health Beliefs

In hoeverre ben je het in het algemeen eens met de volgende stellingen.

19. De negatieve gevolgen van regelmatig alcohol drinken kun je compenseren door daarnaast een gezonde leefstijl (voldoende sporten, gezonde voeding, niet roken, etc.) te hanteren.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

20. De negatieve gevolgen van een keer teveel alcohol drinken kun je compenseren door veel water te drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

21. De negatieve gevolgen van af en toe teveel alcohol drinken kun je compenseren door minimaal een paar dagen per week geen alcohol te drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

SURPS (Hier alleen Sensation Seeking and Impulsivity)

In hoeverre ben je het in het algemeen eens met de volgende stellingen.

22. Ik denk vaak niet goed na, voordat ik iets zeg.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

23. Ik zou graag parachutespringen.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

24. Ik begeef mij vaak in situaties waar ik later spijt van heb.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

25. Ik geniet van nieuwe en spannende ervaringen, zelfs als deze ongewoon zijn.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

26. Ik houd ervan dingen te doen die me een beetje beangstigen.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

27. Normaal gesproken doe ik iets zonder eerst na te denken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

28. Ik wil graag leren hoe ik motor moet rijden.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

29. Over het algemeen ben ik een impulsief persoon.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

30. Ik ben geïnteresseerd in ervaringen, puur om de ervaring zelf, ook als het illegaal is.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

31.Het lijkt me leuk lange afstanden te wandelen op ruig en onbewoond terrein.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

32.Ik heb het gevoel dat ik anderen moet manipuleren (bespelen) om te krijgen wat ik wil.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

Theory of Planned Behavior

Attitude

33.Wanneer ik op een avond meer dan 5 glazen alcohol drink, vind ik dat...

(maak voor elke vraag het rondje zwart dat het dichtst bij jouw antwoord ligt)

Slecht _ _ _ _ _ Goed

Onprettig _ _ _ _ _ Prettig

Onverstandig _ _ _ _ _ Verstandig

Ongezellig _ _ _ _ _ Gezellig

Vies _ _ _ _ _ Lekker

Subjectieve Norm

34.Zelf niet meer dan 5 glazen alcohol drinken als mijn vrienden/vriendinnen wel meer dan 5 glazen alcohol drinken is voor mij moeilijk.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

35. Alcohol weigeren als ik die aangeboden krijg is voor mij moeilijk.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

36. Nooit (meer) dan 5 glazen alcohol drinken op een avond is voor mij moeilijk.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

Waargenomen gedragscontrole

37. Mijn ouders vinden dat ik niet meer dan 5 glazen alcohol op een avond zou moeten drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

38. Mijn vrienden/vriendinnen vinden dat ik niet meer dan 5 glazen alcohol op een avond zou moeten drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

39. Mijn huisgenoten vinden dat ik niet meer dan 5 glazen alcohol op een avond zou moeten drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

Intention

40. Ik ben van plan in de toekomst niet meer dan 5 glazen alcohol te drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

41. Ik verwacht dat ik in de toekomst niet meer dan 5 glazen alcohol op een avond zal drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

42. Ik wil in de toekomst niet meer dan 5 glazen alcohol op een avond drinken.

Helemaal mee oneens

Mee oneens

Neutraal

Mee eens

Helemaal mee eens

Voor vragen over dit onderzoek kunt u graag een email sturen.