

# Forewarned is forearmed.

*The effects of textual consequences and instructions in alcohol warning labels.*

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Almost everybody has ever seen them: the striking and confrontational warnings on cigarette packages. The warnings are intended to alert the consumer of the product risk to both the potential health risks of smoking and that smoking in the vicinity of other individuals can endanger their health too. Besides cigarettes, alcohol also belongs to the category of risk products. To date, there is no clarity about how a suitable alcohol warning label should look like. In contrast to alcohol warning labels, warning labels in other fields are widely investigated. Design features related to color usage or the presence of an icon or symbol within the warning label context are extensively examined. Therefore, we know that the presence of an icon, a signal word, the identification of the risk and a suitable background color within a warning label is effective. But to what extent determine textual elements within the warning label its effectiveness on knowledge, attitudes, risk perception and in the end behavioral intention? Therefore, two studies within two different contexts ('health'-context and 'drunk driving'-context) have been conducted to determine to what extent consequences and/or instructions should be mentioned or omitted within an alcohol warning label. In total, 254 participants took part in 2 studies. Results of Study 1 show a main effect of consequences on behavioral intention, which means that the presence of consequences within the warning label led to a positive behavioral intention to prevent drunk driving. Besides, both studies did reveal effects of instructions or consequences on the variables, but they have not convincingly demonstrated whether consequences or instructions should be present within the alcohol warning label to lead to the desirable effects. Further investigation should determine what the most suitable design is for an alcohol warning label. Subsequently, it is interesting to know what the effect is of this warning label on for example purchase intentions, but especially on the behavior of groups at risk like young individuals.

## 1. INTRODUCTION

A drink every now and then will not hurt, as long it is in moderation. However, many scientific findings indicate that (especially excessive) alcohol consumption could for example lead to severe and permanent health damage. The most frequently mentioned effects of alcohol consumption will be briefly described.

First of all, it was shown when individuals consume alcohol in adolescence, this may have negative effects on the functions and structure of the brains, which in turn can lead to memory, learning, and concentration problems (Brown, 2000; Tapert et al., 2001; Tapert, Baratta & Abrantes, 2002; Tapert et al., 2003; Boelema et al., 2009), and when a child with an age younger than 15 years consumes alcohol, the risk of becoming a problem drinker or an alcoholic at an older age is four times bigger than an individual who starts consuming alcohol at the age of 21 (Grant & Dawson, 1997; Grant et al., 2006; Boelema et al., 2009).

Also, there is a clear relationship between alcohol consumption at a young age and showing other risk behaviors such as having unsafe sex, violence and drunk driving (Ellickson et al., 2003; Miller et al., 2007; Boelema et al., 2009). Data from the World Health Organization (WHO) has shown that drinking and driving is one of the main causes of road crashes worldwide, especially among individuals aged between 16 and 29 (WHO, 2007). In the Netherlands, especially young men aged between 18 and 24 years are overrepresented in alcohol-related traffic accidents. Young men are 4% of the entire Dutch population, but they are victims in 23% of the alcohol in traffic accidents (Rijksoverheid, 2010).

Despite the fact that alcohol consumption could cause permanent brain damage, could lead to addictive behavior at an older age and could be the main cause of severe traffic accidents, alcohol can also stimulate the development of specific cancer types. The most common cancer types which could be caused by (excessive) alcohol consumption are throat cancer, larynx cancer, stomach cancer, colon cancer and breast cancer (Bagnardi et al., 2008; Berkley, 2010). In the long term, excessive alcohol consumption could also lead to a stroke, obesity, pancreatitis, a high blood pressure and heart- and liver diseases (Pearson, 1996). Besides, according to the American Heart Association and other health institutions, 'drinking in moderation' means that females may consume one alcoholic drink per day and males one to two alcoholic drinks per day (Pearson, 1996; Baas, 2008).

Given the nature and severity of the mentioned health risks and consequences, it is important that individuals are aware of and familiar with these risks and consequences. One way in which this awareness can be achieved or be raised is by using warning labels. In general, warning labels are already applied on risk products like cigarettes, household products (cleaning products and detergents) and violent videogames and/or movies. In comparison with the warnings on the mentioned products, which are notable, conspicuous (cigarettes warnings) or iconic (household products and violent video games and/or movies), the current warning labels on alcoholic beverages are inconspicuous, small, vertically placed and solely textual (Laughery et al., 1993; Wilkinson & Room, 2009).

These characteristics make alcohol warning labels unnoticeable, mainly because they blend with their backgrounds and as a result the warning label misses its purpose: to warn consumers about the potential consequences of alcohol consumption (Laughery et al., 1993; Wilkinson & Room, 2009). Therefore, the main question now is what does an effective warning label look like and to what extent can these aspects be translated into the development of an effective alcohol warning label?

## 2.WHAT DOES AN EFFECTIVE WARNING LOOK LIKE?

Warning individuals by using a warning label on risky products could be a good manner to influence the awareness of consumers, because it reaches a broad public and it can lead to a greater risk and hazard perception (Wilkinson & Room, 2009). Therefore, warning labels could be defined as 'labels on a product that informs individuals of one or more potential hazards and describes the safety precautions and/or actions required to avoid the hazard.' (The American National Standard Institute [ANSI], 1991; ANSI, 1998; ANSI, 2002).

In short: an effective warning-label attracts attention, enhances (existing) knowledge and influences behavioral compliance positively (Laughery & Wogalter, 2011) and consists of the following components: A) a signal word to attract attention (for example 'caution' or 'warning'), B) an identification of the risk (for example 'hazardous voltage present'), C) an icon or symbol, D) an explanation of the consequences if individuals decide to ignore the warning (for example 'Contact may cause electric shock or burn.') and E) there could be given instructions which help individuals to avoid the mentioned risk (for example 'turn off and lock-out system power before servicing') (Wogalter et al., 1987; Wogalter et al., 2002; ANSI, 1991, 1998, 2002). Below, the body of literature regarding each component (Figure 1) will be outlined.

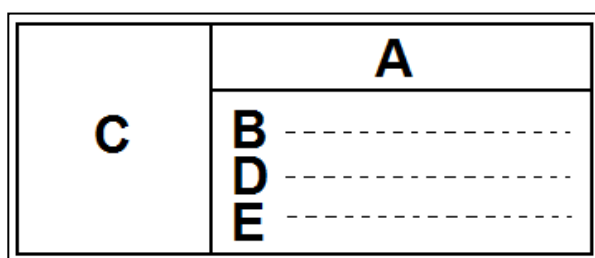


Figure 1. Overview of the components of the warning label.

### 2.1 Signal words and color usage (A)

A warning label becomes more effective due to the presence of a signal word. Signal words are bold words that mention the severity of the risk, such as 'CAUTION', 'WARNING', 'DANGER' and 'NOTICE' which are in most cases related with the colors yellow, orange, red and blue (Wogalter & Silver, 1990; Braun, Kline & Silver, 1995; Wogalter, Conzola & Smith-Jackson, 2002; Wogalter & Laughery, 2006). It was found that the usual (background) color and signal word combinations are RED-DANGER, ORANGE-WARNING and YELLOW-CAUTION (Griffith & Leonard, 1997; Leonard, 1999). Despite the fact that there is some scientific discussion about these signal word and color combinations, by far the most consensus are about these combinations. Nevertheless, it is suitable to combine the signal word with a background color, because besides the fact that the usage of colors has a positive effect on perceived hazard it also has a positive effect on the readability of the warning (Braun, Kline & Silver, 1995).

Research has also shown that the signal word 'DANGER' connotes with the highest level of perceived hazard, followed by the signal words 'WARNING' and 'CAUTION' (Chapanis, 1991; Wogalter et al., 1995; Kalsher et al., 1995). Besides the fact that signal words indicate a certain degree of hazardousness, it also depends on the situation or the product which signal word is most appropriate. According to Laughery (2006), the signal word 'DANGER' is most appropriate to hazards that cause serious damage and injury immediately, for example high voltage cables and hydrochloric acid. The signal word 'WARNING' 'indicates a hazardous situation which, if not avoided, *could* result in death or serious injury' and the signal word 'CAUTION' implicates dangers which are related to or could result into minimal injury or damage (Laughery, 2006).

Based on these findings and given the fact that the research will be conducted within the alcohol-context, the signal word 'warning' in combination with an orange background color is the most suitable.

### 2.2 Identification of the risk (B)

In general, one can be warned in various ways and this depends on the context in which one is warned. However, warnings often differ in degree of explicitness and severity. If a danger is described, with the associated consequences and risks, and how these may be avoided, it is important that these descriptions are explicit. Explicitness refers to the specific nature of the danger or injury; giving specific, detailed, clearly formulated information rather than general information (Laughery et al., 1991; Laughery & Wogalter, 2006; Laughery & Wogalter, 2011).

Research has shown that explicitness of the information presented in a warning label is an important factor in determining its effectiveness in terms of knowledge (Laughery & Smith, 2006). From a motivational perspective, it is shown that explicit information has a positive effect on compliance behavior of individuals, and additionally, explicit warnings lead to better understanding of the danger which allows individuals to undertake appropriate action (Laughery, 2006). A study conducted by Otsubo (1988) has shown that more explicit warnings were associated with greater levels of perceived dangerousness, hazard understanding, injury severity, an increased intent to act cautiously in using products and manufacturers' concern. Besides, warnings should be explicit, because in that case products are considered to be more dangerous and related injuries are perceived as more severe than if the warnings are vague or ambiguous (Laughery & Stanush, 1989).

Therefore, to make both the warning label more explicit and to emphasize the content of the product itself, the identification of the risk is clarified by using the following sentence: 'This product contains alcohol'.

### *2.3 Presence of an icon and other design factors (C)*

Besides the signal word, a suitable background color and the risk identification, the design of the warning-label is also an important factor in attracting attention, enlarging (existing) knowledge and behavioral compliance (Laughery & Wogalter, 2011). To attract attention, factors such as size and contrast, the use of graphics or icons are important design elements (Laughery, 2006; Laughery & Wogalter, 2006; Wogalter & Vigilante, 2006).

The following design-factors are necessary to enhance warning-label effectiveness in order to increase knowledge of individuals. In the first place, using familiar words like 'poison', 'cancer' and 'health' are most powerful in enhancing the warning labels' effectiveness (MacKinnon, Nemeroff & Nohre, 1994). In addition, it was shown that size of the warning-label and the usage of symbols, icons and/or graphics have a positive effect on attention and recall and thus the effectiveness of the warning label. For example, Barlow and Wogalter (1991) found that bigger and higher contrasted warnings were better remembered and Laughery et al. (1993) state that the use of pictorials, icons and color improve the noticeability of warning labels. An important finding is made in the tobacco context by Wilkinson and Room (2009), who found that the introduction of more graphic and larger cigarette warning labels (with rotating messages) has affected the awareness of individuals about the health consequences of smoking, the smoking behavior of individuals and even cessation

behavior positively (Nimbarte, Aghazadeh, & Harvey, 2005; Hammond et al., 2006; White, Webster & Wakefield, 2008; Borland et al., 2009; Kees et al., 2010).

Based on these findings, it was decided to use two different icons: a 'driving ban' icon and a 'boozing ban' icon, which are both tailored to the research contents.

### *2.4 Consequences and instructions (D and E)*

If an individual should be warned for a particular hazard, it is important that this warning is described explicitly. In addition to the presence of a short description of the risk and/or the hazard, it is also appropriate to strengthen the severity by mentioning possible (health) consequences if the warning will be ignored. It has been found that especially when injuries may be severe consequences should be mentioned explicitly (Keller & Block, 1996). If a warning label is aimed at adolescents, Smith and Stutts (2003) state that emphasizing social consequences may be more effective than emphasizing physical consequences because they arouse less fear. In order to ensure compliance behavior, Dingus, Wreggit and Hathaway (1993) state that subjects will be more likely to comply with warnings if: the cost of compliance is lowered, a warning is provided which contains information pertaining to the specific consequences of using the product and the warning is situated in such a way that the consumer must interact with the label.

Mentioning consequences can influence for example compliance behavior and risk perception, but it is also possible to give instructions which explain for example how individuals should behave to minimize the (health) damage. However, the question arises in which situation(s) it is suitable to give an instruction and in which situation(s) it can be omitted. Young et al. (1995) state that the instruction statement was very important in some instances (e.g. the danger of electrocution because of high voltages: 'Do not enter'), but relatively unimportant in others (e.g. slippery floor: 'Watch your step'). They concluded that the relevance of the instruction statement was very much dependent on the hazard and/or the wording of the other statements in the sign.

The effects of consequences and instructions are investigated within contexts related to hazardous situations such as 'high voltage', 'confined space' and 'slippery floors' (e.g. Young et al., 1995). But the possible effects of consequences and instructions within the risk-product context, especially within alcohol warning labels, still remain unclear.

### 2.5 Alcohol warning labels

These days, risk products like tobacco are provided with a large textual warning and in some cases this warning is supported by a frightening graphic. If you look at household products like cleaning and washing products, these packages are provided with clear icons, which indicate potential usage hazards or which state that the product should be out of reach of children. Harmful media like movies and video games are also provided with an icon which indicates age limits but also content information related to violence, sexual, discrimination, frightening situations and/or foul language.

Unlike countries like Argentina, Brazil, Colombia, Costa Rica, Ecuador, Honduras, Japan, Mexico, South-Korea, South-Africa, the United States and European countries like the United Kingdom, Sweden, Germany and France (Pape, 2008), Dutch alcoholic beverages are not yet provided with an alcohol warning label. In Colombia, France, South Africa, and South-Korea alcoholic beverages are provided with a warning icon (related to a prohibition of consuming alcohol during pregnancy), which could be seen as more effective than the textual warning (e.g. United States and United Kingdom) based on several studies (e.g. Smith-Jackson & Wogalter, 2000; Houts et al., 2006).

Most countries implement textual warnings on an alcoholic beverage, for example 'Know your limits. Men 3-4 units per day, women 2-3 units per day.' (United Kingdom), 'Drink responsibly' (South Africa), 'Drinking during pregnancy can be harmful to your unborn baby' (United States), 'Alcohol reduces driving ability, don't drink and drive' (South Africa), 'Consumption of alcohol impairs your ability to drive or operate machinery, and may cause health problems' (United States). As can be seen, all mentioned warnings have a short term or a long term orientation or both. Nevertheless, it was found that the current warning labels on alcoholic beverages in the mentioned countries are stated as a vague and ambiguous (textual) warning, also due to the fact that the warning is vertically placed on the package (Wogalter & Young, 1998; Kaskutas & Greenfeld, 1992). Based on this literature, it is clear that the current warning labels on alcoholic beverages are not uniform and, even more important, yet there is no scientific evidence of the effectiveness of these warning labels.

### 2.6 This study

Based on these findings about warning-label design, to create the perfect warning label, it must meet certain requirements. Several studies have shown that there is much consensus about the effects of signal words and background colors, but relatively little attention was paid to the

effectiveness of textual elements within the warning label, related to mentioning (health) consequences and/or providing instructions, especially in the (risk) product context. Therefore, two studies will examine to what extent the mentioned design and textual findings (e.g. Laughery & Stanush, 1989; Laughery & Wogalter, 2011; Wogalter, Conzola, & Smith-Jackson, 2002; ANSI, 2002) are effective within an alcohol warning-label. Because it is not clear to what extent consequences and instructions should be combined or should be omitted in an alcohol warning label in terms of its effectiveness, the effects of the absence or presence of consequences and/or instructions on the individual's knowledge, risk perception, attitudes and behavioral intention will be measured in two studies. This effectiveness will be measured within two different contexts. In the first study, the focus lies on the risks of drunk driving and the second study is related to the health risks of alcohol consumption. Despite the fact that there have been conducted two studies, the only difference between those two studies was the content of the warning label (Study 1: 'drunk driving' (short term) and Study 2: 'health' (long-term)).

## 3. METHOD

Like mentioned earlier, two studies have been conducted to investigate to what extent consequences and instructions should be combined or should be omitted in an alcohol warning label. In this chapter will be explained which experimental design and what manipulations were used in both studies and to what procedure the participants were subjected.

### 3.1 Design

A 2 x (presence versus absence consequences) x 2 (presence versus absence instructions) between-subjects design was applied for two different labels. In the first study, the presence or absence of a consequence and an instruction was measured in a 'drunk driving' context and in the second study the focus lies on the potential health damage of alcohol consumption.

Given the fact that this study is conducted within two different contexts, there were two different types of warning labels to which respondents could be exposed to. The first type was focused on the topic 'drunk driving' (Study 1) and the other warning label was related to the 'general health risks' (Study 2) of alcohol consumption.

In these studies, the effects of the presence or absence of consequences and/or instructions on the (existing) knowledge, attitudes and behavioral intention were measured. Based on both studies, it was assumed that participants who are exposed to the 'drunk-driving'-warning label, in which they are warned for the dangers of drunk driving, will

have a higher ratings on the knowledge-items related to ‘drunk-driving’ than the participants who were exposed to the ‘health risks’-warning label. The participants in the ‘health risks’-warning label conditions will in turn have higher ratings on health related knowledge-items compared to the participants in the ‘drunk driving’-warning label conditions.

Besides, it is expected that these relationships will be the strongest in the condition in which both the ‘drunk-driving’-warning label and the ‘health-risk’-warning label are complete (provided with both consequences and instructions). This is expected because due to the presence of both consequences and instructions, the warning label becomes more concrete and the more concrete the warning label is, the more effective it is expected to be.

### 3.2 Manipulations and checks

To measure the effects of consequences and instructions, two different warning labels were developed. Both warning label designs were based on scientific findings mentioned earlier (e.g. Barlow & Wogalter, 1991; Swasy, Mazis & Morris, 1992; Laughery et al., 1993; Wogalter et al., 2002; Argo & Main, 2004; Kees et al., 2010) and were both provided with the following elements: a signal word (‘WARNING’) with a background color (orange), an icon, clear black borders drawn to a white background, and the textual elements (identification of the risk, consequences and instructions) within the warning labels were written in font ‘Helvetica’. In both studies the identification of the risk was ‘This product contains alcohol’. In Study 1 (‘drunk driving’), the consequence was: ‘Driving under influence is dangerous for yourself and other road users.’ and the instruction was: ‘Don’t drink and drive’ (Figure 2). In Study 2, the consequence was: ‘Consuming alcohol could lead to permanent health damage.’, associated with the instruction: ‘Don’t drink more than 2 consumptions a day.’ (Figure 3).

- \* WARNING  
This product contains alcohol.  
Driving under influence is dangerous for yourself and other road users.  
Don’t drink and drive.
- \*\* WARNING  
This product contains alcohol.  
Consuming alcohol could lead to permanent health damage.  
Don’t drink more than 2 consumptions a day.



Figure 2. Warning labels used in Study 1.

Both warning label types were manipulated in four different ways (see Figures 2 and 3). In the first condition, there were neither consequences nor instructions included. In the second condition, participants were exposed to a consequence of drunk driving or a consequence related to health. In the third condition, participants were exposed to an instruction related to drunk driving or related to health. In the last condition, the warning label contained both consequences and instructions. Participants were randomly assigned to one of the eight conditions. A recall exercise was used as a manipulation check. Participants had to specify which of the warning labels they have seen at the beginning of the experiment. An overview of the correct answers on this manipulation check in both studies is presented in Table 1.

Table 1. Overview of correct answers on the manipulation check in both studies (%).

	No manipulation	Consequences	Instructions	Both
Study 1	74,2	69,0	70,8	61,4
Study 2	73,5	60,6	88,9	65,0

### 3.3 Questionnaire and measures

To measure the warning label’s effectiveness, a questionnaire was used to get insight on the effects of consequences and or instructions on knowledge, risk perception, attitude and behavioral intention (see Appendix I).

It is suggested that the warning labels should enhance existing knowledge of individuals. Both studies will investigate to what extent consequences and/or instructions influence the existing knowledge of the participants. The following dependent variable that will be measured is risk perception and can be defined as ‘perceived susceptibility to and severity of possible health consequences’. It was found that risk perception is an important determinant of health behavior (Larsman, Eklöf & Törner, 2012).



Figure 3. Warning labels used in Study 2.

By conducting both studies, it will become clear to what extent participants perceive consuming alcohol while they have to drive as a risk and to whether they perceive consuming alcohol as a risk to their health.

According to the well-known Theory of Planned Behavior (Ajzen, 1991) is behavioral intention the best predictor of the actual behavior. Behavioral intention can be defined as “a persons’ subjective probability that he will perform some behavior.” (Ajzen, 1991, p. 288).

This theory stated that the behavioral intention of individuals is determined by the attitude (favorable or unfavorable idea or feeling towards the behavior) they have towards that specific behavior, the subjective norms (perceived social pressure) and the perceived behavioral control (Ajzen, 1991, n.d.). Therefore, to determine the behavioral intention of individuals with respect to not drive under influence of alcohol and to consume alcohol responsibly, attitudes, subjective norms and perceived behavioral control are measured in this study.

Additional to the four main constructs, also some background variables were measured. Reliably-measures were used to get insight in the reliability of the warning labels and the PANA-scale (Watson, Clark & Tellegen, 1988) was useful to get insight in the affective feelings of the participants towards alcohol in general. Besides the general demographics (e.g. gender and age) also some additional questions were formulated related to smoking- and drinking behavior (Quantity-Frequency scale (Heath, Meyer, Eaves & Martin, 1991)) and the participants were asked if they had a driving license. Participants were also asked to give their opinion about the implementation of warning labels on alcoholic beverages (social support). The reliability levels (Cronbach’s Alpha) of the used constructs and the corresponding number of items which measured the construct are presented in Table 2.

Table 2. Cronbach’s Alpha of the constructs.

Construct	Study 1 (‘Drunk driving’)	Study 2 (‘Health’)	N (items)
Knowledge	0.858	0.854	8
Risk perception	0.624	0.614	4
Attitudes	0.920	0.914	10
Behavioral intention	0.688	0.696	8
Reliability	0.851	0.835	7
PANA-scale	0.908	0.872	19

### 3.4 Procedure

Participants were personally approached with the request to participate in one of the two studies. Data was collected by using an online questionnaire (Appendix I). The participants were told that completing the questionnaire will not take more than 10 minutes.

Besides, the participants were promised that completing the questionnaire is completely anonymous and on a voluntary basis. In total, there were eight different online-questionnaires developed, which contained the same questions but differed in warning-label conditions. (For an overview of the mean scores per construct and standard deviations per question and per condition, see Appendix II).

### 3.5 Participants

In total, 254 undergraduates (117 males (Study 1: 62, Study 2: 55) and 137 females (Study 1: 66, Study 2: 71)) from five faculties of the University of Twente participated in both studies (mean age = 22.62, SD = 2.64). Participants were randomly assigned to one of the eight (between subject) conditions. (For an overview of the Chi-Square results see Appendix III).

## 4. RESULTS

To explore the individual and joint effect of the presence or absence of consequences and instructions on the dependent variables, a two-way between groups analysis of variances was used. Also an analysis of covariance was conducted on the dependent variables. For a quick view of all the results, see Table 3 in which the results are clearly presented.

### 4.1 Knowledge

To investigate to what extent we have not violated the homogeneity of variances, the Levene’s Test of Equality of Error Variances was used. It was found that in both studies the significance level was greater than 0.05, namely 0.971 in Study 1 (‘drunk driving’) and 0.969 in Study 2 (‘health’). This indicates that the homogeneity of variances assumption was not violated.

In both studies a two-way between-groups analysis of variances was used to explore the individual and joint effect of the presence or absence of consequences and instructions on the dependent variables. It was found that in both studies, there was neither an interaction effect nor a main effect of the presence of consequences and/or instructions on the knowledge of respondents related to the health and traffic risks of alcohol consumption. It was found that there was no main effect for consequences or instructions on knowledge in Study 1 ( $F(1, 128) = 0.475, p = 0.855, p = 0.135$ ). Also, the interaction effect was not significant (consequence\*instruction:  $p = 0.922$ ). This indicates that there is no significant difference in the effect of consequences and instructions on knowledge. In Study 2, no main effect for consequences or instructions was found on knowledge ( $F(1, 126) = 0.461, p = 0.629, p = 0.746$ ) and the interaction effect was also not significant (consequence\*instruction:  $p = 0.641$ ).











In both studies, a 2 by 2 between-groups analysis of covariance was conducted to control for scores on knowledge for the following covariates: gender, age, faculty, smoking behavior, the possession of a driving license and the total amount of alcohol respondents consume weekly. In both studies this statistical analysis yielded one significant result related to the weekly alcohol consumption on the construct knowledge (Table 3). In Study 1 ( $p = 0.027$ ) the mean scores of respondents who consume alcohol ( $M = 3.72$ ) differed significantly from the respondents who consume no alcohol ( $M = 4.11$ ). In Study 2 ( $p = 0.045$ ), the mean scores of respondents who consume less or more than 8 consumptions a week ( $M = 3.66$ ) differed from the respondents who consume no alcohol ( $M = 4.04$ ).

In Study 1, it was also found that there was an interaction between the presence of consequences within the warning label, and the age of respondents (consequences\*age:  $p = 0.026$ ,  $M$  (young) = 3.85,  $M$  (old) = 3.52). This means that respondents younger than 24 years old within the consequence condition had a better knowledge than respondents who are 24 years or older (Table 3).

In Study 2 there was an interaction found between the presence of consequences and the possession of a driving license (consequences\*driving license:  $p = 0.043$ ,  $M$  (yes) = 3.69,  $M$  (no) = 3.72). These results indicated that respondents within the consequence condition and with a driving license have a better knowledge about the risks of alcohol consumption to their health than respondents without a driving license. Within the instruction condition, respondents who are younger than 24 had a better knowledge about the health risks of alcohol than respondents who are 24 or older (Table 3).

There was also found a marginal significant interaction between the presence of instructions and age (instructions\*age:  $p = 0.051$ ). This finding suggests that young students ( $M = 3.77$ ) within the instruction-condition had a better score on health-knowledge of alcohol consumption than older students ( $M = 3.57$ ).

#### 4.2 Risk perception

The Levene's Test of Equality of Error Variances was used again to verify the homogeneity of variances. It was found that in both studies the significance level was greater than 0.05, namely 0.737 in Study 1 ('drunk driving') and 0.951 in Study 2 ('health') and thus the homogeneity of variances assumption was not violated.

A two-way between-groups analysis of variances was used in both studies to explore the individual and joint effect of the presence or absence of consequences and instructions on the risk perception. It was found that in both studies, there was neither a main effect of the presence of

consequences and/or instructions on the risk perception of respondents related to the health and traffic risks of alcohol consumption (Study 1:  $F(1, 128) = 0.573$ ,  $p = 0.740$ ,  $p = 0.210$ , Study 2:  $F(1, 126) = 0.760$ ,  $p = 0.176$ ,  $p = 0.397$ ) nor an interaction effect (Study 1: consequence\*instruction:  $p = 0.745$ , Study 2: consequence\*instruction:  $p = 0.179$ ).

In both studies, a 2 by 2 between-groups analysis of covariance was conducted to control for scores on risk perception of respondents for the following covariates: gender, age, faculty, smoking behavior, the possession of a driving license and the total amount of alcohol respondents consume weekly.

In Study 1 it was found that there were significant differences in the scores related to gender ( $p = 0.010$ ,  $M$  (male) = 3.15,  $M$  (female) = 3.64) within the construct risk perception (see Table 3). These results suggest that females perceive a higher amount or risk than males perceive. There was also a significant difference found in the scores related to the weekly alcohol consumption of the respondents ( $p = 0.001$ ). It was found that respondents who consume more or less than 8 glasses alcohol ( $M = 3.29$ ) perceived a lower amount or risk than respondents who consume no alcohol ( $M = 3.98$ ). Also, in Study 2 there was a significant difference found between the weekly amount of alcohol consumption of students related to the scores on risk perception ( $p = 0.004$ ). Again, respondents who consume alcohol ( $M = 2.92$ ) perceive less risk than respondents who consume no alcohol ( $M = 3.19$ ).

In Study 2 there was also a marginal significant effect of age on risk perception ( $p = 0.054$ ). It was found that respondents younger than 24 years old perceived more health risks than respondents who are 24 years or older ( $M$  (young) = 3.01,  $M$  (old) = 2.78).

In Study 1, it was also found that there was an interaction between the presence of consequences and smoking behavior of respondents (consequences\*smoking behavior:  $p = 0.014$ ,  $M$  (smoker) = 2.92,  $M$  (non-smoker) = 3.55), which means that non-smokers perceived more risk related to driving under the influence of alcohol than smokers did. Also, a marginal significant interaction was found between the presence of instructions and the possession of a driving license (instructions\*driving license:  $p = 0.074$ ). It was shown that students, within the instruction-condition, who have a driving license ( $M = 3.36$ ) perceive less risk related to driving under the influence of alcohol than students who have not got a driving license ( $M = 3.83$ ) (Table 3). In Study 2 there was a significant interaction found between consequences and the possession of a driving license (consequences\*driving license:  $p = 0.049$ ) and a marginal significant interaction

between consequences and the age of the respondents (consequences\*age:  $p = 0.089$ ). The first interaction indicates that respondents within the consequence condition without a driving license ( $M = 2.65$ ) had a greater risk perception related to the health risks of alcohol consumption than respondents with a driving license ( $M = 2.58$ ). The second interaction found indicates that respondents with an age of 24 or older ( $M = 2.83$ ) perceived more risk related to the health consequences of alcohol consumption than respondents who are younger than 24 years ( $M = 2.56$ ) (Table 3).

### 4.3 Attitudes

The Levene's Test of Equality of Error Variances has shown that the homogeneity of variances in both studies was not violated. In Study 1 ('drunk driving') the significance level was 0.704 and in Study 2 ('health') this level was 0.588.

A two-way between-groups analysis of variances revealed that in both studies there was neither a main effect for consequences and instructions (Study 1:  $F(1, 128) = 0.304, p = 0.870, p = 0.155$ , Study 2:  $F(1, 126) = 0.462, p = 0.195, p = 0.768$ ) nor an interaction effect (Study 1: consequence\*instruction:  $p = 0.911$ , Study 2: consequence\*instruction:  $p = 0.528$ ).

Again, a 2 by 2 between-groups analysis of covariance was conducted to control for scores on the attitudes of respondents for the following covariates: gender, age, faculty, smoking behavior, the possession of a driving license and the total amount of alcohol respondents consume weekly. In Study 1 it was found that there was a significant difference in the scores related to the weekly amount of alcohol consumption by the respondents ( $p = 0.028$ ). It was found that respondents who consume no alcohol ( $M = 1.18$ ) had a more negative attitude towards driving under the influence of alcohol than respondents who consume alcohol weekly ( $M = 1.49$ ) (Table 3).

In Study 2, a significant difference was found in the scores on gender of respondents ( $p = 0.006$ ) and smoking behavior ( $p = 0.016$ ). It was found that females had a more negative attitude towards alcohol consumption and the potential health consequences than males ( $M$  (male) = 2.89,  $M$  (female) = 2.53). Also, the results showed that non-smokers had a more negative attitude towards alcohol consumption and the potential health consequences than smokers ( $M$  (smoker) = 3.11,  $M$  (non-smoker) = 2.63). It was also found that students who do not consume alcohol ( $M = 1.97$ ) had a stronger attitude towards the health consequences than students who consume alcohol ( $M = 2.78, p = 0.001$ ). Finally, a marginal significant difference was found between younger ( $M = 2.76$ ) and older students ( $M = 2.52$ ), which indicates that older students had a stronger

negative attitude towards the potential health consequences of alcohol consumption than younger students (Table 3).

### 4.4 Behavioral intention

First, it was found that the Levene's Test of Equality of Error Variances revealed that in both studies the significance level was greater than 0.05, namely 0.091 in Study 1 ('drunk driving') and 0.303 in Study 2. This indicates that the homogeneity of variances assumption was not violated in both studies.

A two-way between-groups analysis of variance was conducted to explore the impact of the presence of consequences and instructions on the behavioral intention of individuals.

Only the first study revealed a significant main effect for consequences. The main effect for instructions on behavioral intention was not significant in the first study ( $F(1, 128) = 0.455, p = 0.341$ ). However, there was a statistically significant main effect for consequences,  $F(1, 128) = 5.227, p = 0.024$  (Figure 4). The effect size was quite small (partial eta squared = 0.04). Post-hoc comparisons using the Tukey HSD test indicated that the mean score in the 'no manipulation' condition ( $M = 4.17$ ) was significant different from the 'consequence' condition ( $M = 4.68$ ).

The interaction effect between consequences and instructions was not statistically significant in the first study,  $F(1, 128) = 0.455, p = 0.214$ . In the second study, neither the main effects were significant for consequences and instructions ( $F(1, 126) = 0.372, p = 0.886, p = 0.427$ ), nor the interaction effect between consequences and instructions was significant ( $F(1, 126) = 0.372, p = 0.838$ ).

Again, a 2 by 2 between-groups analysis of covariance was conducted to control for scores on the behavioral intention of respondents for the following covariates: gender, age, faculty, smoking behavior, the possession of a driving license and the total amount of alcohol respondents consume weekly.

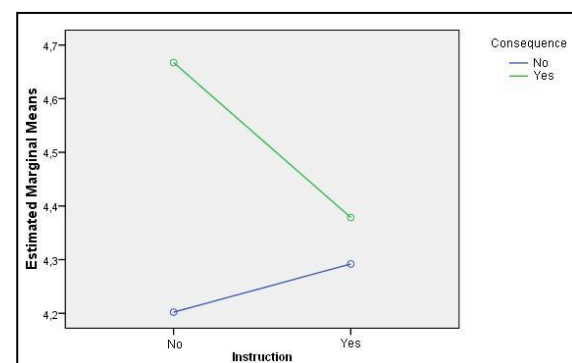


Figure 4. Main effect of consequences on behavioral intention found in Study 1.

In both studies, it was found that there was a significant difference in the scores related to the weekly amount of alcohol consumption by the respondents (Study 1:  $p = 0.038$ , Study 2:  $p = 0.000$ ). Results of both studies revealed that respondents who consume no alcohol ( $M$  (Study 1) = 4.56,  $M$  (Study 2) = 3.86) had a more positive behavioral intention than respondents who consume alcohol ( $M$  (Study 1) = 4.36,  $M$  (Study 2) = 3.54). It was also found in Study 2 that females significantly differ from men in terms of behavioral intention towards alcohol consumption and the potential health consequences ( $p = 0.028$ ). Females ( $M = 3.68$ ) had a stronger positive behavioral intention than males had ( $M = 3.43$ ). Also, in Study 2 was found a marginal significant difference between respondents who smoke ( $M = 3.58$ ) and respondents who do not smoke ( $M = 3.57$ ). These results indicated that respondents who smoke had a more positive behavioral intention than respondents who do not smoke, despite the fact that the mean differences are quite small.

#### 4.5 Reliability

The Levene's Test of Equality of Error Variances has shown that the homogeneity of variances in both studies was not violated. In Study 1 ('drunk driving') the significance level was 0.140 and in Study 2 ('health') this level was 0.519.

A two-way between-groups analysis of variance in the first study has shown a main effect on reliability, but not an effect of instructions or an interaction effect ( $F(1, 128) = 0.400$ ,  $p = 0.395$ ,  $p = 0.889$ ). There was a statistically significant main effect for consequences,  $F(1, 128) = 3.978$ ,  $p = 0.048$  with a relatively small effect size (partial eta squared = 0.04). Post-hoc comparisons using the Tukey HSD test indicated that the mean score in the 'no manipulation' condition ( $M = 3.58$ ) was significant different from the 'consequence' condition ( $M = 3.87$ ) (Table 3). This shows that the presence of consequences in a warning label had an effect on the reliability of the warning label compared to the 'no manipulation'-condition, the 'instruction'-condition and 'instruction and consequence'-condition.

In the second study, there was found a significant main effect of the presence of consequences on the reliability of the warning label in a health related context ( $F(1, 126) = 4.264$ ,  $p = 0.041$ ), and there was also no main effect for the presence of instructions on reliability ( $F(1, 126) = 2.116$ ,  $p = 0.148$ ). The interaction effect was significant (consequence\*instruction:  $p = 0.018$ ) (Table 3). These results show that the presence of consequences in a warning label had an effect on the reliability of the warning label compared to the 'no manipulation'-condition, the 'instruction'-condition and 'instruction and consequence'-condition.

The 2 by 2 between-groups analysis of covariance that was conducted to control for scores on the reliability of the warning labels for the following covariates: gender, age, faculty, smoking behavior, the possession of a driving license and the total amount of alcohol respondents consume weekly revealed no significant differences in Study 1. In Study 2, there was found a marginal significant difference ( $p = 0.072$ ) between students who have a driving license ( $M = 3.49$ ) and who do not have a driving license ( $M = 3.26$ ). This result indicates that students with a driving license evaluated the warning label as more reliable than students without a driving license.

Although, it was found that in Study 1 there was a significant interaction between the presence of instructions and the gender of respondents (instructions\*gender:  $p = 0.007$ ,  $M$  (male) = 3.55,  $SD$  (male) = 0.700,  $M$  (female) = 3.93,  $SD$  (female) = 0.728). This result indicates that within the instructions-condition, females assessed the warning label as more reliable than males did (Table 3).

In Study 2, it was also found that there was an interaction between the presence of instructions and the gender of respondents (instructions\*gender:  $p = 0.043$ ,  $M$  (male) = 3.00,  $M$  (female) = 3.24). Again, this result indicates that within the instructions-condition females evaluated the warning label as more reliable than males did (Table 3).

#### 4.6 PANA-scale

The Levene's Test of Equality of Error Variances was used again to verify the homogeneity of variances. It was found that in both studies the significance level was greater than 0.05, namely 0.184 in Study 1 ('drunk driving') and 0.469 in Study 2 ('health') and thus the homogeneity of variances assumption was not violated.

A two-way between-groups analysis of variance showed that in both studies, there was neither a main effect of the presence of consequences and/or instructions on the positive or negative affection of respondents related to their general opinion about alcohol (Study 1:  $F(1, 128) = 0.429$ ,  $p = 0.128$ ,  $p = 0.997$ , Study 2:  $F(1, 126) = 0.283$ ,  $p = 0.608$ ,  $p = 0.615$ ), nor an interaction effect (Study 1: consequence\*instruction:  $p = 0.909$ , Study 2: consequence\*instruction:  $p = 0.530$ ).

A 2 by 2 between-groups analysis of covariance was conducted to control for scores on the positive or negative affective feelings of the respondents towards alcohol in general for the following covariates: gender, age, faculty, smoking behavior, the possession of a driving license and the total amount of alcohol respondents consume weekly. In general, the

affective feelings were quite neutral in all found significant differences. This means that the Mean (M) scores (values) were in most cases around the 2, and a value of three means that the participant is 'neutral' about the given affective feeling. A significant difference was found in Study 1 between those students who have a driving license and those who have not got a driving license ( $p = 0.043$ ,  $M$  (driving license) = 2.50,  $M$  (no driving license) = 2.18) (Table 3). These results indicated that respondents who have a driving license have weaker negative or positive affective feelings towards alcohol in general than respondents who have not got a driving license.

In Study 2 there was also found a significant difference in the scores related to the age of the respondents ( $p = 0.024$ ) (Table 3). Results have shown that respondents who are younger than 24 had weaker negative or positive affective feeling towards alcohol in general than respondents with an age of 24 or older ( $M = 2.49$ ,  $M = 2.17$ ).

In Study 2, there was also an interaction found between the presence of instructions within a warning label and the possession of a driving license (instruction\*driving license:  $p = 0.024$ ,  $M$  (driving license) = 2.40,  $M$  (no driving license) = 2.12). This result indicates that within the instruction-condition, students without a driving license have stronger negative or positive affective feelings towards alcohol in general than students with a driving license (Table 3).

#### 4.7 Social support

Finally, it was quite interesting to measure to what extent students agreed with the fact that there should be a warning label on alcoholic beverages. The Levene's Test of Equality of Error Variances has shown that the homogeneity of variances in both studies was not violated. In Study 1 ('drunk driving') the significance level was 0.514 and in Study 2 ('health') this level was 0.590. In both studies, a two-way between-groups analysis of variance revealed that there was neither a main effect of consequences or instructions on the social support of warning labels (Study 1:  $F(1, 128) = 1.409$ ,  $p = 0.707$ ,  $p = 0.728$ , Study 2:  $F(1, 126) = 1.406$ ,  $p = 0.746$ ,  $p = 0.928$ ), nor an interaction effect (Study 1: consequence\*instruction:  $p = 0.291$ , Study 2: consequence\*instruction:  $p = 0.663$ ).

A 2 by 2 between-groups analysis of covariance revealed that there were significant differences in both studies related to the opinion about implementation of warning labels on alcoholic beverages. In Study 2, there were significant differences found in the scores related to gender ( $p = 0.040$ ,  $M$  (male) = 2.98,  $M$  (female) = 3.41) and smoking behavior ( $p = 0.011$ ,  $M$  (smoker) = 3.73,  $M$  (non-smoker) = 3.15) (Table

3). These results indicate that females are more positive about the potential implementation of warning labels on alcoholic beverages than males, as well as the smokers compared to the non-smokers. Also a marginal significant difference was found ( $p = 0.066$ ) between younger students ( $M = 3.07$ ) and older students ( $M = 3.59$ ), which indicates that older students more support health alcohol warning labels than younger students do.

In Study 1, there were also some significant interactions found, namely between the presence of consequences and age (consequences\*age:  $p = 0.003$ ,  $M$  (young) = 3.31,  $M$  (old) = 1.86), the presence of consequences and gender (consequences\*gender:  $p = 0.044$ ,  $M$  (male) = 2.42,  $M$  (female) = 3.33), the presence of consequences and the weekly amount of alcohol consumed by respondents (consequences\*weekly consumption:  $p = 0.033$ ,  $M$  ( $8 >$ ) = 2.00,  $M$  ( $\leq 8$ ) = 3.04,  $M$  (0) = 3.50), the presence of instructions and age (instructions\*age:  $p = 0.013$ ,  $M$  (young) = 3.04,  $M$  (old) = 3.40) and between the presence of instructions and smoking behavior (instructions\*smoking behavior:  $p = 0.004$ ,  $M$  (smoker) = 4.50,  $M$  (non-smoker) = 2.88) (Table 3).

The first interaction found indicates that respondents within the consequence-condition younger than 24 years old are more positive about the potential implementation of alcohol warning labels than students with an age of 24 years or older. The second interaction between the presence of consequences and gender indicates that females are more positive about alcohol warning labels than males. The third interaction found between the presence of consequences and the weekly alcohol consumption indicates that students who consume alcohol are less positive about the potential implementation of alcohol warning labels than students who consume no alcohol. Also some interactions were found between the presence of instructions and age and smoking behavior. The first interaction indicates that older students (24 years or older) are more positive about the potential implementation of alcohol warning labels than students younger than 24 years old. Finally, it was found that smoking students within the instructions-condition were more positive about the implementation of alcohol warning labels than students who do not smoke.

In Study 2, there was a significant interaction found between the presence of instructions and the possession of a driving license (instructions\*driving license:  $p = 0.038$ ,  $M$  (yes) = 3.38,  $M$  (no) = 2.50). This result indicates that within the instructions-condition, students with a driving license supported the potential implementation of warning labels on alcoholic beverages more than students without a driving license (Table 3).

## DISCUSSION

Based on the results presented, there are some conclusions that can be drawn. Firstly, the findings will be shortly described, followed by an explanation of the scientific contribution of both conducted studies. Also, a theoretical explanation of the findings of both studies will be provided and which limitations were found. Finally some suggestions for further research will be presented.

### 5.1 Main findings

First of all, it is interesting to mention the found main- and interaction effects in both studies. In Study 1 ('drunk driving'), two main effects were found for consequences. In the first place, it was found that there was a main effect of consequences on behavioral intention. This means that mentioning consequences within the warning label had a positive influence on the behavior of students related to the consumption of alcohol and their potential need to drive a car. In other words, compared to mentioning neither consequences, nor instructions, instructions or both consequences and instructions, the presence of consequences within the warning label had a more positive effect on the behavioral intention of students to prevent alcohol consumption while they still need to drive a car.

The second main effect was an effect which was found in both studies, namely the effect of the presence of consequences within the warning label on the reliability of it. Compared to the presence of instructions, mentioning consequences within a warning label has a positive influence on the evaluation of students related to the reliability of the warning label. Besides the same main effect found of consequences on reliability in Study 2, it there was also found an interaction effect between consequences and instructions. This finding indicates that mentioning both consequences and instructions, within a health-related context, had a positive effect on the reliability of the warning label.

These findings are quite promising, because research has shown that if individuals take a warning label serious and if they evaluate a warning as reliable, the smaller the possibility is that the warning will be ignored (Beltramini, 1988; Konijnendijk, 2008).

Despite the fact that there were limited main- and interaction effects found in both studies, there were some effects found related to gender, age, weekly consumption, smoking behavior and the possession of a driving license (the covariates) on knowledge, risk perception, attitudes, behavioral intention, affective feelings and social support of warning labels.

In Study 1 and in Study 2 it was found that weekly alcohol consumption has an influence on the effect of labels on *knowledge* related to the health- and drunk driving risks of alcohol consumption. Especially students who do not consume alcohol had a better knowledge than students who consume alcohol. A difference was found between both studies in relation to the influence of consequences and instructions on the knowledge of students younger than 23 years old. In Study 1, it was found that mentioning consequences led to a better knowledge about the potential risks of alcohol and in Study 2 it was found that mentioning instructions led to a better knowledge about the risks of alcohol.

Altogether, it was shown that the presence of consequences within a warning label had a positive effect on the knowledge of students with an age younger than 23, regardless of the context of the warning label ('drunk driving' or 'health'-context). It was also shown, that a warning label which is health-related and which contains consequences had a positive effect on the knowledge of students without a driving license.

Again, in both studies it was found that there was an influence of weekly consumption, but this time it was related to the *risk perception*. Once again it was found that students who do not consume alcohol perceived more health- or drunk driving-related risks than students who do consume alcohol. Besides, Study 1 has shown that female students perceive more risks related to drunk-driving than male students do. This finding could be linked to a fact from the Dutch Central Government (Rijksoverheid, 2010) mentioned earlier in this report, namely that especially young men aged between 18 and 24 years old are overrepresented in alcohol-related traffic accidents (Rijksoverheid, 2010). Thus, the fact that males perceive less risk related to drunk driving could explain the finding that was reported by the Dutch Central Government; because males do not really perceive drunk driving as a risk, the bigger the chance is that males get behind the wheel, despite the fact they have consumed alcohol. Both studies also revealed an interaction effect of consequences. Compared to smoking students, it was found in Study 1 that the presence of consequences within the warning label led to a higher risk perception among students who do not smoke. In Study 2, it was found that the presence of consequences led to a higher risk perception of students without a driving license.

Thus, if an alcohol warning label is aimed at emphasizing the danger of drunk driving, the presence of consequences has a greater effect on the risk perception of students who do not smoke and if the alcohol warning label is health oriented, consequences have a greater effect on the risk perception of students without a driving license.



Both studies have shown that students who do not consume alcohol have a more negative *attitude* towards the potential health consequences of alcohol consumption or drunk driving than students who consume alcohol. Besides, in Study 2 it was found that female students and students who do not smoke had a more negative attitude towards the consumption of alcohol in relation to the potential health risks than male students and students who smoke. Because of the fact that neither Study 1 nor Study 2 revealed effects of consequences or instructions on attitudes, no statements can be made about their effectiveness on attitudes.

Besides the fact that the presence of consequences had a positive influence on the *behavioral intention* in relation to prevent drunk driving, it was found in both studies that students who do not consume alcohol have a stronger behavioral intention to prevent drunk driving or (if they do) consume alcohol responsibly. These findings are not surprisingly, because these students do not consume alcohol without a reason. In other words, it can be assumed that the students who do not consume alcohol do this consciously; in view of the potential health- or traffic dangers of alcohol consumption or because of the fact they simply do not like alcoholic drinks.

Like mentioned earlier, results of both studies have revealed a main effect of consequences on the *reliability* of the warning label. Thereby, Study 2 has shown that especially students with a driving license evaluated the warning label as more reliable than students without a driving license. A remarkable finding was also made in both studies. It was namely found that the presence of instructions within a warning label (regardless of its subject) had a more positive effect on the reliability evaluation of female students. In other words, according to the female students is a warning label with instructions more reliable than a warning label with consequences.

General *affective feelings* towards alcohol consumption were also measured by using a PANA-scale. Both studies revealed mixed results. As demonstrated by Study 1, especially students without a driving license and students who do not consume alcohol have stronger positive or negative (depending on whether a positive or a negative affective feeling was presented) affective feeling towards alcohol in general than students with a driving license and students who consume alcohol. More important, it was found in Study 2 that the presence of instructions within the health-related warning label had a stronger influence on the positive or negative affective feelings of students without a driving license. In other words, mentioning responsible drinking behavior ('do not consume more than 2 consumptions a day') had a

positive influence on the general affective feelings of students without a driving license. It is noteworthy that this finding is made in Study 2 (health-oriented) and not in Study 1, because Study 1 was related to the risks of drunk driving. Finally, there is created an insight into the *social support* of (potential) implementation of warning labels on alcoholic beverages. In Study 2, it was found that female students were more supportive towards alcohol warning labels than male students. Remarkably, smoking students were also proponents of alcohol warning labels. Especially in Study 1, there were mainly found interactions between consequences. It was found that the presence of consequences related to the risks of drunk driving within the warning label did affect the social support of female students and students who do not consume alcohol. Also, the presence of instructions also interacted with smoking behavior of students in Study 1; students who smoke are more supportive than students who do not smoke. In Study 2, the presence of instructions led to more support of alcohol warning labels among students who have a driving license. A last, a contradiction was found in Study 1; the presence of consequences led to more support of alcohol warning labels among students who are younger than 23 years old and the presence of instructions led to more support of warning labels among students who are 24 years or older. In addition to the overrepresentation of the effects of consequences on the social support of warning labels, no evident statements can be made according to the fact whether consequences or instructions are more effective, because the results are not convincing.

### 5.2 Scientific contribution

Before both studies were conducted, it was expected that the more complete the warning label would be, the more effective it would be on variables as knowledge, risk perception, attitudes and especially behavioral intention. Like mentioned before, both studies have not conclusively demonstrated which textual elements (consequences, instructions or both) should be included within an alcohol warning label in view of the most desirable effects like enlarging knowledge and risk perception and positively influencing attitudes and behavioral intention.

However, both conducted studies did yield some interesting findings. In the first place, it was found that mentioning the fact that drunk driving is not only dangerous for the student oneself but also for other road users (the consequence) had a positive effect on the intention of students not to drive under the influence of alcohol. Based on this finding solely, it cannot be concluded that mentioning consequences is the answer to the question which textual elements should be



included within an alcohol warning label.

Besides, in Study 1 it is quite noteworthy that results have shown that weekly consumption has influence on the effect of the warning labels on knowledge, attitudes, risk perception and behavioral intention of students. The effects on knowledge and especially on attitudes are quite interesting, because according to the Theory of Planned Behavior, these variables could determine or influence the behavioral intention and eventually behavior. Especially students who in general do not consume alcohol had the best knowledge about the risks of alcohol consumption, had the greatest risk perception towards the risks of drunk driving, had the strongest negative attitude towards drunk driving (followed by the students who do consume alcohol) and had the strongest behavioral intention to not drink and drive. In sum, especially the results of Study 1 have revealed that the alcohol consumption level of students had an influence on the effects of the alcohol warning labels.

In Study 1, in which 'drunk driving' was the main subject, also an interesting discovery was made on the risk perception among students who have a driving license. It was found that the presence of instructions within the warning label had an enlarging effect on the risk perception of students with a driving license. In view of potential implementation of alcohol warning labels, the subject of the warning label used in Study 1 ('drunk driving') and the target group on which the warning label should have an effect (individuals with a driving license), this finding could be an deciding factor in relation to the textual elements within the warning label. But the downside is the fact that this finding stands on its own and therefore it cannot be assumed that mentioning only one instruction could lead to the most desirable effect on risk perception and eventually behavior (don't drink and drive).

In Study 1, also a contradictory finding has been done in relation to the social support of the implementation of an alcohol warning label. It was found that there were effects of both consequences and instruction on the social support of the students about the implementation of alcohol warning labels. Within the consequence-condition, students who support warning labels are aged between 18 and 23 years and the students within this condition who are older than 24 do not support the idea of an alcohol warning label, but within the instruction-condition, the opposite was found: students who are aged between 18 and 23 years old do not support the potential implementation of alcohol warning labels and students who are older than 24 do support the idea of an alcohol warning label.

In Study 2 ('health'), it was also found that the weekly alcohol consumption of students had an

influence on the effect of the warning label on the knowledge of the health risks of alcohol consumption, the risk perception in relation to the potential health risks of alcohol consumption and the behavioral intention to consume alcohol responsibly. Same as found in Study 1, students who consume no alcohol in general had the best knowledge about the health risks of alcohol, had the most negative attitudes towards alcohol consumption and the potential health risks and had the intention to behave responsibly when it comes to alcohol consumption. Based on the fact that both studies have revealed the same findings, it could be assumed that students who do not consume alcohol are more aware of the risks of alcohol (both in traffic and towards their health) in comparison with students who consume alcohol and thus intentionally do not drink alcohol because of the risks of alcohol consumption. Also, because the subject of Study 2 was health related, the following findings are interesting. It was found that students who do not smoke had a more negative attitude than smoking students towards alcohol consumption in relation to the health risks of it. But, compared to non-smoking students, smoking students had a stronger intention to consume alcohol responsibly and they also supported the idea of the potential implementation of alcohol warning labels. Thus, these results revealed that smoking behavior had an influence on the effects of the warning label in certain situations.

Finally, it may be asked what the effects were of consequences and instructions within Study 2. Again, no consistent results were found in relation to the effects of the presence of consequences and/or instructions on the knowledge, risk perception, attitudes or behavioral intention of students (as can be seen in table 3). However, it is remarkable that there were many interactions found between the presence of consequences or instructions within the warning label and the possession of a driving license. It would rather be expected to find these results within Study 1, because Study 1 was focused on the risks of drunk driving and Study 2 was specifically health-oriented.

### *5.3 Theoretical explanation*

Before both studies were conducted, it was expected that these studies would obtain useful insights in relation to the design of an alcohol warning label. More specific, it would become clear what textual elements (consequences, instructions or both) should be present within the warning label to maintain the intended effect: magnification of the knowledge and risk perception related to alcohol consumption and a positive influence of attitudes and the behavioral intention. The most important question that should be answered at this moment is: 'Is the assumption

that the more complete the warning label is (thus provided with consequences and instructions), the more effective it should be in relation to the knowledge, risk perception, attitudes and behavioral intention of individuals confirmed by both studies or not?'. The answer is: 'no' and this answer is confirmed by both studies. Thus within the alcohol context it isn't necessary to mention both consequences and instructions within the warning label, regardless the subject of the warning label (in this case 'drunk driving' and 'health' related or related).

Both studies have not convincingly revealed that mentioning whether consequences or instructions within a warning label leads to the most positive effect on for example knowledge, risk perception, attitudes or behavioral intention. Apparently, mentioning instructions solely or in combination with consequences was not that effective as was expected in advance.

This can be substantiated by using the findings of Young et al. (1995). They investigated which elements should be present within a warning label which was intended to warn for high voltages, confined space and a slippery floor. They have shown that if individuals have to choose two elements in the warning-label that should be present, most individuals choose for the signal word and mentioning the hazard. (These two elements were also included within the warning labels in both conducted studies, namely 'warning' and 'This product contains alcohol').

Young et al. (1995) stated that the more severe and dangerous the hazard or situation, the more elements the warning label should contain and thus the more complete the warning label should be (e.g. high voltage). Also, the more suitable it is to give concrete instructions to avoid the hazard, the more suitable it is to mention only an instruction in combination with mentioning the hazard (e.g. 'confined space' and 'slippery floor'). Based on the findings of the two conducted studies within the alcohol context, it can be concluded that alcohol doesn't fit within the category 'hazardous products' or 'products which need a usage instruction', at least in terms of the findings of Young et al. (1995). Yet it is shown in both studies that in some cases, instructions were suitable. In Study 1 it was shown that the instruction 'Don't drink and drive' lead to a greater risk perception among students without a driving license and in Study 2 it was found that the presence of instructions lead to a greater knowledge related to the health risks of alcohol among students younger than 23 years old.

The fact that both studies also revealed that mentioning the consequences of driving under the influence of alcohol and the consequences related to the potential health risks of alcohol consumption in some cases have a larger effect than mentioning

only instructions or both, can be partly explained on the basis on the findings of Laughery et al. (1993). Mentioning consequences can also be described as a specification of a potential injury that can occur if the product will be consumed, which means that the mentioning consequences is closely related to 'explicitness'. The results of Laughery et al. (1993) indicated that the more explicit warnings were, the greater the levels of perceived dangerousness, hazard understanding and injury severity were. Thus, the more explicit the warning was, the more cautious consumers were, especially the consumers who were less familiar with the product.

In conclusion on their findings, Laughery et al. (1993, p. 597) recommend 'that product warnings should be explicit regarding injury consequences, especially where injuries may be severe'. These findings could explain why in both studies especially the consequence-conditions were more often effective than the other experimental conditions. Nevertheless, Laughery et al.'s (1993) findings only partly support the findings of the two studies that yet have been conducted, because Laughery et al. (1993) did not investigate the effects of explicitness within the alcohol or risk product context.

It would be useful to get insight in to what extent alcohol consumption is judged as a dangerous and hazardous product, so that there is clarity about with which type of wording the consumer should be approached and thus is the most effective. Besides, getting insight in to what extent alcohol consumption is evaluated as a dangerous product would also be useful in view of the formation of attitudes towards alcohol consumption and beliefs about alcohol. According to the Communication-Human Information Processing (C-HIP) model developed by Wogalter (2006, p. 57-58), are the individual's attitudes towards and beliefs about a product are shaped by the risk perception of the product and the familiarity and earlier experiences with the product. With regard to the risk perception, the expectation of individuals towards a certain risk or hazard could affect the effectiveness of a warning. If an individual judges a product as 'not hazardous', despite the fact it is, the more likely it is that the warning related to that product will be ignored by that individual. This is coherent to the fact that personal knowledge about and familiarity with a certain product could lead to the belief of an individual that the product is safer than it actually is (Wogalter, 2006, p. 289 – 300). Therefore, it is up to the warning label to correct these attitudes and beliefs. Both conducted studies have not revealed which textual elements (consequences or instructions) most affected attitudes and thus it is not clear yet which textual elements succeed the most in correcting attitudes towards alcohol.

Both studies were conducted to get insight into the effects of certain textual elements within an alcohol warning label. But there is also something to mention about the design features of the warning labels used in both studies. The design was based on the ANSI-guidelines (1991; 1998; 2002), a standard which would affect the results of the studies. And, even more important, the results of both studies also indicated that these guidelines are possibly not applicable in an alcohol-related context.

But in contrast to the ANSI-standard, it would be wise to utilize the scientific findings derived from the tobacco warning-label studies (e.g. Nimberte, Aghazadeh & Harvey, 2005; White, Webster & Wakefield, 2008). For example, it was found that especially the highly graphic warnings on cigarette packs had a positive influence on the cessation behavior of individuals (Hammond et al., 2006).

A study conducted by Laughery et al. (2002) found that a warning on for example products like a dresser, cooking oil, a trampoline, an airbag and paint should be designed according to the ANSI-standard instead of another type of design. They also stated that the ANSI-standard could be a good starting point for a warning label on products for specifying product safety. Based on the conducted studies within the alcohol context, it can be assumed that within the alcohol context this standard perhaps isn't that suitable as in other product contexts, but convincing evidence for this hasn't been found yet.

By now, it is quite clear that design elements such as color usage and size are of interest, but especially the message which is sent by the warning label is important. Results of Study 1 have shown that the alcohol warning label which contained consequences did influence the behavioral intention of the students, a finding that has not been done before within the alcohol context. Before, research has shown that alcohol warning labels do not directly influence behavior of individuals as tobacco warnings do, but they do have an impact on the intention to change high risk drinking patterns, they could lead to conversations about the risks of (excessive) alcohol consumption and the warning label enhances the willingness of individuals to make heavy drinkers aware of their risky behavior (Babor et al., 2003; WHO, 2007). Besides, research findings within the tobacco context about the effects of tobacco warning labels could be translated to the alcohol context (e.g. Nimberte, Aghazadeh, & Harvey, 2005; White, Webster & Wakefield, 2008; Borland et al., 2009; Hammond et al., 2006). Because it was shown by i.a. Wilkinson and Room (2009) and Laughery et al. (1993) that the current alcohol warning labels are too vague, discrete and equivocal, it would be appropriate to translate the design features and the applied (arresting) textual health messages used

within the tobacco industry into a suitable alcohol warning label (Thomas, 2012).

#### *5.4 Limitations and suggestions*

The results of both studies revealed that it is not possible to state whether the presence of consequences or instructions within the alcohol warning labels had the most desired effects on the students which participated in both experiments. Nevertheless, Study 1 has shown that consequences had affected behavioral intention. A useful finding, but at the same time disappointing because this was the only main effect found of consequences. Based on this finding, it isn't possible to conclude that mentioning consequences is the most effective textual element within an alcohol warning label in relation to the knowledge, attitudes, risk perception and behavioral intention.

In addition to this limitation, there are also some other limitations to mention about the conducted studies.

First of all, the design that has been used in both experiments was based on the ANSI-guidelines. Despite the fact that the ANSI-standard could be a good starting point for a warning label on products for specifying product safety (Laughery et al., 2002), it was not clear to what extent this standard would be effective within the (risk) product context so far.

Both studies have not shown to what extent the on the ANSI-guidelines based warning label was effective within the alcohol context. Besides, it was found that in some cases mentioning consequences of the usage of the product (consequence-condition) or mentioning what to do to avoid the hazard (instructions-conditions) was more effective than only mentioning the danger of the product use (no manipulation-condition), and mentioning both (consequences and instructions-condition). But the question arises, to what extent was this finding manipulated by the design features as the presence of the icon, the color usage and the subject of the warning? Nevertheless, in all cases the warning label was evaluated as reliable. An important finding, because according to Argo & Main (2004) an individuals' judgment has influence on the warning labels' effectiveness. This could indicate that the warning label based on the ANSI-standard could be effective anyway.

Secondly, like can be seen in the results of both conducted studies, there have been found main effects of consequences and an interaction effect of consequences and instructions on reliability. These findings have not been mentioned explicitly, because the variable 'reliability' actually functioned as a control variable.

Finally, there is something to mention about the research population used within both studies. In general, it was expected that students would consume more alcohol than for example

individuals who are older than 40 years, because of all the organized student parties and other festivities. Both studies have shown that students consume on average 3 alcoholic drinks every week, a fact that cannot be called excessive. Therefore, it would be quite interesting what the study results would be if both studies were performed among teenagers or adolescents (e.g. aged between 10 and 18 years). Yet, it isn't quite clear what the effects of an alcohol warning label are on younger individuals like teenagers and adolescents. Could a warning label have the intended effect on for example knowledge, attitudes, risk perception and especially behavior(al intention) of teenagers and adolescents? Despite the potential effectiveness of warning labels on alcoholic beverages on young individuals, there will always be obstacles in the alcohol context and in the context of risk products in general. Especially (young) adolescents are curious and seek their borders. Unfortunately, this adolescent behavior will be difficult to manipulate or to steer by using a warning label on the product. But actual (scientific) proof for this conjecture has not been found yet.

Another point of interest could be the effects of the alcohol warning labels on smokers (who are already familiar with warning labels). Within both studies, smoking students were quite outnumbered compared to the non-smoking students and thus it's not convincingly demonstrated what the effects were of the warning labels on smokers compared to the not smoking students.

Despite the fact that both conducted studies, in which the effects of warning labels on inter alia knowledge, risk perception, attitudes and behavioral intention of students was examined, may not be as fruitful as previously was expected, the potential effectiveness of warning labels on alcoholic beverages should not be underestimated. First of all, the fact that both studies have revealed effects of consequences and instructions in some cases does indicate that even after a single and short exposure an effect occurs. Now the question arises what the effects would be if the participants within both studies were more often exposed to the warning labels. In other words, to what extent does warning repetition positively influence the effects of consequences and or instructions on knowledge, risk perception, attitudes and behavioral intention? According to Cacioppo & Petty (1979; 1989), repeating a message results in a positive attitudinal change by moderate levels of repetition. On the other hand, they've stated that if a message is highly repeated, boredom will occur among the target group and thus the message won't be effective anymore (Cacioppo & Petty, 1979; Cacioppo & Petty, 1989). Besides, a study conducted by Haugtvedt et al. (1994) has shown

that within the media advertising context repeated warning messages could develop attitudes that are more insusceptible for external distractions and influences. Thus, according to inter alia the findings of Cacioppo and Petty (1979; 1989) and Haugtvedt (1994) it could possibly be effective if a warning label would be implemented on alcoholic beverages, because consumers will be confronted with the warning message(s) in the first place, and secondly they will be exposed to these warnings more often and therefore their attitudes will be influenced positively. Research should determine whether this idea corresponds to reality.

Another point of discussion is related to the formulation of the consequences and instructions used in both studies. Yet, it isn't clear to what extent the results of both studies are influenced by the formulation, subject and/or word choice of the used consequences and instructions. Research is needed to determine to what extent syntaxes, word choice and implicit- and explicitness influence the warning labels' effectiveness.

Also, it was found that after the implementation of warning labels in the United States in 1989, the levels of public support of these warning labels increased enormously, as well as the public discussion about (health) risks of alcohol consumption (Stockwell, 2001; WHO, 2007). Besides, research has shown that especially young people, pregnant women and heavy drinkers were able to recall the messages within the warning labels and thus the message within the warning label seems to reach especially the high risk groups (Hankin et al., 1993; MacKinnon et al., 2000). Finally, to ensure the effectiveness of the warning labels on alcoholic beverages, it is applicable to use different types and subjects within the warning labels (Wogalter & Brelsford, 1994). Within the tobacco context, it was shown that the use of rotating warning messages had a positive influence on cessation of individuals (Nimbarte, Aghazadeh & Harvey, 2005). Convincing evidence of these effects of rotating messages on behavior within the alcohol context and to what extent these effects are long- or short-term has yet to be found.

In the Netherlands, societal interventions like the 'BOB-campagne' and age limits in purchase points like supermarkets and liquor stores have already been implemented in order to prevent individuals for driving under the influence of alcohol and to uphold teenagers to purchase alcohol and prevent them subsequently to consume alcohol. Implementing warning labels on alcoholic beverages would be a good addition to these interventions, because research has also shown that the warning label on alcoholic beverages solely cannot maintain excessive alcohol consumption and other alcohol related hazards (Stockley, 2001).

Altogether, these interventions could lead to the desired effects: less alcohol related (deadly) traffic accidents and a reduction of the number of alcohol related hospital visits (especially minors). The potential effectiveness of this expectation is strengthened by the finding of Kaskutas and Graves (1994), who stated that multiple messages may have a cumulative effect on the message effectiveness (Kaskutas & Graves, 1994). Besides, it is not a lost cause to inform and remind the population about the health risks and potential safety risks of alcohol consumption (Stockwell, 2006). Wilkinson and Room (2008) therefore stated that if a warning label would be implemented on alcoholic beverages, this could lead to comprehension among individuals that alcohol is a special and hazardous product.

In summary, future research is needed to determine the most suitable design of the warning label on alcoholic beverages, by both examining which size and colors should be used and especially which subject or risk the textual elements should emphasize. Like Laughery and Wogalter (2011) already stated: an effective product warning provides individuals with information about the potential danger(s) and/or risk(s), the potential consequences and what is (un)safe or irresponsible behavior. Future research will show what the alcohol warning label looks like if these and other design elements and are translated into an alcohol warning label.

Subsequently, if future research has developed a suitable alcohol warning label, it is important to gain insight into the effects of the warning label on variables such as knowledge, beliefs, motivations, attitudes and risk perception, but also on variables as purchase and behavioral intentions of (minor) consumers. To get these insights, the Communication-Human Information Processing Model (C-HIP) of Wogalter (2006) could serve as a good starting point.

## Conclusions

- ❖ Mentioning consequences related to ‘drunk driving’ influenced the *behavioral intention* positively in relation to not drinking alcohol while students have to drive.
- ❖ Results have shown that the presence of consequences within the warning label, whether the warning label was health-oriented or related to the risks of drunk driving, did affect the *reliability* of the warning label positively.
- ❖ It was not convincingly shown which textual elements (consequences and/or instructions) had the most effect on knowledge, risk perception, attitudes and behavioral intention.
- ❖ It was found that male students perceive less risk related to ‘drunk driving’ than female students. A finding that could be linked to a fact that especially young men aged between 18 and 24 years old are overrepresented in alcohol-related traffic accidents (Rijksoverheid, 2010).
- ❖ It was shown that students do support the idea of implementing warning labels on alcoholic beverages.

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## Appendix I: Online questionnaires used in both studies

### Questionnaire Study 1 ‘Drunk driving’

1.

Hoe aannemelijk vind je het dat alcoholconsumptie de volgende consequenties heeft?

	Helemaal niet aannemelijk			Heel erg aannemelijk
Beschadiging van de lever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misdragingen of agressie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gevaarlijke verkeerssituaties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verschillende kankersoorten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Onveilige geslachtsgemeenschap	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het in gevaar brengen van medeweggebruikers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blijvende gezondheidsschade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Werkverzuim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.

Beantwoord de volgende stellingen.

	Helemaal mee oneens			Helemaal mee eens
In vergelijking met andere mensen, denk ik dat ik een groter risico loop op het krijgen van een auto-ongeluk als gevolg van rijden onder invloed van alcohol.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is waarschijnlijk dat mij iets negatiefs overkomt als ik na consumptie van één of twee glazen alcohol ga autorijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is waarschijnlijk dat mij iets negatiefs overkomt als ik ga autorijden wanneer ik het gevoel heb dat ik aangeshoten ben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is waarschijnlijk dat mij iets negatiefs overkomt als ik meer dan 2 glazen alcohol per dag consumeer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.

Ten aanzien van de verkeersrisico's, vind ik het consumeren van alcohol...

Slecht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Goed
Negatief	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Positief
Niet leuk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Leuk
Ongewenst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Gewenst
Nutteloos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Nuttig
Onverstandig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Verstandig
Onveilig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Veilig
Schadelijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Onschadelijk
Waardeloos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Waardevol
Onacceptabel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Acceptabel

4.

Beantwoord de volgende stellingen.

	Helemaal mee oneens			Helemaal mee eens
Ik heb de intentie om in de toekomst niet auto te rijden nadat ik alcohol heb gedronken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ga in de toekomst wel deelnemen in het verkeer als ik alcohol heb gedronken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zal proberen om in de toekomst niet onder invloed van alcohol auto te rijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn familie vindt dat ik niet onder invloed van alcohol moet autorijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn vrienden vinden dat ik niet onder invloed van alcohol moet autorijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik denk dat mensen in mijn omgeving vinden dat ik niet onder invloed van alcohol moet autorijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik geloof dat ik in staat ben om onder invloed van alcohol auto te rijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben er volledig van overtuigd dat ik fris ga drinken als ik nog moet deelnemen in het verkeer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik wil, dan kan ik makkelijk alcoholische drank laten staan als ik nog moet autorijden.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.

Stel je voor dat het waarschuwingslabel dat je in het begin van deze vragenlijst hebt gezien wordt verwerkt in het etiket van alcoholhoudende dranken. Beantwoord de volgende stellingen.

Ik heb het idee dat...

... de informatie in het waarschuwingslabel juist is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... dit waarschuwingslabel betrouwbaar is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... dit waarschuwingslabel compleet is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... dit waarschuwingslabel informatie zonder fouten weergeeft.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... de informatie in het waarschuwingslabel aannemelijk is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... het waarschuwingslabel geloofwaardig is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... de informatie in het waarschuwingslabel eerlijk is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Op hoeveel doordeweekse dagen (maandag t/m donderdag) drink je gemiddeld alcohol per week? \*

☐ 0  
☐ 1  
☐ 2  
☐ 3  
☐ 4

7. Hoeveel standaardglazen alcohol nuttig je gemiddeld per doordeweekse dag? \*

8. Op hoeveel weekenddagen (vrijdag t/m zondag) drink je gemiddeld alcohol? \*

☐ 0  
☐ 1  
☐ 2  
☐ 3

9. Hoeveel standaardglazen alcohol nuttig je gemiddeld per dag in het weekend? \*

10. Welke van de onderstaande waarschuwingslabels heb jij in het begin van deze vragenlijst gezien? \*



11. Wat is je geslacht? \*

☐ Man  
☐ Vrouw

12. Wat is je leeftijd? \*

13. Tot welke faculteit behoort de opleiding die je op dit moment volgt? \*

☐ CTW (Construerende Technische Wetenschappen)  
☐ EWI (Elektrotechniek, Wiskunde en Informatica)  
☐ GW (Gedragswetenschappen)  
☐ MB (Management en Bestuur)  
☐ TNW (Technische Natuurwetenschappen)  
☐ ITC (Geo-Informatie Wetenschappen en Aardobservatie)  
☐ Anders

14. Rook je? \*

☐ Ja  
☐ Nee

15. Ben je in het bezit van een autorijbewijs? (Rijbewijs B) \*

☐ Ja  
☐ Nee

16. Ik vind dat op elke alcoholhoudende drank een waarschuwinglabel zou moeten worden geplaatst.

☐ Hetzelfde  
☐ Meer  
☐ Minder

17. Geef met behulp van onderstaande antwoordmogelijkheden aan hoe je over alcohol denkt.

	Hetzelfde			Meer		
Geïnteresseerd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verdrietig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opgewonden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overstuur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sterk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schuldig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bang	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vrijdijg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Einhoudzaam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geïnterd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beschroomd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geïmponeerd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vastbesloten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zenuwachtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actief	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Questionnaire Study 2 ‘Health’

1.

Hoe aannemelijk vind je het dat alcoholconsumptie de volgende consequenties heeft?

	Helemaal niet aannemelijk			Heel erg aannemelijk		
Beschadiging van de lever	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Misdragingen of agressie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gevaarlijke verkeerssituaties	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verskillende kankersoorten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Onveilige geslachtsgemeenschap	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het in gevaar brengen van medeweggebruikers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blijvende gezondheidsschade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Werkverzuim	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2.

Beantwoord de volgende stellingen.

	Helemaal mee oneens			Helemaal mee eens		
In vergelijking met andere mensen, denk ik dat ik een groter risico heb op het oplopen van gezondheidsschade als gevolg van het consumeren van alcohol.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is waarschijnlijk dat ik gezondheidsschade oploopt als ik één of twee glazen alcohol per dag consumeer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is waarschijnlijk dat mijn gezondheid schade oploopt wanneer ik het gevoel heb dat ik aangeschoten ben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Het is waarschijnlijk dat mij iets negatiefs overkomt als ik meer dan 2 glazen alcohol per dag consumeer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3.

Ten aanzien van de gezondheidsrisico's, vind ik het consumeren van alcohol...

Slecht	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Goed
Negatief	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Positief
Niet leuk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Leuk
Ongewenst	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Gewenst
Nutteloos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Nuttig
Onverstandig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Verstandig
Onveilig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Veilig
Schadelijk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Onschadelijk
Waardeloos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Waardevol
Onacceptabel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Acceptabel

4.

Beantwoord de volgende stellingen.

	Helemaal mee oneens			Helemaal mee eens		
Ik heb de intentie om in de toekomst niet meer alcohol per dag te consumeren dan goed voor me is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ga in de toekomst wel meer alcohol per dag consumeren dan goed voor me is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik zal proberen om in de toekomst te letten op de hoeveelheid alcohol die ik per dag consumeer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn familie vindt dat ik niet meer alcohol per dag moet consumeren dan goed voor me is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mijn vrienden vinden dat ik niet meer alcohol per dag moet consumeren dan goed voor me is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik denk dat mensen in mijn omgeving vinden dat ik niet meer alcohol per dag moet consumeren dan goed voor me is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik geloof dat ik in staat ben om niet meer dan twee glazen alcohol per dag te drinken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ik ben er volledig van overtuigd dat ik niet meer dan twee glazen alcohol per dag kan drinken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Als ik wil, dan kan ik makkelijk minder dan twee glazen alcohol per dag drinken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5.

Stel je voor dat het waarschuwingslabel dat je in het begin van deze vragenlijst hebt gezien wordt verwerkt in het etiket van alcoholhoudende dranken. Beantwoord de volgende stellingen.

Ik heb het idee dat...

	Helemaal mee oneens			Helemaal mee eens		
...de informatie in het waarschuwingslabel juist is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...dit waarschuwingslabel betrouwbaar is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...dit waarschuwingslabel compleet is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...dit waarschuwingslabel informatie zonder fouten weergeeft.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...de informatie in het waarschuwingslabel aannemelijk is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...het waarschuwingslabel geloofwaardig is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...de informatie in het waarschuwingslabel eerlijk is.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6.

Op hoeveel doordeweekse dagen (maandag t/m donderdag) drink je gemiddeld alcohol per week? \*

☐ 0
☐ 1
☐ 2
☐ 3
☐ 4

7.

Hoeveel standaardglazen alcohol nuttig je gemiddeld per doordeweekse dag? \*

8.

Op hoeveel weekenddagen (vrijdag t/m zondag) drink je gemiddeld alcohol? \*

☐ 0
☐ 1
☐ 2
☐ 3


9.

Hoeveel standaardglazen alcohol nuttig je gemiddeld per dag in het weekend? \*

10.


Welke van de onderstaande waarschuwinglabels heb jij in het begin van deze vragenlijst gezien? \*

☐




WAARSCHUWING
Dit product bevat alcohol.

☐




WAARSCHUWING
Dit product bevat alcohol. Alcoholconsumptie kan leiden tot blijvende gezondheidsschade.

☐



WAARSCHUWING
Dit product bevat alcohol. Drink niet meer dan 2 glazen per dag.

☐



WAARSCHUWING
Dit product bevat alcohol. Alcoholconsumptie kan leiden tot blijvende gezondheidsschade. Drink niet meer dan 2 glazen per dag.

11.

Wat is je geslacht? \*

☐ Man
☐ Vrouw

12.

Wat is je leeftijd? \*

13.

Tot welke faculteit behoort de opleiding die je op dit moment volgt? \*

☐ CTW (Construerende Technische Wetenschappen)
☐ EWI (Elektrotechniek, Wiskunde en Informatica)
☐ GW (Gedragwetenschappen)
☐ MB (Management en Bestuur)
☐ TNW (Technische Natuurwetenschappen)
☐ TTC (Geo-Informatie Wetenschappen en Aardobservatie)
☐ Anders

14.

Rook je? \*

☐ Ja
☐ Nee

15.

Ben je in het bezit van een autorijbewijs? (Rijbewijs B) \*

☐ Ja
☐ Nee

16.

Ik vind dat op elke alcoholhoudende drank een waarschuwinglabel zou moeten worden geplaatst.

Helmaal mee eens
☐
☐
☐
☐
☐

Helmaal mee eens
☐
☐

17.

Geef met behulp van onderstaande antwoordmogelijkheden aan hoe je over alcohol denkt.

	Helmaal mee eens					Helmaal mee eens				
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geïnteresseerd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verdrietig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opgewonden	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overstuur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sterk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Schuldig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bang	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vijandig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enthousiast	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geïrriteerd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Beschaamd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geïnspireerd	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vastbesloten	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zenuwachtig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actief	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix II: Mean scores and standard deviations per condition per construct

Dependent variable	Items	Scale	Mean (M)	Standard Deviation (SD)
1. Kennis	<i>N (items) = 8</i>	<i>5-point Likert scale</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>
	1.1 Beschadiging van de lever 1.2 Misdragingen of agressie 1.3 Gevaarlijke verkeerssituaties 1.4 Verschillende kankersoorten 1.5 Onveilige geslachtsgemeenschap 1.6 Het in gevaar brengen van mede weggebruikers 1.7 Blijvende gezondheidschade 1.8 Werkverzuim	1 = Helemaal niet aanmerkelijk 2 = Niet aanmerkelijk 3 = Neutraal 4 = Aanmerkelijk 5 = Heel erg aanmerkelijk  <i>α GEZ = 0,854</i> <i>α ROI = 0,858</i>	1.1 4.19; 4.35; 4.03; 4.20; 4.13; 3.88; 4.03; 4.18 1.2 3.78; 3.90; 3.88; 3.90; 3.74; 3.73; 4.00; 4.15 1.3 4.28; 4.19; 4.15; 4.43; 4.42; 4.52; 4.53; 4.44 1.4 2.81; 2.77; 2.85; 2.80; 2.74; 2.91; 2.97; 2.76 1.5 3.31; 3.55; 3.45; 3.50; 3.42; 3.27; 3.50; 3.50 1.6 4.06; 3.97; 4.21; 4.40; 4.39; 4.42; 4.30; 4.32 1.7 3.69; 3.48; 3.67; 3.53; 3.48; 3.73; 3.83; 3.79 1.8 3.12; 3.48; 3.36; 3.17; 3.10; 3.03; 3.43; 3.44	1.1 0.859; 0.709; 0.918; 0.761; 0.922; 1.053; 0.964; 0.904 1.2 0.870; 0.746; 1.083; 1.029; 0.930; 1.068; 1.050; 0.857 1.3 0.813; 1.014; 1.121; 1.006; 0.765; 0.795; 0.860; 0.894 1.4 0.965; 0.884; 0.972; 0.997; 1.032; 1.259; 1.033; 1.075 1.5 0.821; 0.768; 1.121; 0.974; 0.992; 1.069; 1.167; 1.052 1.6 0.948; 0.983; 1.053; 0.932; 0.803; 0.830; 0.988; 0.976 1.7 1.030; 0.962; 1.164; 1.042; 1.061; 1.039; 0.986; 1.038 1.8 0.871; 0.962; 1.194; 1.020; 1.076; 1.045; 1.194; 1.078
2. Risicoperceptie	<i>N (items) = 4</i>	<i>5-point Likert scale</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>
	2.1 In vergelijking met andere mensen, denk ik dat ik een groter risico heb op het oplopen van gezondheidschade/het krijgen van een ongeluk. 2.2 Het is waarschijnlijk dat ik gezondheidschade oploep als ik 1 of 2 glazen alcohol per dag consumeer./Het is waarschijnlijk dat mij iets negatiefs overkomt als ik ga rijden na het consumeren van 1 of 2 glazen alcohol. 2.3 Het is waarschijnlijk dat mijn gezondheid schade oploopt wanneer ik het gevoel heb dat ik aangeschoten ben./ Het is waarschijnlijk dat mij iets negatiefs overkomt als ik ga rijden als ik aangeschoten ben. 2.4 Het is waarschijnlijk dat mij iets negatiefs overkomt als ik meer dan 2 glazen alcohol per dag consumeer.	1 = Helemaal mee oneens 2 = Mee oneens 3 = Neutraal 4 = Mee eens 5 = Helemaal mee eens  <i>α GEZ = 0,721</i> <i>α ROI = 0,645</i>	2.1 2.12; 2.23; 2.67; 1.97; 3.03; 3.21; 3.20; 2.76 2.2 2.97; 2.35; 3.03; 2.68; 2.74; 2.85; 3.10; 3.03 2.3 3.03; 2.68; 2.82; 3.03; 3.87; 4.00; 4.07; 4.06 2.4 3.34; 3.10; 3.12; 3.23; 2.94; 3.45; 3.20; 3.47	2.1 1.008; 0.956; 1.109; 1.217; 1.449; 1.219; 1.215; 1.458 2.2 1.177; 1.050; 1.185; 1.326; 1.264; 1.149; 1.155; 0.969 2.3 1.092; 1.107; 1.044; 0.928; 1.056; 1.031; 0.785; 0.983 2.4 1.181; 1.274; 1.083; 1.251; 1.031; 0.971; 1.215; 1.051
3. Attituden	<i>N (items) = 10</i>	<i>5-point Semantic Differential</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>
	Ten aanzien van de gezondheidsrisico's/verkeersrisico's... 3.1 Slecht - Goed 3.2 Negatief - Positief 3.3 Niet leuk - Leuk 3.4 Ongeveest - Geveest 3.5 Nutteloos - Nuttig 3.6 Overstigend - Verstandig 3.7 Onveilig - Veilig 3.8 Schadelijk - Onschadelijk 3.9 Waardeloos - Waardevol 3.10 Onacceptabel - Acceptabel	The lower the answer, the more negative is the attitude towards the given item. The higher the answer, the more positive is the attitude towards the given item.  <i>α GEZ = 0,914</i> <i>α ROI = 0,920</i>	3.1 2.28; 2.58; 2.61; 2.83; 1.19; 1.21; 1.37; 1.47 3.2 2.34; 2.58; 2.61; 2.57; 1.26; 1.30; 1.53; 1.47 3.3 3.03; 3.39; 3.24; 3.30; 1.55; 1.52; 1.73; 1.85 3.4 2.59; 2.77; 2.70; 3.00; 1.48; 1.27; 1.40; 1.38 3.5 2.34; 2.48; 2.18; 2.50; 1.65; 1.64; 1.80; 1.47 3.6 2.38; 2.29; 2.48; 2.50; 1.13; 1.21; 1.17; 1.21 3.7 2.47; 2.74; 2.42; 2.70; 1.23; 1.15; 1.17; 1.24 3.8 2.03; 2.39; 2.18; 2.37; 1.48; 1.55; 1.30; 1.62 3.9 2.91; 2.77; 2.55; 2.80; 1.55; 1.79; 1.73; 1.74 3.10 3.38; 3.48; 3.27; 3.67; 1.52; 1.24; 1.40; 1.53	3.1 0.722; 0.938; 1.171; 0.986; 0.402; 0.415; 0.615; 0.825 3.2 0.937; 0.992; 1.116; 1.006; 0.445; 0.467; 0.860; 0.788 3.3 1.062; 0.919; 1.146; 1.208; 0.768; 0.795; 0.980; 0.958 3.4 0.911; 0.990; 1.104; 1.203; 0.626; 0.517; 0.724; 0.779 3.5 0.827; 0.962; 0.882; 1.042; 0.950; 0.962; 0.961; 0.788 3.6 0.793; 0.824; 0.795; 1.042; 0.341; 0.600; 0.379; 0.592 3.7 0.842; 1.064; 0.969; 0.988; 0.425; 0.364; 0.379; 0.606 3.8 0.740; 0.844; 0.882; 0.999; 0.724; 0.754; 0.466; 0.985 3.9 0.777; 0.884; 0.869; 0.887; 0.675; 0.992; 1.015; 0.994 3.10 0.942; 1.208; 1.069; 1.061; 0.724; 0.435; 0.724; 0.929
4. Gedragsintentie	<i>N (items) = 9</i>	<i>5-point Likert scale</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>
	4.1 Ik heb de intentie om in de toekomst niet meer alcohol per dag te consumeren dan goed voor me is./ Ik heb de intentie om in de toekomst niet auto te rijden nadat ik alcohol heb geconsumeerd. 4.2 Ik ga in de toekomst wel meer alcohol per dag consumeren dan goed voor me is./ Ik ga in de toekomst wel deelnemen in het verkeer als ik alcohol heb gedronken. (Recorded!) 4.3 Ik zal proberen om in de toekomst te letten op de hoeveel alcohol die ik perindag consumeer./ Ik zal proberen om in de toekomst niet onder invloed van alcohol auto te rijden. 4.4 Mijn familie vindt dat ik niet meer alcohol moet consumeren per dag dan goed voor me is./Mijn familie vindt dat ik niet onder invloed van alcohol moet autorijden. 4.5 Mijn vrienden vinden dat ik niet meer alcohol per dag moet consumeren dan goed voor me is./Mijn vrienden vinden dat ik niet onder invloed van alcohol moet autorijden. 4.6 Ik denk dat mensen in mijn omgeving vinden dat ik niet meer alcohol moet consumeren per dag dan goed voor me is./ Ik denk dat mensen in mijn omgeving vinden dat ik niet onder invloed van alcohol moet autorijden. 4.7 Ik geloof dat ik in staat ben om niet meer dan twee glazen alcohol per dag te drinken./Ik geloof dat ik in staat ben om onder invloed van alcohol te autorijden. 4.8 Ik ben er volledig van overtuigd dat ik niet meer dan twee glazen alcohol per dag kan drinken./Ik ben er volledig van overtuigd dat ik fris ga drinken als ik nog moet deelnemen in het verkeer. 4.9 Als ik wil, dan kan ik makkelijk minder dan twee glazen alcohol per dag drinken./Als ik wil, dan kan ik makkelijk alcoholische drank laten staan als ik nog moet autorijden.	1 = Helemaal mee oneens 2 = Mee oneens 3 = Neutraal 4 = Mee eens 5 = Helemaal mee eens  <i>α GEZ = 0,706</i> <i>α ROI = 0,802</i>	4.1 3.69; 3.45; 3.67; 3.73; 4.32; 4.79; 4.50; 4.48 4.2 2.38; 2.13; 2.24; 2.17; 2.03; 1.82; 2.10; 1.88 4.3 3.88; 3.32; 3.70; 3.63; 4.55; 4.88; 4.50; 4.82 4.4 3.47; 3.61; 3.76; 3.80; 4.32; 4.85; 4.57; 4.73 4.5 2.75; 2.81; 2.79; 2.63; 4.10; 4.52; 4.07; 4.45 4.6 3.31; 3.19; 3.15; 3.30; 4.10; 4.55; 4.23; 4.52 4.7 4.34; 4.32; 4.64; 4.63; 2.65; 2.39; 2.17; 2.21 4.8 3.31; 3.10; 3.39; 3.57; 3.61; 4.70; 4.03; 4.21 4.9 4.47; 4.52; 4.70; 4.47; 4.23; 4.82; 4.60; 4.64	4.1 1.176; 1.207; 1.190; 1.258; 0.909; 0.415; 0.777; 0.972 4.2 1.070; 1.118; 1.119; 1.289; 1.140; 1.044; 1.296; 1.139 4.3 0.793; 1.107; 1.075; 1.189; 0.850; 0.331; 0.900; 0.528 4.4 1.270; 1.256; 1.146; 1.215; 1.107; 0.364; 0.858; 0.801 4.5 1.270; 1.223; 1.111; 1.326; 0.831; 0.667; 0.980; 0.833 4.6 1.176; 1.352; 1.149; 1.179; 0.944; 0.833; 0.858; 0.755 4.7 1.004; 1.166; 0.603; 0.765; 1.199; 1.039; 0.874; 0.857 4.8 1.533; 1.446; 1.540; 1.478; 1.407; 0.728; 1.033; 1.193 4.9 0.983; 0.962; 0.585; 0.937; 0.920; 0.392; 0.724; 0.742
5. Betrouwbaarheid	<i>N (items) = 7</i>	<i>5-point Likert scale</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C+I, ROI-Z, ROI-C, ROI-I, ROI-C+I)</i>
	Ik heb het idee dat... 5.1 ... de informatie in het waarschuwingslabel juist is. 5.2 ... dit waarschuwingslabel betrouwbaar is. 5.3 ... dit waarschuwingslabel compleet is. 5.4 ... dit waarschuwingslabel informatie zonder fouten weergeeft. 5.5 ... de informatie in het waarschuwingslabel aanmerkelijk is. 5.6 ... het waarschuwingslabel geloofwaardig is. 5.7 ... de informatie in het waarschuwingslabel eerlijk is.	1 = Helemaal mee oneens 2 = Mee oneens 3 = Neutraal 4 = Mee eens 5 = Helemaal mee eens  <i>α GEZ = 0,835</i> <i>α ROI = 0,851</i>	5.1 3.94; 3.94; 3.58; 3.90; 4.00; 4.33; 4.07; 4.24 5.2 3.78; 3.74; 3.30; 3.90; 3.84; 4.06; 3.93; 4.09 5.3 3.00; 2.55; 2.12; 2.93; 2.55; 2.97; 3.00; 3.29 5.4 3.53; 3.58; 2.91; 3.40; 3.35; 3.55; 3.57; 3.76 5.5 3.75; 3.77; 3.45; 3.90; 3.84; 4.15; 3.90; 4.09 5.6 3.56; 3.61; 3.09; 3.67; 3.77; 3.94; 3.73; 4.00 5.7 3.72; 3.71; 3.42; 3.60; 3.68; 4.06; 3.90; 4.00	5.1 0.759; 0.814; 0.830; 0.607; 0.856; 0.692; 0.907; 0.819 5.2 0.832; 0.893; 1.045; 0.548; 0.779; 0.933; 0.868; 0.933 5.3 1.047; 1.150; 0.820; 0.944; 0.810; 1.132; 1.050; 1.088 5.4 0.803; 0.992; 0.879; 0.894; 0.839; 0.938; 0.935; 0.855 5.5 0.880; 0.884; 0.833; 0.548; 0.688; 0.712; 0.885; 0.830 5.6 0.914; 0.882; 1.011; 0.661; 0.560; 0.864; 0.907; 0.983 5.7 0.851; 0.824; 0.936; 0.855; 0.653; 0.659; 0.759; 0.778

\* GEZ-Z = 'Gezondheid zonder manipulatie'-conditie

GEZ-C = 'Gezondheid met consequentie'-conditie

GEZ-I = 'Gezondheid met instructie'-conditie

GEZ-C+I = 'Gezondheid met consequentie en instructie'-conditie

ROI-Z = 'Rijden onder invloed zonder manipulatie'-conditie

ROI-C = 'Rijden onder invloed met consequentie'-conditie

ROI-I = 'Rijden onder invloed met instructie'-conditie

ROI-C+I = 'Rijden onder invloed met consequentie en instructie'-conditie

6. Quantity Frequency	<i>N (items) = 4</i>	<i>Different methods</i>	<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C-I, ROZ-Z, ROZ-C, ROZ-I, ROZ-C-I)</i>		<i>Per condition* (GEZ-Z, GEZ-C, GEZ-I, GEZ-C-I, ROZ-Z, ROZ-C, ROZ-I, ROZ-C-I)</i>
	6.1 Op hoeveel doordeweekse dagen (maandag t/m donderdag) drink je gemiddeld alcohol per week?	1= 0 dagen 2= 1 dag 3= 2 dagen 4= 3 dagen 5= 4 dagen	6.1 2.00; 2.23; 1.97; 1.90; 2.16; 2.09; 2.33; 1.97		6.1 0.880; 1.023; 0.810; 1.213; 0.934; 0.914; 1.241; 1.167
	6.2 Hoeveel standaardglazen alcohol mittig je gemiddeld per doordeweekse dag?	Open question	6.2 1.297; 2.065; 1.756; 2.000; 1.873; 2.600; 1.585; 1.515		6.2 1.453; 3.696; 2.239; 3.930; 1.922; 3.194; 1.761; 2.079
	6.3 Op hoeveel weekenddagen (vrijdag t/m zondag) drink je gemiddeld alcohol?	1= 0 dagen 2= 1 dag 3= 2 dagen 4= 3 dagen	6.3 2.12; 2.23; 2.30; 2.13; 2.45; 2.24; 2.47; 2.00		6.3 0.660; 0.845; 0.728; 0.776; 0.850; 0.751; 0.860; 0.888
	6.4 Hoeveel standaardglazen alcohol mittig je gemiddeld per dag in het weekend?	Open question	6.4 3.484; 5.410; 4.576; 3.667; 4.355; 4.321; 4.200; 3.030		6.4 5.360; 4.910; 3.606; 4.318; 3.362; 3.873; 3.614; 3.450
7. Demographics	<i>N (items) = 5</i>	<i>Different methods</i>	<i>Results (total)</i>	<i>Results (gezondheid)</i>	<i>Results (rijden onder invloed)</i>
	7.1 Wat is je geslacht?	1= man 2= vrouw	7.1 Man = 117 (46.1%) Vrouw = 137 (53.9%)	7.1 Man = 55 (43.7%) Vrouw = 71 (56.3%)	7.1 Man = 62 (48.4%) Vrouw = 66 (51.6%)
	7.2 Wat is je leeftijd?	Open question	7.2 M = 22.62 ± 23 jaar	7.2 M = 22.74 ± 23 jaar	7.2 M = 22.51 ± 23 jaar
	7.3 Tot welke faculteit behoort de opleiding die je op dit moment volgt?	1= CTW 2= EWI 3= GW 4= MB 5= TNW 6= ITC 7= Anders	7.3 1 = 32 (12.6%) 2 = 7 (2.8%) 3 = 118 (46.5%) 4 = 75 (29.5%) 5 = 22 (8.7%) 6 = 0 (0%) 7 = 0	7.3 1 = 12 (9.5%) 2 = 4 (3.2%) 3 = 69 (54.8%) 4 = 33 (26.2%) 5 = 8 (6.3%) 6 = 0 (0%) 7 = 0 (0%)	7.3 1 = 20 (15.6%) 2 = 3 (2.3%) 3 = 49 (38.3%) 4 = 42 (32.8%) 5 = 14 (10.9%) 6 = 0 (0%) 7 = 0 (0%)
	7.4 Rook je?	1= Ja 2= Nee	7.4 Ja = 33 (13%) Nee = 221 (87%)	7.4 Ja = 15 (11.9%) Nee = 111 (88.1%)	7.4 Ja = 18 (14.1%) Nee = 110 (85.9%)
8. Social support	<i>N (items) = 1</i>	<i>Different methods</i>	<i>Results (total)</i>	<i>Results (gezondheid)</i>	<i>Results (rijden onder invloed)</i>
	8.1 Ik vind dat op elke alcoholhoudende drank een waarschijningslabel zou moeten worden geplaatst.	1= Ja 2= Nee	8.1 Ja = 218 (85.8%) Nee = 36 (14.2%)	8.1 Ja = 108 (85.7%) Nee = 18 (14.3%)	8.1 Ja = 110 (85.9%) Nee = 18 (14.1%)
		<i>5-point Likert scale</i>	<i>Results (total)</i>	<i>Results (gezondheid)</i>	<i>Results (rijden onder invloed)</i>
		1= Helemaal mee eens 2= Mee eens 3= Neutraal 4= Mee eens 5= Helemaal mee eens	8.1 N= 25 (9.8%) N= 61 (24%) N= 56 (22%) N= 69 (27.2%) N= 43 (16.9%)	8.1 N= 11 (8.7%) N= 27 (21.4%) N= 34 (27.0%) N= 31 (24.6%) N= 23 (18.3%)	8.1 N= 14 (10.9%) N= 34 (26.6%) N= 22 (17.2%) N= 38 (29.7%) N= 20 (15.6%)
		<i>5-point Likert scale</i>	<i>M (GEZ)</i>	<i>M (ROI)</i>	<i>SD (GEZ)</i>
9. PANAS-scale	<i>N (items) = 19</i>	<i>5-point Likert scale</i>	<i>M (GEZ)</i>	<i>M (ROI)</i>	<i>SD (GEZ)</i>
	9.1 Geïnteresseerd	1= Helemaal mee eens 2= Mee eens 3= Neutraal 4= Mee eens 5= Helemaal mee eens	3.43 2.03 2.76 1.98 2.71	3.43 2.03 2.89 2.08 2.72	1.077 1.011 1.067 1.120 1.057
	9.2 Verdrietig		2.34	2.23	1.033
	9.3 Opgewonden		1.87	1.97	0.842
	9.4 Overstuur		1.92	2.27	0.938
9. PANAS-scale	9.5 Sterk		3.16	3.31	1.081
	9.6 Schuldig		2.28	2.38	0.997
	9.7 Bang		2.29	2.27	1.015
	9.8 Vijandig		2.48	2.51	1.052
	9.9 Enthousiast		2.14	2.12	0.936
9. PANAS-scale	9.10 Trots		2.36	2.51	1.081
	9.11 Geïntereerd		1.88	1.91	0.768
	9.12 Alert		2.62	2.60	1.076
	9.13 Beschaamd		2.54	2.55	1.051
	9.14 Geïmponeerd		1.96	1.88	0.846
9. PANAS-scale	9.15 Nerveus		2.82	3.04	1.153
	9.16 Vastbesloten				1.179
	9.17 Attent				1.107
	9.18 Zenuwachtig				1.001
	9.19 Actief				1.213

## Appendix III: Chi-Square results per study

### Study 1 'Drunk driving'

#### Geslacht

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Geslacht * Conditie	128	100,0%	0	,0%	128	100,0%

Geslacht * Conditie Crosstabulation							
			Conditie				Total
			Geen manipulatie	Consequentie	Instructie	Consequentie en instructie	
Geslacht	Man	Count	17	12	16	17	62
		Expected Count	15,0	16,0	14,5	16,5	62,0
	Vrouw	Count	14	21	14	17	66
		Expected Count	16,0	17,0	15,5	17,5	66,0
Total	Count	31	33	30	34	128	
	Expected Count	31,0	33,0	30,0	34,0	128,0	

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2,756 <sup>a</sup>	3	,431
Likelihood Ratio	2,785	3	,426
Linear-by-Linear Association	,007	1	,932
N of Valid Cases	128		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 14,53.

#### Faculteit

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Faculteit * Conditie	128	100,0%	0	,0%	128	100,0%

Faculteit * Conditie Crosstabulation							
			Conditie			Total	
			Geen manipulatie	Consequentie	Instructie		Consequentie en instructie
Faculteit	CTW	Count	4	6	4	6	20
		Expected Count	4,8	5,2	4,7	5,3	20,0
	EWI	Count	1	1	0	1	3
		Expected Count	,7	,8	,7	,8	3,0
	GW	Count	12	11	11	15	49
		Expected Count	11,9	12,6	11,5	13,0	49,0
	MB	Count	12	11	12	7	42
		Expected Count	10,2	10,8	9,8	11,2	42,0
	TNw	Count	2	4	3	5	14
		Expected Count	3,4	3,6	3,3	3,7	14,0
Total	Count	31	33	30	34	128	
	Expected Count	31,0	33,0	30,0	34,0	128,0	

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5,365 <sup>a</sup>	12	,945
Likelihood Ratio	6,292	12	,901
Linear-by-Linear Association	,044	1	,834
N of Valid Cases	128		

a. 10 cells (50,0%) have expected count less than 5. The minimum expected count is ,70.

#### Rookgedrag

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Rook je? * Conditie	128	100,0%	0	,0%	128	100,0%

Rook je? * Conditie Crosstabulation							
			Conditie				Total
			Geen manipulatie	Consequentie	Instructie	Consequentie en instructie	
Rook je?	Ja	Count	6	3	4	5	18
		Expected Count	4,4	4,6	4,2	4,8	18,0
	Nee	Count	25	30	26	29	110
		Expected Count	26,6	28,4	25,8	29,2	110,0
Total	Count	31	33	30	34	128	
	Expected Count	31,0	33,0	30,0	34,0	128,0	

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1,418 <sup>a</sup>	3	,701
Likelihood Ratio	1,437	3	,697
Linear-by-Linear Association	,103	1	,749
N of Valid Cases	128		

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 4,22.

#### Rijbewijs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Rijbewijs * Conditie	128	100,0%	0	,0%	128	100,0%

Rijbewijs * Conditie Crosstabulation							
			Conditie				Total
			Geen manipulatie	Consequentie	Instructie	Consequentie en instructie	
Rijbewijs	Ja	Count	27	30	24	29	110
		Expected Count	26,6	28,4	25,8	29,2	110,0
	Nee	Count	4	3	6	5	18
		Expected Count	4,4	4,6	4,2	4,8	18,0
Total		Count	31	33	30	34	128
		Expected Count	31,0	33,0	30,0	34,0	128,0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1,596 <sup>a</sup>	3	,660
Likelihood Ratio	1,594	3	,661
Linear-by-Linear Association	,337	1	,562
N of Valid Cases	128		

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 4,22.

## Study 2 'Health'

### Geslacht

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Geslacht * Conditie	126	100,0%	0	,0%	126	100,0%

Geslacht * Conditie Crosstabulation							
		Conditie				Total	
		Geen manipulatie	Consequentie	Instructie	Consequentie en instructie		
Geslacht	Man	Count	11	15	16	13	55
		Expected Count	14,0	13,5	14,4	13,1	55,0
	Vrouw	Count	21	16	17	17	71
		Expected Count	18,0	17,5	18,6	16,9	71,0
Total	Count	32	31	33	30	126	
	Expected Count	32,0	31,0	33,0	30,0	126,0	

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1,717 <sup>a</sup>	3	,633
Likelihood Ratio	1,738	3	,628
Linear-by-Linear Association	,496	1	,481
N of Valid Cases	126		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 13,10.

### Faculteit

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Faculteit * Conditie	126	100,0%	0	,0%	126	100,0%

Faculteit * Conditie Crosstabulation							
			Conditie				Total
			Geen manipulatie	Consequentie	Instructie	Consequentie en instructie	
Faculteit	CTW	Count	4	2	4	2	12
		Expected Count	3,0	3,0	3,1	2,9	12,0
EWI	Count	0	2	1	1	4	
		Expected Count	1,0	1,0	1,0	1,0	4
GW	Count	22	12	18	17	69	
		Expected Count	17,5	17,0	18,1	16,4	69,0
MB	Count	5	12	8	8	33	
		Expected Count	8,4	8,1	8,6	7,9	33,0
TNW	Count	1	3	2	2	8	
		Expected Count	2,0	2,0	2,1	1,9	8,0
Total	Count	32	31	33	30	126	
		Expected Count	32,0	31,0	33,0	30,0	126,0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10,130 <sup>a</sup>	12	,605
Likelihood Ratio	11,048	12	,525
Linear-by-Linear Association	,435	1	,510
N of Valid Cases	126		

a. 12 cells (60,0%) have expected count less than 5. The minimum expected count is ,95.

### Rookgedrag

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Rook je? * Conditie	126	100,0%	0	,0%	126	100,0%

Rook je? * Conditie Crosstabulation							
			Conditie				Total
			Geen manipulatie	Consequentie	Instructie	Consequentie en instructie	
Rook je?	Ja	Count	4	1	4	6	
		Expected Count	3,8	3,7	3,9	3,6	
	Nee	Count	28	30	29	24	
		Expected Count	28,2	27,3	29,1	26,4	
Total	Count	32	31	33	30		
	Expected Count	32,0	31,0	33,0	30,0		

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4,113 <sup>a</sup>	3	,249
Likelihood Ratio	4,637	3	,200
Linear-by-Linear Association	1,366	1	,243
N of Valid Cases	126		

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 3,57.

### Rijbewijs

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Rijbewijs * Conditie	126	100,0%	0	,0%	126	100,0%

Rijbewijs * Conditie Crosstabulation							
			Conditie				Total
			Geen manipulatie	Consequentie	Instructie	Consequentie en instructie	
Rijbewijs	Ja	Count	30	26	29	23	108
		Expected Count	27,4	26,6	28,3	25,7	108,0
	Nee	Count	2	5	4	7	18
		Expected Count	4,6	4,4	4,7	4,3	18,0
Total		Count	32	31	33	30	126
		Expected Count	32,0	31,0	33,0	30,0	126,0

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3,905 <sup>a</sup>	3	,272
Likelihood Ratio	4,022	3	,259
Linear-by-Linear Association	2,766	1	,096
N of Valid Cases	126		

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 4,29.



## Appendix IV: Questionnaire pretest results

### Onderdeel 1 (kennis)

De eerste vraag is misschien iets te onduidelijk, anders formuleren.

Spellingsfout corrigeren: reactievermogen

### Onderdeel 2 (risicoperceptie)

Vraag 2: 'Het is waarschijnlijk dat 'ik' gezondheidsschade oploopt na consumptie van één of twee glazen alcohol? Ipv 'Het is waarschijnlijk dat je gezondheidsschade oploopt na consumptie van één of twee glazen alcohol'?

Vraag 5. ik schat mijn risico...'', misschien is het beter als je hier schrijft "ik schat het risico.."

Vraag 6 en 7 lijken te veel op elkaar → Iets veranderen.

De vragen specificeren door tijdsaanduiding te geven.

### Onderdeel 3 (attitude ten aanzien van alcohol)

'Inacceptabel' moet 'onacceptabel' worden.

Alle negatieve stellingen links houden en alle positieve stellingen rechts.

Volgorde aanpassen van de eerste drie items: Goed, negatief, slap

Schadelijk → Heilzaam.. Dit moet schadelijk - onschadelijk zijn.

Attitude ten aanzien van alcoholconsumptie concreter aangeven of opsplitsen in attitude ten aanzien van 'geaccepteerde' alcoholconsumptie en 'inacceptabele' alcoholconsumptie (binge-drinken).

### Onderdeel 4 (gedragsintentie)

Inleidende test: Toekomstige maken van 'toekomstig'

Ook vragen naar het gedrag in het verleden: 'Ik heb in het verleden wel eens met alcohol op autogereden.'

Stelling 2 en 3 lijken wel veel op elkaar → "Ik zal proberen" en "Ik ben van plan".

Stelling 5. "Als ik alcohol drink, dan zal ik proberen niet meer dan 2 glazen per gelegenheid drink." moet "Als ik alcohol drink, dan zal ik proberen niet meer dan 2 glazen per gelegenheid te drinken." worden.

### Onderdeel 5 (attitude ten aanzien van het waarschuwingslabel)

Mogelijk de inleidende zin anders formuleren: "In het begin van deze vragenlijst is dit waarschuwingslabel weergegeven."

### Onderdeel 6 (betrouwbaarheid waarschuwingslabel)

Verifiëren veranderen in controleren?

Laatste vraag van dit onderdeel mist het woordje 'in' !

### Onderdeel 7

Quantity Frequency → Afbeelding toevoegen waarin de hoeveelheden zijn aangeduid of dat aangeeft wat wordt verstaan onder alcoholhoudende consumpties. Of, alleen 'alcoholhoudende consumpties' toevoegen in plaats van alleen 'consumpties'. \*dit werd 2x genoemd

Quantity Frequency eerst noemen en daarna pas de demografische gegevens.

#### Links naar de vragenlijsten:

GEZONDHEID, ZONDER MANIPULATIE  
GEZONDHEID, CONSEQUENTIE  
GEZONDHEID, INSTRUCTIE  
GEZONDHEID, CONSEQUENTIE EN INSTRUCTIE  
RIJDEN ONDER INVLOED, ZONDER MANIPULATIE  
RIJDEN ONDER INVLOED, CONSEQUENTIE  
RIJDEN ONDER INVLOED, INSTRUCTIE  
RIJDEN ONDER INVLOED, CONSEQUENTIE EN INSTRUCTIE

[www.thesistools.com/web/?id=317211](http://www.thesistools.com/web/?id=317211)  
[www.thesistools.com/web/?id=317300](http://www.thesistools.com/web/?id=317300)  
[www.thesistools.com/web/?id=317301](http://www.thesistools.com/web/?id=317301)  
[www.thesistools.com/web/?id=317304](http://www.thesistools.com/web/?id=317304)  
[www.thesistools.com/web/?id=317307](http://www.thesistools.com/web/?id=317307)  
[www.thesistools.com/web/?id=317310](http://www.thesistools.com/web/?id=317310)  
[www.thesistools.com/web/?id=317313](http://www.thesistools.com/web/?id=317313)  
[www.thesistools.com/web/?id=317315](http://www.thesistools.com/web/?id=317315)