

# **The Use of the Critical Incident Technique to Explore Adolescents' Alcohol Experiences and their Behavioral Impact**

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## ABSTRACT

**Objective:** The focus of the current study is to examine: (1) adolescents first alcohol experience; (2) what kinds of salient alcohol-related experiences adolescents have; (3) the role of the parents concerning those incidents (knowledge and reaction); (4) how adolescents evaluate and give meaning to these incidents, and (5) whether negative experiences can motivate adolescents to change their alcohol consumption.

**Method:** A qualitative descriptive design based on the Critical Incident Technique was used to describe alcohol-related situations experienced by adolescents. The sample consisted of 45 adolescents (58% male, 42% female) recruited from four schools in the Netherlands. Data were collected through semi-structured interviews. The transcripts were analysed through an iterative process of coding.

**Results:** 145 incidents were reported, most of them are accompanied with heavy alcohol use. Adolescents experience many consequences of alcohol, some of them are quite serious. Adolescents seem to evaluate these consequences however not that serious. If it concerns to the knowledge and reaction of parents of alcohol experiences of adolescents, the role of the parents is lacking in many cases. Parents do not know about the incident or know less than has happened. If they are aware, they do not advise against it or forbid it.

**Conclusion:** Vivid and nasty events were mentioned and connected with their motivation to reduce alcohol use. In most cases however, a salient incident did not lead to the intention to drink less. The results serve as a warning against treating those incidents as having some direct, automatic effect in relation to the motivation to reduce drinking. Alcohol preventors frequently emphasize the negative aspects of alcohol, but they must realize that these often become positive in the perception of adolescents. Adolescents seem to bend negative incidents to something positive in retrospect. Incidents are described as 'cool' or 'funny'. Moreover, negative consequences are accepted and evaluated in the context of the whole (positive) experience.

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**INTRODUCTION.** Alcohol is, together with tobacco, the most used and the most harmful drug in the Netherlands. It is the substance to which young people are addicted most (Busch and Beams, 2006). In the long term, the harmful consequences of excessive alcohol consumption are numerous. Excessive use of alcohol can lead to several illnesses, particularly liver illnesses, heart and vascular diseases and cancer (Poppelier et al., 2002; Single et al., 1999; KWF, 2004), as well as the risk of raised blood pressure and with that the risk of a nervous breakdown. Furthermore, excessive alcohol consumption raises the risks of damage of the brain and nerves (Poppelier et al., 2002; Single et al., 1999). Data of Statistics Netherlands show that the number of young people who drink alcohol rapidly increases. In the period 1989-2001 there is an increase of 19 percent in 16 and 17 year olds. The percentage of young people who consume on average three or more alcoholic drinks has even been doubled in this period (CBS, 2003).

Prior drink experiences are an important source of information when individuals make decisions about the quantity of alcohol to consume (Mallet et al., 2006). Most alcohol studies assess individuals experienced consequences in terms of quantity and frequency (e.g. Hauge and Irgens-Jensen, 1986; Mäkelä and Mustonen, 2002, Nystrom, 1992). In the short term, research showed that direct consequences of excessive alcohol use are unintentional injury (Presley et al., 1996), a wide range of behavioral problems (Montgomery and Haemmerlie, 1993; Wood et al., 2000), fighting and physical aggression (Giancola, 2002; Marcus and Reio, 2002) and risky sexual behavior (Abbey et al., 1998; Wechsler et al., 2000).

Little is known about the meaning of alcohol-related experiences and the potential effect they have on the motivation to change alcohol use. There is some evidence regarding health-related incidents – such as hospitalization and medical problems – which appear to be related to subsequent drinking reductions among adults (Dunn et al., 2003; Perreira and Sloan, 2001) and that people's intention to change behavior is high *immediately* after such events. For example, Barnett et al. (2003) reported that young adult Emergency-Room (ER) patients were more likely to be contemplating reducing heavy drinking if they were being treated for an alcohol-related incident, compared with patients with similar patterns of alcohol severity who were not being treated for alcohol-related reasons. In a study with college students, Reis et al. (2004) assessed first-year students who had been transported to a hospital for alcohol overdose and reported that 83% of these students stated that they planned to decrease the amount they drank immediate after the hospitalization.

The research mentioned shows only the immediate impact of (negative) health-related incidents which are caused by heavy alcohol use. No research has examined the impact of memorable alcohol experiences in retrospect, alcohol experiences of which the young adult said they were important or of influence to him or her. These can be positive or negative experiences with alcohol. It is important to learn more about alcohol-related consequences that adolescents experience. To be able to design effective intervention strategies, researchers and health care educators must especially understand the ways in which individuals give meaning to salient alcohol-related incidents. The question is if they can act as crucial flashpoints when motivated to drink alcohol. For example, if a young person drinks to the point of blacking out and wakes up injured and in a strange place, he or she may adjust future drinking to minimize a similar occurrence. In this way critical incidents can make individuals aware of their own behavior and impact and the fact that negative consequences can also happen to them. On the other hand it is expected that if a young person engaged in a night of drinking with friends and had a salient positive evaluated experience, he or she may feel positive about engaging in the same behavior in the future. But does this rational expectation also occur in practice?

**OBJECTIVE.** In this study, the Critical Incident Technique was used to describe alcohol-related situations experienced by adolescents that could potentially affect their motivation to drink alcohol. The focus of the current study is to examine: (1) what kind of salient alcohol-related experiences adolescents have (related alcohol use, type of incident); (2) the role of the parents concerning those incidents (knowledge and reaction); (3) how adolescents evaluate and give

meaning to these incidents, and (4) whether negative experiences can motivate adolescents to change their alcohol consumption. Information is used to make implications for health interventions.

The study is aimed at adolescents of 15 and 16 years old, because of their stage of development in relation to the consumption of alcohol. Many young people establish lifelong patterns of alcohol use (and nonuse) during this unique and important period of emerging adulthood (Maggs and Schulenberg, 2004-2005). People who begin drinking before age 15 are 4 times more likely to develop alcohol dependence during their lifetime than are people who begin drinking at age 21 (Grant and Dawson, 1997). In the transition to adulthood this is a key period in which many young people experiment with behaviors which if continued over a longer period of time are likely to be detrimental to their health. The negative consequences associated with heavy alcohol use are especially dangerous for this age group because of their fast physical, mental, emotional and social development (Fountain, 1999). Despite they have less alcohol experiences, younger drinkers usually report more adverse as well as more positive consequences than older drinkers, even when overall intake of alcohol is held constant (Mäkela and Simpura, 1985; Casswell, Zhang and Wyllie, 1993; Midanik, 1995; Midanik and Clark, 1995; Mäkela and Mustonen, 2002). Therefore, it is clearly important to get more insights of the alcohol related behavior of young people.

## **METHOD.**

### *The Critical Incident Technique (CIT)*

This article represents a first study of the use of the Critical Incident Technique to explore alcohol-related incidents of young people. The CIT is a term used to describe a flexible set of principles for qualitative research which gives an interpretative, naturalistic approach regarding to the subject which is studied. The focus of the technique lies on concrete events which have been experienced by the respondent. The technique gives the respondent complete freedom in describing any experience, it stresses those incidents respondents themselves assess to have high priority. Such incidents are likely to deal with phenomena. These are often assumed to be the incidents which have the most impact on the respondent (Flanagan, 1954).

The technique was originally developed during World War 2 as a way to identify effective and ineffective behaviors in a variety of military activities. Executives were asked to describe critical behavior of employees. Critical behavior was defined as behavior that was vital for exercising the function in a positive or negative way (Flanagan, 1954). Ever since the introduction of the method, the CIT has been used in various types of research and in many different disciplines. Still, the variety of situations where the collection of experiences and critical incidents may prove to be of value has only been partially explored (Butterfield, 2005).

The CIT was initially very behaviorally grounded and did not emphasize its applicability for studying psychological states or experiences (Stano, 1983). Denscombe (2001) argues that the focus of attention, when dealing with critical incidents, needs to include not just the occurrence of specific events, but also the significance those happenings have from the perspective of the participants themselves. In this research, the respondents' perspective becomes the crucial factor in deciding which facets of the incident are important and why, not the experts'. Here is a contrast with some classic uses of critical incidents which were essentially 'expert oriented'. The identification of episodes that could qualify as 'critical' was based on decisions by 'those in the best positions to make the necessary observations and evaluations' - which meant in effect the professionals, the researchers, the experts (Flanagan, 1954). In this research the evaluation of the incidents will be given by the participants themselves.

### *Participants*

The sample consisted of 45 adolescents recruited from four schools in the Netherlands. The participants' average age was 15.4 (SD=.7). There were four groups: adolescents of lower and higher education and adolescents from the north east and the south of the Netherlands. Within

every group 11 or 12 interviews were conducted. This sample size is large enough to cover a range of incidents and to permit some basic statistical analyses, while remaining small enough to undertake qualitative data collection and analysis.

Participants were selected by choosing random names from class lists. They were informed in advance concerning the topic of the interview. Before they were definitively selected, they were asked if they had experience with alcohol. In total, ten respondents were not interviewed because they did not have any experience with alcohol. The next respondent was then chosen for the interview.

At the same time as the interview sessions, representative survey data were collected in the two schools (n=359), covering a representative sample of the 15 and 16 year old students (the average age in the survey sample was 15.5, SD=.7). Table 1 shows the results of a comparison of the demographics of the CIT group versus the survey. It can be concluded that the CIT participants largely reflected the characteristics of the school populations.

*Table 1: Demographic information of CIT respondents and respondents of the questionnaire.*

		CIT respondents	Survey respondents
<b>Gender</b>	Male	58%	50%
	Female	42%	50%
<b>Education</b>	Lower education	49%	56%
	Higher education	51%	44%
<b>Region</b>	North east	51%	51%
	South	49%	49%
<b>Home situation</b>	Married or cohabiting parents	87%	75%
	Divorced parents	13%	20%
	Other	0%	5%

When only the drinkers are included, no significance differences of the start age can be seen between CIT-respondents and respondents of the questionnaire (Table 2).

*Table 2: Mean age of first alcohol consumption of CIT respondents and respondents of the questionnaire (only drinkers are included in the sample).*

	CIT respondents	Survey respondents
First nip of alcohol (n=44, n=321)	10.5 (SD=3.3)	11.2 (SD=3.0)
First glass of alcohol (n=45, n=312)	12.90 (SD=1.7)	13.0 (SD=1.7)
Regularly drink alcohol (n=41, n=229)	14.4 (SD=1.1)	14.4 (SD=1.6)

### *Procedure*

Four test interviews (two male and two female, low and high education) were conducted to evaluate the questions. The pre-test was held to understand how respondents would interpret questions and to identify potential problems in the interview (Gerber and Wellens, 1996). Probing questions, the interpretation of questions and follow up questions (e.g. 'can you state in your own words what I asked you to answer' and 'were there problems answering this question') were asked after every described incident to understand how respondents interpret questions and to identify potential problems in the interview (Gerber and Wellens, 1996). Results of the pretest show that all the respondents could mention salient alcohol experiences that were important or of influence to them. They mentioned on average 2.5 alcohol incidents and these were both positive and negative experiences. Some respondents indicated that they found it difficult to mention more than two salient alcohol related incidents. The results of the pretest caused minor changes to be made to the wording of the questions.

Participants were interviewed in October and November 2006 on regular schooldays. Each interview lasted approximately 35 minutes (between 10 and 60 minutes) and was conducted in a

designated room. The interview was confidential and anonymous. In this article, names of respondents have been replaced with fictitious names. All procedures were approved by the school boards, and informed consent was provided by all participants. No compensation was provided for participation.

Data were collected through semi-structured interviews to make it possible for the adolescents to describe in their own words alcohol-related incidents and to ask questions when necessary. Flanagan (1954) stated that this was the most satisfactory data collection procedure for the CIT. All interviews were held by one and the same interviewer who worked with a protocol that stated which follow-up questions must be asked in the event of several scenarios of response to ensure consistency of the procedure.

The interviewer started with collecting information about the first alcohol experience including the time, the location, the context, the amount of alcohol consumed, and the role of the parents (knowledge and reaction). In the cases that the respondent indicated that drinking the first time was way too much, this alcohol experience is indicated as first incident in the analysis of the critical incidents.

Respondents were then asked to describe a situation (a critical incident) which they had experienced or observed which they perceived to be an example of a memorable experience with alcohol. It was said that the described incident must be important or of influence to the respondent. The respondent was asked to describe what happened step by step. The interviewer checked if all questions were discussed.

After the adolescent had told everything about the incident, he or she was asked to evaluate it retrospectively. Answers were classified in a scale from 1 to 5 (1=entirely negative, 2=mainly negative, 3=neutral or just as positive as negative, 4 = mainly positive, 5 = entirely positive).

To explore whether the event had been critical in the attitude with respect to alcohol, respondents were asked if they believed that the alcohol experience had influence on their own drinking behavior. To best explore the associations with motivation in our population, we categorized the answers in 5 categories (1=desire to drink more, 2=no change, 3= reduction of alcohol use for a short period, 4 = reduction of alcohol use, 5=alcohol abstinence).

The CIT procedure was repeated until no more examples of salient alcohol experiences were given. When the adolescent only mentioned negative events, the interviewer asked explicitly for a positive event, and visa versa. When respondents could only recall events they observed, the interviewer asked explicitly for an incident of their own, and visa versa. This attempts to get a more balanced view. After the CIT, the respondents filled out a questionnaire about demographics, so that they could be compared with the survey respondents.

#### *Data analysis*

All interviews were tape-recorded and transcribed verbatim. Transcripts interviews were analysed through an iterative process of coding, reviewing and returning to the words of the adolescents. The analysis started with repeatedly reading each transcribed interview several times to become familiar with the data and to find out which incidents are useful. Alcohol experiences were screened by criteria (Flanagan, 1954) that were established in advance: (a) The respondent has experienced the incident himself or has observed it. It is not a story that the respondent has heard from someone else; (b) the event describes a moment and not a period with a range of events; (c) events are entirely and clearly described; (d) the respondent has given a judgment concerning the incident and (e) the observer made it clear whether he believes the behavior was critical in their motivation to drink alcohol. Four incidents were already dropped during the interview because they did not refer to specific events.



The classification of incidents happened bottom-up by reading the incidents of respondents repeatedly to retrieve which categories arise. It was possible to make clear categories to identify incidents. Ad hoc categories force the researcher into new ways of thinking (Downs and Adrian, 2004). There was no established format for grouping the incidents. Thirteen subcategories which have been grouped into five main categories are the result.

The next step was to look for references of basic alcohol consequences in the literature. Some categories which were raised, such as having a hangover, a scuffle or fight or reckless behavior are already described as alcohol related in available literature (Fearnow-Kenny et al., 2001; Hauge and Irgens-Jensen, 1986; Vik et al., 2000), which gives some support for the utility of the initial categories (Butterfield et al., 2005). However, there is no complete agreement. New categories were raised, such as worries about somebody else’s drinking behavior. This underlines the exploratory nature of the CIT. The point of exhaustiveness is achieved by tracking the point at which new categories stop emerging from the data. Saturation was indicated because no new subcategories emerged in the last 37 incidents. This is considered as a sign that the domain of the activity being studied has been adequately covered (Flanagan, 1954; Andersson and Nilsson, 1964).

Because the alcohol incidents often involved more than just one category, a distinction was made between the main incident and side experiences. The main incident can be assigned to only one category and has been encoded as the category which is, in the view of the respondent, most important or of influence. The side experiences are also discussed by the respondent, but are for him or her less important. Side experiences that happen during the incident can be assigned to several categories. To assess interrater reliability, an independent judge is asked to code 15 interviews (this yielded 50 incidents) randomly chosen, into the categories. The researcher has created a description of the categories as well as a title for the assignment of incidents. Cohen’s kappa shows the stability concerning the classifying of incidents in categories (Table 3). The agreement rate between what the researcher and the independent judge state as the main incident was 88%.

*Table 3: K statistics between the 2 coders*

<b>First alcohol experience</b>	<b>K</b>	<b>Alcohol-related incident</b>	<b>K</b>
Location	1	About who	0.80
Company	0.77	Heavy alcohol use	0.78
Role of the parents	0.72	Role of the parents	0.75
Incident?	1	Placement of incidents in categories	0.81
		Evaluation	0.72
		Impact	0.79

**RESULTS.** The results of the CIT will show respondents’ reports, descriptions and explanation of alcohol-related incidents. Information will be given about the first alcohol experience of the respondents and the incidents that are mentioned during the CIT (type and number of incidents and the role of the parents). Special attention will be given about the evaluation and impact of the alcohol related incidents.

*First alcohol consumption*

44 of the 45 adolescents could still well remember their first alcohol experience (Table 4). What they consider as their first alcohol experience could be a nip, a glass or more than that. Most respondents had their first alcohol consumption at home with their parents (45%) in a disco or bar (28%) or on a party at somebody’s home (16%). The respondents already drunk alcohol on a young age (M=12.3, SD=1.9) and in most cases the parents knew about it. Almost all parents who knew it approved it or said nothing about it.

16% of the interviewees stated that the first time that they drunk alcohol was too much and that the experience was of influence or important for them. These experiences were included in the

analysis of the incidents of the CIT. They all drank a large quantity of alcohol (all more than 6 standard glasses) on a young age ( $M=12.6$ ). For example, a boy tells about his first alcohol experience when he was 13 years old:

‘John and I went to the shop and bought a bottle of Amaretto. In the evening, before we went to the school disco, we drank it all. I was really drunk.’ (Interview 12)

When we take a closer look to these experiences, we could see that in all the cases the young children drink in secret with friends, mostly somewhere outside, without the supervision of parents. A twelve year old boy says:

‘The first time that I took alcohol was quite cool. It was very strange. I was twelve I think. I drunk a whole bottle of Martini with a friend. I blacked out (...) My parents found out because I had to go to the hospital. That sucked.’ (Interview 27)

A girl tells about her first alcohol experience when she was thirteen:

‘We were in the playground with friends during the day. I almost drunk a complete bottle of Amaretto. We wanted to go to a friend but I could no longer cycle because I fell all the time. At his home, I puked and puked. I was very sick. I couldn’t stand any longer. (...) My mother was called because I had to throw everything up. She was really angry. She said that if I want to drink I have to do that at home but not like this on the street.’ (Interview 34)

*Table 4: Information about the first time that adolescents drink alcohol (n=44)*

Item	Category	Percentage
Location	Home	45%
	Disco or bar	28%
	Party at home	16%
	Outside	11%
Company	Parents	39%
	Peers	37%
	Combination of family and peers	25%
Knowledge of the parents	Yes	80%
	More or less	7%
	No	14%
If yes, how did they now?	They were part of it	71%
	They found out	21%
	It is told by the respondent	8%
If yes, Reaction parents	Good/ no reaction	91%
	Advise against	3%
	Forbid	6%
Incident	No	84%
	Yes	16%

In the cases that the first alcohol experience is with the parents, this is mostly not more than a nip or sometimes a glass. This can hold young people back from secretly drinking large quantities the first time, which can lead to heavy alcohol related incidents.

#### *Type of incidents*

In summary, the 45 interviews resulted in 145 incidents. On average, 3.2 incidents per respondent were mentioned ( $SD=1.4$ ) with a minimum of 0 and maximum of 6 incidents. Adolescents of lower education mentioned significant ( $p = .027$ ) more incidents ( $M=3.7$ ) than the adolescents on higher education ( $M=2.8$ ). The average age of the respondents during the incident mentioned is 14.8 ( $SD=1.2$ ).

53% of the incidents concerned the respondents themselves, 40% was an incident that the respondent observed of somebody else who drunk and in 7% of the cases the incident was both an



observation and an experience at the same time. Incidents that were first mentioned predominantly concerned the participants themselves (73%).

What and how much is drunk during the mentioned incident strongly varies. In most of the incidents (87%) participants can more or less recall how much alcohol was consumed. Of those incidents it is striking that for most of the incidents (61%) it is a matter of heavy alcohol consumption (more than six standard glasses on an occasion). In another 25% of the incidents this is probably the case because the respondent describes a state of intoxication for him or herself or somebody else. In 14% of the incidents fewer six than standard glasses have been drunk.

Table 5 shows the allocation of Critical Incidents reported by participants. ‘Become ill’ of the alcohol is something what a lot of respondents mention as an alcohol related incident. Of the 145 incidents, it is mentioned 28 times as the main incident (19%) and 32 times as a side experience (22%). It goes accompanied with heavy alcohol use, throwing up and/ or a hangover. It seems to make an impression and is memorable for young adolescents.

*Table 5: Allocation of the 145 Critical Incidents Reported by Participants*

Category	Subcategory	Main*	Side**	Example
Physical consequences	Being ill because of alcohol	19%	22%	‘I Had to vomit in my bed.’ ‘He had a hangover the next day.’
	Accident or injury	11%	12%	‘I fell from my bike when I went home.’ ‘My boyfriend had an injury because he climbed on a car when he was drunk.’
	Blacking out	6%	1%	‘She passed out after she drunk the whole bottle on her own.’
	Memory loss	4%	10%	‘I didn’t know anymore what happened the next day.’ ‘I heard afterwards that I did some stupid things.’
	Be admitted to hospital	0%	5%	‘The ambulance took my sister to the hospital.’ ‘I had to go to the hospital because I had alcohol poisoning.’
Social consequences	Doing strange things	16%	21%	‘I did some reckless things I normally wouldn’t do.’ ‘I danced on a stage. I was totally crazy.’
	Make easier contact	10%	4%	‘I kissed a girl which I had not done if I had been sober.’ ‘I got closer to a boy I just met.’
	Only having a better time	7%	7%	‘We had a drink. It was a nice evening, nothing more.’ ‘Everybody was just having a good time.’
Behavioral problems	Interpersonal conflicts	12%	4%	‘I had a fight with some guys in the disco.’ ‘I hurt another person.’
	Robbery or theft	0%	1%	‘My wallet was stolen by somebody who was drunk.’
	Damage/ vandalism	2%	3%	‘The boy shattered a window of a shop.’
Occasions related problems	Problems with sleeping	3%	3%	‘I couldn’t found a place to sleep.’ ‘I woke up and saw that I slept outside in the grass.’
	Problems at work or school	3%	1%	‘They failed an exam because of drinking.’ ‘I drunk during school time.’ ‘I had a hangover when I had to go to work.’
	Problems with police	1%	6%	‘I was arrested because of a little drunk.’ ‘He got a fine because he was drunk.’
Worry/ critic	Worries	3%	7%	‘I had to take care of a drunk friend and was really worried.’
	Been criticized for drinking	2%	3%	‘My father was giving me a hard time by telling me that I drunk too much.’
		100%		

\* Percentage of incidents that is mentioned as main incident

\*\*Percentage of incidents that is mentioned as side experience

Doing strange things is a broad category. They are all activities which are unusual or strange in the eyes of the respondents themselves. Things that he or she wouldn't do in a sober situation. For example reckless bets, exuberant behavior such as dancing on a stage or doing funny alcohol games. For example:

'The party was over. We were bored and all drunk. We behaved complete differently than normally. We were bumping and pushing each other against the tents on the field and sneaked in strange tents.' (Interview 37)

Interpersonal conflicts are often mentioned as main incident. Adolescents relate it to alcohol, but mostly not for themselves. They see the other person or group as being influenced by alcohol and as the initiator of the fight.

'Once I kicked someone down with two friends. My friend accidentally walked into a guy and then the guy had a big mouth and started to threaten with a knife. We kicked him hard against the church. (...). If we were not drunk, we would still have had a fight. It was the boy who drunk too much and had a large mouth.' (Interview 26)

What is further remarkable, is that memory loss is more seen as a side experience than as the main alcohol related incident. Respondents told the interviewer that they heard afterwards what they did and that they couldn't remember it anymore. It is nevertheless not the reason what makes the event important or of influence to the respondent.

Respondents barely mention experiences like drunken driving in a car because of the young age of the respondents. Respondents also do not mention alcohol related health problems, probably because these are related to prolonged drinking. The respondents have been drinking for too short a period for experiencing some long term consequences.

The most mentioned categories for the main incident are 'being ill', 'doing strange things', 'interpersonal conflicts', 'accident or injury', 'make easier contact' and 'blacking out'. The diversity of the described incidents reflects the heterogeneous nature of experiences which are paired with drinking alcohol. Adolescents experience many consequences of alcohol, some of them are quite serious. Adolescents seem to evaluate these consequences however not that serious.

#### *Role of the parents*

The role of the parents concerning the incidents is summarized in Table 6. In most cases (55%) parents know about the incident and the quantity of alcohol that is drunk. However, they frequently know less than what happened in reality. Young people tell half the truth or keep information behind to make it appear less serious.

*Table 6: Knowledge and reaction of the parents about the alcohol incident*

Knowledge of the parents	Yes	55%
	More or less	22%
	No	22%
If yes, how did they now?	They were part of it	38%
	They found out	36%
	It is told by the respondent	26%
If yes, reaction parents	Good/ no reaction	60%
	Advise against	29%
	Forbid	10%

Many parents know of the incident because they accidentally find out. For example because their child was sick or because they heard about the incident from other people. Less often (26%) the adolescents tell themselves what happened. Most of the young people just do not tell themselves

about what they drink or what they do when they drink. They believe that it is strange or not necessary to discuss something with their parents. Like a respondent tells:

‘I didn’t tell anything about it to my parents. What do they have to do with that information? I never tell things like that. They also don’t ask for it.’ (Interview 35)

If the parents know about the incident and how much has been drunk they generally approve it or do not say anything about it (60%). A striking result is that a lot of respondents say that their parents can laugh about the mentioned incident, also when the negative consequences of alcohol come across because of heavy alcohol use:

‘My parents found out that I had a hangover because we were having breakfast and I had to throw everything up. They laughed about it.’ (Interview 17)

And a girl tells:

‘Next my parents saw my scrapes on my face. They asked me what happened. I told them that I fell off my bike because I could no longer cycle. They started to laugh at me. That was funny.’ (Interview 27)

Something that also came back in the interviews was that the young people have the idea that their parents find it their own responsibility how much they drink:

‘I think my parents think it is okay. They always say that I have to decide myself how much I drink. You know how we think about it, they always say, but in fact I don’t know. Mostly they say something like you know what’s good for you and what you can handle.’ (Interview 38)

And:

‘I had to puke on the toilet. My mom and dad said that I would know how far I could go now with alcohol. I think they thought it was good for me that I had experienced it myself now how it was to be sick of the alcohol. They think I can learn from it.’ (Interview 41)

And:

‘I think my parent’s don’t care if I’m drunk. They say that when I am nauseous, it is my own responsibility. My father always says that it is my own fault.’ (Interview 31)

If seems, if it concerns the incidents, the role of the parents is lacking in many cases. In half of the mentioned incidents, they do not know about it, or know more or less what happened. This makes it more difficult for parents to adequately handle the alcohol consumption of their children. But if they know, they do not advise against or forbid. Most respondents think that their parents do not care about it, can laugh about it or think that it is their own responsibility.

#### *Evaluation of incidents*

In general, the mentioned incidents are evaluated more positively than negatively. 10% of the incidents is evaluated entirely negative, 15% mainly negative, 19% neutral or just as positive and negative, 15% mainly positive and 40% entirely positive. This is remarkable because the Critical Incident Technique normally brings overwhelmingly more negative or ineffective incidents forward than positive or effective incidents, because people normally focus on what they do not like (Downs and Adrian, 2004).

Table 7 shows the evaluation of the different type of incidents. Even the categories of incidents that are described as negative consequences in alcohol literature (Giancola, 2002; Hauge and Irgens-Jensen, 1986; Mäkelä and Mustonen, 2002, Marcus and Reio, 2002; Nystrom, 1992, Montgomery and Haemmerlie, 1993; Wood et al., 200) like an accident or injury, being ill and interpersonal conflicts, are in the eyes of young people frequently evaluated positive.

Table 7: Evaluation of main incidents\*

Category	Entirely negative	Mainly negative	Neutral	Mainly positive	Entirely positive
Having a better time	0%	0%	0%	0%	100%
Accident or injury	6%	0%	6%	19%	69%
Doing strange things	4%	9%	9%	13%	65%
Make easier contact	7%	0%	33%	13%	47%
Being ill	7%	22%	26%	19%	26%
Interpersonal conflicts	11%	33%	28%	22%	6%

\* Only the categories that are mentioned ten times or more as a main incident are included.

For example, having an accident or injury is evaluated mainly positive in 19% of the incidents and only positive in 69% of the incidents.

Interviews shed some light on why those incidents are often perceived positive from the view of the adolescents. The 15 and 16- year old schoolchildren do not yet have a drivers license and the most discussed incidents in this category happen with the bicycle. The impact of those accidents is generally not really serious. The adolescents in this research had light wounds such as a bruise or a wound that had to be stitched. Young people experience such an accident or injury as ‘cool’ and frequently laugh about it. Like a boy told about an accident:

‘We drunk a lot. The sports coach was also there and he was drunk. We have caused an accident with his car. Then we drove really hard against a pole. (...). It was really cool, we really liked it. We were sitting in his car, hard music, and racing over the car park. We laughed about it. That was an immense experience. I had never had an accident when I was drunk.’ (Interview 20)

A girl tells about an accident with her boyfriend:

‘My friend was drunk, had a bet and climbed on the car while a friend drove. He fell off the car. We had to go to the hospital to have his head sutured.. However, it was a really funny evening. Maybe it was stupid that he had an accident, but it was a very nice evening. I have especially positive memories of that evening.’ (Interview 33)

Incidents in the category ‘doing strange things’ are mostly experienced positive. They are experiences of which the adolescent indicates that he would not have done them if he would not have been drunk. In those cases alcohol removed the borders of the young people and they do things they normally would not dare to do. In spite of often reckless or risky behavior, young people can laugh about such incidents and experience it as being positive.

‘Make easier contact with the opposite sex’ is a positive experience in 60% of the incidents. There are however a number of exceptions. This is when the respondent regrets kissing somebody. ‘Become ill’ and ‘interpersonal conflicts’ are the categories that are evaluated most negative. Relatively seen, because ‘being ill’ is anyhow (mainly) positively described in 45% of the incidents and interpersonal conflicts in 28% of the incidents. This is because alcohol incidents are not evaluated in isolation, but within the context of the whole alcohol experience. Positive and negative consequences of alcohol overlap each other and it seems that when the respondent looks back to the incident in retrospect that the positive consequences predominate the negative consequences. Like a boy tells:

‘The fight was negative, that sucked, but the rest of the evening was, however, very nice. I was drunk, so that was really positive.’ (Interview 12)

And:

‘It was simply a really, really good evening. It’s only a pity that you have to be sick when you come home.’ (Interview 43)

Alcohol leads to positive experiences. This means also that the negative consequences of alcohol are accepted. Like some adolescents indicate:

‘It was not nice that I remained the entire evening in my tent because I was ill from the alcohol. But I did not find it terrible because I had, however, laughed a lot.’ (Interview 37)

And:

‘There’s nothing you can do about it. If you have such a nice evening beforehand, then I accept that I’m ill for two days.’ (Interview 38)

Apparently, objectively seen negative consequences of alcohol, are in the view of the adolescent positive in retrospect. Alcohol experience are often experienced as ‘funny’ and ‘cool’. Some negative consequences can be accepted because the context of the alcohol experience was positive. This results in the complete alcohol experience retrospectively being evaluated as positive.

#### *Impact of an incident*

Table 8 reflects the impact of salient alcohol incidents on the motivation to change alcohol use.

*Table 8: Types of impact of an incident*

<b>Type of impact</b>	<b>Examples</b>	<b>%</b>
Desire to drink more/ more often	‘It makes me want to drink more often.’ ‘I discovered that it’s actually quite normal to drink.’ ‘I felt good, so... Therefore yes... next year I will be more drunk.’	5%
No influence/ no change	‘Not at all, I’m going to drink anyway.’ ‘No, I already thought being drunk was stupid.’ ‘I just keep on taking it easy with alcohol.’	65%
Alcohol reduction: drink less or more carefully	‘I’m never going to drink so much again.’ ‘I simply drink less since that evening.’ ‘That was the first and immediately the last time. I learned a lot of it. I really don’t want to drink so much that it comes that far.’ ‘I watch out what I drink now. I no longer drink just anything.’ ‘That was terrible. I just don’t want to experience it again so I drink less now.’	15%
Alcohol reduction for a short period: try to drink less or more carefully	‘The first couple of months I didn’t drink at all, but now I drink the same as before again. I don’t think back any more at the time that I was vomiting.’ ‘I think it will happen again, but not in the months to come.’ ‘I say almost every week that I want to drink less because I can remember things less and less (...). I think that in the morning when I awake, but that goal disappears then on Saturday.’ ‘Now I drink to a lesser degree’ (...) ‘I don’t know if it’s a permanent situation. Once ended up in such a situation you don’t know what you do.’	13%
Alcohol abstinence	‘I never want to drink again. That was the last time that I drunk alcohol.’	2%

Results of the CIT give some evidence that the experience of a salient alcohol experience have influence on the motivation to stop drinking. For example, one girl described the impact of an alcohol poisoning:

‘That is once and never again. Each time that I smell alcohol now I think: leave it. It was the last time that I drunk alcohol. (...). I don’t want to drink any more because I am frightened that the same will happen again.’ (Interview 28)

The adolescent, here, seemed to have been influenced by the vivid outcome of the alcohol experience. The experience aroused passion, worry. They lead adolescents to be more fearful of the consequences. They have impact because they are real-world happening and are vivid and

memorable for the respondent because they are based on personal experience. But in only 2% of the mentioned incidents, a living alcohol experience led to abstinence of drinking.

In 28% (15% + 13%) of the incidents the alcohol experience has an impact, but less powerful. The incident led to the intention to drink less or more cautiously. The respondent stated that he still drinks but less or more carefully because of the incident. For example:

‘I will never drink so much again that I will be drunk. It’s because I was ill for three days. I thought that it was funny to be drunk, but I was totally wasted.’ (Interview 34)

Young people often say that the alcohol experience taught them what their limits are:

‘I just know now exactly when I must stop. You can simply feel it. If I drink now I don’t go further than how I felt before I had to vomit.’ (Interview 40)

And:

‘I know how far I can go now. That is, however, very useful.’ (Interview 42)

But in almost half of these cases the adolescent told, or during the interview it became clear, that this intention did not lead to a lasting behavior change. The incident led to alcohol reduction for a short period. So the impact of a salient alcohol experience may not be permanent and can fade with time. Many respondents indicate that they fall back into their old behavior.

Results show that in the majority of the incidents (65%) a vivid alcohol experience does not lead to the motivation to change drink behavior, not even for a short period. This is because the incident just did not have any impact on the respondent or because the respondent is confirmed in his existing attitude (that he doesn’t want to drink too much alcohol). A plausible explanation of the limited impact is the positive evaluation of most incidents.

When we split the file into different kind of variables, we can see which kind of incidents have the most impact (Table 9).

*Table 9: Impact of alcohol incident for different variables*

Category	Intention to drink more	No influence	Try to drink less	Drink less	Quit drinking	No influence	Intention to drink less
Incident of self	8%	51%	22%	16%	4%	58%	42%
Incident of another	0%	79%	3%	17%	0%	79%	21%
Male	4%	65%	16%	12%	2%	70%	30%
Female	5%	64%	9%	20%	2%	70%	30%
Higher education	6%	55%	13%	27%	0%	61%	39%
Lower education	4%	73%	14%	6%	4%	77%	24%
(probable) heavy alcohol use	7%	57%	18%	15%	3%	64%	36%
No heavy alcohol use	0%	84%	6%	10%	0%	84%	16%
Being ill	4%	36%	29%	29%	4%	40%	61%
Doing strange things	9%	61%	9%	22%	0%	70%	30%
Make easier contact	0%	80	13%	7%	0%	80%	20%
Having a better time	20%	70%	10%	0%	0%	90%	10%
Accident/ injury	6%	88%	0%	6%	0%	94%	6%
Interpersonal conflicts	0%	100%	0%	0%	0%	100%	0%
Mainly negative	0%	41%	23%	27%	9%	41%	59%
Entirely negative	0%	53%	7%	33%	7%	5%	47%
Evaluated neutral	4%	64%	18%	14%	0%	68%	32%
Evaluated mainly positive	0%	81%	5%	14%	0%	81%	19%
Evaluated entirely positive	10%	72%	12%	5%	0%	83%	17%



Incidents which respondents have experienced themselves have a larger impact in comparison with incidents which they have observed of another, for example a friend. Also incidents where heavy alcohol use is (probably) the case have a bigger impact on the motivation to drink less or more carefully, in comparison where less than 6 standard glasses have been consumed. When drinking more alcohol, more negative consequences of alcohol come across and more serious alcohol related incidents are mentioned.

When we look at the different type of incidents, we can see that 'being ill' has the largest impact to drink less or with more caution (29%). This can be partially explained because it is evaluated negatively. However, it leads in just as large a part of the cases (29%) to a short period of change of alcohol use because adolescents fall back into their old drink behavior.

'Doing strange things' and 'make easier contact' leads to respectively 30% and 20% of the incidents to the intention to drink less. This is the case when respondents indicate they went too far beyond their borders because of alcohol. For example when respondents indicate to kiss with someone they do not like when they are sober.

It is striking that we have seen that interpersonal conflicts are the type of incidents which are evaluated most negatively. Table 9 shows however that it leads never to the intention to drink less. A plausible declaration is that adolescents do not make a direct association between the fight and their own alcohol use.

When we take a closer look at the incidents which are evaluated negatively we see that these lead more often (54%) to the motivation to drink less or with more caution than neutrally (32%) or positively evaluated incidents (18%). Vivid and nasty events were mentioned by some of the young people and connected with their motivation to reduce alcohol use. The negative consequences of alcohol were brought close to home. Weighed against this, there was evidence that alcohol experiences evaluated negatively might have a limited impact. The negative evaluation of an alcohol related incident did not always lead to the motivation to drink less. Despite a negative evaluated experience due to drinking, 46% of the mentioned incidents did not have any influence on the motivation to reduce drinking. In some cases the incident led to a confirmation of an existing attitude that they did not want to drink too much. In most cases the adolescent did not see any reason to drink less.

**DISCUSSION.** The results of the study provided a broader insight in what kind of salient alcohol experiences adolescents have. Fifteen and sixteen year old adolescents already have a lot of experience with alcohol and most of the mentioned incidents are accompanied by heavy alcohol use.

The results of this research make it clear that, if it concerns alcohol experiences of adolescents, the role of the parents is lacking in many cases. The findings indicate that parents are quite aware of the nature of teen drinking and alcohol-related incidents that have happened, although they frequently know less than has happened in reality. Awareness is however not enough. The results of this research make it clear that if it concerns alcohol related incidents, parents do not seem to adequately handle the alcohol consumption of their children. Parents who were aware about the incident and the amount of alcohol that was consumed, do not advise against it, or forbid it. They approved in most cases the amount of alcohol that was consumed or said nothing about it. Parents represent however one of the most direct and immediate sources of influence over teens (Beck and Treiman, 1996). Parental attitudes and practices toward underage drinking have been shown to be an important influence (Ary et al., 1993; Deakin and Cohen, 1986; Harford and Grand, 1987; Wilks and Callan, 1984). Putting clear expectations is considered as an important protecting factor against alcohol use (Peterson et al., 1994). Parents have an important influence on the alcohol consumption of their children, as well as on binge drinking (Haynie et al., 1999).

Results show that young people experience many consequences of alcohol and some of them are quite serious. Many of these incidents are perceived as positive in retrospect, although some type of incidents are 'objectively seen' negative, like being ill or blacking out. These incidents are often experienced as 'funny' and 'cool'. The negative consequences are accepted because the context of the alcohol experience was positive.

When we took a closer look at the negative evaluated experiences, we could see that such an event can make adolescents more aware of the degree in which they are vulnerable for the negative consequences of alcohol and that they indeed can happen to them. The findings show that such experiences could be decisive situations that influenced adolescents' motivation to drink alcohol. However, the experience of negative consequences alone was not sufficient to prompt a change in consumption. Most adolescents did not 'learn' from what could be a critical incident. The results serve as a warning against treating salient, negative alcohol events as having some direct, automatic effect in relation to the motivation to reduce drinking. Even after experiencing a significant alcohol-related incident, drinkers may still decide that they are not ready to reduce their drinking.

We could see that the reaction to certain type of incidents, like blacking out, is not uniform. It can be concluded that the response to incidents was not dictated by the nature of the event itself as much as the meaning which the young people attach to the incidents. Critical incidents only have an impact on the motivation to reduce alcohol if they are perceived as such in retrospect by those involved in the event.

Besides the insight in alcohol experiences of adolescents, the study showed that the explorative nature of the CIT produced new, rich and qualitative information. It proved to be an excellent method for focusing participants' reflections on alcohol-related incidents that they perceived to be important or critical. In this manner, the study provided a methodological development of the CIT for social research based on interviews with adolescents. This research illustrates that the focus of the CIT can be broadened to situations to find out salient alcohol experiences of young people. The CIT should not only be focused on the incident itself, but particularly on the evaluation and opinions of the respondent with respect to what happened. This finding is consistent with a recent development in the CIT literature, namely that the method focuses more on ideas, feelings and why people behave like they do (Ellinger and Bostrom, 2002; Kanyangale and MacLachlan, 1995).

#### *Limitations*

This study is, clearly, a first step in describing and evaluating alcohol-related incidents with the CIT. The present results should however be evaluated in light of limitations of the data and of the design.

The categorization and allocation of critical incidents has been criticized for being both subjective and difficult. Although data can be categorized in more than one way, it is always possible to refer back to the critical incidents themselves (Andersson and Nilson, 1964). Besides that, a second judge was involved in the identification of the incidents and interrater reliability was performed.

It has to be mentioned that the study did not utilize a random sample and that only (mostly regular) drinkers are included. An additional limitation is the restricted age range of the sample, consisting primarily of 15 and 16 year old adolescents. Experienced alcohol consequences, their evaluation and impact may vary and should be considered with regard to generalizing these findings to other populations. The aim of this study was, however, to assess the possible influence of alcohol related incidents of adolescents on their motivation to change alcohol use, not to make judgements concerning the general population.

A limitation of qualitative research is that it is impractical for the researcher to use large, representative samples for obtaining data. Flanagan (1954) stressed that in a CIT study the sample size is not determined by the number of participants, but rather by the number of critical incidents observed or reported. In general, analysis of 100 incidents are sufficient for an adequate qualitative analysis. There is however no set of rule for how many incident are sufficient. 145 incidents seems enough for the aim of this study, because saturation of the critical incidents was reached before all interviews had been completed (Butterfield, 2005).

The study described how young people reflect on their personal experiences with alcohol and the degree in which they believe that this experience has influenced them. The self-report nature of these data are limitations of this study. It can give a misrepresented picture by errors in the memory, worry concerning anonymity which results in socially desirable answers or well-considered deception. Because of the sensitive nature of the selected items and the possible existence of well-considered distortion which is influenced by the setting and the presence of the research worker, some bias can have arisen. In spite of pre-testing no guarantees can be given concerning the sources of report error. Besides this, the study is almost totally based on verbal statements of opinions, intentions and motivation. The analysis cannot determine whether changes in drinking behavior occurred, nor whether motivation reported in the postincident assessment translated into actual changes in drinking behavior. We did not have a measure of incident reactions immediately after the incident. This information would have allowed us to determine more precisely the impact of the incident on motivation. On the other hand, it was the intention of this study to learn more about the (subjective) perceptions of adolescents

#### *Implications for interventions*

Based on the results, some implications for interventions can be given. By identifying adolescents' experiences, health care educators can assess which kind of specific interventions regularly occur with young people and have the most impact on the motivation to reduce alcohol drinking. If public health campaigns want to use the negative consequences to discourage adolescents' to drink alcohol, it seems to be most logic to show the link between drinking (too much) alcohol and being sick.

The context of health information must however take the interpretation and evaluation of incidents into account. A large number of health promotion campaigns are based on a simple strategy to show the negative consequences of alcohol and to elicit fear. This seems not to be effective in achieving the desired behavior when you keep in mind that a lot of these negative incidents are bend into something positive. If alcohol preventors point to the negative aspects of alcohol, they must realize themselves that these can become positive in the perception of adolescents. Comparable incidents can give different responses. It is the meaning which young people give to incidents that can make an alcohol event critical. Before treating salient negative evaluated alcohol experiences as evidence supporting the 'shock-horror' approach to health education, it is worth bearing in mind that for many other young people in the research such events did not appear to have had the same effect on the motivation to reduce drinking.

#### **REFERENCES**

- Abbey, A. McAuslan, P., and Ross, L.T. Sexual assault perpetration by college men: The role of alcohol, misperception of sexual intent, and sexual beliefs and experiences. *J. Social Clin. Psychol.* **17**: 167-195, 1998.
- Anderson, B., and Nilsson, S. (1964). Studies in the reliability and validity of the critical incident technique. *J. Applied Psychol.* **48**: 398-403, 1964.
- Ary, D.V., Tildesley, E., Hops, H., and Andrews, J. The influence of parent sibling, and peer modelling and attitudes on adolescent use of alcohol. *Int. J. Addict.* **28**: 853-880, 1993.

- Barnett, N.P., Monti, P.M., Cherpitel, C., Bendtsen, P., Borges, G., Colby, S.M., Nordqvist, C., and Johansson, K. Identification and brief treatment of alcohol problems with medical patients: An International perspective. *Alcoholism Clin. Exp. Res.* **27**: 262-270, 2003.
- Beck, K.H., and Treiman, K.A. The relationship of social context of drinking, perceived social norms, and parental influence to various drinking patterns of adolescents. *Addictive Behaviours* **21** (5): 633-644, 1996.
- Bogenschneider, K., Ming-Yeh, W., Raffaelli, M., Tsay, J.C. "Other Teens Drink, but Not My Kid": Does Parental Awareness of Adolescent Alcohol Use Protect Adolescents from Risky Consequences? *J. Marriage and the Family* **60** (2): 356-373, 1998.
- Brown, S.A., Goldman, M.S., and Christiansen, B.A. Do alcohol expectancies mediate drinking patterns of adults? *J. Cons. Clin. Psychol.* **53**: 512-519, 1985.
- Butterfield, L.D., Borgen, W.A., Amundson, N.E and Maglio, A.T. Fifty years of the Critical Incident Technique: 1954-2004 and beyond. *Qualitative Research*, **5** (4), 475-497, 2005.
- CBS, Jeugd 2003, feiten en cijfers, Voorburg/Heerlen, 2003. [Statistics Netherlands, 2003]
- Deakin, S., and Cohen, E. Alcohol attitudes and behaviors of freshmen and their parents. *J. College student Devel.* **27**: 490-495, 1986.
- Denscombe, M. Critical Incidents and the perception of health risks: the experiences of young people in relation to their use of alcohol and tobacco. *Health, Risk and Society* **3** (3): 293-306, 2001.
- Downs, C.W. and Adrian, A.D. (2004). *Assessing organizational communication; Strategic communication audits*. London: Guildford.
- Dunn, C., Zatzick, D., Russo, J., Rivara, R., Roy-Byrne, P., Ries, R., Wisner, D., and Genitello, L. Hazardous drinking by trauma patients during they ear after injury. *J. Trauma Injury Infect. Crit. Care* **54**: 707-712, 2003.
- Ellinger, A.D. and Bostrom, R.P. An Examination of Managers' Beliefs about their Roles as Facilitators of Learning, *Management Learning* **33** (2): 147-79, 2002
- Fearnow-Kenny, M.D., Wyrick, D.L., Hansen, W.B., Dyreg, D., and Beau, D.B. Normative beliefs, expectancies, and alcohol-related problems among college students: Implications for theory and practice. *J. Alcohol and Drug Education* **7** (1): 31-44, 2001.
- Flanagan, J.C. The critical incident technique. *Psychological Bulletin* **51**: 327-358, 1954.
- Fromme, K., Kivlahan, D.R., and Marlatt, G.A. Alcohol expectancies, risk identification, and secondary prevention with problem drinkers. *Adv. Behav. Res.Ther.* **8**: 237-251, 1986.
- Gerber, E.R., and Wellens, T.R. Perspectives on Pretesting: 'Cognition' in the Cognitive Interview? *Bulletin de Methodologie Sociologique* **11** : 18-39, 1997.
- Giancola, P.R. Alcohol-related aggression during the college years: Theories, risk factors and policy implications. *J. Stud. Alcohol, Supplement* **14**: 129-139, 2002.
- Grant, B.F., and Dawson, D.A. Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse* **9**: 103-110, 1997.

- Harford, T.C., and Grand, B.F. Psychosocial factors in adolescent drinking contexts. *J. Studies Alcohol* **48**: 551-557, 1987.
- Hauge, R and Irgens-Jensen, O. The Relationship Between Alcohol Consumption, Alcohol Intoxication and Negative Consequences of Drinking in Four Scandinavian Countries. *J. addiction* **81**: 513-524, 1986
- Haynie, D.L. Beck, K.H., Crump, A.D., Shattuck, T. and Simons-Morton, B. Parenting strategies regarding teen behavior: parent and teen perceptions. *American J. Health Behavior* **23**: 402-414, 1999.
- Kanyangale, M. and MacLachlan, M. Critical Incidents for Refugee Counsellors: An Investigation of Indigenous Human Resources. *Counselling Psychology Quarterly* **8** (1): 89-101, 1995.
- KWF. Signaleringscommissie Kanker van KWF Kankerbestrijding. De rol van voeding bij het ontstaan van kanker. The Hague: KWF Kankerbestrijding, 2004. [The Dutch Cancer Association: The role of food which comes into existence of cancer.]
- Maggs, J. L. and Schulenberg, J. Trajectories of alcohol use during the transition to adulthood. *Alcohol Research and Health* **28**: 195-201, 2004-2005.
- Mäkelä, K. and Mustonen, H. Relationships of drinking behaviour, gender and age with reported negative and positive experiences related to drinking. *Addiction*, **95** (5): 727-736, 2002
- Mallet, K.A., Lee, C., Neighbors, C., Larimer, M. A., and Turrise, R. J. Do we learn from our mistakes? An examination of the impact of negative alcohol-related consequences on college students' drinking patterns and perceptions. *J. Stud. Alcohol* **67**: 269-276, 2006.
- Marcus, R.F. and Reig, T.G., Jr. Severity of injury resulting from violence among college students: Proximal and distal influences. *J. Interpers. Viol.* **17**: 888-908, 2002.
- Montgomery, R.L. and Haemmerlie, F.M. Undergraduate adjustment to college, drinking behavior, and fraternity membership. *Psychol. Rep.* **73**: 801-802, 1993.
- Nyström, M. Positive and negative consequences of alcohol drinking among young university students in Finland. *British J. of Addiction* **87**: 715-722, 1992.
- Park, C.L. Positive and negative consequences of alcohol consumption in college students. *Addict. Behav.* **29**: 311-321, 2004.
- Perreira, K.M. and Sloan, F.A. Life events and alcohol consumption among mature adults: A longitudinal analysis. *J. Stud. Alcohol* **62**: 501-508, 2001.
- Peterson, P.L., Hawkins, J.D., Abbott, R.D., and Catalano, R.F. Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *J. Resarch Adolescence* **4** (2): 203-227, 1994.
- Poppelier, A., Wiel, A. van de and Mheen, D. van de. Overdaad schaadt: een inventarisatie van de lichamelijke gevolgen van sociaal geaccepteerd alcoholgebruik en bingedrinken. Rotterdam: IVO, 2002. [An inventory of the physical consequences of socially accepted alcohol consumption and binge drinking.]

Presley, C.A., Meilman, P.W., and Cashin, J.R. Alcohol and Drugs on American College Campuses: Use, Consequences, and Perceptions of the Campus Environment, Volume IV: 1992-94, Carbondale, IL; Core Institute, Southern Illinois University, 1996.

Reis, J. Harned, I., and Riley, W. Young adult's immediate reaction to a personal alcohol overdose. *J. Drug Educ.* **34**: 235-245, 2004.

Single, E., Ashley, M., Bondy, S., Rankin, J. and Rehm, J. Evidence regarding the level of alcohol consumption considered to be low risk for men and women. Canberra: NHMRC, 1999.

Sobell, L.C., Wobell, M.B., Toneatto, T., and Leo, G.I. What triggers the resolution of alcohol problems without treatment? *Alcsm Clin. Exp. Res.* **17**: 217-224, 1993.

Stano, M. 'The Critical Incident Technique: A Description of the Method', Annual Meeting of the Southern Speech Communication Association, April, Lincoln, Nebraska, 1983.

Vik, P.W., Carrello, P., Tate, S.R. and Field, C. Progression of consequences among heavy drinking college students. *Psychol. Addict. Behav.* **14**: 91-101, 2000.

Wechsler, H., Lee, J.E., Kuo, M., and Lee, H. College binge drinking in the 1990s: A continuing problem. Results of the Harvard School of Public Health 1999 College Alcohol Study. *J. Amer. Coll. Hlth.* **48**: 199-210, 2000.

Wells-Parker, E., Kenne, D.R., Spratke, K.L., and Williams, M.T. Self efficacy and motivation for controlling drinking and drinking/ driving: An investigation of changes across a driving under the influence (DUI) intervention program and of recidivism prediction. *Addict. Behav.* **25**: 229-238, 2000.

Wilks, J., and Callan, V. Similarity of university students' and their parents' attitudes toward alcohol. *J. Studies Alcohol* **45**: 326-333, 1984.

Wood, M.D., Sher, K.J. and McGowan, A.K. Collegiate alcohol involvement and role attainment in early adulthood: Findings from a prospective high-risk study. *J. Stud. Alcohol* **61**: 278-289, 2000.