

# **DRINKING IN A DRY CULTURE**

**ALCOHOL USE AMONG SECOND-GENERATION TURKS AND  
MOROCCANS: MEASUREMENTS AND RESULTS**

A. DOTINGA

Dotinga, Aafje  
'Drinking in a dry culture'. Alcohol use among second-generation Turks and  
Moroccans: measurements and results.  
Thesis Rotterdam University- with summary in Dutch  
ISBN: 90-7423451-8

Cover design by Jildou Bijlstra  
Printed by Cachet, The Netherlands

© 2005 Aafje Dotinga  
No part of this thesis may be reproduced in any form by print, microfilm or any  
other means without written permission.

The studies described in this thesis were financially supported by  
the Netherlands Organization for Health Research and Development  
(ZonMw, projectnumber 31000022 )

**'Drinking in a dry Culture'**

**Alcohol use among second-generation Turks and Moroccans:  
measurements and results**

**'Drankgebruik in een droge cultuur'**

**Alcoholgebruik onder tweede-generatie Turken en Marokkanen:  
methodiek en resultaten**

Proefschrift

ter verkrijging van de graad van doctor aan de Erasmus Universiteit Rotterdam  
op gezag van de rector magnificus

Prof.dr. S.W.J. Lamberts

en volgens besluit van het College voor Promoties.

De openbare verdediging zal plaatsvinden op  
donderdag 6 oktober 2005 om 13.30 uur

door

Aafje Dotinga  
geboren te Stiens

Promotiecommissie

Promotor: Prof.dr. H.F.L. Garretsen

Overige leden: Prof.dr. J.P. Mackenbach  
Prof.dr. F. Sturmans  
Prof.dr. R.A. Knibbe

Copromotoren: Dr. R.J.J.M. van den Eijnden  
Dr. W. Bosveld

# CONTENTS

Part I	Introduction	1
Chapter 1	<b>Introduction</b>	<b>3</b>
	General introduction	3
	Turks and Moroccans in the Netherlands	4
	Islam and alcohol use	4
	Acculturation and alcohol use	5
	Methodological issues	6
	The present thesis	8
	Outline of this thesis	9
Chapter 2	<b>Review: Prevalence of alcohol use</b>	<b>17</b>
	Introduction	17
	Methods	17
	Results	17
	Conclusion	26
Part II	Measurement of alcohol use	31
Chapter 3	<b>Methodological problems related to alcohol research among Turks and Moroccans living in the Netherlands: Findings from semi-structured interviews</b>	<b>33</b>
	Introduction	35
	Methods	37
	Results	38
	Discussion	41
Chapter 4	<b>The effect of data collection mode and ethnicity of interviewer on response rates and alcohol reports: An experimental study.</b>	<b>45</b>
	Introduction	47
	Methods	49
	Results	52
	Discussion	55
Chapter 5	<b>Measuring alcohol use: ‘Quantity Frequency Variability’ and ‘Weekly Recall’ compared among Turks and Moroccans in the Netherlands.</b>	<b>61</b>
	Introduction	63
	Methods	64
	Results	66
	Discussion	66

Part III	Prevalence and determinants of alcohol use	71
Chapter 6	<b>Prevalence of abstaining, excessive drinking, binge drinking and problem drinking among second-generation Turks in the Netherlands</b>	<b>73</b>
	Introduction	75
	Methods	76
	Results	79
	Discussion	82
Chapter 7	<b>Religious, cultural and social cognitive correlates of alcohol use among second-generation Turks and Moroccans in the Netherlands</b>	<b>89</b>
	Introduction	91
	Methods	92
	Results	95
	Discussion	100
Part IV	General discussion	107
Chapter 8	<b>Discussion</b>	<b>109</b>
	Introduction	111
	Summary of results	111
	Methodological issues	113
	Discussion of results	116
	Practical implications	119
	Recommendations for future research	120
Appendix		124
Summary		127
Samenvatting		133
Dankwoord		137
About the author		138

**The chapters 1-7 are based on the following papers:**

1. A. Dotinga, R.J.J.M. van den Eijnden, B. San Jose, H.F.L. Garretsen, W. Bosveld (2002). Alcohol emigracion, los problemas de medicion et la investigation sobre el consumo de alcohol entre inmigrantes marroquies y turcos. (Alcohol and migration: problems in the measurement of alcohol consumption in Turkish and Moroccan immigrants).  
*Addiciones, 14, 261-278.*
3. A. Dotinga, R.J.J.M. van den Eijnden, W. Bosveld, H.F.L. Garretsen (2004). Methodological problems related to alcohol research among Turks and Moroccans living in the Netherlands: Findings from Semi-structured interviews.  
*Ethnicity & Health, vol. 9 (2), 139-151.*
4. A. Dotinga, R.J.J.M. van den Eijnden, W. Bosveld, H.F.L. Garretsen (2005). The Effect of Data Collection Mode and Ethnicity of Interviewer on Response Rates and Self-Reported Alcohol Use among Turks and Moroccans in the Netherlands: An Experimental Study.  
*Alcohol & Alcoholism, 40 (3), 242-248.*
5. A. Dotinga, R.J.J.M. van den Eijnden, W. Bosveld, H.F.L. Garretsen. Measuring alcohol use: 'Quantity Frequency Variability' and 'Weekly Recall' compared among Turks and Moroccans in the Netherlands.  
*Journal of Substance Use & Misuse (accepted).*
6. A. Dotinga, R.J.J.M. van den Eijnden, W. Bosveld, H.F.L. Garretsen. Prevalence of abstaining, excessive alcohol use, binge drinking and help-seeking behavior among second generation Turks in the Netherlands.  
*Submitted for publication.*
7. A. Dotinga, R.J.J.M. van den Eijnden, W. Bosveld, H.F.L. Garretsen. Religious, cultural and social cognitive correlates of alcohol use among Turks and Moroccans in the Netherlands.  
*Submitted for publication.*





# **PART I**

## **INTRODUCTION**



# **CHAPTER 1**

## **INTRODUCTION**



# 1. INTRODUCTION

## 1.1. General introduction

It hardly needs to be said that alcohol has a number of adverse effects on the individual drinker, his or her environment and on the general community (WHO, 1980). Long-term or chronic effects of alcohol consumption, which have been described extensively in epidemiological literature, are for example hypertension, liver cancer, and ischemic heart disease (Corrao, Bagnardi, Zambon & La Vecchia, 2004; Greenfield, 2001; Room, Babor & Rehm, 2005). Short-term effects of alcohol use include fall injuries, road injuries, fire injuries, assault, and child abuse (Greenfield, 2001). Besides these negative consequences, at low levels of consumption alcohol use has also proven to have some beneficial effects, for example on health as a cardio protective effect (San José, 2000), on psychological well-being to improve mood or reduce stress and on social functioning (Heather, 2001). But there is no doubt that excessive alcohol use is related to increased diseases and deaths (WHO, 2000) and in this respect, many people are at risk. For example, in the Netherlands, in 2003, 18.6% of men and 4.3% of women were heavy drinkers, defined as drinking six or more glasses at least once a week (CBS, 2005). Heavy drinking is especially prevalent among young men i.e. in 2001, 43% of Dutch men aged 18-24 years were categorized as a heavy drinker (CBS, 2003). Furthermore, a recent study on problem drinking among the general Dutch population aged 16 to 69 years, revealed that 10.3% of this population was categorized as a problem drinker, defined as drinking alcohol excessively (at least 20 glasses per week, or at least once a week six glasses) and experiencing alcohol-related problems (Van Dijck & Knibbe, 2005).

The Dutch Ministry of Health, Welfare and Sports is concerned with the public aspects of alcohol prevention. To construct effective prevention activities, insight into the prevalence of alcohol use, problem drinking, and help-seeking behavior is required. Due to the many Dutch studies among the general population (e.g. Abraham, Kaal & Cohen, 2002; Bongers, 1998; CBS, 1983; 1987; Lemmens, 1991) such information is available for autochthonous inhabitants of the Netherlands. However, for immigrant groups in the Dutch society, reliable information about the prevalence of alcohol use and related problems is scarce.

Turks and Moroccans constitute two of the largest non-western groups that migrated to the Netherlands. Although several studies have addressed the prevalence of alcohol use and alcohol related problems among these two ethnic groups, reliable information on this matter is limited. It has often been pointed out that research on substance use and abuse among migrant groups is confronted with methodological difficulties (Collins, 1992; Tucker, 1985; Van Gemert, 2002). In addition, research addressing the prevalence of alcohol use among Turks and Moroccans has to deal with additional methodological problems. These problems are to a large extent related to the religious background of these two ethnic groups, i.e. the Islamic orientation, which prohibits the drinking of alcohol beverages (Shadid & Van Koningsveld, 1997). Due to differences in the religious as well as the cultural background of Turks and Moroccans in the Netherlands, the regularly used instruments to measure alcohol use among the general population seem hardly applicable to these two ethnic groups. To be able to study alcohol use and related problems among Turks and Moroccans, more insight is required in the particular conceptual and methodological problems hindering alcohol research among Turks and Moroccans. The present study is performed to gain insight into these methodological problems.

In this chapter we first give some information about the migration of Turks and Moroccans to the Netherlands. Second, religious and cultural factors related to alcohol use among these groups are discussed. Third, methodological issues related to the measurement of alcohol use among Turks and Moroccans are considered. The last part of this chapter presents an overview of the work presented in this thesis.

## **1.2. Turks and Moroccans in the Netherlands**

In 2004, 352,000 Turks and 306,000 Moroccans lived in the Netherlands, mainly concentrated in certain neighborhoods of the biggest cities e.g. Amsterdam, Den Haag, Rotterdam and Utrecht (CBS, 2004). This group consists of 45% second-generation Turks and Moroccans, which means that they are born in the Netherlands, and have at least one parent born in Turkey or Morocco. The other 55% migrated to the Netherlands in three flows. The first flow started by the end of the 1960s when the Netherlands recruited mainly unskilled and low-skilled workers in Turkey and Morocco, since there was a shortness of workers due to the economic expansion. Although these Turks and Moroccans were called 'guest workers', the reality was that most of the Turks and Moroccans stayed in the Netherlands permanently. Therefore, children and spouses of 'guest workers' came to live in the Netherlands, which constituted the second flow: 'family reunification'. A third flow, 'family formation' started after 1985, when (mainly) legally staying children of the 'guest workers' sought marital partners in their home country. Most of the Turkish and Moroccan migrants came from the less developed and less accessible regions in their home countries. Although, to a large extent the migration process of Turks and Moroccans is comparable, some differences do exist. After Turkey was reformed into a republic (1923), a new political period started: Turkey became more modernized (e.g. industrialized) and the state and church became separated. In Morocco, industrialization took place much later and church and state are less separated compared to the situation in Turkey because, in Morocco, the king is also the most important religious authority.

## **1.3. Islam and alcohol use**

In a Dutch national survey among students (11-23 years) conducted in the year 1996, 81% of the Turkish students and 88% of the Moroccan students reported being Muslim (NSO, 1999). Another study among 18-30 year old Turks and Moroccans in Rotterdam (the second largest city of the Netherlands), showed that 99% of the Turks and all Moroccans reported that Islam was their religion (Phalet, Van Lotringen & Entzinger, 2000); in that study, however, only 26% of the Turks and 44% of the Moroccans reported that they adhere to the norms and rules prescribed by Islam. These results show that although most Turks and Moroccans are Islamic oriented, the extent to which peoples' daily lives are affected by the Islamic norms and rules, differs strongly among individuals.

Differences in adherence to Islamic rules, may especially be evident between first-generation and second-generation Turks and Moroccans. As mentioned earlier, most Turkish and Moroccan migrants in the Netherlands come from the more traditional regions, in which people live strongly in accordance with the Islamic rules. This may hold especially for the first flow of migrants ('guest workers') who left their home country in the 1960s or 1970s, when the ethics of the Islam were very dominant. This 'pioneer group' can still be expected to live according to the Islamic rules that dominated in the period they left their home country and

therefore will more strongly adhere to Islamic rules than the second generation, with the exception of a small number of more fundamentalist second-generation Turks and Moroccans. Because Muslim fundamentalists adhere strongly to ancient Islamic traditions and criticize western norms and values, second-generation Muslim fundamentalists will probably be less vulnerable to start drinking alcohol than non-fundamentalist second-generation Muslims. The latter group may start drinking alcohol due to the influence of Dutch society, as described in the following section.

#### **1.4. Acculturation and alcohol use**

The drinking behavior of Turks and Moroccans in the Netherlands depends not only on the characteristics of their own culture (which is influenced by the ethics of Islam), but also on the interplay with characteristics of the Dutch culture. Under the influence of the Dutch culture some liberalization of Islamic attitudes might occur (Becker, De Hart & Mens, 1997). For example, there are some indications that contact with the Dutch culture has changed the drinking behavior of Moroccans, i.e. while they did not drink alcohol in their home country, some Moroccan 'guest workers' started drinking alcohol in the Netherlands (Shadid, 1979). Whereas the Islamic background kept *most* of the Turks and Moroccans from drinking alcohol, for some of them, living in the Netherlands made it difficult to adhere to this rule and to other Islamic rules (Boulhaboul & Van der Zwaard, 1996).

On the individual level, the process of adaptation to the cultural context as a result of contact with a different culture is called psychological acculturation (Graves, 1967). At first, acculturation was introduced as a group-level phenomenon, referring to culture change of groups (Redfield, Linton & Herskovits, 1936), but it is now widely recognized as an individual-level phenomenon. A well-known acculturation model is proposed by Berry (Berry, 1992). He distinguished four acculturation strategies, i.e. assimilation, integration, segregation and marginalization, which were based on two issues: orientation towards one's own culture, and contact with the dominant culture (Berry, 1992). Assimilation refers to relinquishing one's own cultural identity and absorbing the new culture; integration means the maintenance of one's own culture and adoption of new cultural values; segregation means adhering strongly to one's own cultural traditions; and marginalization refers to the process in which individuals lose contact with both their own and the new cultural norms and values. There are indications that these strategies are domain specific and situation specific. For example, with regard to language, most migrants prefer the integration strategy and, with regard to raising children, segregation seems more preferable (Arends-Tóth, 2003). This implicates that acculturation should be measured on different important life domains.

Acculturation has been related to changes in attitude and behavior in several studies (e.g. Black & Markides, 1993; Lizarzaburu & Palinkas, 2002; see also the review by Berry, 1980). Depending on the acculturation strategies within the Dutch society, Turkish and Moroccan people may change their orientation to Islam in a more liberal way (Phalet, 2004). Since second-generation Turks and Moroccans are generally more oriented to the Dutch society due to education, work and/or leisure-time activities, becoming more liberal will especially be true for second generations. Moreover, although first generations are also in contact with Dutch society, there are indications that contact with the autochthonous Dutch culture has less influence on religious practices among this generation compared to the second generation (Kemper, 1998). In addition, a lower degree of religious practice has proven to be related to higher educational and occupational level, and an increased knowledge of the

Dutch language (Phalet, 2004), which is more common among second-generation Turks and Moroccans (Dagevos, Gijsberts & Van Praag, 2003).

Furthermore, drinking alcohol is a common and widely accepted behavior among Dutch people. The second generation is in touch with the norms and values of both the Turkish/Moroccan culture and the Dutch culture. It has been suggested that Turks and Moroccans perceive little overlap between their worlds within and outside the family (Pels & Nijsten, 2003). As a result, they may experience difficulties conforming to the rules at home on the one hand, and to the Dutch rules on the other (Tennekes, 1989). Moreover, being around Dutch people who drink alcohol, might make it more difficult to abstain from alcohol (Peters, 1987). This process of acculturation therefore may increase the chance that second-generation Turks and Moroccans will start drinking alcohol.

### **1.5. Methodological issues**

#### *Non-response*

As stated before, methodological problems hinder research addressing the prevalence of alcohol use among Turks and Moroccans. Researchers may encounter the first methodological problems when recruiting Turks and Moroccans for alcohol research. For instance, in studies among the general population, the number of Turks and Moroccans is often underrepresented (Planije, Verdurmen & Van Wamel, 2000). Telephone surveys and written questionnaires seem to be inappropriate methods to reach Turks and Moroccans (Schothorst, 2002). The possession of telephones in general is smaller among Turks and Moroccans than among the autochthonous population, and many Turks and Moroccans have an unlisted telephone number or a mobile phone. Furthermore, it has been shown that the non-response in postal surveys is highest among people with a low socio-economic status (Jooste, Yach, Steenkamp & Rossouw, 1990), and the majority of Turks and Moroccans living in the Netherlands belongs to such a socio-economic group (Planije et al., 2000). Another problem that researchers have to face when aiming to reach Turks and Moroccans is that they are less acquainted with engaging in research compared with their Dutch counterparts. The way in which Turks and Moroccans are approached by Dutch researchers is often regarded as too direct (Kemper, 1998). Therefore, it is suggested that researchers should spend more time introducing the research to Turkish and Moroccan respondents (Meloan & Veenman, 1988). Furthermore, because the ethics of the Islam prescribe abstinence of alcohol use, Turks and Moroccans (particularly those with a strong religious orientation) may be unwilling to participate in alcohol research. The aforementioned research methods and related problems often result in the participation of a selective, non-representative group. If non-respondents differ systematically from respondents on variables of interest, such as the prevalence of alcohol use, the response is selective and results will be biased.

#### *Measurement error*

Besides possible errors caused by non-response Meloan and Veenman (1988) distinguished four domains in which bias may occur: research design, questionnaire, interviewer, and respondent characteristics. Regarding research design, the first factor that may cause measurement errors in alcohol research among Turks and Moroccans is the subject of the study. Because of the Islamic prescription of abstinence from alcohol use, questions about alcohol use may be perceived as threatening to Islamic Turks and Moroccans, and may provoke socially desirable answers (Uniken Venema & Garretsen, 1995). For instance, Turks



and Moroccans may be inclined to underreport their alcohol use and related problems (Gorissen, Ticheler, Van Kessel & Souverein, 1988). This tendency may be further enhanced by the cultural values of honor and respect (Peters, 1987). Alcohol is not only forbidden by Islamic 'laws' in general, its use may also be regarded a disgrace to the family honor. Some have suggested that interpersonal distrust plays an important role in the cultural legacy of particularly the Moroccan community (De Mas, 1991; Van Gemert, 1998). This 'social control' mechanism may further stimulate underreporting of alcohol use, resulting in stronger underreports of alcohol use among Moroccans.

Another factor which may affect the quality of the data, is the data collection mode. It has been argued that since written questionnaires provide a more anonymous situation than face-to-face interviews, alcohol reports will be more reliable in written questionnaires (Schwartz, Strack, Hippler & Bishop, 1991). Since anonymity will be valued higher among Islamic Turks and Moroccans, who according to the Koran are prohibited from drinking alcohol, this effect of data collection mode may be stronger among these allochthonous groups than among the autochthonous Dutch population. Few studies have addressed this issue. However, a study among young Moroccans in the city of Utrecht showed the opposite, i.e. higher alcohol reports in face-to-face interviews compared to mail surveys (Planije et al., 2000).

With regard to alcohol questionnaires, it should not be assumed that interpretation of the questions will be the same for the autochthonous and allochthonous populations (van 't Land, 2000). Therefore, questions which have proven to be valid among autochthonous populations may elicit item non-response or invalid data among Turks and Moroccans; for example, when questions are misunderstood or when respondents feel threatened or offended by the questions. It should also be mentioned that translations (which are particularly needed in studies among first-generation Turks and Moroccans) may change the meanings or nuances of the text, which may lower the validity of the data.

Regarding alcohol prevalence questions, the two main types of self-report measures are summary measures and measures based on 'recent drinking' occasions (Room, 2000). Summary measures require the respondent to summarize their drinking behavior over a longer period. The 'recent occasions' approach measures alcohol reports on a shorter period on specific occasions, for instance on the last seven days. The first measure is vulnerable to distortions in memory, while the second is sensitive to time variation in individual drinking behavior (Lemmens, Tan & Knibbe, 1992). Since frequent drinking may not be common in the culture of Turks and Moroccans, a recent occasions approach may result in considerable misestimation in these groups (Room, 2000).

Interviewer characteristics that may influence answers are, for example, gender and ethnicity. Gender of interviewers may be especially important among Muslims because, in comparison to the Dutch population, social manners differ largely between men and women (Veenman, 2002). Therefore, it has been argued that interviewers and respondents should be gender-matched in research among ethnic minorities, in order to acquire more valid data. In addition, in some studies interviewers and interviewees were ethnically-matched (Dijkshoorn, Erkens & Verhoeff, 2001; Gorissen et al., 1988; Reijneveld, 1998). Arguments supporting ethnic matching are knowledge of the language and familiarity with the community. These factors create trust between researcher and respondent, which is important in convincing first generations to participate (Veenman, 2002). On the other hand, it has been implied that, with regard to socially desirable topics, Dutch interviewers receive more reliable answers, because Turks and Moroccans may fear that personal information

may become known to community members (Kemper, 1998). Besides, research indicates that the religious and cultural background of the interviewer affects answering tendencies, because the interviewer's system of values and norms is important during the interview; for example, to avoid offending the interviewer, answers may be given in correspondence with the values and norms attributed to the interviewer (Van 't Land, 2000). As a result, a Dutch interviewer (who, in the eyes of the Turkish or Moroccan respondent is tolerant towards alcohol use) might elicit higher self-reports of alcohol consumption than a Turkish or Moroccan interviewer (who, in the eyes of respondents disapproves of alcohol use).

Respondent characteristics that may cause measurement errors are, for instance, the general attitude towards research and researchers or, more specifically, towards the research institute. For example, researchers may be distrusted because they are believed to work for governmental organizations. Furthermore, people may fear being stigmatized by research.

Thus, researchers have to consider carefully how to measure the prevalence of alcohol use among Turks and Moroccans in the Netherlands. Errors may arise as a result of selective non-response or as a result of particular aspects of the study, such as the data collection mode or the ethnic background of interviewers, causing validity and reliability problems.

## **1.6. The present thesis**

In the foregoing, several methodological and conceptual problems regarding alcohol research among Turks and Moroccans in the Netherlands have been presented, and discussed against the background of religious and cultural factors. However, because of the general lack of clarity about the validity and reliability of different aspects of alcohol research, reliable information about the prevalence of alcohol use among Turks and Moroccans is certainly lacking.

Furthermore, although we discussed the influence of religious and cultural factors on alcohol use among Turks and Moroccans, up till now no systematic research has been performed about the correlates of alcohol use among these ethnic groups in the Netherlands. The present thesis will systematically address these issues.

The objectives of this thesis are:

- To describe the methodological problems related to the measurement of alcohol use among Turks and Moroccans in the Netherlands.
- To examine the reliability of different research methods to measure alcohol use among second-generation Turks and Moroccans in the Netherlands.
- To gain insight into the prevalence and correlates of alcohol use among second-generation Turks and Moroccans in the Netherlands.

Meeting these objectives will serve as a scientific starting point from which future public health policy can be developed.

Since second-generation Turks and Moroccans seem particularly vulnerable to the influence of Dutch society in which alcohol use is acceptable behavior, and since alcohol use is more prevalent among second-generation Turks and Moroccans, we decided to study these issues among second-generation Turks and Moroccans only.

Furthermore, since the present study is an explorative study and generalization is not the main aim of the present research, we conducted the present study in one large city, namely in Rotterdam, the second largest city in the Netherlands. Rotterdam is one of the four largest

Dutch cities, of which about 8% (44,861) has a Turkish background and 6% (35,496) has a Moroccan background. Furthermore, during the last decades, several large-scale prevalence studies have been conducted among the general population in Rotterdam. Therefore, findings of the present study among Turks and Moroccans can be compared with findings from the autochthonous population.

### 1.7. Outline of this thesis

In the first part of this thesis (**Chapter 2**) previous studies on the prevalence of alcohol use among Turks and Moroccans in the Netherlands are reviewed. It outlines the methodological issues regarding alcohol studies among Turks and Moroccans in the Netherlands and gives implications for reliability and validity of existing prevalence data among these groups.

Part two of this thesis first describes the results of semi-structured interviews with researchers, (health) practitioners and Turks and Moroccans from the target population (**Chapter 3**). Interview topics concerned opinions, perceived prevalence and expected determinants of alcohol consumption among Turks and Moroccans, and methodological and practical problems accompanying alcohol research among Turks and Moroccans in the Netherlands. On basis of this information, a questionnaire was developed and an experimental study was set up. The results of the experimental study with regard to the effect of data collection mode on alcohol reports and response rates are described in **Chapter 4**. In **Chapter 5** we discuss the appropriateness of two different measures in measuring alcohol use among Turks and Moroccans: the Quantity-Frequency-Variability measure and the Weekly-Recall measure. Both measures are compared with regard to alcohol reports and item non-response rates.

The third part of this thesis consists of two chapters. The first (**Chapter 6**) describes the prevalence of alcohol use among second-generation Turks in Rotterdam, and among its subpopulations regarding gender, age, marital status, educational level and daily activities. In addition, it reports on differences in alcohol use among second-generation Turks in Rotterdam and a comparable group of autochthonous inhabitants of Rotterdam. In **Chapter 7**, religious, cultural and social cognitive correlates of alcohol use among second-generation Turks and Moroccans are described together with the relative importance of these three groups of factors in explaining abstinence and mean alcohol use.

The final part of this thesis contains a general discussion on the methodology, results and implications of this thesis.

## References

- Abraham MD, Kaal HL & Cohen PDA (2002). Licit and illicit drug use in the Netherlands, 2001. Amsterdam: CEDRO.
- Arends-Tóth J (2003). Psychological acculturation of Turkish migrants in the Netherlands. Issues in theory and assessment. Phd thesis. Tilburg: Tilburg University.
- Becker J, De Hart J & Mens J (1997). Secularisatie en alternatieve zinsgeving in Nederland. Rijswijk: SCP.
- Berry JW (1980). Social and cultural change. In: HC Triandis & R Brislin (ed.), Handbook of cross-cultural psychology, Vol.5. Social Psychology. Boston: Allyn and Bacon.
- Berry JW (1992). Acculturation and adaptation in a New Society. *International Migration*, 30: 69-85.
- Black S & Markides KS (1993). Acculturation and alcohol consumption in Puerto Rican, Cuban-American, and Mexican-American Women in the United States. *American Journal of Public Health*, 83: 890-893.
- Bongers IMB (1998). Problem drinking among the general population: a public health issue? PhD thesis. Rotterdam: Erasmus University.
- Boulhalboul R & Van der Zwaard J (1996). Een kwestie van vertrouwen. Gespreksgroepen met Marokkaanse ouders. Rotterdam: Stichting Buitenlandse Werknemers.
- Central Bureau of Statistics (1983). De leefsituatie van de Nederlandse bevolking 1980. Kerncijfers. 1983. 's-Gravenhage: Staatsuitgeverij.
- Central Bureau of Statistics (1987). De leefsituatie van de Nederlandse bevolking 1986. Kerncijfers. 1987. 's-Gravenhage: Staatsuitgeverij.
- Central Bureau of Statistics (2003). Jeugd 2003, cijfers en feiten. Heerlen: CBS
- Central Bureau of Statistics (2004). Allochtonen in Nederland 2004. Heerlen: CBS.
- Central Bureau of Statistics (2005). Statline database. <http://statline.cbs.nl>.
- Collins RL (1992). Methodological issues in conducting substance abuse research on ethnic minority populations. *Drugs and Society*, 6: 59-77.
- Corrao G, Bagnardi, V, Zambon, A & La Vecchia C (2004). A meta-analysis of alcohol consumption and the risk of 15 diseases. *Preventive Medicine*, 38: 613-619.
- Dagevos J, Gijsberts M & Van Praag C (2003). Rapportage Minderheden 2003. Den Haag: SCP.

De Mas P (1991). Marokkaanse migratie naar Nederland : perspectief vanuit de herkomstgebieden. *Internationale Spectator*, 3: 110-118.

Dijkshoorn H, Erkens CGM & Verhoeff AP (2001). Gezondheidsenquête Amsterdamse Gezondheidsmonitor 1999/ 2000. Opzet, verloop van het onderzoek en eerste resultaten. EDG-reeks 2001/6. Amsterdam: GG&GD Amsterdam (intern rapport).

Gorissen WHM, Ticheler PCM, Van Kessel RPM & Souverein CR (1988). Gezondheidspeiling Utrecht. Resultaten van de gezondheidspeiling Utrecht 1986-1987. Utrecht: GG&GD.

Graves TD (1967). Psychological acculturation in a tri-ethnic community. *Southwestern Journal of Anthropology*, 23: 337-350.

Greenfield TK (2001). Individual risk of alcohol-related diseases and problems. In: N Heather, TJ Peters, T Stockwell (ed.), *International Handbook of Alcohol dependence and Problems* (pp. 413-437). Chichester: John Wiley & Sons Ltd.

Heather N (2001). Pleasures and pains of our favourite drug. In: N Heather, TJ Peters & T Stockwell (ed.), *International Handbook of Alcohol dependence and problems* (pp. 5-14). Chichester: John Wiley & Sons Ltd.

Jooste PL, Yach D, Steenkamp HJ & Rossouw JE (1990). Drop-out and newcomer bias in a community cardiovascular follow-up study. *International Journal Epidemiology*, 19: 284-289.

Kemper F (1998). Gezocht: Marokkanen. Methodische problemen bij het werven en interviewen van allochtone respondenten. *Migrantenstudies*, 1: 43-57.

Lemmens PHHM (1991). Measurement and distribution of alcohol consumption. Phd thesis. Maastricht: Rijksuniversiteit Limburg.

Lemmens P, Tan ES & Knibbe RA (1992). Measuring quantity and frequency of drinking in a general population survey: a comparison of five indices. *Journal of Studies on Alcohol*, 53: 76-86.

Lizarzaburu JL & Palinkas LA (2002). Immigration, acculturation, and risk factors for obesity and cardiovascular disease: a comparison between Latinos of Peruvian descent in Peru and in the United States. *Etn Dis.*, 12 (3), 342-352.

Meloen J & Veenman J (1988). Het blijft de vraag..... Onderzoek naar responseffecten bij minderhedensurveys. Rotterdam: ISEO.

NSO (1999). Nationaal scholierenonderzoek 1996. Deel 2. Gedrag en gezondheid van scholieren. Utrecht: Nibud.

Pels T & Nijsten C (2003). Myths and realities of diversity in parenting and parent-child relations: A comparison of indigenous and non-indigenous families in the Netherlands. In: L

Hagendoorn, J Veenman & W Vollebergh (ed.). Integrating immigrants in the Netherlands. Cultural versus socio-economic integration (pp.63-89). England: Ashgate Publishing Limited.

Peters R (1987). Van vreemde herkomst. Achtergronden van Turkse en Marokkaanse landgenoten. Houten: Het Wereldvenster.

Phalet K, Van Lotringen C & Entzinger H (2000). Islam in de multiculturele samenleving. Opvattingen van jongeren in Rotterdam. Utrecht: European Research Centre on Migration and Ethnic Relations.

Phalet K (2004). Moslim in Nederland. K Phalet & J Ter Wal (ed.). Den Haag: SCP.

Planije M, Verdurmen J & Van Wamel A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos Instituut.

Redfield R, Linton R & Herskovits M (1936). Memorandum on the study of acculturation. *American Anthropologist*, 38: 148-152.

Reijneveld S (1998). Reported health, lifestyles, and use of health care of first-generation immigrants in the Netherlands: do socioeconomic factors explain their adverse position? *Journal of Epidemiology and Community Health*, 52: 298-304.

Room R (2000). Measuring drinking patterns: the experience of the last half century. *Journal of Substance Abuse*, 12: 23-31.

Room R, Babor T & Rehm J (2005). Alcohol and public health. *Lancet*, 365: 519-530.

San José B (2000). Alcohol consumption and health: Contributions to the explanation of the U-shaped curve. PhD thesis. Rotterdam: Erasmus University.

Schothorst Y (2002). Onderzoek onder allochtonen: wat mag, wat moet en wat kan? In: H Houtkoop & J Veenman (ed.), *Interviewen in de multiculturele samenleving* (pp. 101-116). Assen: Koninklijke Van Gorcum BV.

Schwartz N, Strack F, Hippler HJ & Bishop H (1991). The impact of administration mode on response effects in survey measurement. *Applied Cognitive Psychology*, 5: 193-212.

Shadid WAR (1979). Moroccan workers in the Netherlands. Phd thesis. Leiden: Rijksuniversiteit Leiden.

Shadid WAR & Van Koningsveld PS (1997). Moslims in Nederland: minderheden en religie in een multiculturele samenleving. Houten: Bohn Stafleu Van Loghum.

Tennekes J (1989). Buitenlandse jongeren en cultuurconflict. *Migrantenstudies*, 4: 24-40.

Tucker MB (1985). U.S. ethnic minorities and drug abuse: An assessment of the science and practice. *The International Journal of the Addictions*, 20: 1021-1047.

Uniken Venema HP & Garretsen HFL (1995). Gezondheidsonderzoek onder moeilijk bereikbare groepen. Assen: Van Gorcum.

Van Dijck D & Knibbe RA (2005). De prevalentie van probleemdrinken in Nederland. Een algemeen bevolkingsonderzoek. Maastricht: Universiteit Maastricht.

Van Gemert F (1998). Ieder voor zich. Kansen, cultuur en criminaliteit van Marokkaanse jongens. Amsterdam: Het Spinhuis.

Van Gemert F (2002). Moeizame Marokkaanse medewerking; cultuur als verklaring voor methodologische obstakels. In: H Houtkoop & J Veenman (ed.), Interviewen in de multiculturele samenleving (pp. 21-40). Assen: Koninklijke Van Gorcum BV.

Van 't Land H (2000). Similar Questions: Different Meanings. PhD thesis. Amsterdam: Free University.

Veenman J (2002). Interviewen in een multicultureel Nederland. In H Houtkoop & J Veenman (ed.), Interviewen in de multiculturele samenleving (pp. 1-20). Assen: Koninklijke Van Gorcum BV.

World Health Organization (1980). Problems related to alcohol consumption. Geneva: WHO.

World Health Organization (2000). International guide for monitoring alcohol consumption and related harm. Geneva: WHO.





## **CHAPTER 2**

### **REVIEW: PREVALENCE OF ALCOHOL USE**



## **2. REVIEW: PREVALENCE OF ALCOHOL USE**

### **2.1 Introduction**

As was argued in Chapter 1, methodological problems hinder research addressing the prevalence of alcohol use and related problems among Turks and Moroccans. Although no research was explicitly aimed at exploring these methodological shortcomings, many alcohol-related studies among the general population in the Netherlands did include Turks and Moroccans (e.g. Gorissen, Ticheler, Van Kessel & Souverein, 1988; Kuilman & Van Dijk, 2000; Langemeijer, Van Til & Cohen, 1998; Reijneveld, 1998; Van Eijdsen, De Geus & Van Ameijden, 2004). Furthermore, a few alcohol-related studies explicitly were aimed at Turks (e.g. Köycü et al., 1997; Swinkels, 1992;) or Moroccans (e.g. Planije, Verdurmen & Van Wamel, 2000; Shadid, 1979). Because methodological shortcomings accompany alcohol research among Turks and Moroccans, the question remains how the results of individual studies should be interpreted. In order to address this question, we conducted a systematic review of Dutch prevalence studies on alcohol use, which included prevalence data of Turkish and Moroccan respondents.

### **2.2. Methods**

Studies were gathered in several ways. First, a literature search was performed in the general databases of scientific libraries such as Medline and Psychlit. Second, a general search on the Internet was performed (via the internet search engine Google). Third, a more specific search was conducted on the Internet, for example at websites of the Dutch municipal health services and other health-related organizations. In addition, relevant publications were found by the snowball method (through references in gathered reports). Fourth, an e-mail sent to all members of a large Dutch network of researchers and practitioners working in the field of 'Culture and Health', asked whether they knew anything about relevant alcohol prevalence studies, or if they knew people or organizations who could help to complete our review.

For a study to be included in this review the following criteria had to be met: (1) the study was conducted in the Netherlands, (2) Turks and Moroccans constituted (part of) the research population (apart or together as one population), and (3) the prevalence of alcohol use was measured. Studies were excluded if Turks and Moroccans were analyzed as part of a larger population, e.g. Muslims or migrants.

We present here information about the sample, the research method, the operationalisation of ethnicity, and the reported prevalence of alcohol use. Data of 22 individual studies are presented in chronological order. Subsequently, the results of three Dutch trend studies are presented, which focused on developments in alcohol use over a certain period of time.

### **2.3. Results**

Differences in sample, data collection mode, and the definition of ethnicity between studies should be taken into account for when interpreting the results of the present review on the prevalence of alcohol use. Therefore, before reporting on prevalence figures, some critical notes will be made with regard to these three methodological factors.

Table 1 Alcohol use among Turks and Moroccans in The Netherlands; results from studies with different samples, methods and measurements of ethnicity

Study	Sample	Method	Ethnicity	Prevalence
<b>1979 Shadid</b>	280 male Moroccan workers (19-59 years, from 21 municipalities)	Face-to-face interview Ethnicity matched	?	<u>Prevalence of alcohol use:</u> In Morocco no, in Holland yes: 34.3% In Morocco yes, in Holland yes: 17.1% Total: 51.4% In Morocco no, in Holland no: 48.6%
<b>1988 Gorissen, Ticheler, Van Kessel and Souverein</b>	58 Turkish respondents and 73 Moroccan respondents participated in a study among 2106 inhabitants of Utrecht. (from the Municipal Population Registry Utrecht)	Face-to-face interview Ethnicity- and gender matched	Nationality	Turkish men: Abstainers: 57.1%, Light drinkers: 17.9% Moderate drinkers: 3.6%, (Very) Excessive drinkers: 21.4% Turkish women: Abstainers: 96.6%, Moderate: 3.4% Moroccan men: Abstainers: 91.9%, Light: 2.7%, Moderate: 2.7%, (Very) Excessive: 2.7% Moroccan women: Abstainers: 100%
<b>1990 Plomp, Kuipers and Van Oers</b>	A study among 8019 students of the two highest grades of elementary school or secondary school in the Netherlands (exact number of Moroccan and Turkish respondents is unknown)	Written questionnaire Filled in, in class	Nationality of both parents	<u>Frequency of alcohol use in the last month?</u> Moroccan boys: 96% 0 times, 2% 1-5 times, 3% >=20 times. Moroccan girls: 85% 0 times, 5% 1-5 times, 9% 6-19 times. Turkish boys: 86% 0 times, 9% 1-5 times, 6% >= 20 times. Turkish girls: 90% 0 times, 10% 1-5 times.
<b>1991 Stolwijk and Raaijmakers</b>	120 Turkish and 92 Moroccan respondents participated in a study among 3161 students, in third grade of lower vocational school or secondary school in Rotterdam	Written questionnaire Filled in, in class	Country of birth of both parents.	<u>Turks:</u> Abstainers: 91%, Light: 7%, Regular (= moderate, excessive and very excessive): 3% <u>Moroccans:</u> Abstainers: 89%, Light: 10%, Regular: 1%

<b>1992 Swinkels</b>	1373 Turkish inhabitants of the Netherlands	Face-to-face interview Gender matched (bi-lingual interviewers)	?	<u>Prevalence of alcohol use</u> Men: 24.9% Women: 2.1% <u>Heavy drinkers (&gt;= 22 beverages per week):</u> Men: 3.1%, women: 1.2%
<b>1992 Lamers</b>	95 Moroccan and 193 Turkish respondents (16-74 years) living in Rotterdam	Face-to-face interview Ethnicity matched	Nationality	<u>Prevalence of alcohol use:</u> Turks: 26.0
<b>1996 Rozema</b>	220 Turkish and Moroccan respondents (18-69 years, from Municipal Population Registry Zaanstad)	Face-to-face interview (Dutch or Turkish), Interviewers who speak Dutch and Turkish	Nationality	Never: 82% (whereby none of the women reported drinking alcohol).
<b>1996 Kemper</b>	65 Moroccan workers (Utrecht, Nijmegen) and 20 Moroccan teachers (Amsterdam and smaller cities) participated in a study among first-generation Muslim Moroccans (40 years and older)	Face-to-face interview (Dutch or Moroccan-Arabic by a Dutch interviewer)	Country of birth of respondent	<u>Prevalence of alcohol use:</u> <u>Moroccan workers:</u> No: 91%, Yes (sometimes): 9% <u>Moroccan teachers:</u> No: 70%, Yes (sometimes): 30%
<b>1996 Van de Looij-Jansen, Joosten-van Zwanenburg, Reelick, Jansen, Diekstra</b>	16 Turks and 13 Moroccans participated in a school survey among 300 secondary school children aged 14-17 years in Rotterdam	Written questionnaire	Country of birth of respondent and both parents	<u>Prevalence of alcohol use:</u> <u>Turks:</u> boys 26%, girls 34% <u>Moroccans:</u> boys: 18%, girls 5%
<b>1997 Köycü, Kara, Çamlıdag, Aydınli, Verschuren and Van Montfrans</b>	149 Turks living in two neighborhoods of Amsterdam (living for at least 5 years in the Netherlands) and 145 Turks living in 2 comparable neighborhoods, Ankara (18-64 years, matched for sex and age)	Face-to-face interview Ethnicity matched	?	<u>Use of more than 20 beverages of alcohol per week:</u> <u>Amsterdam:</u> Men: 2%, Women: 0% <u>Ankara:</u> Men: 10%, Women: 0%

<p><b>1998</b> <b>Reijneveld</b></p>	<p>118 Turkish and 176 Moroccan respondents participated in a study among first-generation immigrants in Amsterdam (16-64 years, from Municipal Population Registry)</p>	<p>Face-to-face interview Ethnicity and gender matched</p>	<p>Country of birth of respondent (as registered in Municipal Population Registry</p>	<p>Prevalence of alcohol use last week: Turkish immigrants: 26.3% Moroccan immigrants: 7.5%</p>
<p><b>1998</b> <b>Langemeijer, Van Til and Cohen</b></p>	<p>- 34 Turkish and 19 Moroccan respondents participated in a study among 2207 inhabitants of Utrecht (12 years and older, from the Municipal Population Registry) - 27 Turkish and 68 Moroccan respondents participated in a study among 2248 inhabitants of Tilburg (12 years and older, from the Municipal Population Registry)</p>	<p>Registry) Face-to-face interview (computer assisted)</p>	<p>Country of birth of respondent and both parents</p>	<p><b>Utrecht:</b> Moroccans: Lifetime: 14.2%, Last year: 4.7%, Last month: 2.8% Turks: Lifetime: 44.4%, Last year: 29.1%, Last month: 24.1% <b>Tilburg:</b> Moroccans: Life time: 20%, Last year: 5%, Last month: 0% Turks: Lifetime: 35.3%, Last year: 17.6%, Last month: 11.8%</p>
<p><b>2000</b> <b>Planije, Verdurmen and Van Wamel</b></p>	<p>92 Moroccan respondents in Utrecht (16-34 years, from the Municipal Population Registry Utrecht)</p>	<p>Face-to-face interview Dutch interviewers</p>	<p>Country of birth of respondent and both parents</p>	<p>Life time: 31%, Last year: 26%</p>
<p><b>2000</b> <b>Van Eijk</b></p>	<p>221 Turkish and 239 Moroccan respondents participated in a study among 637 foreign inhabitants of the Netherlands (Turks, Moroccans, Surinamese and Antillean people, 15 years and older)</p>	<p>Face-to-face interview Ethnicity matched if interviewed in Turkish or Moroccan language. Only female interviewers were sex matched. (possibility to answer questions about alcohol on paper)</p>	<p>Country of birth of respondent</p>	<p>Turkish men (15-29 years): Life time: 60%, last year: 56%, last month: 40% Turkish men (30 years a.o.): 57%, 37%, 30% Turkish women (15-29): 26%, 16%, 8% Turkish women (30 a.o.): 14%, 9%, 7% Moroccan men (15-29): 45%, 31%, 19% Moroccan men (30 a.o.): 24%, 5%, 3% Moroccan women (15-29): 9%, 3%, 3% Moroccan women (30 a.o.): 6%, 0%, 0%</p>

<p><b>2000</b> Verdurmen, Toet and Spruit</p>	<p>209 Turkish and Moroccan respondents participated in a study among 2904 inhabitants of Utrecht (16-69 years, from the Municipal Population Registry Utrecht)</p>	<p>Written questionnaire</p>	<p>Country of birth of respondent and both parents</p>	<p><u>Alcohol use of Turks and Moroccans:</u> - lifetime: 20.7% - last year: 15.2% - problem drinking: 5.2%</p>
<p><b>2000</b> Kuilman and Van Dijk</p>	<p>153 Turkish and Moroccan respondents participated in a study among 1562 inhabitants of Rotterdam (16-69 years, from the Municipal Population Registry Rotterdam)</p>	<p>Written questionnaire</p>	<p>Country of birth of respondent and both parents</p>	<p><u>Prevalence of alcohol use of Turks and Moroccans:</u> 18%</p>
<p><b>2001</b> Dijkshoorn, Erkens and Verhoeff</p>	<p>774 Turkish and 686 Moroccan inhabitants of Amsterdam (16 years and older, from the Municipal Population Registry Amsterdam)</p>	<p>Face-to-face interview Ethnicity- and gender matched</p>	<p>Country of birth of respondent and both parents</p>	<p><u>Turks:</u> Abstainers: 63%, Light: 12%, Moderate: 11%, Excessive: 11%, Very excessive: 3% <u>Moroccans:</u> Abstainers: 91.4%, Light: 1%, Moderate: 1.2%, Excessive: 0.4%, Very excessive: 6%</p>
<p><b>2002</b> Municipality of The Hague</p>	<p>Inhabitants of The Hague, aged 16-74 years.</p>	<p>Written questionnaire</p>	<p></p>	<p><u>Turks:</u> men 28%, women: 11% <u>Moroccans:</u> men: 12%, women 2%</p>
<p><b>2003</b> van Bergen, Dittrich, Gelderloos, Hesselink, Hofmeijer</p>	<p>Inhabitants of Utrecht aged 19-65 years, among which Turks and Moroccans</p>	<p>Written questionnaire, Turkish and Moroccan translations on request. Face-to-face interview at home on request.</p>	<p>Country of birth of respondent and mother. If needed, also of the father.</p>	<p><u>Lifetime alcohol use:</u> <u>Turks:</u> 33% <u>Moroccans:</u> 9% <u>Excessive alcohol use (drinking at least 3 days a week a minimum of 6 glasses per day):</u> <u>Turks:</u> 3% <u>Moroccans:</u> 0%</p>

<p><b>2003</b> <b>Toet, Verdurmen, van Dijk, Knibbe, van Ameijden</b></p>	<p>116 Turkish/Moroccan inhabitants from Utrecht, 29 Turkish/ Moroccan inhabitants from Parkstad Limburg and 90 Turkish/ Moroccan inhabitants from Rotterdam (16-34 years old, from the three Municipal Population Registries) participated in a study among the general population from these three regions in 1999.</p>	<p>Written questionnaires</p>	<p>Country of birth of respondent and both parents</p>	<p>Turks and Moroccans: Irresponsible alcohol use: 6% Problem drinking: 9%</p>
<p><b>2003</b> <b>Van de Looij-Jansen</b></p>	<p>450 Moroccans and 563 Turks participated in a school survey among 5630 secondary school children, aged 14 and 15 years in Rotterdam.</p>	<p>Written questionnaires</p>	<p>Country of birth of respondent and both parents</p>	<p>Alcohol use during last 4 weeks: Turks: boys 19%, girls 8% Moroccans: boys 13%, girls 6%</p>
<p><b>2004</b> <b>Van Eijdsen, De Geus, Van Ameijden</b></p>	<p>86 Turkish and 146 Moroccan respondents (aged 12-18) participated from 1995-2001 in a study among 1210 inhabitants of Utrecht (1-19 years, from the Municipal Population Registry Utrecht)</p>	<p>Written questionnaires</p>	<p>Country of birth of respondent and both parents</p>	<p>Turks: Abstainers: 100% Moroccans: Abstainers: 97.4%</p>
<p><i>Trend studies</i></p>				
<p><b>1988</b> <b>Sandwijk, Westertep and Musterd (Cedro, I)</b></p>	<p>127 Turks and 135 Moroccans participated in a study among 4378 inhabitants of Amsterdam (12 years and older, from the Municipal Population Registry Amsterdam)</p>	<p>Face-to-face interview</p>	<p>Country of birth of respondent and both parents</p>	<p>Turks: Lifetime: 53.5%, Last year: 38.6%, Last month: 32.3% Moroccans: Lifetime: 15.6%, Last year: 8.9%, Last month: 7.4%</p>
<p><b>1991</b> <b>Sandwijk, Cohen, Musterd (Cedro, 2)</b></p>	<p>130 Turks and 130 Moroccans participated in a study among 4445 inhabitants of Amsterdam (12 years and older, from the Municipal Population Registry Amsterdam)</p>	<p>Face-to-face interview</p>	<p>Country of birth of respondent and both parents</p>	<p>Turks: Lifetime: 36.2%, Last year: 28.5%, Last month: 22.3% Moroccans: Lifetime: 13.8%, Last year: 8.5%, Last month: 6.2%</p>



<p><b>1995</b>  <b>Sandwijk, Cohen, Musterd and Langemeijer (Cedro, 3)</b></p>	<p>122 Turks and 153 Moroccans participated in a study among 4358 inhabitants of Amsterdam (12 years and older, from the Municipal Population Registry Amsterdam)</p>	<p>Face-to-face interview (answers of 2179 persons were directly typed in computer by interviewer or respondent)</p>	<p>Country of birth of respondent and both parents</p>	<p><u>Turks:</u>  Lifetime: 42.2%, Last year: 33.3%, Last month: 26.5%  <u>Moroccans:</u>  Life time: 19.7%, Last year: 9.9%, Last month: 5.9%</p>
<p><b>2000</b>  <b>Abraham, Cohen, Van Til and Langemeijer (Cedro, 4)</b></p>	<p>206 Turks and 121 Moroccans participated in a study among 3,798 inhabitants of Amsterdam (12 years and older, from the Municipal Population Registry Amsterdam)</p>	<p>Face-to-face interview  Ethnicity matched (computer-assisted)</p>	<p>Country of birth of respondent and both parents</p>	<p><u>Turks:</u>  Lifetime: 47.0%, Last year: 38.1%, Last month: 27.9%  <u>Moroccans:</u>  Lifetime: 20.1%, Last year: 11.6%, Last month: 9.3%</p>
<p><b>2002</b>  <b>Monshouwer, Smit, Spruit (Peilstation survey 4)</b></p>	<p>336 Moroccans and 246 Turks of secondary school (aged 12-16) participated in 1999 in a Dutch school survey</p>	<p>Written questionnaires</p>	<p>Country of birth of respondent and both parents</p>	<p><u>Turks:</u> 4 weeks' prevalence: 13.9%  <u>Moroccans:</u> 4 weeks' prevalence: 4.9%</p>
<p><b>2004</b>  <b>Monshouwer, Dorsseleer, Gorter, Verdurmen, Vollebergh (Peilstation survey 5)</b></p>	<p>277 Turks and 228 Moroccans of secondary school (aged 12-18) participated in a Dutch school survey</p>	<p>Written questionnaires</p>	<p>Country of birth of respondent and both parents</p>	<p>Lifetime prevalence:  <u>Turks:</u> boys: 42.6%, girls: 36.6%  <u>Moroccans:</u> boys: 23.6%, girls: 11.1%    Last month prevalence:  <u>Turks:</u> Boys: 17.9%, girls: 13.4%  <u>Moroccans:</u> boys: 13.0%, girls: 3.9%</p>
<p><b>1994</b>  <b>Korf and Van der Steenhoven (Antenne 1993)</b></p>	<p>- 61 Turks and Moroccans participated in a study among 679 students of the second highest grade of secondary school or first grade of intermediate vocational school  - 4 Turks and 13 Moroccans participated in a study among 105 (problem) youngsters who relatively often go to youth health care  Both: max 25 years (in Amsterdam)</p>	<p>Written questionnaire</p>	<p>Self-identification</p>	<p><u>Turkish and Moroccan students</u>  Never: 73%, Stopped: 7%, Occasional: 20%, Daily: 0%  <u>Turkish and Moroccan youngsters:</u>  Never: 56%, Stopped: 31%, Occasional: 13%, Daily: 0%</p>

<p><b>1995</b>  <b>Korf, Nabben and Schreuders (Antenne 1994)</b></p>	<p>- 88 Turks and 158 Moroccans participated in a study among 1761 students of second highest grade of secondary school or first grade of intermediate vocational school  - 4 Turks and 23 Moroccans participated in a study among 142 visitors of coffee shops  Both: max 25 years (in Amsterdam)</p>	<p>Written questionnaire</p>	<p>Self-identification</p>	<p>Turkish and Moroccan students:  Never: 78%, Stopped: 14%, Occasional: 8%, Daily: 0%  Turkish and Moroccan visitors of coffee shops:  Never: 23%, Stopped: 19%, Occasional: 46%, Daily: 12%</p>
<p><b>1996</b>  <b>Korf, Nabben and Schreuders (Antenne 1995)</b></p>	<p>- 29 Turks and 47 Moroccans participated in a study among 586 older students of second highest grade of secondary school or first grade of intermediate vocational school  - 28 Turks and 33 Moroccans participated in a study among 467 younger students of third grade of secondary school  Both: max 25 years (in Amsterdam)</p>	<p>Written questionnaire</p>	<p>Self-identification</p>	<p>Older Moroccan and Turkish students:  Never: 73%, Stopped: 18%, Occasional: 9%, Daily: 0%  Younger Moroccan and Turkish students:  Never: 71%, Stopped: 13%, Occasional: 16%, Daily: 0%</p>
<p><b>1998</b>  <b>Korf, Nabben, Lettink and Bouma (Antenne 1997)</b></p>	<p>- 862 older students of second highest grade of secondary school or first grade of intermediate vocational school  - 543 younger students of third grade of secondary school  Both: max 25 years (in Amsterdam) (exact number of Turks and Moroccans is unknown)</p>	<p>Written questionnaire</p>	<p>Self-identification</p>	<p>Older Turkish and Moroccan students:  Never: 73%, Stopped: 9%, Occasional: 18%, Daily: 1%  Younger Turkish and Moroccan students:  Never: 80%, Stopped: 7%, Occasional: 12%, Daily: 1%</p>

### *Sample*

Table 1 shows that in several studies, only small samples of Turks and Moroccans were included, as was already discussed in Chapter 1 (e.g. Gorissen et al., 1988; Kemper, 1996; Langemeijer et al., 1998; Stolwijk & Raat, 1991). As a result, it is difficult to draw valid conclusions. To overcome this problem, a number of studies have combined Turks and Moroccans before analyzing their data (Korf & Van der Steenhoven, 1994; Korf, Nabben & Schreuders, 1995; 1996; Korf, Nabben, Letting & Bouma, 1998; Verdurmen, Toet & Spruit, 2000). Although Turks and Moroccans in the Netherlands are predominantly Muslim (and therefore often regarded comparable groups) they have distinctive ethnic backgrounds, and differ in their cultural and religious norms, and in the way they adhere to these norms (Dagevos, 2001). Therefore, separating Turks and Moroccans in analysis is recommended.

### *Ethnicity*

Due to different operationalisations of ethnicity (see Table 1), different subgroups of migrants have been included in the aforementioned studies making comparison of the data difficult. For example, ethnic background has been operationalised as nationality, country of birth of respondent, country of birth of respondent and parents, or self-identification (Bruinzeels, 1999; see Table 1). Since the number of Turks and Moroccans with a Dutch nationality is slowly increasing (Tas, 1996), selecting a Turkish or Moroccan sample on the basis of nationality has become unreliable. Similar problems arise when defining ethnicity as the country of birth of the respondent (Verweij, 1997), because this definition excludes second-generation Turks and Moroccans. To identify both first and second generations, ethnicity is often defined on the basis of the country of birth of the respondent and both parents. Formally, someone belongs to an ethnic minority when he or she is born in a foreign country, and/or when at least one parent is born in a foreign country (CBS, 2000). In addition, the concept of self-identification has been used to define ethnicity (in combination with the formal definition).

### *Method*

Written questionnaires have mainly been used in larger samples (Korf et al., 1994; 1995; 1996; 1998; Plomp, Kuipers, Van Oers, 1990; Stolwijk & Raat, 1991). Since face-to-face interviews are more costly and time consuming, relatively small samples have been reached using a face-to-face method (e.g. Kemper, 1996; Langemeijer et al., 1998; Lamers, 1992; Planije et al., 2000). Because different methods have been used in different studies (see Table 1), it is difficult to draw general conclusions. Furthermore, in some studies (but not in others) interviewers were gender-matched with interviewees. It has been suggested that more reliable answers are given when interviewers are matched for gender, especially among women (Planije et al., 2000; Uniken Venema & Garretsen, 1995). Some studies ethnically-matched interviewers with interviewees (Dijkshoorn, Erkens & Verhoeff, 2001; Gorissen et al., 1988; Köycü et al., 1997; Lamers, 1992; Reijneveld, 1998; Shadid, 1979; Van Eijk, 2000), whereas others did not. As discussed before, matching on basis of ethnic background may prevent language and interpretation problems. On the other hand, it may stimulate underreporting of alcohol use, because Turks and Moroccan may fear that personal information may become known to community members (Kemper, 1998).

### *Prevalence of alcohol use*

Table 1 shows that Turks and Moroccans do use alcohol, but in smaller amounts than the Dutch inhabitants. Whereas the life time prevalence of alcohol use among the general Dutch population is 91.6%, (Abraham, Kaal & Cohen, 2002), the lifetime prevalence of alcohol use ranges from 35.3% to 60% among Turks (Langemeijer et al., 1998; Van Eijk, 2000), and from 13.8% to 45% among Moroccans (Sandwijk, Cohen & Musterd, 1991; Van Eijk, 2000). Alcohol use is reported to be higher among Turks than among Moroccans (e.g. Abraham, Cohen, Van Til & Langemeijer, 2000; Dijkshoorn et al., 2001; Gorissen et al., 1988; Langemeijer et al., 1998; Reijneveld, 1998).

In accordance with the Dutch population, in both the Turkish and the Moroccan population, men tend to drink more than women (e.g. Gorissen et al., 1988; Köycü et al., 1997; Van Eijk, 2000). Van Eijk (2000), for instance, found that 40% of the young Turkish men (age 15-29 years) had drunk alcohol during the last month, whereas only 8% of the young Turkish women (age 15-29 years) had recently drunk alcohol. Among Moroccans, a similar pattern was shown, with 19% of the young men and 3% of the young women reporting recent alcohol use (Van Eijk, 2000). However, one study among inhabitants of Rotterdam found a higher prevalence among Turkish girls compared to Turkish boys (Van de Looij-Jansen, Joosten-van Zwanenburg, Reelick, Jansen & Diekstra, 1996), but the number of Turkish respondents in that study is too small ( $n = 16$ ) to draw reliable conclusions from these results. Finally, with regard to age, the study by Van Eijk (2000) showed a consistent pattern whereby younger men and women (15-29 years) more often drank alcohol than older men and women (30 years and older).

The results of the two trend studies, 'Cedro' and 'Antenne', do not reveal clear conclusions about developments in the alcohol use of Turks and Moroccans during the last 10 to 15 years. Only the trend study 'Peilstation' among youngsters aged 12-18 years revealed a clear trend, showing an increase in alcohol use among Turkish and Moroccan adolescents. The fact that this trend was only clear in the Peilstation surveys and not in the Antenne studies, may be explained by the fact that the study population of the Peilstation studies was younger. This result may reflect an increase in drinking among young Turks and Moroccans.

## **2.4. Conclusion**

Although some results regarding the prevalence of alcohol use of Turks and Moroccans have been described based on the present overview, the present study also revealed that important methodological and conceptual problems hinder the systematic review of alcohol studies among Turks and Moroccans. We reported on three factors that obstruct a review of alcohol research among Turks and Moroccans, namely the sample, the definition of ethnicity, and the data collection mode: Turks and Moroccans are often underrepresented in alcohol studies. As a result, the external validity of research data is often low. In addition, no standard definition of ethnicity has been used and data are gathered by means of different methods across different alcohol studies. Therefore, a comparison of research data, such as the present one, is severely hindered by these differences between studies. Thus, due to described differences in methods, research data on the prevalence of alcohol use among Turks and Moroccans show strong variations. Therefore, conclusions on the prevalence of alcohol use are difficult to establish, and the validity and reliability of results are questionable.

## References

Abraham MD, Cohen PDA, Van Til RJ & Langemeijer M (2000). Licit and illicit drug use in Amsterdam III. Developments in drug use 1987-1997. Amsterdam: CEDRO.

Abraham MD, Kaal HL & Cohen PDA. (2002). Licit and illicit drug use in the Netherlands, 2001. Amsterdam: CEDRO.

Bruinzeels M (1999). Het meten van etnische herkomst. Verslag workshop 17 november ZON.

Central Bureau of Statistics (2000). Standaarddefinitie van allochtonen. Index, no. 10.

Dagevos J (2001). Perspectief op integratie. Over de sociaal-culturele en structurele integratie van etnische minderheden in Nederland. Den Haag: Sociaal en Cultureel Planbureau.

Dijkshoorn H, Erkens CGM & Verhoeff AP (2001). Gezondheidsenquête Amsterdamse Gezondheidsmonitor 1999/ 2000. Opzet, verloop van het onderzoek en eerste resultaten. EDG-reeks 2001/6. Amsterdam: GG&GD Amsterdam (intern rapport).

Gorissen WHM, Ticheler PCM, Van Kessel RPM & Souverein CR (1988). Gezondheidspeiling Utrecht. Resultaten van de Gezondheidspeiling Utrecht 1986-1987. Utrecht: GG&GD.

Kemper FHC (1996). Religiositeit, etniciteit en welbevinden bij mannen van de eerste generatie Marokkaanse moslimmigranten. Phd thesis. Nijmegen: Uitgeverij Katholieke Universiteit Nijmegen.

Kemper FHC (1998). Gezocht: Marokkanen. Methodische problemen bij het werven en interviewen van allochtone respondenten. *Migrantenstudies*, 1: 43-57.

Korf DJ & Van der Steenhoven P (1994). Antenne 1993. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers. Amsterdam: De Jellinek.

Korf DJ, Nabben T & Schreuders M (1995). Antenne 1994. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers. Amsterdam: De Jellinek.

Korf DJ, Nabben T & Schreuders M (1996) Antenne 1995. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers. Amsterdam: De Jellinek.

Korf DJ, Nabben T, Lettink D & Bouma H (1998). Antenne 1997. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers. Amsterdam: De Jellinek.

Köycü B, Kara T, Çamlıdag O, Aydınli R, Verschuren WMM & Van Montfrans GA (1997). Risicofactoren voor hart- en vaatziekten bij Turken in Amsterdam en in Ankara. *Nederlands Tijdschrift voor de Geneeskunde*, 141(18): 882-888.

Kuilman M & van Dijk A (2000). Alcohol- en druggebruik in de Gemeente Rotterdam. Een verslag van het bevolkingsonderzoek in het kader van de Regio- en Stedenmonitor Alcohol en Drugs. Rotterdam: GGD Rotterdam e.o.

Kuipers SBM, Mensink C & De Zwart BM (1993). Jeugd en riskant gedrag: roken, drinken, druggebruik en gokken onder scholieren vanaf tien jaar: resultaten van het 3e Peilstationsonderzoek naar middelengebruik en gokken. Utrecht: NIAD.

Lamers L (1992). De gezondheid van migranten in Rotterdam. Enige recente gegevens over migranten uit de Omnibus- en Jeugdenquete, analyse van sterftecijfers en opnamecijfers in psychiatrische ziekenhuizen. Rotterdam: GGD-Rotterdam e.o.

Langemeijer M, Van Til RJ & Cohen P (1998). Het gebruik van legale en illegale drugs in Utrecht en Tilburg. Amsterdam: CEDRO.

Monshouwer K, Smit F & Spruit I (2002). Alcohol-, tabak- en cannabis-gebruik bij scholieren naar etnische achtergrond. Tijdschrift voor Gezondheidswetenschappen, 80(3): 172-177.

Monshouwer K, Van Dorsselaer S, Gorter A, Verdurmen J & Vollebergh W (2004). Jeugd en riskant gedrag : kerngegevens uit het peilstationsonderzoek 2003. Roken, drinken, drugsgebruik en gokken onder scholieren vanaf tien jaar. Utrecht: Trimbos-instituut.

Municipality The Hague (2002). Gezondheidsmonitor 2002. Den Haag: GG&GD Den Haag.

Planije M, Verdurmen J & Van Wamel A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos-instituut.

Plomp H, Kuipers H & Van Oers (1990). Roken, alcohol- en drugsgebruik onder scholieren vanaf 10 jaar. Resultaten van het vierde Peilstationonderzoek Jeugdgezondheidszorg 1988/1989. Utrecht: NIAD.

Reijneveld S (1998). Reported health, lifestyles, and use of health care of first generation immigrants in the Netherlands: do socioeconomic factors explain their adverse position? *Journal of Epidemiology and Community Health*, 52: 298-304

Rozema B (1996). Gezondheidsenquête Turkse inwoners van Zaanstad. Zaanstad: GGD Zaanstreek.

Sandwijk J, Westerterp I & Musterd S (1988). Het gebruik van legale en illegale drugs in Amsterdam. Verslag van een prevalentie-onderzoek onder de bevolking van 12 jaar en ouder. Amsterdam: Instituut voor Sociale Geografie.

Sandwijk J, Cohen P & Musterd S (1991). Licit and illicit drug use in Amsterdam, report of a household survey in 1990 on the prevalence of drug use among the population of 12 years and over. Amsterdam: Instituut voor Sociale Geografie.

- Sandwijk J, Cohen P, Musterd S & Langemeijer M (1995). Licit and illicit drug use in Amsterdam II, report of a household survey in 1994 on the prevalence of drug use among the population of 12 years and over. Amsterdam: Instituut voor Sociale Geografie.
- Shadid WAR (1979). Moroccan workers in the Netherlands. Phd thesis. Leiden: Rijksuniversiteit Leiden.
- Stolwijk A & Raat H (1991). Gezondheid en leefwijzen van jongeren in Rotterdam en omgeving. Rotterdam: GGD-Rotterdam e.o.
- Swinkels H (1992). Roken en drinken door Turkse inwoners van Nederland. Tijdschrift Jeugdgezondheidszorg, 24 (6): 88-94.
- Tas RFJ (1996). "Naturalisaties vooral in trek bij Turken". In: Allochtonen in Nederland. Voorburg/ Heerlen: Centraal Bureau voor de Statistiek.
- Toet J, Verdurmen JEE & Van Dijk AP, Knibbe RA & Van Ameijden EJC (2003). Prevalentie van alcoholgebruik, roken en cannabisgebruik: Utrecht vergeleken met Parkstad Limburg en Rotterdam. Tijdschrift voor Gezondheidswetenschappen, 6: 346-354.
- Uniken Venema HP & Garretsen HFL (1995). Gezondheidsonderzoek onder moeilijk bereikbare groepen. Assen: Van Gorcum.
- Van Bergen A, Dittrich H, Gelderloos G, Hesselink M & Hofmeijer A (2003). Volksgezondheidsmonitor Utrecht. Themarapport Allochtonen. Utrecht: GG&GD.
- Van de Looij-Jansen PM, Joosten-van Zwanenburg E, Reelick NF, Jansen W & Diekstra RFW (1996). De Rotterdamse Jeugdmonitor. Resultaten van het demonstratieproject in derde klassen van het voortgezet onderwijs. Rotterdam: GGD Rotterdam e.o.
- Van de Looij-Jansen PM (2003). Rotterdamse Jeugdmonitor. Derdeklassers voortgezet onderwijs. Rotterdam: GGD Rotterdam e.o.
- Van Eijk CJ (2000). Alcoholgebruik onder allochtonen in Nederland. Kwantitatief onderzoek onder Turken, Marokkanen, Surinamers en Antillianen/ Arubanen, februari-maart 2000. Utrecht: MCA Communicatie.
- Van Eijsden M, De Geus G & Van Ameijden EJC (2004). De gezondheid van de Utrechtse jeugd : trends en sociaaldemografische verschillen. Tijdschrift voor Sociale Gezondheidswetenschappen, 82 (1): 12-20.
- Verdurmen J, Toet J & Spruit I (2000). Alcohol- en druggebruik in de gemeente Utrecht. Een verslag van het bevolkingsonderzoek in het kader van de Regio- en Stedenmonitor Alcohol en Drugs. Utrecht: Trimbos-instituut.
- Verweij A (1997). Vaststelling van etnische herkomst in Nederland. Rotterdam: ISEO.





## **PART II**

### **MEASUREMENT OF ALCOHOL USE**



## **CHAPTER 3**

**METHODOLOGICAL PROBLEMS  
RELATED TO ALCOHOL RESEARCH  
AMONG TURKS AND MOROCCANS  
LIVING IN THE NETHERLANDS:  
FINDINGS FROM SEMI-STRUCTURED  
INTERVIEWS**

## ABSTRACT

**Aims:** To identify factors related to alcohol use among Turks and Moroccans living in the Netherlands. Furthermore, to reveal methodological problems related to research among Turks and Moroccans *in general* and to *alcohol research* among these groups in particular.

**Methods:** Individual face-to-face interviews were carried out with Dutch researchers (n = 9), Turkish and Moroccan (health-) practitioners working in the field with Turks (n = 4) or Moroccans (n = 2), and members of the target population with a Turkish (n = 3) or a Moroccan background (n = 2). Furthermore, focus-group interviews were held with Turkish women (n = 4), Turkish men (n = 3), Moroccan women (n = 4) and Moroccan men (n = 3) working as health professionals.

**Results:** Alcohol use seems prevalent particularly among second-generation Turks and Moroccans and is related to: upbringing, influence of peer groups, integration and the degree to which Islamic rules are practised. Written questionnaires seem more appropriate for second-generation Turks and Moroccans, because second-generations have fewer language problems and are more familiar with western bureaucratic society. However, both first- and second-generations may prefer face-to-face interviews since both groups fear that 'written' answers may somehow become known among community members. For the same reason, an interviewer with a Dutch background may elicit more reliable answers about alcohol use than an interviewer with a Turkish or Moroccan background.

**Conclusion:** In alcohol research special attention should be paid to second-generation Turks and Moroccans. Although it is probably easier to conduct alcohol studies in this group than among first-generation Turks and Moroccans, quantitative research is needed to test the hypothesis that written questionnaires elicit more reliable answers about alcohol use than face-to-face interviews, and that Dutch interviewers elicit more reliable answers than Turkish/Moroccan interviewers. Furthermore, the influence of ethnic matching on response and data quality should be tested further.

### **3. METHODOLOGICAL PROBLEMS RELATED TO ALCOHOL RESEARCH AMONG TURKS AND MOROCCANS LIVING IN THE NETHERLANDS: FINDINGS FROM SEMI-STRUCTURED INTERVIEWS**

#### **3.1. Introduction**

Although excessive alcohol consumption has adverse effects on the physical and mental health of the drinker, their environment and the general community (Anderson, 1995; Poikolanen, Vartiainen & Korhonen, 1996; WHO, 1980), 13% of the general Dutch population tends to drink alcohol excessively (Bureau NDM, 2002). To deal with this problem more information about the prevalence of alcohol use and related factors is required. Although such data are available for indigenous Dutch persons, less is known for immigrant groups, such as Turks and Moroccans, who constitute about 4% of the general Dutch population (CBS, 2002) and about 12% of the population of the larger cities in the Netherlands (O+S, 2000).

The migration history of Turks and Moroccans has the following developmental patterns. During the 1960s, the so-called 'guest workers' came to the Netherlands to earn a living, later their spouses and children migrated to Holland (the 'family re-unification phase') and, finally children of 'guest workers' sought marital partners from their home country (the 'family formation phase'). Family formation is still an important reason for Turks and Moroccans to migrate to the Netherlands and the prognosis is that in the year 2015 the Dutch population will consist of 380,000 Turks and 355,000 Moroccans, which will constitute 4.3% of the general Dutch population (Manting & Butzelaar, 1997).

Although some alcohol studies among the general Dutch population have included Turks and Moroccans (Abraham, Cohen, Van Til & De Winter, 1999; Langemeijer, Van Til & Cohen, 1998), or were specifically aimed at Turks or Moroccans (Planije, Verdurmen & Van Wamel, 2000; Swinkels, 1992), reliable information about alcohol use and its determinants is lacking for these ethnic groups, mainly because of methodological problems. For example, Turks and Moroccans are often underrepresented in alcohol studies among the general Dutch population (Planije et al., 2000) because they are harder to reach for interview surveys than Dutch people (Reelick, Van Gilst & Van Driel, 1998). Recruitment by telephone is often problematic because many Turks and Moroccans have no telephone connection or have an unlisted number (Schothorst, 1999). Contacting Turks and Moroccans at home is also difficult, especially during Ramadan and the summer season when many visit their home country (Kemper, 1998). Consequently, because a selective non-representative group of Turks and Moroccans will participate in alcohol studies, findings about such people do not form a basis from which to generalize to the whole Turkish or Moroccan population in the Netherlands. Even if Turks and Moroccans have been reached, they may refuse to cooperate because they are less familiar with study procedures than Dutch people (Meloan & Veenman, 1988). Moreover, because Islamic ethics prescribe alcohol abstinence, many Turks and Moroccans may be unwilling to participate in alcohol research (Dotinga, Van den Eijnden, San José, Garretsen & Bosveld, 2000).

Other methodological problems are related to questioning style and answering tendencies. For instance, it has been reported that Turks and Moroccans find the Dutch way of questioning too direct (Schothorst, 1999) or too fast (Meloan & Veenman, 1988; Wentholt, 1983). Furthermore, Turks and Moroccans may experience difficulties in answering

hypothetical questions (Meloan & Veenman, 1988) and statements (Uniken Venema, 1989), and the use of too many answer categories may lead to interpretation problems (Schothorst 1999), and invalid answers. Interpretation problems may also be caused by language difficulties, particularly for first-generation<sup>1</sup> Turks and Moroccans, who may not speak and read the Dutch language fluently. To reach this latter group questions have to be translated, which may alter the meaning of the text and thereby affect response tendencies (Van 't Land, 2000). Furthermore, because many first-generation Moroccans speak the (mainly unwritten) Berber language the reliability of answers will depend on the translation skills of the interviewer. Second-generation Turks and Moroccans will have followed education in the Netherlands and therefore should not have serious language problems.

Questions on alcohol consumption may be subject to distortion because Turkish and Moroccan Muslims may give socially desirable answers and underreport their alcohol use (Gorissen, Ticheler, Van Kessel & Souverein, 1988). This tendency may be stronger among first-generation Turks and Moroccans, because they are more influenced by Islamic rules. Moreover, since violating cultural and Islamic rules is regarded as a disgrace to the family honour (Peters, 1987), Turks and Moroccans may be restrained about reporting their own alcohol use. It has been suggested that because interpersonal distrust plays an important role, particularly in the Moroccan society (De Mas, 1991; Van Gemert, 1998), Moroccan respondents may fear that their answers will become known to other community members (Kemper, 1998) and may therefore underreport their alcohol consumption. The ethnic background of the interviewer may also influence answers to questions about alcohol consumption (Kemper, 1998). For example, an indigenous Dutch interviewer may elicit more honest answers about alcohol use than a Turkish or Moroccan interviewer (Van 't Land, 2000). This probably relates to social control mechanisms in these communities, which restrain Turks and Moroccans from admitting that they drink alcohol. Full reporting may also be inhibited by fear of offending the interviewer (Van 't Land, 2000). Therefore, Turks and Moroccans may be inclined to answer according to the norms and values of the interviewer (e.g. abstinence from alcohol in the case of Turkish and Moroccan interviewers) and thus underreport alcohol use. Underreporting of alcohol may be less of a problem in written questionnaires. Anonymity is experienced to be higher in written questionnaires (Schwartz, 1991) and may thus elicit more reliable answers about alcohol consumption, i.e. higher reports of alcohol consumption, compared to face-to-face interviews.

Thus, because various methodological problems may accompany alcohol research among Turks and Moroccans, there was a need to investigate the way in which alcohol use and its determinants should be measured in this group. In view of this a qualitative study was carried out to achieve the following objectives:

- 1) To identify factors related to the use of alcohol among Turks and Moroccans living in the Netherlands.
- 2) To describe methodological problems related to research among Turks and Moroccans *in general* and methodological problems related to *alcohol research* among Turkish and Moroccan people in The Netherlands in particular.

---

<sup>1</sup> First generation refers to Turks and Moroccans who are born in Turkey or Morocco. Second generation refers to Turks and Moroccans who are born in the Netherlands, but of whom one or both parents are born in Turkey or Morocco

### 3.2. Methods

#### *Design*

Information was obtained from individual face-to-face interviews and focus-group interviews by a healthcare researcher; a second interviewer was present in the focus-group interviews. Before starting the interview, participants were asked for permission to record the interview on tape. One Dutch and one Turkish respondent did not approve of recording the interview; during these two interviews, important information was noted and the interview was written down immediately after the interview had taken place. Interim analysis (Pope, Ziebland & Mays, 2000) (in which data already gathered are analysed, and shape the ongoing data collection) was used to omit, refine or add questions during the data collection process. The number of participants was determined according to the principle of saturation (Bowling, 1997): when interviewees supplied no new information, sufficient sample sizes were deemed to be reached and the data collection was stopped (Glaser & Strauss, 1967).

#### *Participants*

*Individual semi-structured interviews* were held with Dutch researchers, Turkish and Moroccan (health) practitioners and members of the target population with a Turkish or a Moroccan background. Researchers ( $n = 9$ ) were selected based on their experience with either (health) research among Turks and Moroccans in the Netherlands, or (methodological) research on the prevalence of alcohol among the general Dutch population, among which Turks and Moroccans. Interview topics were divided beforehand in three categories: (1) experiences of interviewees with research among Turks and Moroccans (2) practical and methodological problems accompanying research among Turks and Moroccans *in general*, (3) knowledge of opinions and prevalence of *alcohol consumption* among Turks and Moroccans and related methodological research problems.

Turkish and Moroccan respondents were selected either because they were (health) practitioners working in the field with Turks ( $n = 4$ ) or Moroccans ( $n = 2$ ), or because they were members of the target population with a Turkish ( $n = 3$ ) or a Moroccan background ( $n = 2$ ). Their interview topics concerned (1) opinions, perceived prevalence and expected determinants of alcohol consumption among Turks and Moroccans, and (2) (methodological and) practical problems accompanying alcohol research among Turks and Moroccans in the Netherlands.

During *focus-group interviews* with Turks and Moroccans (the main goal being to discuss the alcohol questionnaire, which was constructed based on the data gathered in the individual face-to-face interviews), also methodological and practical problems concerning alcohol research among Turks and Moroccans were discussed. Turkish and Moroccan participants were health practitioners working with Turks and Moroccans living in the Netherlands. Focus-group discussions were held separately for Turkish women ( $n = 4$ ), Turkish men ( $n = 3$ ), Moroccan women ( $n = 4$ ) and Moroccan men ( $n = 3$ ). Participants were asked two specific questions which were also dealt with during individual interviews: (1) which method will elicit more reliable answers to questions about alcohol: a written questionnaire or a face-to-face interview, and (2) will ethnic matching of interviewer with interviewee elicit more reliable data compared to no ethnic matching.

## Analyses

All interviews were written down and analysed: this process was started during the data collection phase. Firstly, information elicited through individual interviews were categorised into three types of information related to the research questions, i.e. (1) opinions, perceived prevalence and perceived determinants of alcohol consumption among Turks and Moroccans, (2) problems related to research among Turks and Moroccans *in general*, and (3) problems related to *alcohol research* among Turks and Moroccans. Secondly, findings relevant to each category were examined to establish key themes within the categories. Thirdly, additional information gathered through *focus-group interviews* was examined and added to the information from the individual interviews.

### 3.3. Results

*Opinions, prevalence and determinants of drinking alcohol among Turks and Moroccans.* *Opinions.* Turkish and Moroccan respondents<sup>2</sup> mentioned that, since alcohol-related problems have increased in number and severity, alcohol prescription rules of Islam have become stricter resulting in a total prohibition of alcohol consumption. Especially loss of consciousness is considered an unacceptable effect of alcohol use because people might harm themselves or, even worse, injure others. Turkish and Moroccan respondents explained that Muslims were obliged to take care of their body and to live a healthy life by e.g. abstaining from alcohol. Moreover, if people drink alcohol and lose control they cannot take responsibility for their family. Therefore, some Turkish and Moroccan respondents reported that drinking alcohol was allowed as long as others are not harmed by it. Others believed that drinking was allowed, but praying while intoxicated was forbidden. According to Turkish and Moroccan respondents, more highly educated Turks and Moroccans tended to question the content of the Koran and were less strict about the alcohol abstinence rule. In addition, some respondents mentioned that the second-generation Turks and Moroccans questioned Islamic rules more than first-generations did. According to some respondents, drinking as a social act was sometimes allowed, but drunkenness was not. It was also reported that even if Muslims started to drink alcohol, Allah and other Muslims might forgive them.

*Prevalence and determinants.* All respondents agreed that drinking alcohol is prevalent among younger second-generation Turks and Moroccans, especially the boys. It was thought that Turks are more likely to drink than are Moroccans. It was also reported that Turks and Moroccans drink less than their Dutch contemporaries. According to respondents, because drinking is often a secret matter, (particularly hidden from parents) alcohol is mainly consumed in football clubs, cafes, discos, coffeehouses, or at weddings and parties, but not at home. Turkish and Moroccan respondents also mentioned that alcohol consumption is as prevalent in their countries of origin as in the Netherlands. Respondents explained that, although Turks and Moroccans may have become integrated into Dutch society, they still maintained their own traditional cultural and religious norms. Upbringing and social contacts appear to be more important in this respect than integration. Young people who have more Dutch friends or drinking friends with the same ethnic background, tend to drink alcohol, according to the respondents.

---

<sup>2</sup> We only mention the ethnicity of respondents if results have been reported specifically among this ethnical group, otherwise we refer to 'respondents'



Some Turkish and Moroccan respondents reported that problematic drinking among older (first-generation) Turks and Moroccans might be related to problems of living in a country, which has different norms and values compared to their home countries. Thus, Turks and Moroccans may start drinking to forget their problems. However, Turkish and Moroccan respondents believed that, with increasing age, Muslims will conform more to Islamic ethics and try to abstain from alcohol use.

*Problems related to research among Turks and Moroccans in general*

Four main themes were identified: (1) recruitment and motivation of respondents, (2) type of questions and response categories, (3) language problems and research method, and (4) interviewer effects.

*Recruitment and motivation of respondents.* Respondents stated that it might be difficult to reach Turks and Moroccans at home. Youngsters can be recruited at schools whereas older persons could be recruited via organisations (especially Turks, who according to the respondents, were more organised than Moroccans). Respondents agreed that interviewing Turks and Moroccans by telephone is not an option, due to many having unlisted numbers. An important first step in recruiting respondents would be to advertise and promote the study. Respondents differed in their opinions about motivating Turks and Moroccans by paying them. Some believed that Turks and Moroccans should be intrinsically motivated to participate in alcohol research, since this would increase the validity of answers.

*Type of questions and response categories.* According to Dutch respondents, Turks appear to understand statements better than Moroccans. Moroccans also seem to have trouble in answering hypothetical questions. During group interviews it became clear that Moroccans feel that they cannot answer certain questions, because "Allah is the only one who knows what will happen in the future".

Closed questions are applicable for questioning second-generation Turks and Moroccans, but as Dutch respondents also mentioned, the number of response categories should preferably not exceed five. Furthermore, (layout of) questions should be kept simple for all nationalities. According to the researchers who were interviewed, Moroccans tend to answer more often with "I don't know", because they do not want to be restricted to the answers they give.

*Language problems and research method.* According to the respondents, written questionnaires will lead to high non-response among 'guest workers', because of commonplace illiteracy. Since their comprehension of the Dutch language is limited, they should preferably be questioned in their own language. Moroccan and Dutch respondents mentioned that questionnaires for Moroccans must be translated into the Standard Arabic language, because this is the only officially written Moroccan language. If people speak the Berber or Moroccan Arabic language, interviewers will have to translate questions during interview. Respondents believed that written questionnaires in Standard Arabic may be appropriate for first-generation Moroccans *who came to the Netherlands as a marital partner or for family reunification* because they learned Standard Arabic in Morocco. Researchers who were interviewed mentioned that, even if people can read or understand the interviewer, a methodological problem still remains. This relates to how questions will be interpreted, since the questions are designed for indigenous Dutch people. Language problems are less

severe among second-generation Turks and Moroccans, and respondents believed that interviews among this group could be conducted in Dutch. As noted above, Turks and Moroccans prefer to speak rather than write about topics such as income and working status due to fear that written information may be passed to municipal organisations (e.g. the social services). Turks and Moroccans are not used to this type of bureaucracy and are afraid, according to some Turkish and Moroccan respondents, that personal information might be (mis)used for other purposes.

*Interviewer effects.* Some respondents believed that interviewers and interviewees have to be gender-matched. Younger people, especially students, were considered qualified to interview both young and older Turks and Moroccans, since older subjects often look up to young people who are highly educated. It was mentioned that interviewers should be well rewarded for their work. To decrease the risk of fraudulent reporting by interviewers, researchers recommended that interviewers should be paid per interview (not per hour) and that the quality of interviews should be controlled. Some respondents had bad experiences with interviewers who completed the questionnaires themselves, to earn money as quickly as possible. Control systems can be helpful in detecting such fraud.

*Problems related to alcohol research among Turks and Moroccans.*

This category was divided in the following themes: (1) Islam and alcohol research, (2) introducing alcohol studies to respondents, (3) research method, (4) interviewer effects.

*Islam and alcohol research.* Respondents differed in their opinions about the extent to which alcohol is a taboo subject among Turks and Moroccans, and therefore about willingness to participate in alcohol research. Turks and Moroccans may talk about alcohol in general, but respondents doubted whether Turks and Moroccans would speak honestly about their own drinking habits. According to the respondents, alcohol use is likely to be a more “prohibited” subject among first-generation Turks and Moroccans, who adhere more strongly to Islamic rules.

*Introducing alcohol studies.* Honesty about the purpose of the study was considered of major importance in introducing alcohol research to Turks and Moroccans. However, since alcohol use may be a delicate subject, respondents believed that it might be better to introduce the investigation as a general health study. In addition, they mentioned that a subject related to alcohol consumption may be used to introduce the study, e.g. ‘Islamic food prescription rules’ or, among youngsters, ‘going out’. Among older people, introducing the topic of alcohol use needs even more tact. The agencies commissioning and carrying out a research project may also influence response rates and/or the type of response obtained. Some respondents believed that telling respondents that the study originated from a university or the local health authority might increase participation rates. Mentioning the Addiction Research Institute (IVO) or a similar agency might not optimise response rates, because, as has been mentioned during interviews, Turks and Moroccans fear being stigmatised as heavy drinkers or “alcoholics”.

*Research method.* As previously stated, Turkish and Moroccan respondents indicated that if respondents have to complete questionnaires about alcohol use themselves, they might be reluctant to participate. This was due to fear that such sensitive information might become

known to members of their communities. Written answers were judged to be less threatening when the interviewer would fill in the answers. Therefore, a face-to-face interview may elicit more reliable answers on alcohol consumption, according to respondents to individual as well as focus-group interviews. Moreover, commitment to the study seems necessary to talk about alcohol use, especially for first-generation Turks and Moroccans. This can be achieved by creating trust between researcher and respondent during a face-to-face interview.

*Interviewer effects.* Social control mechanisms seem evident in Turkish and Moroccan populations and alcohol use may still be a taboo subject. Because of this, most of the respondents reported that an interviewer with a Dutch background may elicit higher response rates and more accurate answers to alcohol questions. However, both individual and group interviews with Turks and Moroccans suggested that, among first-generation Turks and Moroccans, ethnic matching of interviewer and interviewee may increase commitment. The latter was viewed as a prerequisite of willingness to talk about alcohol. Among younger Turks and Moroccans, especially the second-generation, a Dutch interviewer may be more appropriate. However, some respondents suspected that, for example, Moroccan boys may exaggerate their alcohol use if interviewed by a female Dutch interviewer.

### **3.4. Discussion**

This study was set out to explore factors related to alcohol consumption among Turks and Moroccans in the Netherlands and to increase knowledge about methodological problems that may accompany alcohol research among this group. Since qualitative research instruments are useful for such an explorative study, information was elicited by means of face-to-face interviews with researchers studying alcohol use or other health issues among Turkish, Moroccan and Dutch people, and health professionals working with Turks and Moroccans. Because researchers were mainly Dutch and health workers were mainly Turks and Moroccans, information from these two groups may have been biased. However, since there were no major differences in the information reported by Turkish, Moroccan and Dutch respondents, the results that were obtained seem to be fairly consistent. Moreover, the validity of this study may have been increased by using key figures from different ethnic backgrounds and by using different interview techniques, i.e. individual face-to-face interviews and focus-group interviews.

The present qualitative findings provide indications for the measurement of alcohol consumption and related factors among Turks and Moroccans in the Netherlands. Since methodological problems related to alcohol research among this group will be similar to those related to Islamic populations that migrated to other countries, these findings may also be relevant in other western countries. Special attention should be paid to the younger second-generation, who seem more vulnerable to start drinking alcohol than first-generation Turks and Moroccans. Possible determinants of alcohol consumption among this group are upbringing, influence of peer group, integration and the degree in which Islamic rules are practised. Differences between first and second-generation Turks and Moroccans have also been reported with regard to the willingness of both groups to participate in alcohol research. Respondents agreed that it is more difficult to question first-generation Turks and Moroccans about alcohol, since it is more of a taboo subject among this group. There was also consensus about how to motivate participation in alcohol research, i.e. researchers should be honest about their aims, but should be tactful about how they introduce this sensitive

subject. It was mentioned that alcohol surveys could be introduced in a disguised form e.g. as a general health questionnaire. However, existing evidence on the effects of disguised surveys are inconclusive and there is also, according to Plant and Miller (1977), 'an ethical objection to concealing the true nature of a survey'.

Surprisingly, a face-to-face interview was mentioned to be an appropriate method to question Turks and Moroccans about alcohol use, even though written questionnaires were reported to generate more accurate answers. However, the present study revealed two factors which relate to the preference of Turks and Moroccans for the face-to-face method. First, these groups are not familiar with Dutch bureaucracy and fear that written information might be made available to other (civic) organisations. Secondly, because social control mechanisms exist in the Turkish and especially Moroccan populations, they feared that details of their answers about alcohol use may spread among community members. Therefore talking about alcohol use would be more appropriate than writing it down. A face-to-face interview in their native language by students with the same ethnic background was deemed a good method with which to question first-generation Turks and Moroccans. This will avoid language problems and will also create commitment to the study. On the other hand, because of strong social control mechanisms, both first and second-generation Turks and Moroccans might prefer to talk about alcohol use with a Dutch interviewer rather than one with the same ethnic background. It may therefore be assumed that Dutch interviewers will elicit more accurate answers about alcohol questions. Although it is often assumed that reports of high alcohol use are more credible (Bongers, 1998), young Turks and Moroccans might exaggerate their alcohol use to Dutch interviewers who accept alcohol consumption as a common activity. On the other hand, they might underreport their alcohol use to an interviewer with the same ethnic background because they fear that they will spread the information within their communities. For this reason and because illiteracy is not a serious problem among younger Turks and Moroccans (who are born in the Netherlands), the use of written questionnaires may be more appropriate for second-generation Turks and Moroccans.

The present study provides qualitative data on the prevalence of alcohol use and related factors among Turks and Moroccans. The results also indicate factors which may influence alcohol research among these groups. However, it remains unclear which method, written questionnaire or face-to-face interview, will elicit the most reliable answers about alcohol use. No conclusions can be drawn about the influence of ethnic matching on response rates and reliability of answers. Both of these methodological factors need further investigation on a larger scale. Therefore, a follow-up study should investigate the effect of research method and ethnic background of interviewers on response rates and the reliability of answers.

## References

- Abraham MD, Cohen PDA, Van Til RJ & De Winter MAL (1999). Licit and illicit drug use in the Netherlands, 1997. Amsterdam: CEDRO.
- Anderson P (1995) 'Alcohol and risk of physical harm', in Holder H.D. and Edwards G. (eds.) Alcohol: evidence and issues. Oxford: Oxford University Press. 82-113.
- Bongers IMB (1998). Problem drinking among the general population: a public health issue? Phd-thesis. Rotterdam: Erasmus University Rotterdam.
- Bowling A (1997). Research methods in health: investigating health and health services. Buckingham: Open University Press. 336-344.
- Bureau NDM (2002). Nationale Drug Monitor. Jaarbericht 2002. Utrecht : Bureau NDM. 91 – 110.
- CBS (Central Bureau of Statistics) (2002). Allochtonen in Nederland 2002. Voorburg/Heerlen : CBS.
- De Mas P (1991). Marokkaanse migratie naar Nederland: perspectief vanuit de herkomstgebieden. International Spectator, 3 : 110-118.
- Dotinga A, Van den Eijnden RJJM, San José Aza B, Bosveld W & Garretsen HFL (2002). Alcohol and migration: problems in the measurement of alcohol consumption in Turkish and Moroccan immigrants (in Spanish). Addiciones, 14 (1): 261-278.
- Glaser BG & Straus AL (1967). The discovery of grounded theory: strategies for qualitative research. Chicago, Aldine Publishing.Co.
- Gorissen WHM, Ticheler PCM, Van Kessel RPM & Souverein CR (1988). Gezondheidspeiling Utrecht. Resultaten van de gezondheidspeiling Utrecht 1986 – 1987. Utrecht: GG&GD.
- Kemper F (1998). Gezocht: Marokkanen. Methodische problemen bij het werven en interviewen van allochtone respondenten. Migrantenstudies, 1: 43-57.
- Langemeijer M, Van Til RJ & Cohen P (1998). Het gebruik van legale en illegale drugs in Utrecht en Tilburg. Amsterdam: CEDRO.
- Manting D & Butzelaar E (1997). Allochtonenprognose 1996-2015. Maandstatistiek van de Bevolking, 97/3: 30-46.
- Meloen J & Veenman J (1988). Het blijft de vraag... Onderzoek naar responseeffecten bij minderhedensurveys. Rotterdam: ISEO.
- O+S (2000). Amsterdam in cijfers. Amsterdam: Dienst Onderzoek en Statistiek.

Peters R (1987). Van vreemde herkomst. Achtergronden van Turkse en Marokkaanse landgenoten. Houten: Het Wereldvenster.

Planije M, Verdurmen J & Van Wamel, A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos Instituut.

Plant MA & Miller TI (1977). Disguised and undisguised questionnaires compared: Two alternative approaches to drinking behaviour surveys. *Social Psychiatry*, 12: 21-4.

Poikolainen K, Vartiainen E & Korhonen HJ (1996). Alcohol intake and subjective health. *American Journal of Epidemiology*, 144: 346-50.

Pope C, Ziebland S & Mays N (2000). Qualitative research in health care. Analysing qualitative data. *British Medical Journal*, 320: 114-116.

Reelick NF, Van Gilst ECH & Van Driel HF (1998). De gezondheid van Marokkanen in de Randstad. Rotterdam: GGD Rotterdam e.o.

Schothorst Y (1999). Onderzoek onder immigranten in 1999. Onderzoek (Nederlandse Vereniging voor Marktonderzoek en Informatiemanagement), 9-11.

Schwartz N, Strack F, Hippler HJ & Bishop H (1991). The impact of administration mode on response effects in survey measurement. *Applied Cognitive Psychology*, 5: 193-212.

Swinkels H (1992). Roken en drinken onder Turkse inwoners van Nederland. *Tijdschrift Jeugdgezondheidszorg*, 24 (6): 88-94.

Uniken Venema HP (1989). Toen ik hier kwam was ik kerngezond: de gezondheid van Turken in Nederland. Phd-thesis. Rotterdam: Erasmus University Rotterdam.

Van Gemert F (1998). Ieder voor zich. Kansen, cultuur en criminaliteit van Marokkaanse jongens. Amsterdam: Het Spinhuis.

Van 't Land H (2000). Similar Questions: Different Meanings. Differences in the meaning of constructs for Dutch and Moroccan respondents; effects of the ethnicity of the interviewer and language of the interview among first and second-generation Moroccan respondents. Phd-thesis. Amsterdam: Free University.

Wentholt H (1983). 'Onderzoek onder buitenlandse werknemers: is het mogelijk?', in: Nederlandse Vereniging van Marktonderzoekers. Jaarbericht van de Nederlandse Organisatie voor Marktonderzoekers. Haarlem: De Vriescheborch. 19-36.

World Health Organization (1980). Problems related to alcohol consumption. Geneva: WHO.

## **CHAPTER 4**

**THE EFFECT OF DATA COLLECTION  
MODE AND ETHNICITY OF  
INTERVIEWER ON RESPONSE RATES  
AND ALCOHOL REPORTS: AN  
EXPERIMENTAL STUDY**

## **ABSTRACT**

**Aims:** To test the effects of data collection mode and ethnicity of interviewers on response rates and self-reported alcohol use among second-generation Turks and Moroccans in Rotterdam, the Netherlands.

**Methods:** 265 Turks and 264 Moroccans were interviewed face-to-face, and 463 Turks and 481 Moroccans received a mailed questionnaire. Half of the Turks and Moroccans randomly allocated to the interview mode were ethnically matched to the interviewer; the remainder was allocated to a Dutch interviewer.

**Results:** Turks and Moroccans more often responded to a face-to-face interview than to a mailed questionnaire. No effect of ethnicity of interviewer on response rates was demonstrated. With regard to effects on alcohol reports, Turks and Moroccans tended to report higher alcohol use in the mail survey compared to the face-to-face interview. They reported significantly more often excessive drinking in the mail survey than in the face-to-face interviews. Ethnicity of the interviewer resulted in Turks and Moroccans reporting a higher prevalence of alcohol use during the past six months when interviewed by a Dutch interviewer compared with an ethnically matched interviewer.

**Conclusions:** Among second-generation Turks and Moroccans, mail surveys seem most suitable to measure mean and excessive alcohol use. However, interviews held by Dutch interviewers seem to be the most appropriate method to study the prevalence of alcohol use during the past six months.



## **4. THE EFFECT OF DATA COLLECTION MODE AND ETHNICITY OF INTERVIEWER ON RESPONSE RATES AND SELF-REPORTED ALCOHOL USE AMONG TURKS AND MOROCCANS IN THE NETHERLANDS: AN EXPERIMENTAL STUDY**

### **4.1. Introduction**

Turks and Moroccans form two of the largest non-western migrant groups in the Netherlands and constitute about 13% of the Rotterdam population, the second largest city in the Netherlands (Bik & Stolk, 2002; CBS, 2002). Studies on alcohol prevalence in the Netherlands reveal that the proportion of drinkers is lower among Turks and Moroccans, compared to the autochthonous Dutch population (Abraham, Cohen, Van Til & Langemeijer, 2000; Planije, Verdurmen & Van Wamel, 2000; Van Eijnsden, De Geus & Van Ameijden, 2004). However, because of the Islamic background of Turkish and Moroccan immigrants, which prescribes alcohol abstinence, it is assumed that alcohol use is substantially underreported by these groups (Gorissen, Ticheler, Van Kessel & Souverein, 1988). Therefore, the reliability of these alcohol figures has been questioned.

Alcohol research among migrant groups with an Islamic religious background faces several methodological problems, which may generate unreliable alcohol data for these groups. First of all, probably due to their Islamic religious background, Turks and Moroccans are often underrepresented in alcohol studies (Planije et al., 2000). When a sampled person does not respond to a survey request, non-response occurs, which may lead to biased results (Dillman, Eltinge, Groves & Little, 2002). Therefore, reducing non-response is a prerequisite for reliable data collection.

In general, non-response is higher in mail surveys compared to face-to-face and telephone interviews (Hox & de Leeuw, 1994). This effect may result from the fact that interviewers can persuade people to participate in the study. However, to some extent, this effect seems also to depend upon the subject of study. For instance, if the subject of study concerns socially undesirable behavior, because of the higher perceived anonymity people may be more willing to participate in mail surveys than in face-to-face interviews (Gmel, 2000; Schwartz, Strack, Hippler & Bischof, 1991). This may apply in the Netherlands where Turks and Moroccans may view alcohol use as proscribed by their community.

In the case of face-to-face interviews, the ethnic background of the interviewer may also influence response rates (Weeks & Moore, 1981). Compared to an interviewer with a different ethnic background, an interviewer with the same ethnic background as the respondent may attain higher response rates, simply because participants feel more familiar with the interviewer. Interviewers with the same ethnic background would more easily elicit feelings of trust (Chapter 3 and Dotinga, Van den Eijnden, Bosveld & Garretsen, 2004), which may increase the willingness to participate in a study (Dillman et al., 2002). However, empirical data on response rates in alcohol studies do not always support the idea that ethnic matching would enhance response rates. For example, ethnic matching of interviewer and respondent did not increase response rates in a survey on legal and illegal drug use among Moroccans in Amsterdam (Abraham, Cohen, Van Til & De Winter, 1999). In addition, two studies in the Netherlands showed that a relatively large number of Moroccans were willing to participate in a study in which a Dutch interviewer questioned them about alcohol use (Kemper, 1998; Planije et al., 2000). Thus, it remains unclear whether face-to-face interviews

or mail surveys will elicit higher response rates in a study on alcohol use among Turks and Moroccans in the Netherlands. Moreover, the literature is not clear as to whether ethnically matched interviewers generate higher response rates. Therefore, the present study examines the effect of data collection mode and ethnicity of the interviewer on response rates in alcohol research.

Besides the effect on response rates, the data collection mode and ethnicity of interviewers may also have an effect on alcohol reports. However, studies on the effect of data collection mode on self-reported alcohol use have yielded contradictory results. For example, Bongers (1998) showed that alcohol reports did not differ between mail surveys and personal interviews among inhabitants of Rotterdam. Aquilino (1994) found that admission of alcohol use was most likely in self-administered questionnaires and less likely in face-to-face interviews. However, a study among young Moroccans in the city of Utrecht (the Netherlands) showed that alcohol reports were higher in face-to-face interviews than in self-administered questionnaires (Planije et al., 2000). Based on these studies, it remains unclear whether different data collection modes will produce differences in alcohol reports and if so, which data collection mode will yield more reliable alcohol data. In the present study, reports of higher alcohol consumption are considered to be the more reliable and accurate data. This assumption is generally made in alcohol research among the total population, because estimates of total alcohol consumption based on self-reports often cover only 40-60% of the alcohol consumption based on other indices of alcohol use, such as sales data (Lemmens, Knibbe & Tan, 1988; Rehm & Spuhler, 1993). Because the religious and cultural background of Turks and Moroccans prescribes abstinence of alcohol use, Turks and Moroccans can be expected to underreport their alcohol use to an even larger extent than the autochthonous population. Therefore, the assumption that higher alcohol reports constitute more accurate data is particularly tenable in research among Turks and Moroccans.

With respect to face-to-face interviews, the interviewer's ethnicity may also influence alcohol reports. Particularly when respondents are questioned about culturally sensitive issues (Weeks & Moore, 1981) and when respondents believe that certain answers are not socially acceptable (Van 't Land, 2000), the ethnicity of the interviewer does influence self-reports. Extensive research conducted in the United States has addressed ethnicity-of-interviewer effects and validity of self-reports (e.g. Anderson, Silver & Abrahamson, 1988; Campbell, 1981; Davis, 1997; Weeks & Moore, 1981), indicating that these effects may be explained by the salience of the ethnicity of the interviewer throughout the interview and the tendency of the respondent to answer according to the racial attitudes of the interviewer. If these are indeed the operating mechanisms, Turks and Moroccans can be expected to be more willing to report alcohol use to a Dutch interviewer, since Dutch people generally approve of 'responsible' alcohol use whereas Turkish and Moroccan people generally disapprove of any form of alcohol use. Furthermore, social control mechanisms in Turkish (Ögel, 1997) and Moroccan societies (Van Gemert, 1998) may explain higher alcohol reports to Dutch interviewers. These social control mechanisms tend to discourage disrespectful behavior with regard to family and community norms, e.g. to abstain from alcohol. Therefore, Turks and Moroccans may be more willing to respond to alcohol questions asked by a Dutch interviewer than by an ethnically matched interviewer.

The present study investigates the above-mentioned methodological issues using an experimental design. More specifically, the following research questions will be addressed with regard to alcohol research among Turks and Moroccans in the Netherlands: (1) Which method will yield higher response rates, mail questionnaires or face-to-face interviews? (2)

Which interviewer will attain higher response rates, a Dutch or a Turkish/Moroccan interviewer? (3) Which method will yield higher alcohol reports, mail surveys or face-to-face interviews? (4) Which interviewer will attain higher alcohol reports, a Dutch or a Turkish/Moroccan interviewer?

The present study was accompanied by a non-response analyses.

## **4.2. Methods**

### *Sample*

From the municipal register of Rotterdam, 744 second-generation Turks and 753 second-generation Moroccans (16 years and older) were randomly selected from four neighborhoods (selected for their geographic distribution) in Rotterdam. To gain insight into the impact of the data collection mode on response rates and alcohol reports, a random sample of 269 Turks and 271 Moroccans was selected to be interviewed face-to-face. Half of the Turks and Moroccans allocated to the face-to-face condition were ethnic matched to the interviewer and the other half was matched to a Dutch interviewer. The rest of both samples (475 Turks and 482 Moroccans) received a mailed questionnaire. All sample selections were stratified for gender and neighborhood.

From the original sample of 744 Turks, 14 respondents were excluded from analyses because they belonged to the first-generation, one Turk had completed the same questionnaire twice, and another one had completed the questionnaire on paper at the door, whilst he should have answered the questions face-to-face. The final sample consisted of 728 Turks (463 in the written data collection mode, and 265 in the interview mode): of these, 385 were men and 343 were women, with an age range of 16-34 years ( $M = 22$ ). From the total sample of 753 Moroccans, 8 respondents were excluded from analyses because they were born in Morocco (first-generation Moroccans). The final sample consisted of 745 Moroccans (481 in the written data collection mode, and 264 in the interview mode): of these, 360 were men and 385 were women, with an age range of 16-34 years ( $M = 20.8$ ).

### *Procedures*

Interviewers were recruited among Turkish and Moroccan university students belonging to the second generation (Dotinga et al., 2004). Ten Dutch interviewers (of which four were male, mean age of 24.5 years, and six were female, mean age of 23.6 years), eight Turkish interviewers (of which three were male, mean age of 23.3 years, and five were female, mean age of 23.6 years) and six Moroccan interviewer (of which three were male, mean age of 20.3 years and three were female, mean age of 20.3 years) participated in the study. Interviewers and respondents were gender matched. Only female students who did not wear a headscarf were selected as interviewers. Wearing a headscarf is a symbol of the Islamic religion and since abstention from alcohol use is an Islamic prescription rule, this might have influenced the answers about alcohol use of respondents. Since both the interviewers and the interviewees were constituted of second-generation Turks and Moroccans (i.e., Turks and Moroccans born in the Netherlands) interviews were performed in Dutch. To prevent interviewers from interviewing people with whom they were acquainted, interviewers were not allowed to work in the neighborhood where they lived themselves. Interviewers attended an extensive training session, in which information was given on the background of the study, the protocol that had to be followed and techniques that had to be used. For example, interviewers were instructed to interview respondents without the presence of others e.g. in

a separate room or somewhere else. If this was not possible they had to make another appointment at a time in which the respondent could be interviewed alone. Furthermore, the questionnaire was discussed and the interview was practiced by means of role-playing. Turks and Moroccans selected for face-to-face interviews received a letter which explained the study and also announced that an interviewer would visit them in the coming weeks. Interviewers were instructed to approach an interviewee at home at least three times at different time points. Turks and Moroccans who were allocated to the written data collection mode received a mailed questionnaire at the same time that the interviewers started interviewing. To increase the response rate and to keep the procedures for both data collection modes as similar as possible, non-respondents to the mail survey received two reminders after three and six weeks, respectively. Both reminders included another copy of the same questionnaire. Four months after the start of the data collection process non-respondents to the mail survey and the face-to-face interviews received a shortened mailed questionnaire, in order to obtain additional information about non-respondents

### *Measurements*

Alcohol use was measured according to the Quantity-Frequency-Variability method (QFVmethod) using six questions: (1) 'Which alcoholic drinks did you use during the past six months' (beer, wine, strong alcoholic beverages, I haven't drunk alcohol during the past six months, I have never drunk alcohol), (2) 'How many *weekend days* (Friday through Sunday) do you drink on average' (3 days, 2 days, 1 day, occasionally, I never drink on weekend days) (F), (3) 'How many glasses do you drink on average on a *weekend day*' (more than 11 glasses, 7 – 10 glasses, 6 glasses, 4 - 5 glasses, 3 glasses, 2 glasses, 1 glass) (Q), (4) 'How many *weekdays* (Monday through Thursday) do you drink on average' (4 days, 3 days, 2 days, 1 day, occasionally, I never drink on weekdays) (F), (5) 'How many glasses do you drink on average on a *weekday*' (Q), (6) 'Have you ever drunk six or more glasses in 1 day during the past six months?' (every day, 5 or 6 times a week, 3 or 4 times a week, 1 or 2 times a week, 1-3 times a month, 3-5 times per six months, 1 or 2 times per six months, never) (V).

Respondents were classified as abstainers if they reported not having had a drink in the past six months. Weekly alcohol use based on the QF items was assessed by the sum of alcohol use on weekdays (number of drinking weekdays \* number of glasses on a weekday) and weekend days (number of drinking weekend days \* number of glasses on a weekend day), (test-retest reliability of this QF scale was  $r = .77$ ;  $p < .01$ ). If respondents reported (both on weekdays and weekend days), only occasional drinking they were classified as occasional drinkers, otherwise they were classified as regular drinkers. Weekly alcohol use based on the Variability item was assessed by multiplying the number of days per week that a person drank at least six glasses of alcohol \* six glasses. When an answering category included a range, the mean of that range was taken and multiplied by six. When weekly alcohol use according to the QF items was inconsistent with weekly alcohol use according to the V item, the highest score was taken as the indicator for weekly alcohol use. Respondents were defined as excessive drinkers according to two definitions: (1) based on the Variability item: if they reported drinking at least once a week six or more glasses of alcohol (Garretsen, 1983) or (2) based on the QF items: if women reported drinking more than 14 glasses of alcohol a week and men reported drinking more than 20 glasses of alcohol a week (e.g. San José, 2000; Toet, Verdurmen, Van Dijk, Knibbe & Van Ameijden, 2003).

Socio-demographic factors measured in this study were gender, age, marital status and

education. Marital status was indicated by having a partner or not having a partner. Education was defined as the respondent's highest attained education level. Answers were classified in the categories (1) primary school, (2) lower vocational/general, (3) intermediate vocational/general and (4) higher general/higher vocational/university.

#### *Non-response survey*

Four months after the start of the data collection process, non-respondents to the mail survey (274 Turks and 315 Moroccans) and the face-to-face interviews (154 Turks and 148 Moroccans) received a short mailed questionnaire, with the exception of those who had telephoned or written to say that they refused to participate (7 Turks and 17 Moroccans), who moved to another address (36 Turks and 39 Moroccans), who were in prison (2 Moroccans), who were not allowed to participate by their parents or partners (1 Turk and 2 Moroccans) or for other reasons (2 Turks and 1 Moroccan). Finally, a total of 381 Turkish (115 non-respondents to the interview and 266 non-respondents to the mail survey) and 402 Moroccan non-respondents (99 non-respondents to the interview and 303 non-respondents to the mail survey) were included in the non-response study. After two months (this period included summer holidays), a reminder was sent to 304 Turkish non-respondents (79.8%) and 359 Moroccan non-respondents (86.1%) to this questionnaire. After another three weeks, 17% of the 277 Turks and 9.4% of the 318 Moroccans who had not responded to this reminder were interviewed by telephone. The response to this telephone interview was 34.0% among Turks and 16.7% among Moroccans. The overall response rates for the non-response study were 33.3% among Turks and 22.1% among Moroccans.

#### *Analyses*

First, the distribution of background factors was compared between respondents to the different data collection modes. Statistical significance for these analyses was estimated by Chi-square. Second, the effect of data collection mode (total sample) and ethnic background of the interviewer (interviewed sample) on response rates were tested. To determine statistical differences, logistic regression models were fitted, including age and gender. Third, non-response analyses were conducted, whereby differences in age, gender and alcohol use were assessed between respondents and non-respondents. Differences in age and gender were assessed between the total sample of respondents and total sample of non-respondents. The differences in alcohol use were assessed between the total sample of respondents and the non-respondents who participated in the non-response survey. These analyses were conducted separately for the two data collection modes. Statistical significance for these analyses was estimated by Chi-square. When differences were significant, additional analyses were performed to test whether alcohol use differed among respondents and non-respondents within each category. Fourth, the effects of data collection mode (total sample) and ethnic background of the interviewer (interviewed sample) were tested on alcohol reports. Logistic regression models were fitted (including age, gender, marital status and educational level) to test the effect of data collection mode and ethnicity of interviewer on the number of drinkers and on excessive drinking. For the latter, a distinction was made between regular and occasional drinkers, since occasional drinkers could distort the results with regard to the quantity of alcohol use. Variance analyses (including age, gender, marital status and educational level) were conducted to test the effect of data collection mode and ethnicity of interviewer on mean alcohol use in both the total sample of drinkers and among the regular drinking sample.

Due to a lack of power, analyses were performed on the combined Turkish/ Moroccan group.

### 4.3. Results

#### Demographics

Table 1 presents differences in background factors between respondents to the mail survey and respondents to the interview. Significant differences were found for gender and education. Relatively fewer men responded to the mail survey than to the interview ( $\chi^2=5.52;df=1;p<.05$ ). Furthermore, respondents with the highest educational level more often responded to the mail survey than to the interview ( $\chi^2=16.52;df=3;p<.01$ ). To control for differences in age, gender, marital status and educational level, statistical analyses testing the effect of data collection mode and ethnicity of interviewer on response rates and alcohol reports were corrected for these four socio-demographic factors by including these factors as covariates in the analysis.

Table 1 Differences in gender, age, marital status and education between respondents to the face-to-face interview and respondents to the mail survey (%)					
		Mail survey		Interview	
		n	%	n	%
<b>Gender</b>	Men	137	38.6	110	48.5
	Women	218	61.4	117	51.5
$\chi^2=5.52;df=1^*$					
<b>Age (years)</b>	16-21	214	60.3	140	61.7
	22-27	114	32.1	65	28.6
	28-34	27	7.6	22	9.7
$\chi^2=1.30;df=2$					
<b>Marital status</b>	Partner	86	24.6	41	18.1
	No partner	263	75.4	185	81.9
$\chi^2=3.37;df=1$					
<b>Education</b>	Primary school	17	5.1	13	5.9
	Lower vocational/ general	44	13.1	17	7.7
	Intermediate vocational/ general	178	53.1	152	69.1
	Higher general/ higher vocational/ university	96	28.7	38	17.3
	$\chi^2=16.52;df=3^{**}$				
* p<.05;					
** p<.01					

#### Response rates

The overall response rate for the mail survey was 37.6% ( $n = 355$ ) and for the face-to-face interview 42.9% ( $n = 227$ ) (Table 2). The odds of participating in the face-to-face interviews were significantly higher than the odds of participating in the mail survey (OR=1.26; 95%CI[1.01-1.57]). Table 2 also presents the associations between ethnic background of the interviewer and response rates. No significant differences in response rates were found between Dutch and Turkish/Moroccan interviewers.

Respondents and non-respondents to the interview differed significantly in age: less respondents aged 22-27 years responded to the interview compared to the younger (16-21 years) and older (28-34 years) age groups ( $\chi^2=9.71$ ;df=2;  $p<.01$ ). However, no significant differences in self-reported alcohol use between respondents and non-respondents within each age category were found. Moreover, no significant differences in alcohol use between respondents and non-respondents to the interview were found. Respondents to the mail survey differed from non-respondents on gender: significantly more women responded to the mail survey compared to men ( $\chi^2=33.29$ ;df=1;  $p<.001$ ). However, no significant differences in self-reported alcohol use between respondents and non-respondents were found within each gender category. Moreover, among both Turks and Moroccans, no significant differences in alcohol use were found between respondents and non-respondents to the mail survey.

Table 2 Associations between response rates and data collection mode/ethnicity of interviewer (% , odds ratio [OR] with 95% confidence interval [CI]).			
	n	Response	OR <sup>a</sup> [95% CI]
<b>Method (total sample)</b>			
Mail survey	945	37.6	1
Interview	529	42.9	1.26 [1.01-1.57]*
Total	1474		
<b>Ethnicity (interviewed sample)</b>			
Turkish/ Moroccan	267	43.1	1
Dutch	262	42.7	0.98 [0.69-1.39]
Total	529		
<i>n</i> = number of subjects			
<sup>a</sup> Adjusted for age and gender			
* $p<.05$			

### *Self-reported alcohol use*

To adjust for differences in gender distribution between respondents to the mail survey and respondents to the interview, data from the mail surveys were weighted for gender according to the gender-distribution of respondents to the interview.

Regarding the effect of data collection mode on the number of drinkers Table 3), no significant differences were found between respondents to the mail survey and respondents to the interview. With regard to the effect of ethnicity of interviewers on the number of drinkers, data showed that respondents who were interviewed by a Dutch interviewer had significant higher odds of reporting alcohol use in the past six months, compared to respondents who were interviewed by a Turkish/ Moroccan interviewer (OR = 3.05, 95%CI [1.51-6.18]). Correcting for the presence of others by including this factor as a covariate in the regression model did not change these results.

Table 3 Effect of data collection mode/ethnicity of the interviewer on the number of drinkers (% , odds ratio [OR] with 95% confidence interval [CI])			
Method	n	%	OR <sup>a</sup> [95% CI]
<b>Method (total sample)</b>			
Mail survey	355	19.2	1
Interview	227	23.8	1.15 [0.74-1.77]
<b>Ethnicity (interviewed sample)</b>			
Turkish/ Moroccan	115	15.7	1
Dutch	112	32.1	3.05 <sup>***</sup> [1.51-6.18]
<i>n</i> = number of subjects <sup>a</sup> Adjusted for age, gender, marital status and education <sup>**</sup> <i>p</i> < .01			

Table 4 presents the effects of data collection mode and ethnicity of the interviewer on the average number of drinks per drinker. For both the total drinking sample and the regular drinking sample no significant differences were found in mean alcohol use between data collection modes. However, in both samples, data point in the same directions i.e. alcohol consumption being somewhat higher in the mail survey compared to the interview mode. Furthermore, for both the total drinking sample and the sample of regular drinkers, no significant differences were found in average alcohol use between Dutch and ethnic matched interviewers. Again, although not significant, the mean scores point in both samples in the same direction, with lower alcohol use among respondents to the Dutch interviewers.

Table 4 Effect of data collection mode/ethnicity of the interviewer on mean alcohol use (M)			
Total sample	n	M (± SD)	
<i>All drinkers</i>			
Mail survey	67	7.1 ± 11.4	
Interview	56	4.4 ± 8.3	
<i>Regular drinkers</i>			
Mail survey	37	12.6 ± 13.1	
Interview	26	8.9 ± 10.5	
<b>Interviewed sample</b>			
<i>All drinkers</i>			
Turkish/ Moroccan	18	8.0 ± 12.8	
Dutch	36	2.8 ± 4.3	
<i>Regular drinkers</i>			
Turkish/ Moroccan	13	11.2 ± 14.3	
Dutch	13	6.9 ± 5.1	
<i>n</i> = number of subjects M = mean glasses of weekly alcohol use			



With regard to excessive drinking among regular drinkers (Table 5), significant differences between data collection modes were found when excessive drinking was defined as more than 13 glasses of alcohol in one week for women and more than 20 glasses of alcohol in one week for men (OR = 0.61, 95%CI [0.00-1.00]). Respondents to the interview significantly less often reported excessive drinking compared to respondents to the mail survey. Finally, because of the small numbers, the effect of ethnicity of the interviewers on excessive drinking could not be tested.

Table 5 Effect of data collection mode on excessive drinking (% , odds ratio [OR] with 95% confidence interval [CI])			
<b>Regular drinkers (total sample)</b>		Excessive drinking <sup>a</sup>	
	n		OR <sup>c</sup> [95% CI]
Mail survey	37	36.1	1
Interview	26	30.8	0.53 [0.14-1.97]
<b>Regular drinkers (total sample)</b>		Excessive drinking <sup>b</sup>	
	n		OR <sup>c</sup> [95% CI]
Mail survey	37	18.9	1
Interview	26	3.8	0.61* [0.00-1.00]
<sup>a</sup> Excessive drinking defined as drinking at least once a week 6 or more glasses of alcohol in one day <sup>b</sup> Excessive drinking defined as drinking more than 13 glasses of alcohol in one week (for women) and more than 20 glasses of alcohol in one week (for men). <sup>c</sup> Adjusted for age, gender, marital status and education  n = number of subjects * p<.05			

#### 4.4. Discussion

The present study investigated the effect of data collection mode and ethnicity of interviewers on response rates and self-reported alcohol use among second-generation Turks and Moroccans in the Netherlands. Mode of data collection affected response rates: Turks and Moroccans responded more often to a face-to-face interview compared to a mail survey. This result is in accordance with a meta-analysis which analyzed response rates obtained by different data collection modes in 45 studies (Hox & De Leeuw, 1994), and can be explained by the fact that interviewers can persuade people to participate in a study. It is often assumed that this could hold especially for abstainers, among which non-response rates are often relatively high (Dillman & Carley Baxter, 2000; Lahaut, Jansen, Van de Mheen & Garretsen, 2002). Interpersonal contact would give the interviewer the opportunity to explain to abstainers that their participation is as relevant as the participation of drinkers. However, the present study does not support this notion because, the numbers of abstainers in the mail survey and the face-to-face interview condition do not differ. The ethnicity of the interviewer did not affect response rates.

Mode of data collection did not affect the number of participants who reported they were drinkers. However, excessive drinking was reported in the mail survey more often than in face-to-face interviews. Although not significant, data with regard to mean alcohol use point in the same direction with higher mean alcohol consumption admitted in the mail survey than in face-to-face interviews. The findings with regard to excessive drinking and average reported alcohol use may result from the fact that anonymity is experienced to be higher in mail surveys than in face-to-face interviews (Schwartz et al., 1991).

The ethnicity of interviewers affected the number who reported they were drinkers, more respondents reporting that they had used alcohol in the past six months when interviewed by a Dutch interviewer, compared to an ethnically matched interviewer. Turks and Moroccans may more easily report alcohol use to a Dutch interviewer and may exaggerate their alcohol use to comply with the norms of the Dutch interviewer (Van 't Land, 2000). This may be, because reporting alcohol use is perceived as being more socially acceptable to a Dutch interviewer than to an ethnically matched interviewer. On the other hand it may also be explained by religious motives. Islamic people might hide their alcohol use more towards interviewers with the same religion, a religion that prescribes alcohol abstinence. A third mechanism which may underlie this finding is that Dutch interviewers may have had better interviewer skills than Turkish and Moroccan interviewers, and may have questioned the participants' statement of not having used alcohol in the past 6 months, thereby provoking alcohol reports of very occasional drinkers. Indeed, the results of the present study showed that the number of occasional drinkers is particularly high in the Dutch interviewer condition. However, the results with regard to differences in mean alcohol use between interviewers, point in the opposite direction showing that alcohol reports were higher among respondents interviewed by ethnic matched interviewers, even when occasional drinkers were left out from analysis. Thus, when respondents decided to report alcohol use to an interviewer from their own ethnic group at all, no resistance was felt in reporting high quantities of alcohol use. A few limitations with regard to the external validity of our findings should be addressed. First, some differences in age and gender between our respondents and non-respondents were found. These differences would decrease the external validity of the present study if they would be related to alcohol use. However, additional analyses generated no differences in self-reported alcohol use between respondents and non-respondents within each of the gender and age categories. Therefore, differences in the socio-economic characteristics of respondents and non-respondents are not expected to have seriously biased our results. Some caution is needed in generalizing the results of the present study to the general population of Turks and Moroccans in the Netherlands. Thirdly, we want to comment on the response rates in our study. Although response rates are higher in face-to-face interviews compared to mail surveys, response rates are low in both data collection modes. However, it is comparable with other Dutch alcohol studies (e.g. Lahaut et al., 2002; Planije et al., 2000; Bongers & van Oers, 1998) and is partly explained by the fact that participation in governmental surveys is not obligatory (De Heer, 1999). Furthermore, people may be tired of participating in surveys, because they are approached very often. Fourthly, conducting interviews in participants' homes may have had some adverse impact on attaining 'private' accounts (Malseed, 1990) of alcohol consumption. However, this was necessary to keep the procedures of both data collection modes the same. We tried to rule out the effect by instructing the interviewers that they had to interview people alone, without the presence of others and to offer participants the opportunity to fill out the questionnaire themselves when others were present during the interview. Lastly, we want to comment on the way in which the data were analysed. It has been argued that Turks and Moroccans, although both Islamic oriented, are different in their cultural and religious background. Therefore, studying these two ethnic groups simultaneously would generate over-simplified insights. However, since power problems were evident when analysing Turks and Moroccans separately, it was decided to combine both samples in the analysis. Moreover, analysis performed separately among Turks and Moroccans, revealed effects in the same directions for both ethnic groups, supporting our analysis among the combined sample.

Based on the results of the present study we have to draw different conclusions about the most appropriate way to measure alcohol use among second generation Turks and Moroccans in the Netherlands, depending on the goal of the study. To measure the prevalence of alcohol use in the past six months, face-to-face interviews with Dutch interviewers seem most appropriate, but to measure mean alcohol consumption levels and excessive drinking, mail surveys seem more appropriate.

### **Acknowledgements**

The authors would like to thank the Municipal Health Service of Rotterdam (in particular Jan Bleeker and Paul Kocken) for providing letters and envelopes to introduce the present study to the study populations with the Municipal Health Service as the sender.

Furthermore, the authors would like to thank all the interviewers for their help during the data collection process.

## References

- Abraham MD, Cohen PDA, Van Til RJ & De Winter MAL (1999). Licit and illicit drug use in the Netherlands 1997. Amsterdam: Cedro.
- Abraham MD, Cohen PDA, Van Til RJ & Langemeijer M (2000). Licit and illicit drug use in Amsterdam III. Developments in drug use 1987-1997. Amsterdam: Cedro.
- Aquilino WS (1994). Interview mode effects in surveys of drug and alcohol use, a field experiment. *Public Opinion Quarterly*, 58: 210–240 .
- Anderson BA, Silver BD & Abrahamson PR (1988). The effects of race of the interviewer on measures of electoral participation by blacks in SRC National Election Studies. *Public Opinion Quarterly*, 52: 289–324 .
- Bik M & Stolk C (2002). De bevolkingsprognose van Rotterdam 2017. Rotterdam: COS.
- Bongers IMB (1998). Problem drinking among the general population: a public health issue? Phd-thesis. Rotterdam: Erasmus University Rotterdam.
- Bongers IMB, Van Oers JAM (1998). Mode effects on self-reported alcohol use and problem drinking: mail questionnaires and personal interviewing compared. *Journal of studies on Alcohol*, 59: 280–285 .
- Campbell BA (1981). Race-of-interviewer effects among southern adolescents. *Public Opinion Quarterly*, 45: 234–244 .
- CBS (Central Bureau of Statistics) (2002). Allochtonen in Nederland. Voorburg/ Heerlen: CBS.
- Davis DW (1997). Non-random measurement error and race of interviewer effects among African Americans. *Public Opinion Quarterly*, 61: 183–207 .
- De Heer W (1999). International response trends: results of an international survey. *Journal of Official Statistics*, 15: 129–142.
- Dillman DA & Carley-Baxter LR (2000). Structural determinants of mail survey response rates over a 12-year period, 1988-1999. Proceedings of the section on survey method. The American Statistical Association, Alexandria, VA. Published on web page <http://survey.sesrc.wsu.edu/dillman>.
- Dillman DA, Eltinge JL, Groves RM & Little RJA (2002). Survey Nonresponse in Design, Data Collection, and Analysis. In *Survey Nonresponse*, Groves RM, Dillman DA, Eltinge JL & Little RJA eds, pp.3–26 . John Wiley & Sons, New York.
- Dotinga A, Van den Eijnden RJJM, Bosveld W & Garretsen HFL (2004). Methodological problems related to alcohol research among Turks and Moroccans living in the Netherlands: Findings from Semi-structured Interviews. *Ethnicity & Health*, 9: 139-151.

Garretsen HFL (1983). Probleemdrinken: prevalentiebepaling, beïnvloedende factoren en preventiemogelijkheden. Phd-thesis. Lisse: Swets & Zeitlinger B.V.

Gmel G (2000). The effect of mode of data collection and of non-response on reported alcohol consumption: a split sample study in Switzerland. *Addiction*, 95: 123–134.

Gorissen WHM, Ticheler PCM, Van Kessel RPM & Souverein CR (1988). Gezondheidspeiling Utrecht. Resultaten van de Gezondheidspeiling Utrecht 1986-1987. Utrecht: GG&GD Utrecht.

Hox JJ & De Leeuw ED (1994). A comparison of nonresponse in mail, telephone, and face-to-face surveys. *Quality & Quantity*, 28: 329–344 .

Kemper F (1998). Gezocht: Marokkanen. Methodologische problemen bij het werven en interviewen van allochtone respondenten. *Migrantenstudies*, 1: 43–57 .

Lahaut VMHCJ, Jansen HAM, Van de Mheen D & Garretsen HFL (2002). Non-response bias in a sample survey on alcohol consumption. *Alcohol & Alcoholism*, 37: 256–260.

Lemmens P, Knibbe RA & Tan F (1988). Weekly recall and diary estimates of alcohol consumption in a general population survey. *Journal of Studies on Alcohol*, 49: 131–135.

Malseed J (1990). Alcohol in Asian and Afro-Caribbean Communities. School of Independent Studies, Lancaster University.

Ögel K (1997). Het gebruik van middelen onder de in Nederland wonende Turkse bevolkingsgroep. Istanbul: Psychiatrisch Ziekenhuis Bakirkoy. Afdeling onderzoek en behandeling Alcohol.

Planije M, Verdurmen J & Van Wamel A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos Instituut.

Rehm J, Spuhler T (1993). Measurement error in alcohol consumption: the Swiss Health Survey. *European Journal of Clinical Nutrition*, 47: S25-S30 .

San José B (2000). Alcohol consumption and health: Contributions to the explanation of the U-shaped curve. Phd-thesis. Rotterdam: Erasmus University Rotterdam.

Schwartz N, Strack F, Hippler H-J & Bishop H (1991). The impact of administration mode on response effects in survey measurement. *Applied Cognitive Psychology*, 5: 193–212.

Toet J, Verdurmen JEE, Van Dijk AP, Knibbe RA & Van Ameijden EJC (2003). Prevalentie van alcoholgebruik, roken en cannabisgebruik; Utrecht vergeleken met Parkstad Limburg en Rotterdam. *Tijdschrift voor Gezondheidswetenschappen*, 81: 346–354 .

Van Eijdsden M, De Geus G & Van Ameijden EJC (2004). De gezondheid van de Utrechtse jeugd: trend en sociaaldemografische verschillen. Tijdschrift voor Gezondheidswetenschappen, 82: 12–20 .

Van Gemert F (1998). Ieder voor zich. Kansen, cultuur en criminaliteit van Marokkaanse jongens. Amsterdam: Het Spinhuis.

Van 't Land H (2000). Similar Questions; Different Meanings. Phd-thesis. Amsterdam: Free University.

Weeks MF & Moore RP (1981). Ethnicity-of-interviewer effects on ethnic respondents. Public Opinion Quarterly, 45: 245–249 .

## **CHAPTER 5**

**MEASURING ALCOHOL USE:  
'QUANTITY FREQUENCY  
VARIABILITY' AND 'WEEKLY RECALL'  
COMPARED AMONG TURKS AND  
MOROCCANS IN THE NETHERLANDS**

## ABSTRACT

**Aims:** The aim of the present study was to test the quality of the 'Quantity Frequency Variability measure' (QFV) and the 'Weekly Recall measure' (WR) among second-generation Turks and Moroccans in the Netherlands.

**Methods:** Data were gathered in an experimental study conducted in Rotterdam, the second largest city in the Netherlands. The response rate was 40.3% among Turks and 37.5% among Moroccans, which resulted in 300 Turks and 282 Moroccans participating in the experimental study. Differences in item non-response rates and alcohol reports between both measures were analyzed among the drinking sample, i.e. 95 Turks (31.7%) and 26 Moroccans (9.2%).

**Results:** Data showed higher alcohol reports with the QFV measure compared to the WR measure. Furthermore, item non-response rates were significantly lower for the QFV measure compared to the WR measure.

**Conclusion:** The results suggest that, compared to the WR measure, the QFV measure is a more appropriate instrument to study the prevalence of alcohol use among second-generation Turks and Moroccans.



## 5. MEASURING ALCOHOL USE: 'QUANTITY FREQUENCY VARIABILITY' AND 'WEEKLY RECALL' COMPARED AMONG TURKS AND MOROCCANS IN THE NETHERLANDS

### 5.1. Introduction

The effect of the type of consumption measurement used to estimate alcohol intake has been discussed for over 50 years (Room, 2000). It has been argued that some measures cover only 60% of the actual consumed alcohol beverages (based on official sales data), and that this decreases to as low as 40% for other measures (Lemmens, Knibbe & Tan, 1988; Neve, Diederiks, Knibbe & Drop, 1993). Due to this possible undercoverage rates, studies comparing different alcohol measures often use the 'more is better' rule when deciding on the most reliable measure. In the Netherlands, two methods are currently used to measure alcohol use: the Quantity Frequency (QF) method and the Weekly Recall (WR) method (Kuilman & Van Dijk, 2000; Lammers, Neve & Knibbe, 2000; Lemmens, Tan & Knibbe, 1992). The QF method measures the number of drinking days during an average week and the number of drinks consumed during those drinking days. Because merely asking about average quantities, as is done with the QF method, is not sufficient (Rehm, Greenfield, Walsh, Xie, Robson & Single, 1999), a Variability item (Cahalan, Cisin & Crossley, 1969) is sometimes added to the QF method (termed the QFV method). This is an indicator of excessive drinking and measures the number of large quantity drinking occasions rather than the usual quantity drinking occasions. Using this measure, the average weekly alcohol use (based on the QF measure) can be adjusted for occasional excessive drinking. In contrast, the Weekly Recall (WR) method measures drinking on the seven days preceding the interview. A presumed advantage of the Weekly Recall method is that it refers directly to behavior by asking for an exact recall of alcohol consumption during the last seven days, and does not require respondents to make abstractions of their alcohol use during a longer period, as is the case with the QF(V) method (Lemmens et al., 1992). However, it has been suggested that a 'recent occasions method', such as the WR method, may result in considerable erroneous estimations among cultures in which drinking is not frequent (Rehm et al., 1999; Room, 2000), such as for instance Islamic Turks and Moroccans. Turks and Moroccans constitute a substantial proportion of the Dutch population, which is about 12% of the largest Dutch cities. It is generally assumed that Turks and Moroccans, because of the prohibition of alcohol use by the Islam, drink alcohol less frequently than their autochthonous counterparts. Therefore, applying a WR measure to assess the prevalence of alcohol use among Turks and Moroccans seems inappropriate. However, reliable insights into the prevalence of alcohol use among these ethnic groups are scarce and, to our knowledge, no systematic research on the reliability of different alcohol measures has yet been performed among these groups. Therefore, the present study tests the quality of the QFV measure in comparison to the WR measure, in a sample of second-generation<sup>1</sup> Turks and Moroccans living in Rotterdam, the second largest city in the Netherlands. More specifically, these measures are compared with regard to alcohol reports and item non-response.

---

<sup>1</sup> Second generation is defined as people who are born in the Netherlands and of whom at least one of both parents is born in a foreign country.

## 5.2. Methods

### *Sample*

Data were obtained from an experimental study (performed from February through June 2003), which tested the effect of data collection mode (face-to-face interviews vs. mailed questionnaires) and ethnic background of the interviewer on response rates and self-reported alcohol use. For this experimental study, 744 second-generation Turks and 753 second-generation Moroccans (16 years and older) were randomly selected from the municipal register of Rotterdam. A random sample of 269 Turks and 271 Moroccans were interviewed face-to-face. The remainder received a mailed questionnaire, (for a detailed description of the methods, see Chapter 4 and Dotinga, Van den Eijnden, Bosveld & Garretsen, 2005). Among Turks, the response to the mailed questionnaire was 42.3% ( $n=201$ ) and to the interview was 42.8% ( $n=115$ ). Among Moroccans, the response to the mailed questionnaire was 34.7% ( $n=167$ ) and to the interview was 45.3% ( $n=123$ ). Sixteen Turks and eight Moroccans were excluded from analysis because they belonged to the first generation, leaving a final sample of 300 Turks and 282 Moroccans. From that group, analyses for the present study were performed among the drinking sample only, i.e. 95 (31.7%) Turks and 26 Moroccans (9.2%). Finally, because the number of drinking Moroccans was too low for separate analyses all data were pooled and analyses were performed on the combined Turkish/ Moroccan group.

### *Study design*

Conditions were similar for respondents to the face-to-face interview and to the mail survey. Interviewers approached respondents at least three times at their home address. Similarly, *non-respondents* to the mail survey received two reminders after three and six weeks, which included an additional copy of the same questionnaire.

### *Measures*

Alcohol use was measured according to the Quantity Frequency Variability method (QFV) and the Weekly Recall method (WR), which included a Typical Week measure (see Appendix). To prevent effects of order of questions, the sequence of the QF and WR questions was varied in the questionnaires (QF first:  $n = 62$ ; WR first:  $n = 60$ ). QF was measured with five questions: (1) 'Which alcoholic drinks did you use during the past six months', (2) 'On how many *weekend days* (Friday through Sunday) do you drink on average' (F), (3) 'How many glasses do you drink on average on a *weekend day*' (Q), (4) 'On how many *weekdays* (Monday through Thursday) do you drink on average' (F) (5) 'How many glasses do you drink on average on a *weekday*' (Q). QFV was measured with these 5 items and an additional question (6) 'In the past six months, how often did you use six or more glasses in one day?' (V). Respondents were classified as abstainers if they reported they had not had a drink in the past six months. Weekly alcohol use was indicated by the QF method, i.e. the sum of alcohol use on weekdays (number of drinking weekdays \* number of glasses on a weekday) and weekend days (number of drinking weekend days \* number of glasses on a weekend day). If respondents reported on both week and weekend days that they only drank occasionally they were classified as occasional drinkers, otherwise they were classified as regular drinkers. Weekly alcohol use based on the Variability item was assessed by multiplying the number of days per week that a person drank at least six glasses of alcohol \* six glasses. When an answering category included a range, the mean of that range was

taken and multiplied by six (e.g. 1-3 times a month = 0.5 times a week \* 6 = 3). When weekly alcohol use according to the QF items was inconsistent with weekly alcohol use according to the Variability item, the highest score was taken as the indicator for weekly alcohol use. Weekly Recall was measured with one question 'Report for every day of the last week how many glasses you drank' (respondents had to fill in what day it was yesterday, two days ago, etcetera, and the number of glasses of alcohol they drank on each particular day). Furthermore, to decide whether last week's alcohol use had to be corrected for a typical week's alcohol use, it was important to know whether alcohol use during the last week was comparable with alcohol use during a typical week. Therefore, respondents had to answer the question 'Did you drink more, less, or the same amount of alcohol during last week compared to the amount of alcohol you usually drink during a week?' If respondents reported a relatively higher or lower alcohol consumption during the last week compared to a typical week, they had to answer the question 'How much alcohol do you usually drink during a week? (the respondents had to report for every day of the week how much they usually drink on each day).

### *Analysis*

First, with regard to the WR measures, a comparison was made between alcohol use in the past week and alcohol use in a typical week, to see in how many cases a correction for unusual patterns in past weeks' alcohol use was appropriate.

Second, differences in alcohol reports between the QFV and the WR measure were tested on the individual level and the aggregated level. On the individual level, the difference was indicated by the proportion of people who reported higher alcohol use with regard to the QFV measure compared to the proportion of people who reported higher alcohol use with regard to the WR measure. The confidence interval around this fraction was calculated, and significance of difference was tested by means of a t-test. Differences in alcohol reports on the aggregated level were measured separately for the total drinking sample and for the regular drinking sample, since the number of occasional drinkers could distort the results regarding the quantity of alcohol use. Differences between the QFV and WR measure were assessed by means of analyses of variance (ANOVA) in a within-subjects design, with alcohol reports as dependent variable and different measures as a within-subjects factor (QFV vs. WR). To control for possible effects of order of questioning (QFV first vs. WR first) and data collection mode (mail survey vs. face-to-face interview), these factors were included as between-subjects factors.

Third, analyses were performed on non-response rates of the QFV measure and the WR measure. However, before testing differences between non-response rates, the effect of the order of alcohol measures and of data collection mode on scale non-response rates were tested separately, using logistic regression analysis. A missing value on the QFV scale was defined as having a missing value on both the QF measure (at least one of the four items) and the Variability item. If one of both measures could be calculated, this figure was taken as an indicator for alcohol use. Non-response rates on the WR scale were assessed by missing values on the last week's alcohol measure, if respondents had reported that last week was a typical week. If respondents reported that the past week's alcohol use was atypical, non-response rates on a typical week's alcohol use indicated scale non-response for the WR measure. For both last week's and typical week's measure, scale non-response was defined as having a missing value for glasses of alcohol on at least one of the weekdays. Furthermore, if respondents had not answered whether or not last week was a typical week,

the WR scale also had a missing value. Differences in non-response rates between QFV and WR were indicated by the Chi-square statistic.

### 5.3. Results

With regard to the WR measure, data showed that Turks and Moroccans more often reported having used less alcohol during the last week (n=43) than having used more alcohol during the last week (n=10), compared to a typical week. Similar results were found for average alcohol use, which was lower during the last week compared to a typical week (3.4 vs. 7.6 glasses per week). For those respondents who reported that alcohol use during the last week was different from alcohol use during a typical week, the latter was selected as indicator for weekly alcohol use.

#### *Alcohol reports*

Analyses on an individual level showed that 69 respondents (57%) reported higher alcohol use according to the QFV items compared to the WR items, whereas 45 respondents (36%) reported higher alcohol use according to the WR items. Seven respondents (7%) reported the same amount of alcohol use according to the QFV and the WR items. Thus, the proportion of people reporting higher alcohol use with regard to the QFV measure was significantly higher compared to people reporting higher alcohol use with regard to the WR measure (fraction = 0.605, 95%-CI [0.5127 – 0.6903],  $p < .05$ ). On an aggravated level, analyses (ANOVA) also revealed higher alcohol reports with the QFV method, compared to the WR method, both in an analysis among all drinkers (n = 121; QFV: M = 5.8 glasses per week vs. WR: M = 5.6 glasses per week) as in an analysis among regular drinkers only (n = 68; QFV: M = 10.8 glasses per week vs. WR: M = 9.4 glasses per week). These differences, however, were not shown to be significant. No effects were found for the order of questions and data collection mode.<sup>2</sup>

#### *Item non-response rates*

Logistic regression analyses revealed no effects of order of alcohol measures and data collection mode on item non-response rates. The Chi-square statistic testing differences in non-response rates between the QFV and the WR measure, showed significantly higher scale non-response rates for the WR measure (7.4%) compared to the QFV measure (0.8%), ( $\chi^2 = 12.66$ ,  $p < .001$ ).<sup>3</sup>

### 5.4. Discussion

This study tested the appropriateness of the QFV measure and the WR measure among second-generation Turks and Moroccans in the Netherlands. On an individual level, the results show that the proportion of people reporting higher alcohol use with the QFV measure than with the WR measure was significantly higher than the proportion of people reporting higher alcohol use with the WR measure than with the QFV measure. In addition, although

---

<sup>2</sup> In an additional analysis, differences in alcohol reports between the QF measure (without the Variability-item) and WR measure were analyzed. Results were in accordance with the results obtained by analyzing differences between the QFV- and the WR-measure.

<sup>3</sup> Differences in item non-response rates between QF (without the Variability-item) and WR were analyzed. Results matched exactly the results of the analyses, which included the Variability-item.

not significant, on an aggravated level higher alcohol reports were found with the QFV method, compared to the WR method. Thus, on basis of the 'more is better' principle it should be concluded that, compared to the WR measure, the QFV measure will provide more reliable alcohol reports. In addition, non-response analysis showed lower scale non-response rates for QFV compared to WR. In sum, the QFV measure seems more appropriate in measuring alcohol use among second-generation Turks and Moroccans in the Netherlands

The present findings support conclusions from an earlier report (Room, 2000), which stated that WR measures are not useful in studying alcohol use among infrequent drinkers, because reports of alcohol use during the last seven days will vary too much to assume that, on the aggregated level, they will represent typical weekly alcohol use among infrequent drinkers. Our study, in which many respondents reported to be occasional drinkers, indeed showed that an average weekly measure, such as the QFV measure, is more appropriate to measure alcohol use than a Weekly Recall measure.

With regard to the results of the present study, we first want to consider a remarkable result found for the WR measure, namely the finding that alcohol reports for last week were lower than alcohol reports for the typical week. This is remarkable because, among Islamic Turks and Moroccans who may be reluctant to report alcohol use, one would expect higher alcohol reports for last week than for the typical week (e.g., 'I have drunk alcohol in the past week, but in general I drink less'). A possible explanation for this finding would be time of the year. However, there were no indications that last week was very different from an average week, i.e., there were no religious feasts in last weeks period. Another explanation would be that alcohol reports for a typical week are generally overestimated, since it may be difficult for infrequent drinkers to answer a question about a typical drinking week. For example, if someone drinks very occasionally on a Monday, he should answer that 'In a typical week I do not drink on Mondays', but instead he may answer 'If I drink on Mondays, I drink ... glasses'. According to this scenario, current alcohol reports for the WR measure would represent an overestimation, which would further underscore our conclusion that the QFV measure is more reliable. Unfortunately, although we believe that the WR measure is more vulnerable to overestimation, we cannot fully rule out the possibility that, to some extent, similar processes may have taken place when respondents had to answer the QFV questions with regard to an average week. Therefore, more in-depth qualitative research among second generation Turks and Moroccans is needed to gain more insight into the cognitive processes active while answering alcohol questions.

A second remark about the results of this study concerns the fact that higher non-response rates were found for the WR measure than for the QFV measure. This result may be due to the larger number of items that had to be filled out for the WR measure (compared to the QFV measure) and therefore the higher chance of at least one missing value.

Regarding the limitations of our study, we would like to consider the low response rates in both data collection modes. However, these low response rates are comparable with response rates in other Dutch alcohol studies (e.g. Lahaut, Jansen, Van de Mheen & Garretsen, 2002; Planije, Verdurmen & Van Wamel, 2000), and may partly be explained by the fact that people are not very motivated to participate in research because they are approached for research too often. However, a non-response analysis on the present data did not show a selection bias (See Chapter 4 and Dotinga et al., 2005). Therefore, low response rates do not seem to jeopardize the external validity of the study.

The present study is the first to draw conclusions on the appropriateness of alcohol

measures when studying alcohol use among Turks and Moroccans in the Netherlands, and showed that compared to the WR measure, the QFV measure seems more appropriate. Although the present study was conducted among Islamic persons living in the Netherlands, these results may also be interesting for researchers elsewhere who are studying the prevalence of alcohol use among Islamic persons or among other groups of infrequent drinkers.

**Acknowledgement**

The authors would like to thank Caspar Loomans and Gerard Borsboom (Department of Public Health, Erasmus Medical Center), for their helpful comments on the statistical analyses for the present study.

## References

Cahalan D, Cisin IH & Crossley HM (1969). American drinking practices: a national study of drinking behaviour and attitudes. New Brunswick, NJ: Rutgers Center of Alcohol Studies (Monograph No. 6).

Dotinga A, Van den Eijnden RJJM, Bosveld W & Garretsen HFL (2005). The effect of data collection mode and ethnicity of interviewer on response rates and self-reported alcohol use among Turks and Moroccans in the Netherlands: an experimental study. *Alcohol & Alcoholism*, 40(3): 242-248.

Kuilman M & Van Dijk AP (2000). Alcohol- en druggebruik in de gemeente Rotterdam. (Alcohol and drug use in Rotterdam) Rotterdam: GGD Rotterdam e.o.

Lahaut VMHCJ, Jansen HAM, Van de Mheen D & Garretsen HFL (2002). Non-response bias in a sample survey on alcohol consumption. *Alcohol & Alcoholism*, 37: 256–260.

Lammers J, Neve RJM & Knibbe RA (2000). Bevolkingsonderzoek alcohol- en druggebruik Parkstad Limburg. Heerlen: GGD OZL; Maastricht: University Maastricht/IVO-UM.

Lemmens P, Knibbe RA & Tan F (1988). Weekly recall and diary estimates of alcohol consumption in a general population survey. *Journal of Studies on Alcohol*, 49:131–135.

Lemmens P, Tan ES & Knibbe RA (1992). Measuring quantity and frequency of drinking in a general population survey: a comparison of five indices. *Journal of Studies on Alcohol*, 53: 476–486.

Neve RJM, Diederiks JPM, Knibbe RA & Drop M. J. (1993). Developments in drinking behaviour in the Netherlands from 1958 to 1989, a cohort analysis. *Addiction*, 8: 611–621.

Planije M, Verdurmen J & Van Wamel A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos Instituut.

Rehm J, Greenfield TK, Walsh G, Xie X, Robson L & Single E (1999). Assessment methods for alcohol consumption, prevalence of high-risk drinking and harm: a sensitivity analysis. *International Journal on Epidemiology*, 28: 219–224.

Room R (2000). Measuring drinking patterns: the experience of the last half century. *Journal of Substance Abuse*, 12: 23–31.





## **PART III**

### **PREVALENCE AND DETERMINANTS OF ALCOHOL USE**



## **CHAPTER 6**

**PREVALENCE OF ABSTAINING,  
EXCESSIVE DRINKING, BINGE  
DRINKING AND PROBLEM DRINKING  
AMONG SECOND-GENERATION  
TURKS IN THE NETHERLANDS**

## **ABSTRACT**

**Aims:** To assess the prevalence of abstaining, excessive drinking, binge drinking, problem drinking and help-seeking behaviour among second-generation Turks in Rotterdam, the Netherlands. Furthermore, to compare prevalence data between Turks and autochthones living in Rotterdam.

**Methods:** For both the Turkish sample (n = 738) and the autochthonous sample (n = 465), data were gathered by means of postal surveys.

**Results:** The prevalence of abstaining, excessive alcohol use, binge drinking and problem drinking in the Turkish population was 63.3%, 3.7%, 5.4% and 1.8%, respectively. Abstinence was more prevalent among women, younger age groups and unemployed respondents. Drinking rates were higher among men, single respondents, and lower educated groups. Drinking rates were somewhat lower among the oldest age group. The comparative study showed that abstinence was much higher among Turks and that drinking rates were higher among autochthones. However, when comparing regular drinkers, weekend use of alcohol was higher among Turks.

**Conclusions:** Although abstinence is much higher among Turks compared to autochthones, drinking rates are relatively high among Turks who drink regularly. Implications for prevention activities are discussed.

## **6. PREVALENCE OF ABSTAINING, EXCESSIVE DRINKING, BINGE DRINKING AND PROBLEM DRINKING AMONG SECOND-GENERATION TURKS IN THE NETHERLANDS**

### **6.1. Introduction**

Information about alcohol use is essential for the development of effective prevention programs. In the Netherlands, besides individual studies (Bongers, 1998; Garretsen, 1983; Knibbe, 1982; Lemmens, 1991), several monitors have investigated the development of alcohol use, heavy drinking, problem drinking and help-seeking behaviour among the Dutch population (e.g. Abraham, Cohen, Van Til & De Winter, 1999; Kuilman & van Dijk, 2000; Korf, Nabben & Benschop, 2003; Monshouwer, Van Dorsselaer, Gorter, Verdurmen & Vollebergh, 2004). Although 10% of the Dutch population has a non-western allochthonous background (Dagevos, Gijsberts & Van Praag, 2003), no specific attention has been paid to the prevalence of alcohol use among these groups. A large non-western allochthonous group, currently living in the Netherlands is the Turkish population (constituting 2% of the general Dutch population and about 7% of the populations in larger cities e.g. Amsterdam and Rotterdam; CBS, 2004). From general population studies we know that alcohol abstinence is higher among Turks compared to the autochthonous Dutch population (see Chapter 2). On the other hand, there are some indications that the number of excessive and problem drinkers is relatively high in the Turkish population compared to that in the autochthonous Dutch population (Dijkshoorn, Erkens & Verhoeff, 2001; Swinkels, 1992). However, since methodological problems may accompany alcohol research among allochthonous people (see Chapter 3 and Dotinga, Van den Eijnden, Bosveld & Garretsen, 2004; Planije, Verdurmen & Van Wamel, 2000; Van 't Land, 2000), the reliability of prevalence data of alcohol use among Turks from general population studies may be questioned. Therefore, the authors earlier performed an experimental study to investigate the effect of data collection mode and ethnicity of the interviewer on response rates and alcohol reports, i.e. abstaining and mean alcohol use (Dotinga, Van den Eijnden, Bosveld & Garretsen, 2005). To construct alcohol prevention programs, it is particularly interesting to focus on results regarding excessive alcohol use. The experimental study showed that the most appropriate method to measure excessive alcohol use and problem drinking was by means of a written questionnaire using the Quantity-Frequency-Variability measure (Dotinga et al., 2005). The present paper presents data generated from a prevalence study among second-generation Turks, by means of a postal questionnaire. It is the first study that specifically aims at alcohol use among second-generation Turks. Insight was gained into the prevalence of abstaining, excessive drinking, binge drinking (drinking heavily on one occasion), problem drinking and help-seeking behaviour among second-generation Turks in Rotterdam, the second largest city in the Netherlands. Furthermore, differences in prevalences were assessed in subgroups defined by gender, marital status, educational level and daily activities. Finally, results were compared with data from the autochthonous Dutch population in Rotterdam.

## 6.2. Methods

### *Samples*

Data were obtained from a survey conducted from September through October 2004 in the city of Rotterdam. A sample of 2000 persons was randomly drawn from the municipal population register of Rotterdam. The sample included second-generation Turkish inhabitants with a minimum age of 16 years. Second-generation Turks are defined as people who are born in the Netherlands and of whom at least one of both parents is born in Turkey. The selected persons received a mailed questionnaire. To enhance response rates, three and six weeks after the first mailing a reminder with an additional copy of the same questionnaire was sent to the subjects who had not responded at that time. The overall response rate was 39.7% ( $n = 793$ ). However, 78 questionnaires were filled out by persons other than the approached persons; of these, 53 persons were first-generation Turks and these were therefore excluded from analyses. Furthermore, one respondent was mentally disabled and one other person had responded only to the first page of the questionnaire. The remainder of persons were left in the sample, leaving 738 respondents to be included in the analysis (37.9%). Mean age of this sample was 21.7 years, and 53.3% was female. Non-response analysis comparing gender and age of respondents with gender and age of the total sample showed that non-response was selective by gender and age, with significantly higher response rates among women ( $\chi^2=89.03;df=1;p<.001$ ) and younger persons ( $\chi^2=24.61;df=2;p<.001$ ). Unfortunately, we were unable to draw conclusions about a possible direct non-response bias, i.e. possible differences in alcohol use among respondents and non-respondents. To control for differences in demographic variables between the sample and the population of second-generation Turks aged 16 to 35 years living in Rotterdam, the sample was weighted for gender and age.

For the comparative study, data were used from a survey conducted in 2003 among the general Rotterdam population. Overall response rate was 55.3% after three mailings. We received a sample of 888 respondents, of which 465 were autochthones. Mean age of this sample was 22.1 (range 16-28) years and 55.2% was female. To control for differences between the autochthonous sample and the autochthonous population aged 16 to 28 years living in Rotterdam, the autochthonous sample was weighted for gender and age.

To analyze differences in alcohol use between the Turkish and the autochthonous populations, the Turkish sample was matched for age and gender to the autochthonous sample. Therefore, respondents older than 30 years were excluded from analyses ( $n = 36$ ), leaving 702 Turks to be included with a mean age of 21 (range 16-30) years, of which 54% was female.

### *Measurements*

Alcohol use was measured according to the Quantity-Frequency-Variability (QFV) method using 7 questions: (1) 'Which alcoholic drinks did you use during the past six months' (beer, wine, strong alcoholic beverages, I haven't drunk any alcohol during the past six months, I have never drunk alcohol), (2) 'On how many *weekend days* (Friday through Sunday) do you drink on average' (3 days, 2 days, 1 day, occasionally, I never drink on weekend days) (F), (3) 'How many glasses do you drink on average on a *weekend day*' ('10 or more glasses', '8-9', '6-7', '4-5', '2-3', '1 glass or less') (Q), (4) 'How many *weekdays* (Monday through Thursday) do you drink on average' (4 days, 3 days, 2 days, 1 day, occasionally, I never drink on weekdays) (F), (5) 'How many glasses do you drink on average on a *weekday*' ('10 or

more glasses', '8-9', '6-7', '4-5', '2-3', '1 glass or less') (Q), (6) 'How often did you drink six or more glasses in one day during the past six months?' (every day, 5 or 6 times a week, 3 or 4 times a week, 1 or 2 times a week, 1-3 times a month, 3-5 times per six months, 1 or 2 times per six months, never) (V), (7) 'How often did you drink four or more glasses in one day during the past six months?' (every day, 5 or 6 times a week, 3 or 4 times a week, 1 or 2 times a week, 1-3 times a month, 3-5 times per six months, 1 or 2 times per six months, never) (V).

Respondents were classified as *abstainers* if they reported not having had a drink in the past six months. Weekly alcohol use based on the QF items was assessed by the sum of alcohol use on weekdays (number of drinking weekdays \* number of glasses on a weekday) and weekend days (number of drinking weekend days \* number of glasses on a weekend day). Respondents were classified as *occasional drinkers* if they reported to drink alcohol only on occasions both for week and weekend days. Otherwise they were defined as regular drinkers. A gender-specific definition of *excessive drinking* was used, indicating excessive drinking as more than 13 glasses per week for women and more than 20 glasses per week for men. *Binge drinking* also had a gender-specific definition according to the two Variability items: women were defined as binge drinkers, when they reported drinking four or more glasses in one day on a weekly basis during the last six months, and men when they reported drinking at least once a week six or more glasses in one day.

Six alcohol-related problems were measured indicating experience with problems related to alcohol use, which was developed and validated by Candel (2001) and based on an 18-item scale developed by Cornel, Knibbe, Van Zutphen and Drop (1994). An example of an alcohol-related problem is 'Have you skipped meals in the past six months because you had drunk too much alcohol?' Answering categories were, 'yes, often', 'yes, sometimes', 'no', of which the first two categories were grouped together in the analysis. The items were weighted separately, because one problem was considered to be more serious than the other (see Appendix). A *problem drinker* was defined as being an excessive drinker, or being a binge drinker and having a score of 2.5 or more on the problem scale.

Marital status was defined as having a partner versus not having a partner. Educational level was categorized as (1) primary school, (2) lower vocational/general, (3) intermediate vocational/general, and (4) higher general/higher vocational/ university. Daily activities were divided into three categories: those who are employed, students, and a general group of unemployed people, voluntary workers, housekeepers etc.

The questionnaire also asked about reasons for abstinence (more than one answer possible), age of onset of alcohol use, situation in which the first glass of alcohol was used, and situations in which alcohol is generally used (more than one answer possible).

Four additional questions asked about help seeking-behaviour: (1) 'Do you know organizations or persons who provide help for alcohol-related problems?', (2) 'Did or do you receive help for alcohol-related problems?', and if so, (3) 'When did you receive this help (for the last time)?', and (4) 'From whom did you receive help?'

Regarding the comparative study, alcohol use was indicated during the last 12 months and measured according to the Quantity-Frequency measure. Quantity was assessed with an open-ended question. For the comparative analyses, alcohol use and classifications of drinking in both the autochthonous and the Turkish sample were based on the QF measure. Respondents were regarded as autochthone if the respondent and both of his or her parents were born in the Netherlands.

### 6.3. Results

#### *Turkish sample*

Table 1 presents the background characteristics of the study population. Slightly more respondents were female and in the younger age groups, i.e. 16-19 years old. Many of the respondents had no partner, had more than primary school or special education, and were employed or were a scholar/student.

		%	<i>n</i>
<b>Gender</b>	Male	46.7	345
	Female	53.3	393
<b>Age</b>	16-19	39.7	293
	20-23	30.4	224
	24-35	29.9	221
<b>Marital status</b>	Partner	27.5	201
	No partner	72.5	529
<b>Educational level</b>	Primary school/ special education	3.3	24
	Lower vocational/general education	27.8	201
	Intermediate vocational/ general education	46.8	338
	Higher general/ higher vocational/ university	22.0	159
<b>Daily activities</b>	Employed	37.4	265
	Student	52.3	370
	Unemployed/ Housekeeper/ Voluntary worker/	9.3	73

Of the total sample, 36.7% reported drinking, 43.7% reported lifetime abstinence and 19.6% reported abstinence during the past six months; thus 63.3% of the total sample reported abstinence during the past six months. In the total sample, 3.7% were excessive drinkers, 5.4% were binge drinkers and 1.8% were problem drinkers (Table 2). Furthermore, among the drinking population, 10.3% reported excessive drinking, 15.2% binge drinking and 5.4% problem drinking.

	%	<i>n</i>
<i>Total sample</i>		738
<b>Abstaining</b>	63.3	474
<b>Excessive drinking</b>	3.7	24
<b>Binge drinking</b>	5.4	35
<b>Problem drinking</b>	1.8	13
<i>Drinking sample</i>		264
<b>Excessive drinking</b>	10.3	24
<b>Binge drinking</b>	15.2	35
<b>Problem drinking</b>	5.4	13



Table 3 shows differences in the prevalence of abstinence (total sample) and excessive drinking, binge drinking and problem drinking (drinking sample) by gender, age and marital status. Chi-square statistics showed that women significantly more often reported abstinence in the past six months than men. In addition, male drinkers were almost four times more often binge drinkers compared to female drinkers, but there were no significant differences between men and women for excessive drinking and problem drinking. Differences in alcohol use by age were only found for abstinence, whereby more abstainers were present among younger respondents. No significant differences were found for marital status.

Table 4 shows that there were no significant differences in alcohol use by educational level and daily activities. However, there was a trend toward more excessive drinking and problem drinking among the lowest educational group<sup>1</sup>. Regarding daily activities, significant differences were found only for abstinence, with more abstainers among scholars/students, unemployed and disabled persons compared to employed Turks.

Important reasons for abstinence were 'Drinking is prohibited by Islam' (84.2%), 'I do not feel the need to drink alcohol' (70.1%), 'Drinking is bad for your health' (65.1%), 'I do not like the taste of alcohol' (23.9%) and 'My parents have forbidden it' (21.8%). Mean age at which Turks start drinking was 16 years, and situations in which Turks started drinking were 'whilst going out' (30.2%), 'at home with the family' (17.1%), 'at school parties/holidays' (16.2%), 'at home, with friends' (14.0%), and 'at parties and weddings' (12.6%). Situations and places in which Turks generally drink alcohol were discotheques (53.2%), parties/birthdays (50.2%), cafes (32.1%), other people's homes (30.4%) and weddings (23.6%).

With regard to help-seeking behaviour, three respondents felt the need to currently seek help for their alcohol-related problems, two respondents reported currently receiving help and five reported that they had received help in the past. Help was received from family and friends in the Netherlands and in Turkey, but not from addiction care in the Netherlands. Furthermore, only 9.1% of all respondents were able to name institutions which offer help for alcohol-related problems.

---

<sup>1</sup> Because alcohol research among Turks may suffer from power problems due to the large percentage of abstainers, we also present marginally significant trends ( $p < .10$ ).

Table 3 Prevalence of abstaining (in total sample), excessive drinking, binge drinking and problem drinking (in drinking sample) by sex, age and marital status (%) in the Turkish sample.

	Gender		Age				Marital status				
	Men	Women	16-17	18-21	22-24	25-40	Partner	No partner			
<b>Total sample</b>											
<b>Abstaining</b> n=738	54.6	72.4	$\chi^2=24.42;df=1$ ****	77.5	68.9	54.8	56.3	$\chi^2=23.17;df=3$ ****	67.9	61.2	$\chi^2=2.92;df=1$ *
<i>Drinking sample</i>											
<b>Excessive drinking</b> n=238	12.3	6.6	$\chi^2=2.09;df=1$	12.5	13.2	12.9	5.6	$\chi^2=3.44;df=3$	7.4	11.5	$\chi^2=.91;df=1$
<b>Binge drinking</b> n=236	20.5	5.6	$\chi^2=9.84;df=1$ ***	13.6	19.1	16.9	10.2	$\chi^2=2.73;df=3$	11.8	16.1	$\chi^2=.74;df=1$
<b>Problem drinking</b> n=235	6.3	4.4	$\chi^2=0.36;df=1$	4.3	10.4	5.6	2.3	$\chi^2=4.87;df=3$	2.9	6.7	$\chi^2=1.29;df=1$

\*\*\*\* p<.001, \*\*\* p<.01, \* p<.10

Table 4 Prevalence of abstaining (in total sample), excessive drinking, binge drinking and problem drinking (in drinking sample) by educational level and daily activities (%) in the Turkish sample.

	Educational level				Daily activities			
	Primary/special	Lower	Intermediate	Higher/university	Employed	Student	Unemployed	
<b>Total sample</b>								
<b>Abstaining</b> n=738	57.7	61.7	65.8	60.7	$\chi^2=1.92;df=3$	70.4	67.9	$\chi^2=19.85;df=2$ ****
<i>Drinking sample</i>								
<b>Excessive drinking</b> n=238	18.2	12.3	12.7	1.6	$\chi^2=6.78;df=3$ *	11.1	7.7	$\chi^2=.51;df=2$
<b>Binge drinking</b> n=236	18.2	20.0	16.7	6.3	$\chi^2=5.37;df=3$	16.5	12.5	$\chi^2=.55;df=2$
<b>Problem drinking</b> n=235	18.2	5.8	6.9	$\chi^2=7.60;df=3$ *	3.1	5.4	8.3	$\chi^2=1.57;df=2$

\*\*\*\* p<.001, \* p<.10

Table 5 Prevalence of abstaining (total sample), excessive alcohol use, mean alcohol use, alcohol use during weekend en weekdays (total and regular drinking sample) among Turks versus autochthones (t, p)				
	Turks	Autochthones	t	p<
<b>Total sample</b>				
Abstaining	64.1%	5.7%	24.40	.001
Excessive use	5.9%	13.6%	3.05	.001
Mean alcohol use	4.06	8.17	5.97	.001
Weekend use	3.21	4.43	3.26	.01
Week use	1.07	3.78	6.57	.001
<b>Regular drinking sample</b>				
Excessive use	17.2%	18.6%	.28	<i>ns</i>
Mean alcohol use	11.12	11.03	-.08	<i>ns</i>
Weekend use	8.63	5.91	-4.83	.001
Week use	2.49	5.13	2.78	.001

Table 5 presents differences in alcohol use between Turks and autochthones, assessed by means of independent samples t-test. There were more abstainers among Turks, and there were significantly more excessive drinkers among autochthones. In addition, mean alcohol use, alcohol use during weekend days and alcohol use during weekdays was significantly higher among the autochthonous population. Since the Turkish sample comprised many occasional drinkers, the same analyses were performed among autochthonous regular drinkers ( $n=312/ 25.8\%$ ) and Turkish regular drinkers ( $n=74/ 59.5\%$ ) only. These analyses revealed opposite results regarding alcohol use during weekend days, with higher scores among Turks. Results for weekdays remained the same, and differences in excessive alcohol use between the Turkish and the autochthonous sample were no longer significant. Finally, mean scores on alcohol use were now similar for Turks and for autochthones.

## 6.4. Discussion

The present study was performed to gain insight into the prevalence of abstinence, excessive drinking, binge drinking and problem drinking in the population of second-generation Turkish inhabitants of Rotterdam and its subpopulations. Furthermore, these prevalence rates were compared with abstinence and drinking rates collected among autochthonous inhabitants of Rotterdam.

About 37% of the second-generation Turks is categorized as a drinker and about 63% of the total population has abstained from alcohol use during the past six months. Prevalence of excessive drinking, binge drinking and problem drinking are 3.7%, 5.4% and 1.8%, respectively, in the total sample, and 10.3%, 15.2% and 5.4% in the drinking sample. Although the analyses showed few significant differences between subgroups in the Turkish sample, the patterns are clear. Abstinence is significantly higher among women, the youngest age groups and unemployed people. Binge drinking is significantly higher among men. Overall, there was a pattern of higher average drinking rates among men and single persons, and lower average drinking rates in the oldest age group. People with primary or special education appear more likely than people with a higher education to use alcohol excessively or problematically.

Analyses of differences in alcohol use between Turks and autochthones show that abstinence is much higher among Turks and that excessive drinking, mean alcohol use, alcohol use during weekdays and alcohol use during weekend days is higher among autochthones. However, when analyses were performed among regular drinkers only, alcohol use during weekend days proved to be higher among Turks and differences in mean and excessive alcohol use were no longer significant among regular drinkers.

It is difficult to compare the prevalence data of the present study with other studies among Turks because no data are available for this specific age group of second-generation Turks. Moreover, alcohol use was defined differently in other alcohol studies and different data collection modes were used (see Chapter 2). However, a general health study among Turkish inhabitants of Amsterdam (aged 16 years and older) reported a comparable figure of 63% abstainers (Dijkshoorn et al., 2002) however, that study was conducted by means of face-to-face interviews with ethnically matched interviewers. Another general health study (using written questionnaires) among inhabitants of the city of The Hague, (aged 16-74 years) reported a higher abstinence rate of 81% among Turks (Municipality of the Hague, 2002); this result is not surprising because that study also comprised first-generation Turks, among whom alcohol abstinence is generally higher.

In accordance with other alcohol studies, the prevalence of abstinence among Turks was higher among women than men (see Chapter 2). Similarly, our finding of higher abstinence rates among the youngest age group is in line with an earlier study among Turkish inhabitants (grouped by age) of the Netherlands (Swinkels, 1992). These results also emerged from studies among the autochthonous Dutch population (Bongers, 1998; Koppes, 2002). Furthermore, we found lower abstinence rates among employed people, which has also been reported previously (Bongers, 1998; Marmot, 1997); this may be explained by the fact that integration in the Dutch society via occupation/work may affect the drinking behaviour (Dotinga, Van den Eijnden, San José, Garretsen & Bosveld, 2002; Phalet, 2004). In contrast, excessive alcohol use and problematic drinking is often reported to be higher among unemployed people (Bongers, 1998; San José, 2000; Verdurmen, Monshouwer, Van Dorsselaer & De Graaf, 2003); the results of the present study show a similar trend for

problematic drinking, but without significant differences.

In accordance with other Dutch and international studies, binge drinking was higher among men than women (Copeland, Shope & Waller, 1996; Norman, Bennett & Lewis, 1998; Lammers, Neve & Knibbe, 2000). Binge drinking is reported to be more of a social behaviour among men in terms of being more in social environments which facilitate drinking (Norman et al., 1998). In accordance with other studies among the general Dutch population (Bongers, 1998; Droomers, 1999; Knibbe, Drop, Van Reek & Saenger, 1985), our study shows a trend indicating more excessive drinking and problem drinking among lower educated people. Educational differences in alcohol use have been related in part to a higher amount of stress experienced among lower educated groups (Droomers, 1999).

The comparative study showed that in accordance to other Dutch studies and as expected among Muslim respondents, abstinence rates were much higher among Turks compared to the autochthonous population (Dijkshoorn et al., 2001; Municipal Health Service The Hague, 2002). In addition, we found a higher mean alcohol use among autochthones. However, when occasional drinkers were excluded from the analyses, drinking during weekend days was higher among Turks, which has also been reported previously (Swinkels, 1992; Dijkshoorn et al., 2001). This result has been attributed to the absence of guidelines concerning appropriate drinking behaviour in cultures in which alcohol is prohibited (Weiss, 2001). Turks generally may not learn how to regulate their drinking behaviour and, therefore, may more easily use alcohol excessively. The difference in alcohol use during weekdays remained the same, indicating that Turks especially drink on weekend days.

A few limitations of the present study should be discussed. First, data are based on self-reports. Alcohol use has been argued to be underreported, because self-reported alcohol consumption is generally lower than consumption based on sales statistics (Neve, 1993; Rehm, 1998). Although information on this matter is not available in the present study, we aimed to get the most reliable data by using a postal survey and the QFV measure: a method and a measure which previously revealed higher average drinking reports than face-to-face interviews and the Weekly Recall measure (see Chapter 5).

Second, results may have been biased by non-response rates. To correct for indirect non-response rates, the data from the Turkish sample were weighted for age and gender. However, direct non-response rates may have affected our results, which is evident when respondents differ in alcohol use from non-respondents.

Third, there were some small differences in measures between the autochthonous and the Turkish sample. For instance, the autochthonous population reported on average alcohol use during the previous 12 months, while the Turkish sample reported on average alcohol use during the previous six months. Reports on short periods are known to be more reliable since these are affected less by memory loss (Dawson, 2003). However, it is difficult to discern what impact this difference may have on our results, because memory loss may affect both unusual drinking periods and unusual non-drinking periods. Furthermore, the number of glasses was measured by an open question among the autochthonous sample and by a closed-ended question among the Turkish sample. Although some argue that open-ended questions elicit higher reports (Bradburn & Sudman, 1979; Sudman, 1996), the few studies that investigated this subject related to alcohol use found the opposite, i.e. higher reports with closed-ended questions (Gmel & Lokosha, 2000; Ivis, Bondy & Adlaf, 1997). Consequently, alcohol use among autochthones may have been underreported.

The present study is the first to measure alcohol use among second-generation Turks in the Netherlands. It showed that drinking was more prevalent among men, among respondents

older than 21 years, employed respondents and respondents who had more than primary education. For alcohol prevention activities, data on excessive, binge and problem drinking are important. The present study indicates that, although the prevalence of drinking is much lower among Turks compared to autochthones, the amount of alcohol consumed (especially during weekends) is relatively high. Thus, second-generation Turks should also be a target of prevention programs. In this regard, it seems important to aim especially at men and Turks with a lower educational level.

### **Acknowledgements**

The authors would like to thank the Municipal Health Service of Rotterdam for providing letters and envelopes to introduce the present study to the study populations with the Municipal Health Service as the sender. Furthermore, we are grateful that the Municipal Health Service of Rotterdam (in particular Ad van Dijk) provided us with the prevalence data of autochthonous inhabitants of Rotterdam generated from the general health survey in 2003.

The authors would also like to thank Paolo van de Steenhoven (Dienst Onderzoek+Statistiek Amsterdam) for his help on the weighing procedure.

Last, we would like to thank the secretaries of the Addiction Research Institute, Dusty Rijkse en Kitty Waas for their help during the mailing of the survey and the entry of the data in the statistical package of SPSS.

## References

Abraham MD, Cohen PDA, Van Til RJ & De Winter MAL (1999). Licit and illicit drug use in the Netherlands 1997. Amsterdam: Cedro.

Bongers IMB (1998). Problem drinking among the general population: a public health issue? Phd-thesis. Rotterdam: Erasmus University Rotterdam.

Bradburn NM & Sudman S (1979). Improving interview method and questionnaire design: Response effects to threatening questions in survey research. San Francisco: Jossey-Bass.

Candel MJJM (2001). Meten van probleemgedrag t.a.v. alcoholconsumptie. Rapportage van de schaalanalyse. Maastricht: Universiteit Maastricht, Methodologie & Statistiek.

Cornel M, Knibbe RA, Van Zutphen WM & Drop MJ (1994). Problem drinking in a general practice population: the construction of an interval scale for severity of problem drinking. *Journal of Studies on Alcohol*, 55: 466 – 470.

CBS (Central Bureau of Statistics) (2004). Allochthonen in Nederland 2004. Voorburg/Heerlen: CBS.

Copeland LA, Shope JT & Waller PF (1996). Factors in adolescent drinking/driving; binge drinking, cigarette smoking, and gender. *Journal of School Health*, 66(7): 254-60.

Dagevos J, Gijsberts M & Van Praag C (2003). Rapportage Minderheden. Den Haag: SCP.

Dawson DA (2003). Methodological issues in measuring alcohol use. *Alcohol Research & Health*, 27(1): 18-29.

Dijkshoorn H, Erkens CGM & Verhoeff AP (2001). Gezondheidsenquête Amsterdamse Gezondheidsmonitor 1999/ 2000. Opzet, verloop van het onderzoek en eerste resultaten. EDG-reeks 2001/6. Amsterdam: GG&GD Amsterdam (intern rapport).

Dotinga A, Van den Eijnden RJJM, San José B, Garretsen HFL & Bosveld W (2002). Alcohol and migration: problems in the measurement of alcohol consumption in Turkish and Moroccan immigrants (in Spaans). *Addiciones*, 14: 261-278.

Dotinga A, Van den Eijnden RJJM, Bosveld W & Garretsen HFL (2004). Methodological problems related to alcohol research among Turks and Moroccans living in the Netherlands: Findings from semi-structured interviews. *Ethnicity & Health*, 9(2): 139-151.

Dotinga A, Van den Eijnden RJJM, Bosveld W & Garretsen HFL (2005). The effect of data collection mode and ethnicity of interviewer on response rates and self-reported alcohol use among Turks and Moroccans in the Netherlands: An experimental study. *Alcohol & Alcoholism*, 40(3): 242 – 248.

Droomers PCA (1999). Educational differences in excessive alcohol consumption: the role of

psychosocial and material stressors. *Preventive Medicine*, 21: 263-272.

Garretsen HFL (1983). *Probleemdrinken: Prevalentiebepaling, beïnvloedende factoren en preventiemogelijkheden*. Phd-thesis. Lisse : Swets & Zeitlinger.

GG&GD Den Haag (Municipal Health Service The Hague) (2002). *Gezondheidsmonitor 2002*. Den Haag: GG&GD.

Gmel G & Lokosha O (2000). Self-reported frequency of drinking assessed with a closed- or open-ended question format: A split-sample study in Switzerland. *Journal of Studies on Alcohol*, 61: 450-454.

Gorissen WHM, Ticheler PCM, Van Kessel RPM & Souverein CR (1988). *Gezondheidspeiling Utrecht. Resultaten van de Gezondheidspeiling Utrecht 1986-1987*. Utrecht: GG&GD Utrecht.

Ivis FJ, Bondy SJ & Adlaf EM (1997). The effect of question structure on self-reports of heavy drinking : closed-ended versus open-ended questions. *Journal of Studies on Alcohol*, 58(6) : 622-624.

Knibbe RA (1982). *Probleemdrinken in Limburg*. Phd-thesis. Maastricht : Rijksuniversiteit Limburg.

Knibbe RA, Drop MJ, Van Reek MJ & Saenger G (1985). The development of alcohol consumption in the Netherlands: 1958-1981. *British Journal Addictions*, 80(4): 411-419.

Koppes LLJ (2002). *Alcohol consumption. Results from the Amsterdam Growth and Health Longitudinal Study*. Phd-thesis. Amsterdam: Free University.

Korf DJ, Nabben T & Benschop A (2003). *Antenne 2002*. Amsterdam : Jellinek Preventie.

Köycü B, Kara T, Çamlıdag O, Aydinli R, Verschuren WMM & Van Montfrans GA (1997). Risicofactoren voor hart- en vaatziekten bij Turken in Amsterdam en in Ankara. *Nederlands Tijdschrift voor de Geneeskunde*, 141(18): 882-888.

Kuilman M & Van Dijk A (2000). *Alcohol- en druggebruik in de Gemeente Rotterdam. Een verslag van het bevolkingsonderzoek in het kader van de Regio- en Stedenmonitor Alcohol en Drugs*. Rotterdam: GGD Rotterdam e.o.

Lammers J, Neve RJM & Knibbe RA (2000). *Bevolkingsonderzoek alcohol- en druggebruik. Heerlen* : GGD Oostelijk Zuid-Limburg.

Lemmens PHHM (1991). *Measurement and distribution of alcohol consumption*. Phd-thesis. Maastricht : Rijksuniversiteit Limburg.

Lemmens P, Tan ES & Knibbe RA (1992). Measuring quantity and frequency of drinking in a general population survey: a comparison of five indices. *Journal of Studies on Alcohol*, 53: 76-86.



Marmot M (1997). Inequality, deprivation and alcohol use. *Addiction*, 92 (Suppl. 1): s13-20.

Monshouwer K, Van Dorsselaer S, Gorter A, Verdurmen J & Vollebergh W (2004). Jeugd en riskant gedrag: kerngegevens uit het peilstationsonderzoek 2003. Roken, drinken, drugsgebruik en gokken onder scholieren vanaf tien jaar. Utrecht: Trimbos-instituut.

Neve RJM, Diederiks JPM, Knibbe RA & Drop MJ (1993). Developments in drinking behaviour in the Netherlands from 1958 to 1989, a cohort analysis. *Addiction*, 8: 611–621.

Norman P, Bennett P & Lewis H (1998). Understanding binge drinking among young people: an application of the Theory of Planned Behaviour. *Health Education Research*, 13(2): 163-169.

Phalet K (2004). *Moslim in Nederland*. Phalet K & Ter Wal J eds. Den Haag: SCP.  
Planije M, Verdurmen J & Van Wamel A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos-instituut.

Rehm J (1998). Measuring quantity, frequency and volume of drinking. *Alcoholism, Clinical and Experimental Research*, 22 (suppl. 2): 4S-14S.

San José B (2000). *Alcohol consumption and health: Contributions to the explanation of the U-shaped curve*. Proefschrift. Rotterdam: Erasmus Universiteit Rotterdam.

Sudman S, Bradburn NM & Schwarz N (1996). *Thinking about answers: The application of cognitive processes to survey methodology*. San Francisco: Jossey-Bass.

Swinkels H (1992). Roken en drinken door Turkse inwoners van Nederland. *Tijdschrift Jeugdgezondheidszorg*, 24(6): 88-94.

Van 't Land H (2000). *Similar questions: Different meanings*. PhD thesis. Amsterdam: Free University.

Verdurmen J, Monshouwer K, Van Dorsselaer S & De Graaf R (2003). *Bovenmatig drinken in Nederland*. Utrecht: Trimbos-instituut.

Weiss S (2001). Religious influences on drinking: illustrations from select groups. In *Learning about drinking*, Houghton E & Roche A eds., pp.109-127. Philadelphia: Brunner-Routledge.



## **CHAPTER 7**

**RELIGIOUS, CULTURAL AND SOCIAL  
COGNITIVE CORRELATES OF  
ALCOHOL USE AMONG SECOND  
GENERATION TURKS AND  
MOROCCANS IN THE NETHERLANDS**

## ABSTRACT

**Aims:** To examine religious, cultural and social cognitive predictors of alcohol use among Turks and Moroccans in the Netherlands.

**Methods:** Data were obtained from an experimental study, performed among 744 second-generation Turks and 753 second-generation Moroccans living in Rotterdam, the Netherlands; 189 Turks (44.4% male) and 166 Moroccans (31.9% male) responded to a mailed questionnaire and 111 Turks (46.8% male) and 116 Moroccans (50.0% male) responded to a face-to-face interview. Logistic and linear regression models examined religious, cultural and social cognitive correlates of alcohol use. Analyses were corrected for data collection mode and relevant sociodemographic factors. Additional regression models examined interaction effects with ethnicity.

**Results:** The percentage of drinkers was lower among Turks and Moroccans who practice Islam and who have traditional religious/cultural beliefs. Prevalence of drinking was higher among Moroccans who reported not feeling accepted by the Dutch society. In addition, the prevalence of drinking was higher among both Turks and Moroccans who reported having drinking family members and drinking Turkish/Moroccan friends, and who reported that family members and Turkish/Moroccan friends approved of alcohol use.

Turks and Moroccans who do not fast during Ramadan period, who feel less accepted, who expect alcohol to increase openness and who have Turkish/Moroccan friends approving of alcohol use reported higher alcohol consumption. Moroccans who hold negative expectations of alcohol use reported lower alcohol use.

**Conclusions:** Both religious and cultural as well as social cognitive factors predict alcohol use among second-generation Turks and Moroccans, but social cognitive factors appear to be more important.

## **7. RELIGIOUS, CULTURAL AND SOCIAL COGNITIVE CORRELATES OF ALCOHOL USE AMONG SECOND-GENERATION TURKS AND MOROCCANS IN THE NETHERLANDS**

### **7.1. Introduction**

Although the psychological predictors of alcohol use have been well studied (Leonard & Blane, 1999), relatively little is known about the factors related to alcohol use among people with an Islamic religious background. Since Islam prescribes alcohol abstinence, factors related to alcohol use are expected to differ between Muslims and non-Muslims. In the Netherlands, Turks and Moroccans are the two largest non-western allochthonous groups, most of whom identify themselves as Muslim (Phalet & Ter Wal, 2004). Dutch studies revealed that although Turks and Moroccans do use alcohol beverages, the prevalence of alcohol among these ethnic groups is much lower compared to the prevalence among the autochthonous population (see Chapter 2). Nevertheless, despite these differences in alcohol use, no systematic research has been conducted regarding determinants of alcohol use among Turkish and Moroccan inhabitants of the Netherlands (Nierkens & Stronks, 2002). Therefore, the present study aims to identify religious, cultural and social cognitive correlates of alcohol use among second-generation Turks and Moroccans.

Since the norm of alcohol abstinence is importantly linked to the Islamic religion, religious affiliation may be a strong predictor of alcohol use among Turks and Moroccans. For example, a review-study of five epidemiological studies among Arab youth in Israel showed lower alcohol prevalence rates among Muslims compared to Christians (Weiss, Sawa, Abdeen & Yanai, 1999). However, variation exists in the extent to which the Islam is practiced, as was evident from a study among second-generation Turks and Moroccans in Rotterdam; while 99% reported to be Muslim, only 26% of the Turks and 44% of the Moroccans reported to adhere to the Islamic rules (Phalet, Van Lotringen & Entzinger, 2000). Therefore, not the religious affiliation, but the extent to which Islam is practised can be expected to predict alcohol use.

Furthermore, the fact that second-generation Turks and Moroccans generally grow up in two cultures (Turkish or Moroccan at home, and Dutch outside their homes) may also influence their drinking behaviour, since the Dutch culture is more permissive of drinking. Culture change that results from continuous contact between two cultural groups has been termed acculturation (Redfield, Linton & Herskovits, 1936), and has been associated with changes in attitude and behaviour (see review by Berry, 1980). While originally proposed as a group-level process, acculturation is now widely viewed as a phenomenon on the individual level and is termed psychological acculturation (Berry, 1992). The acculturation model proposed by Berry is based on two dimensions: orientation towards own culture, and contact with dominant culture. Many studies in the United States have shown a positive relationship between acculturation and the drinking behaviour of ethnic groups (Black & Markides, 1993; Epstein, Dusenbury, Botvin & Diaz, 1996; Gil, Wagner & Vega, 2000;). Furthermore, face-to-face interviews among Turkish and Moroccan inhabitants of Amsterdam (the Netherlands) revealed that more acculturated Turks and Moroccans more often reported alcohol use compared to less acculturated Turks and Moroccans (Dijkshoorn, 2002). However, inverse relations have also been reported (Oetting, 1993). Thus, there is no consensus about the effect of acculturation on alcohol use.

Alcohol studies among the general population revealed that social cognitive factors have potential value in predicting alcohol use, such as for instance attitudes, outcome expectancies and social norms. Attitudes towards drinking behaviour refer to the tendency to evaluate drinking with some degree of favour or disfavour (Eagly & Chaiken, 1993), and a more positive evaluation of drinking has proven to be associated with higher alcohol use (Burden & Maisto, 2000). Outcome expectancy is a key construct in the social cognitive theory, posed by Bandura (1986). Positive and negative expectancies refer to motives to drink and motives to abstain from drinking, and both have proven to be associated with alcohol use (Leigh & Stacy, 2004; McMahon, Jones & O'Donnell, 1994; Wiers, Hoogveen, Sergeant & Gunning, 1997). Social influences have been defined in several ways in alcohol research, and are important in many social psychological models, e.g. the theory of planned behaviour (Ajzen, 1991). Cialdini and colleagues (1990) defined the social influence concept by distinguishing two types of social influences i.e. descriptive norms (what others do), and injunctive norms (what is morally approved or disapproved of by others). Both norms independently have proven to influence alcohol use (Clapp & McDonnell, 2000; Engels, Knibbe, De Vries, Drop & Van Breukelen, 1999; Wood, Read, Palfai & Stevenson, 2001). Although the above-described social cognitive factors have proven to be important in the prediction of alcohol use among the general Dutch population (Dijkstra, Sweeney & Gebhardt, 2001; Van Assema, Pieterse, Kok, Eriksen & De Vries, 1993; Wiers et al., 1997), little is known about the importance of these constructs in the drinking behaviour of Islamic groups, such as Turks and Moroccans living in the Netherlands.

The aim of the present study is to identify religious and cultural, as well as social cognitive correlates of alcohol use among second-generation Turks and Moroccans living in Rotterdam, the second largest city in the Netherlands. More specifically, the following research questions will be addressed:

1. Which religious and cultural factors are related to alcohol use?
2. Which social cognitive factors are related to alcohol use?
3. What is the relative importance of religious and cultural factors on the one hand and social cognitive factors on the other hand, in the prediction of alcohol use?
4. What is the additional contribution of social cognitive factors to the explanation of alcohol use, above that explained by religious and cultural factors?

## **7.2. Methods**

### *Procedure*

Data were obtained from an experimental study (performed from February through June 2003), which tested the effect of data collection mode and ethnic background of the interviewer on response rates and self-reported alcohol use. For this experimental study, 744 second-generation Turks and 753 second-generation Moroccans (16 years and older) were randomly selected from the municipal register of Rotterdam. A random sample of 269 Turks and 271 Moroccans were interviewed face-to-face. The remainder received a mailed questionnaire at the same time the interviewers started interviewing. Interviewers approached respondents at least three times, at different time points, at their home address. Similarly, *non-respondents* to the mail survey received two reminders after three and six weeks, which included an additional copy of the same questionnaire, (for a detailed description of the methods, see Chapter 4 and Dotinga, Van den Eijnden, Bosveld & Garretsen, 2005). From the original sample of 744 Turks, fourteen respondents were

excluded from analysis because they belonged to the first generation, one Turk had responded twice to the same questionnaire and one had completed the questionnaire at the door whilst he should have responded to a face-to-face interview, leaving a final sample of 728 Turks. From the original sample of 753 Moroccans, eight respondents were excluded from analyses because they were born in Morocco (first-generations). The overall response rate for the mail survey was 37.6% (of which 189 were Turks and 166 were Moroccans) and for the face-to-face interview was 42.9% (of which 111 Turks and 116 Moroccans).

## *Measurements*

### *Alcohol use*

Alcohol use was measured with the Quantity-Frequency-Variability method (QFV) using six questions: (1) 'Which alcoholic drinks did you use during the past six months' (2) 'How many *weekend days* (Friday through Sunday) do you drink on average' (F), (3) 'How many glasses do you drink on average on a *weekend day*' (Q), (4) 'How many *weekdays* (Monday through Thursday) do you drink on average' (F), (5) 'How many glasses do you drink on average on a *weekday*' (Q), (6) 'How often did you use six or more glasses in one day during the past six months?' (every day, 5 or 6 times a week, 3 or 4 times a week, 1 or 2 times a week, 1-3 times a month, 3-5 times per six months, 1 or 2 times per six months, never) (V).

Respondents were classified as abstainers if they reported not having had a drink in the past six months. Weekly alcohol use based on the QF items was assessed by the sum of alcohol use on weekdays (number of drinking weekdays \* number of glasses on a weekday) and weekend days (number of drinking weekend days \* number of glasses on a weekend day). Weekly alcohol use based on the Variability item was assessed by multiplying the number of days per week that a person drank at least six glasses of alcohol \* six glasses. When an answering category included a range, the mean of that range was taken and multiplied by six. When weekly alcohol use according to the QF items was inconsistent with weekly alcohol use according to the V item, the highest score was taken as indicator for weekly alcohol use.

### *Cultural and religious factors*

*Religious affiliation* was measured with four items. If respondents reported that they were affiliated to Islam (97.6%) they had to answer three other questions about, (1) the importance of the Islam in their daily life, (2) the number of times they prayed each day, and (3) fasting during the Ramadan period (yes/no). Religious denomination was not included in the analysis because 97.6% of the respondents reported that they were Muslim. The other three items were included separately, since intercorrelations were low ( $r < .37$ ).

*Religious and cultural beliefs* regarding alcohol use were measured with five items, such as for instance 'Do you think it is allowed to drink alcohol during Ramadan?' and 'Do you think people bring shame to their family if they drink alcohol?' Since intercorrelations between these items were low ( $r < .25$ ), they were included separately in the analysis.

*Acculturation* was defined using three concepts: self-identity, cultural orientation and personal contact, as conceptualized by Nierkens & Stronks (submitted for publication), which was based on the two dimensions of the acculturation model of Berry (Berry, Kim, Power, Young & Bujaki, 1989). *Self-identity* was operationalized as 'What do you usually feel yourself?' ('Turkish/Moroccan', 'Dutch', 'both Turkish/Moroccan and Dutch', 'Otherwise'). *Cultural orientation* was measured with nine items, of which four asked about the usage of and the difficulties with the Dutch language. Two items referred to the importance of

Turkish/Moroccan traditions and three items addressed gender roles. *Personal contact* was assessed with three items measuring actual contacts and two items measuring feelings of acceptance in the Dutch society. Principal component analysis with Varimax rotation revealed four factors: language, social contacts, acceptance and importance of traditions; alpha's were .78, .69, .67 and .59, respectively. The three items about gender roles were not included in the analyses since the corrected item total correlation of these items was low ( $r < .20$ ). Since intercorrelations between the four subscales were also low ( $r < .30$ ), these scales were included separately in the analyses. Self-identity was also included in the analyses as a separate factor.

#### *Social cognitive factors*

*Attitude* regarding alcohol use was assessed only among drinkers. Three items were used with a five-point bipolar scale i.e. Do you think drinking alcohol is 1 'very good' to 5 'very bad', 1 'very positive' to 5 'very negative' and 1 'very pleasant' to 5 'very unpleasant' ( $\alpha = .78$ ).

*Alcohol expectancies* were measured according to the adolescent-adult version of the Dutch Expectancy Questionnaire, containing positive and negative expectancies of drinking only a little alcohol and drinking a lot of alcohol (Wiers, 1996). Since the aim was to identify factors associated with drinking in general, we measured the outcome expectancies of drinking, without referring to the amount of alcohol use. Since the scale was too long to include completely in the questionnaire, items which included complicated original Dutch terms were excluded leaving a scale of 24 items, which were worded as statements "After drinking alcohol I get...". Answers were given on a five-point scale from 1 'totally agree' to 5 'totally disagree'. Only respondents who reported alcohol use had to fill out the alcohol expectancies scale, since it was anticipated that it would be difficult for abstainers to answer questions about expectations associated with alcohol use. Principal component analysis with Varimax rotation revealed three important factors. One scale indicated negative alcohol expectancies ( $\alpha = 0.83$ , e.g. After drinking alcohol I feel insecure), and the other two scales indicated positive expectancies i.e. mood improvement ( $\alpha = 0.75$ , e.g. After drinking alcohol I get funny) and openness ( $\alpha = 0.71$ , e.g. After drinking alcohol it is easier for me to talk about problems).

*Social norm* was assessed among all respondents, first by three items measuring the Descriptive norm, indicating *the number of* family members, Turkish/Moroccan friends and Dutch friends, in the Netherlands who drink alcohol. And secondly, by three items measuring Injunctive norms, indicating *the opinion of* family members, Turkish/Moroccan friends and Dutch friends, in the Netherlands on alcohol use of the respondent. Inter-item correlations were low ( $r < .40$ ) and therefore all items were included as separate factors in the analysis.

*Sociodemographic factors* included in the study were gender, age (16-21, 22-27 and 28-35 years), marital status (having a partner or not having a partner), educational level (primary school, lower vocational/general education, intermediate vocational/general education and higher general/vocational education and university), and ethnicity (Turkish or Moroccan).

#### *Analyses*

Analyses were undertaken separately for drinking versus abstaining, and for mean alcohol use. The influence of data collection mode was adjusted for in the analyses, if it proved to be related to alcohol use.

#### *Drinking versus abstaining*

To study which religious, cultural and social cognitive factors *were related* to drinking, logistic regression models were fitted by including these factors in the second step of the model,



adjusting for data collection mode and sociodemographic factors in the first step if these factors proved to be significantly related to drinking. Since the number of factors was disproportionately large compared to the sample size, four regression models were fitted, analyzing separately the effects of 1) religious affiliation, 2) religious beliefs, 3) acculturation concepts, and 4) social cognitive factors on drinking. The fourth model only contained the factors descriptive and injunctive norms, since the other social cognitive factors were only measured among drinkers. Interactions with ethnicity were tested in additional analyses, by adding the relevant interaction terms in the third step of the models.

Further, to facilitate comparison of *the importance* of cultural/religious factors on the one hand and social cognitive factors on the other in explaining drinking versus abstaining, we fitted an additional logistic regression model, including all religious and cultural variables of the first three models simultaneously. Since all social cognitive factors were already included in one model in the first analyses, constructing an additional model regarding these factors was redundant.

To test whether there was an *additional contribution* of social cognitive factors in the explanation of drinking above that explained by cultural and religious factors, we fitted a logistic regression model with the factors which had proven to be significantly related to drinking, by including these cultural and religious factors in the second step of the model and the significant social cognitive factors in the third step, while correcting for relevant sociodemographic factors in the first step.

#### *Mean alcohol use*

To study which cultural, religious and social cognitive factors were *related to* mean alcohol use, linear regression models were fitted by including those factors in the second step of the model, adjusting for data collection mode and sociodemographic factors if these factors proved to be significantly related to mean alcohol use. Three models tested the effects of 1) religious affiliation, 2) religious beliefs and 3) acculturation concepts on mean alcohol use. Since the variables attitude and outcome expectancies were measured only among drinkers, besides a model containing 4) descriptive and injunctive norms, a second model regarding social cognitive factors included 5) attitude and outcome expectancies. Interactions with ethnicity were tested in additional analyses by adding all interaction terms in the third step. Furthermore, *the importance* of cultural and religious factors and of social cognitive factors in the explanation of mean alcohol use was tested in an additional analyses by fitting two other linear regression models, of which one contained all cultural and religious factors, and the other contained all social cognitive factors simultaneously.

Finally, to test whether social cognitive factors *contributed substantially* to the explained variance above the variance explained by religious and cultural factors, we conducted linear regression analyses with the factors which had proven to be significantly related to mean alcohol use, by including significant social cognitive factors in the third step and controlling for significant cultural and religious factors in the second step, and for sociodemographic factors in the first step.

### 7.3. Results

#### *Drinking versus abstaining*

Of the sociodemographic factors, gender, age, ethnicity and marital status were significantly related to drinking. Men, older respondents, Turks and respondents without a partner reported alcohol use more often than women, younger people, Moroccans and respondents having a partner. Therefore, these sociodemographic factors were included as confounders in the first step of the logistic regression analyses. Data collection mode was not adjusted for in the analyses, since it showed no relationship with drinking.

	N	OR	95%CI	p<	R <sup>2</sup> change <sup>a</sup>
<b>Religious Affiliation</b>					
<i>Importance of Islam</i>					
	<i>Very important</i>	422	1		
	<i>Not/slightly important</i>	82	1.87	1.00 – 3.47	.05
<i>Praying</i>					
	<i>Yes, 5 times a day</i>	199	1		
	<i>Yes, &lt;5 times a day</i>	170	7.68	3.15 – 18.75	.01
	<i>No</i>	135	4.86	2.03 – 11.64	.01
<i>Fasting during Ramadan</i>					
	<i>Yes</i>	481	1		
	<i>No</i>	23	4.51	1.55 – 13.13	.01
					.18***
<b>Cultural/Religious Beliefs</b>					
<i>Shame on family</i>					
	<i>Yes</i>	147	1		
	<i>Sometimes</i>	211	1.74	.86 – 3.52	<i>ns</i>
	<i>No</i>	146	2.22	1.05 – 4.69	.05
<i>Not a good Muslim</i>					
	<i>Yes</i>	254	1		
	<i>Sometimes</i>	106	2.23	1.15 – 4.34	.05
	<i>No</i>	144	2.29	1.22 – 4.31	.01
<i>Forbidden according to Koran</i>					
	<i>Yes</i>	413	1		
	<i>Sometimes</i>	31	3.94	1.68 – 9.27	.01
	<i>No</i>	60	1.72	.86 – 3.47	<i>ns</i>
<i>During Ramadan</i>					
	<i>No</i>	483	1		
	<i>Sometimes</i>	8	3.53	.74 – 16.84	<i>ns</i>
	<i>Yes</i>	13	2.70	.82 – 8.84	<i>ns</i>
<i>Praying out of Koran</i>					
	<i>No</i>	465	1		
	<i>Sometimes</i>	17	.83	.21 – 3.20	<i>ns</i>
	<i>Yes</i>	22	1.31	.41 – 4.17	<i>ns</i>
					.17***
<b>Acculturation</b>					
	<i>Self-identity</i>	504	1.21	.78 – 1.90	<i>ns</i>
	<i>Language</i>	504	1.20	.76 – 1.90	<i>ns</i>
	<i>Social Contacts</i>	504	1.29	.87 – 1.93	<i>ns</i>
	<i>Acceptance</i>	504	.91	.63 – 1.32	<i>ns</i>
	<i>Importance traditions</i>	504	1.79	1.22 – 2.63	.01
					.06**
N = number of respondents					
<sup>a</sup> R <sup>2</sup> change calculated by: (Nagelkerke's R <sup>2</sup> of extended model – Nagelkerke's R <sup>2</sup> of model with confounders only) / 1-Nagelkerke's R <sup>2</sup> of model with confounders only; ** p<.01 *** p<.001					

Concerning cultural and religious factors (Table 1) we found that Turks and Moroccans who were less affiliated with Islam, i.e. who thought Islam was not or was only slightly important, who prayed less than five times a day or never, and who reported not to fast during Ramadan, had a higher odds of alcohol use in the past six months. Furthermore, those who did not believe that 'Alcohol use brings shame to the family', those who did not believe that 'Alcohol use always makes you a bad Muslim' and those who believed that 'Alcohol use was sometimes (and not always) forbidden according to the ethics of the Koran', were more likely to report alcohol use in the past six months. Regarding acculturation, we found that people who thought that Turkish and Moroccan traditions were relatively unimportant, more often reported drinking in the past six months. Two interaction effects with ethnicity were found, indicating effects only among Moroccans i.e. higher odds of drinking when not feeling accepted by the Dutch society (OR = .42, 95%CI [.17-1.01],  $p < .10$ )<sup>1</sup> and higher odds of drinking when believing that praying out of the Koran is allowed while being intoxicated (OR = 8.68, 95%CI [1.50-50.26],  $p < .05$ ). Religious affiliation explained 18% in the prediction of drinking, the religious beliefs 17% and the acculturation factors 6%.

Analysis with regard to *the associations* between descriptive and injunctive norms and alcohol use, showed that Turks and Moroccans, who stated that one or some family members tend to drink, more often reported alcohol use in the past six months compared to respondents who reported having no drinking family members (Table 2). Furthermore, respondents who reported that most of their Turkish or Moroccan friends were drinking had a higher chance of drinking alcohol compared to respondents who reported that none of their Turkish or Moroccan friends were drinking. With regard to the injunctive norm, again significant results were found only for family members and Turkish and Moroccan friends and not for autochthonous Dutch friends, indicating that when these people neither disapproved nor approved of alcohol use, the odds of drinking of the respondent was higher than when these people disapproved of alcohol use. One interaction effect with ethnicity was found for descriptive norms regarding Dutch friends (OR=3.17, 95%CI [1.13-8.84],  $p < .05$ )<sup>2</sup>, revealing an effect only among Turks, which indicated a higher chance of being a drinker when having more Dutch friends who drink. The descriptive and injunctive norms together added 42% to the explanation of drinking.

Additional analyses, including all religious and cultural factors in one model simultaneously and all social cognitive factors in a separate model simultaneously, seem to indicate that social cognitive factors are more important in the prediction of drinking (42%) than cultural and religious factors, which predicted 22%.

Final analyses including significant cultural and religious factors in the second step and significant social cognitive factors in the third step of the model showed that social cognitive factors contributed significantly (21%) to the explanation of drinking, above the part explained by cultural and religious factors (31%).

---

<sup>1</sup> Additional analyses (t-test for continuous factors and chi-square statistic for categorical factors) showed that Turks use the Dutch language less often, identify less with the Dutch culture, but feel more accepted by Dutch people compared to Moroccans. Furthermore, significant differences were found for the cultural and religious beliefs of 'Drinking brings shame to your family' and 'Drinking makes you a bad Muslim', showing that Turks agreed less with these statements than Moroccans. Regarding religious practices, we found that significantly more Moroccans reported praying five times a day and fasting during Ramadan.

<sup>2</sup> Chi-square statistics revealed significant differences between Turks and Moroccans in descriptive and injunctive norms, showing less drinking family members and less drinking Moroccan friends and more family members and more Moroccan friends disapproving of alcohol among Moroccans.

		N	OR	95%CI	p<	R <sup>2</sup> change <sup>a</sup>
<i>DN family</i>	<i>None</i>	103	1			
	<i>One/ some</i>	163	4.51	1.63 – 12.45	.01	
	<i>Most</i>	21	2.36	.53 – 10.46	<i>ns</i>	
<i>DN Turkish/Moroccan friends</i>	<i>None</i>	85	1			
	<i>One/ some</i>	151	3.27	.78 – 13.81	<i>ns</i>	
	<i>Most</i>	54	18.70	3.59 – 97.32	.001	
<i>DN Dutch friends</i>	<i>None</i>	18	3.98	.27 – 58.01	<i>ns</i>	
	<i>One/ some</i>	93	2.05	.88 – 4.78	<i>ns</i>	
	<i>Most</i>	179	1			
<i>IN family</i>	<i>Disapprove</i>	230	1			
	<i>Neither</i>	50	3.34	1.37 – 8.16	.01	
	<i>Approve</i>	10	2.59	.46 – 14.49	<i>ns</i>	
<i>IN Turkish/Moroccan friends</i>	<i>Disapprove</i>	131	1			
	<i>Neither</i>	119	2.70	1.04 – 7.02	.05	
	<i>Approve</i>	40	2.33	.56 – 9.72	<i>ns</i>	
<i>IN Dutch friends</i>	<i>Disapprove</i>	27	.23	.03 – 1.72	<i>ns</i>	
	<i>Neither</i>	125	.53	.21 – 1.33	<i>ns</i>	
	<i>Approve</i>	138	1			.42***

N = number of respondents; DN = descriptive norms; IN = injunctive norms  
<sup>a</sup> R<sup>2</sup>-change calculated by: (Nagelkerke's R<sup>2</sup> of extended model – Nagelkerke's R<sup>2</sup> of model with confounders only)/ 1-Nagelkerke's R<sup>2</sup> of model with confounders only.  
\*\*\* p<.001

### Mean alcohol use

First, data showed that gender was the only sociodemographic factor related to drinking. Men reported higher alcohol use compared to women. Therefore, gender was included as a confounder in the first step of the linear regression models. Because data collection mode was not related to mean alcohol use, it was not included in the analysis.

Fasting during Ramadan was the only religious factor related to alcohol use, which showed higher alcohol use among people who do not fast (Table 3).<sup>1</sup> A cultural factor related to alcohol use was acceptance, indicating higher alcohol use among people who do not feel accepted by Dutch people. No interaction effects with ethnicity were found. Religious affiliation and religious beliefs both added 5% to the explained variance in mean alcohol use and acculturation explained 6% of the variance in mean alcohol use.

The injunctive norms of Turkish/Moroccan friends and the expectancies subscale 'openness' were the only social cognitive factors which were related to mean alcohol use (Table 4). People who believe that their Turkish/Moroccan friends would (neither disapprove nor) approve of alcohol use, reported more alcohol use compared to respondents who thought that their Turkish/Moroccan friends would disapprove of alcohol use. Furthermore, expecting that alcohol use leads to more openness was related to higher alcohol use. Further, we found two interaction effects with ethnicity. Among Moroccans, higher expectations of negative

Table 3 Association between cultural/religious factors and mean alcohol use (b, t)				
		$\beta$	t	R <sup>2</sup> change
<b>Religious Affiliation</b>				
<i>Importance of Islam</i>	<i>Very important</i>			
	<i>Not/slightly important</i>		.12	1.08
<i>Praying</i>	<i>Yes, 5 times a day</i>			
	<i>Yes, &lt;5 times a day</i>		-.02	-.09
	<i>No</i>		.11	.53
<i>Fasting during Ramadan</i>	<i>Yes</i>			
	<i>No</i>		.20	1.95*
				.05
<b>Cultural and religious beliefs</b>				
<i>Shame on family</i>	<i>Yes</i>			
	<i>Sometimes</i>		-.30	-1.89
	<i>No</i>		-.22	-1.32
<i>Not a good Muslim</i>	<i>Yes</i>			
	<i>Sometimes</i>		.10	.80
	<i>No</i>		.08	.60
<i>Forbidden according to Koran</i>	<i>Yes</i>			
	<i>Sometimes</i>		-.01	-.05
	<i>No</i>		.05	.48
<i>During Ramadan</i>	<i>No</i>			
	<i>Sometimes</i>		.07	.68
	<i>Yes</i>		.08	.69
<i>Praying out of Koran</i>	<i>No</i>			
	<i>Sometimes</i>		-.02	-.17
	<i>Yes</i>		.06	.61
				.05
<b>Acculturation</b>				
	<i>Self-identity</i>		.07	.64
	<i>Language</i>		-.02	-.15
	<i>Social Contacts</i>		-.07	-.65
	<i>Acceptance</i>		-.23	-2.32*
	<i>Importance traditions</i>		.10	.99
				.06

\* p<.05

outcomes of drinking were negatively associated with mean alcohol use ( $\beta = -.41$ ,  $t = -2.06$ ,  $p < .05$ ).<sup>3</sup> Next, an interaction effect with regard to the descriptive norm of family members was found. Unexpectedly, Moroccans showed lower alcohol use when perceiving (one or some) family members drinking compared to Moroccans perceiving no family members drinking ( $\beta = -.45$ ,  $t = -2.35$ ,  $p < .05$ ). These effects were not found among Turks. Descriptive and injunctive norms together explained 24% of the variance in mean alcohol use, and attitude and expectancies together explained 11%.

Two additional models, the first including all religious and cultural factors, and the second including all social cognitive factors indicate that social cognitive factors are more important in the prediction of drinking (33%) than cultural and religious factors, which predicted 14%. Final analyses including significant cultural and religious factors in the second step and significant social cognitive factors in the third step of the model showed that social cognitive factors significantly explained more variance in mean alcohol use (11%) above the explained variance accounted for by cultural and religious factors (6%).

<sup>3</sup> T-tests showed no significant differences in expectancies and attitude between Turks and Moroccans. For differences in descriptive norms and injunctive norms between Turks and Moroccans see footnote 2.

		$\beta$	t	R <sup>2</sup> -change
<b>Attitude</b>		.10	1.09	
<b>Outcome Expectancies</b>				
	<i>Negative expectancies</i>	-.07	-.72	
	<i>Mood improvement</i>	-.16	-1.67	
	<i>Openness</i>	.33	3.22**	.11**
<b>Social Norm</b>				
<i>DN family</i>	<i>None</i>			
	One/ some	-.26	-1.65	
	Most	-.05	-.28	
<i>DN Turkish/Moroccan friends</i>	<i>None</i>			
	One/ some	-.02	-.07	
	Most	.33	.97	
<i>DN Dutch friends</i>	<i>Most</i>			
	One/ some	.01	.07	
	None	.03	.17	
<i>IN family</i>	<i>Disapprove</i>			
	Neither	.08	.71	
	Approve	.04	.34	
<i>IN Turkish/Moroccan friends</i>	<i>Disapprove</i>			
	Neither	-.37	-2.01*	
	Approve	-.54	-2.40*	
<i>IN Dutch friends</i>	<i>Approve</i>			
	Neither	-.20	-1.43	
	Disapprove	-.20	-1.30	.24*
DN = descriptive norms; IN = injunctive norms				
*p<.05				
** p<.01				

#### 7.4. Discussion

The present study aimed at identifying religious, cultural and social cognitive factors related to alcohol use and testing their relative contribution in predicting alcohol use among second-generation Turks and Moroccans. Holding on to own cultural and religious traditions and having traditional religious beliefs were negatively related to drinking. Furthermore, among Moroccans, not feeling accepted by the Dutch society was positively related to drinking. With regard to social cognitive factors, having drinking family members and drinking Turkish/Moroccan friends was positively related to drinking. Having drinking Dutch friends only affected drinking behavior among Turks. Furthermore, having family members and Turkish/ Moroccan friends who approve of alcohol use was positively related to drinking. With regard to the number of alcoholic drinks, both Turks and Moroccans who feel less accepted by Dutch society reported higher alcohol use. In addition, Turks and Moroccans who do not fast during Ramadan reported higher alcohol use. Respondents who expected that alcohol increases openness in personal communications and who believed that Turkish/Moroccan friends approve of alcohol use, reported higher alcohol use. In addition, among Moroccans, more expectancies of negative consequences was related to higher alcohol use, and perceiving some family members drinking was related to lower alcohol use. Social cognitive factors seem more important in both the prediction of drinking and of mean alcohol use, than cultural and religious factors.

Practicing Islam and holding on to own cultural and religious traditions seems to be a

protective factor for drinking. Praying five times a day and fasting during Ramadan is an indication that people will also adhere to the Islamic rule of alcohol abstinence. Among drinkers, adhering to the rule of fasting during Ramadan was also an indication of lower levels of alcohol use. Thus, not the religion in itself, but the extent to which it is practised is related to drinking. However, not only one's relationship with the Turkish/Moroccan culture and the Islamic religion, but also the relationship with Dutch society influences drinking. Not feeling accepted by the Dutch society increases the chance of being a drinker among Moroccans and is related to higher levels of alcohol use among both Moroccan and Turkish drinkers. Drinking may be a coping mechanism to deal with acculturative stress (Cervantes, Gilbert, Salgado de Snyder & Padilla, 1990/1991; Gil et al., 2000). Viewed this way, drinking may be the response to feelings of stress, caused by not feeling accepted by Dutch autochthonous people.

Although cultural and religious factors were important in the prediction of drinking, social cognitive factors seem even more important in predicting alcohol use among second-generation Turks and Moroccans. Consistent with other studies among the general Dutch population, the influence of family and peers on drinking behaviour seems to be important (Engels et al., 1999; Oostveen, Knibbe & De Vries, 1996). Although we studied the influence of family in general and not parents in particular, our results are consistent with many studies reporting on the association between parental norms and alcohol use of children (e.g. Callas, Flynn & Worden, 2004; Marcoux & Shope, 1997; Oostveen et al., 1996). Since this is a cross-sectional study, the causal direction of the relationship between perceived norms and alcohol use remains unclear. With regard to the influence of peers, this association may also result from a selection effect (Bullers, Coopers & Russell, 2001), indicating that Turks and Moroccans who drink choose friends who drink.

Among Moroccans, the drinking behaviour of Dutch friends was not important in explaining alcohol use. The small variance in the number of Dutch friends or in the drinking behaviour of Dutch friends may explain these results. However, data showed substantial variance in both variables among Moroccans, i.e. the number of (drinking) Dutch friends among Moroccans was very similar to that of (drinking) Dutch friends among Turks. Another explanatory factor may be that Moroccans identify more with their own culture. However, because the present data show that the self-identity of Moroccans is similar to that of Turks, it seems that Moroccans are to a lesser extent affected by Dutch friends than Turks.

We also found higher alcohol use among Moroccans who had no drinking family members compared to Moroccans who had some drinking family members. However, because this result is due to the small number of very excessive drinkers among Moroccans who do not have drinking family members, it does not allow to draw definitive conclusions.

Concerning mean alcohol use, the expectation to become more open in one's communications by drinking alcohol was an important correlate. Associations between positive alcohol expectancies and drinking have often been reported (Dijkstra et al., 2001; Evans & Dunn, 1995; Leigh & Stacy, 2004; Wiers et al., 1997), although not specifically regarding openness. However, associations between negative outcomes and alcohol use (as were found among Moroccans but not among Turks) have more often been reported for drinking than for mean alcohol use (Leigh & Stacy, 2004; Wiers et al., 1997). It has been argued that negative consequences should increase with increasing consumption (McMahon et al., 1994). Since Moroccans in our study reported higher alcohol use (8.8 glasses per week) than Turks (5.1 glasses per week) this may explain the expectations of more negative outcomes among Moroccans.

A number of shortcomings of the present study should be addressed. First, as in other Dutch alcohol studies (Lahaut, Jansen, Van de Mheen & Garretsen, 2002; Planije, Verdurmen & Van Wamel, 2000), response rates in our study were low. This may have affected our results if the association between correlates and alcohol use would differ between respondents and non-respondents. Unfortunately, no information on correlates of alcohol use among non-respondents is available. However, a non-response survey in the present study showed no differences in alcohol use between respondents and non-respondents (see Chapter 4 and Dotinga et al., 2005). Furthermore, differences between respondents and non-respondents in the sociodemographic characteristics in this study are not expected to have seriously biased the results (see Chapter 4). Therefore, we consider serious non-response bias unlikely. Second, because the present study had a cross-sectional design, a causal interpretation of the results is not justified (as was already mentioned regarding the influence of drinking peers). Longitudinal studies are needed to clarify the causality of our results. The last shortcoming of the present study is that self-efficacy, a well-known social cognitive correlate of alcohol use (Dijkstra et al., 2001; Skutle, 1999), was not included in the present study. Furthermore, attitudes and outcome expectancies were measured only among drinkers.

To summarize, religious and cultural factors seem important in the prediction of drinking among second-generation Turks and Moroccans in the Netherlands. However, social cognitive factors seem more important. In order to provide directives for prevention activities, more information is needed on the predictors of excessive and problem drinking. This is important since some studies have indicated that the number of problem drinkers and excessive drinkers in the Turkish and Moroccan populations is relatively high compared to the Dutch population (Planije et al., 2000; Swinkels, 1992). In this regard, tailor made prevention activities may be important, and the present study suggests that alcohol expectancies, the influence of Turkish and Moroccan peers, and (stress caused by) feelings of not being accepted may be key constructs in such prevention activities regarding excessive alcohol use among Turks and Moroccans.



## References

- Ajzen I (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50: 179-211.
- Bandura A (1986). *Social foundations of thought and action. A social cognitive theory*. New Jersey: Prentice-Hall Inc., Englewood Cliffs.
- Berry JW (1980). Social and cultural change. In HC Triandis & R Brislin (Eds.), *Handbook of cross-cultural psychology (Vol. 5. Social Psychology)*. Boston: Allyn and Bacon.
- Berry JW, Kim U, Power S, Young M & Bujaki M (1989) Acculturation attitudes in plural societies. *Applied Psychology: An International Review*, 38(2): 185-206.
- Berry JW (1992). Acculturation and adaptation in a new society. *International Migration*, 30: 69-85.
- Black S & Markides K (1993). Acculturation and alcohol consumption in Puerto Rican, Cuban-American, and Mexican-American Women in the United States. *American Journal of Public Health*, 83: 890-893.
- Bullers S, Cooper M & Russell M (2001). Social network drinking and adult alcohol involvement. A longitudinal exploration of the direction of influence. *Addictive Behaviors*, 26: 181-199.
- Burden J & Maisto S (2000). Expectancies, evaluations and attitudes: prediction of college student drinking behavior. *Journal of Studies on Alcohol*, 61: 323-331.
- Callas P, Flynn B & Worden J (2004). Potentially modifiable psychosocial factors associated with alcohol use during early adolescence. *Addictive Behaviors*, 29: 1503-1515.
- Cervantes RC, Gilbert MJ, Salgado de Snyder N & Padilla AM (1990/1991). Psychosocial and cognitive correlates of alcohol use in younger adult immigrant and U.S.-born Hispanics. *The International Journal of Addictions*, 25: 687-708.
- Cialdini R, Reno R & Kallgren C (1990). A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 6: 1015-1026.
- Clapp JD & McDonnell AL (2000). The relationship of perceptions of alcohol promotion and peer drinking norms to alcohol problems reported by college students. *Journal of College Student Development*, 41: 19-26.
- Dijkshoorn H (2002). *Gezondheidsmonitor Amsterdam 1999/2000 (No. EDG-reeks 2002/2, in Dutch)*. Amsterdam: GG&GD Amsterdam, cluster EDG.
- Dijkstra A, Sweeney L & Gebhardt W (2001). Social cognitive determinants of drinking in

- young adults: Beyond the alcohol expectancies paradigm. *Addictive Behaviors*, 26: 689-706.
- Dotinga A, Van den Eijnden RJJM, San José B, Garretsen HFL & Bosveld W (2002). Alcohol and migration: problems in the measurement of alcohol consumption in Turkish and Moroccan immigrants (in Spaans). *Addiciones*, 14: 261- 278.
- Dotinga A, Van den Eijnden RJJM, Bosveld W & Garretsen HFL (2005). The effect of data collection mode and ethnicity of interviewer on response rates and self-reported alcohol use among Turks and Moroccans in the Netherlands: An experimental study. *Alcohol & Alcoholism*, 40(3): 242-248.
- Eagly AH & Chaiken S (1993). *The psychology of attitudes*. Fort Worth: Harcourt Brace Jovanovich.
- Engels RCME, Knibbe RA, De Vries H, Drop MJ & Van Breukelen GJP (1999). Influences of parental and best friends' smoking and drinking on adolescent use: a longitudinal study. *Journal of Applied Social Psychology*, 29: 348-357.
- Epstein JA, Dusenbury L, Botvin GJ & Diaz T (1996). Language use and initiation of alcohol use among New York City Hispanic adolescents. *Journal of Child and Adolescent Substance Abuse*, 5(2): 63-79.
- Evans DM & Dunn NJ (1995). Alcohol expectancies, coping responses and self-efficacy judgments: A replication and extension of Copper et al.'s 1988 study in a college sample. *Journal of Studies on Alcohol*, 56: 186-193.
- Gil A, Wagner E & Vega W (2000). Acculturation, familism, and alcohol use among Latino adolescent males: longitudinal relations. *Journal of Community Psychology*, 28(4): 443-458.
- Lahaut VMHCJ, Jansen HAM, Van de Mheen D & Garretsen HFL (2002). Non-response bias in a sample survey on alcohol consumption. *Alcohol & Alcoholism*, 37: 256–260.
- Leigh B & Stacy A (2004). Alcohol expectancies and drinking in different age groups. *Addiction*, 99: 215-227.
- Leonard KE & Blane HT (1999). *Psychological theories of drinking and alcoholism* (2<sup>nd</sup> ed.). New York: The Guilford Press.
- Marcoux B & Shope J (1997). Application of the Theory of Planned Behavior to adolescent use and misuse of alcohol. *Health Education Research*, 12(3): 323-331.
- McMahon J, Jones BT & O'Donnell P (1994). Comparing positive and negative alcohol expectancies in male and female social drinkers. *Addiction Research*, 1: 349-365.
- Nierkens V & Stronks K (2002). Gezondheidsgedrag en determinanten van gedrag bij migranten. In J Jansen, AJ Schuit & F van der Lucht (Eds.), *Tijd voor gezond gedrag*. Bilthoven: RIVM, pp. 105-118.

Nierkens V, Van Oel CJ, Klazinga NS & Stronks K (submitted for publication). The role of socio-economic status in the association between acculturation and smoking.

Oetting ER (1993). Orthogonal cultural identification: Theoretical links between cultural identification and substance use. *NIDA Research Monograph Series*, 130: 32-56.

Oostveen T, Knibbe R & De Vries H (1996). Social influences on young adults' alcohol consumption: norms, modelling, pressure, socializing, and conformity. *Addictive Behaviors*, 21(2): 187-197.

Phalet K, Van Lotringen C & Entzinger H (2000). *Islam in de multiculturele samenleving; opvattingen van jongeren in Rotterdam*. Utrecht: ERCOMER.

Phalet K & Ter Wal J (2004). *Moslim in Nederland*. Den Haag: SCP.

Planije M, Verdurmen J & Van Wamel A (2000). *Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht*. Utrecht: Trimbos-instituut.

Redfield R, Linton R & Herskovits M (1936). Memorandum on the study of acculturation. *American Anthropologist*, 38: 148-152.

Skutle A (1999). The relationship among self-efficacy expectancies, severity of alcohol abuse, and psychological benefits from drinking. *Addictive Behaviors*, 24: 87-98.

Swinkels H (1992). Roken en drinken door Turkse inwoners van Nederland. *Tijdschrift Jeugdgezondheidszorg*, 24(6): 88-94.

Van Assema P, Pieterse M, Kok G, Eriksen M & De Vries H (1993). The determinants of four cancer-related risk behaviours. *Health Education Research*, 8: 461-472.

Weiss S, Sawa G, Abdeen Z & Yanai J (1999). Substance abuse studies and prevention efforts among Arabs in the 1990s in Israel, Jordan, and the Palestinian Authority - a literature review. *Addiction*, 94(2): 177-198.

Wiers RW, Hoogeveen K, Sergeant J & Gunning W (1997). High- and low-dose alcohol-related expectancies and the differential associations with drinking in male and female adolescents and young adults. *Addiction*, 92(7): 871-888.

Wiers RW (1996). *Questionnaire alcohol expectancies, motivation & use*. Amsterdam, University of Amsterdam, 1996.

Wood M, Read J, Palfai T & Stevenson J (2001). Social Influence Processes and College Student Drinking: The Mediation Role of Alcohol Outcome Expectancies. *Journal of Studies on Alcohol*, 62: 32-43, 2001.



## **PART IV**

### **GENERAL DISCUSSION**



# **CHAPTER 8**

## **DISCUSSION**





## **8. DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

### **8.1. Introduction**

The research presented in this thesis focused on the problems that may arise when studying alcohol use among inhabitants of the Netherlands with a Turkish or Moroccan ethnic background. Without systematic research on how to measure alcohol use among Turks and Moroccans, it is difficult to make inferences about the prevalence of alcohol use, and about problem drinking and excessive drinking among these (mainly) Islamic groups. Reliable prevalence data are needed to determine whether prevention activities aiming at Turks and Moroccans are required, and to construct effective preventive interventions. The present chapter will discuss methodological issues concerning alcohol studies among second-generation Turks and Moroccans, and will report on prevalence and determinants of alcohol use among these ethnic groups. First, a summary of results described in the present thesis will be given. In addition, methodological issues of the present study are discussed in relation to the results we found in our studies. Results are then discussed against the background of existing literature and issues described in this thesis. Finally, directions for future research and practical implications for prevention activities will be given.

### **8.2. Summary of results**

Studies regarding alcohol use among Turks and Moroccans in the Netherlands were reviewed in *Chapter 2*. This review study revealed that Turks and Moroccans generally drink less than the autochthonous Dutch population. Furthermore, the prevalence of drinking appeared to be higher among men compared to women. The review study also showed that conclusions with regard to alcohol use among Turks and Moroccans are difficult to draw, since many differences between studies exist in data collection mode and operationalisations of alcohol use and ethnicity.

In *Chapter 3*, data are presented from a qualitative study conducted among (1) Turkish and Moroccan (health) practitioners working in the field with Turks or Moroccans, (2) Dutch researchers who are experienced with either (health) research among Turks and Moroccans or (methodological) research on the prevalence of alcohol use, and (3) members of the target population (people with a Turkish or a Moroccan background). Information was obtained about practical and methodological problems accompanying research among Turks and Moroccans in general and specifically regarding alcohol prevalence research, and about opinions and prevalence of alcohol use among Turks and Moroccans. The results from this study suggest that written questionnaires are appropriate in measuring alcohol use among the second-generation Turks and Moroccans, since second-generation Turks and Moroccans have few language problems. However, at the same time, it was suggested that both first-generation and second-generation Turks and Moroccans would prefer face-to-face interviews with autochthonous Dutch interviewers. Face-to-face interviews may be preferred because Turks and Moroccans were suggested to be unfamiliar with the Dutch bureaucratic society, which causes them to fear that written answers will be misused for other purposes. Autochthonous interviewers may be preferred to ethnically-matched interviewers among Turks and Moroccans who fear that sensitive information about alcohol use may be disseminated among their own community members. In addition, it was felt that it would be more appropriate to mention that the study originated from a local health authority rather than

from an addiction research institute. The first organisation would be appreciated highly by Turks and Moroccans, whereas the latter would make Turks and Moroccans fear being stigmatised as alcoholics.

Based on the information gathered in the qualitative study about opinions and other factors related to alcohol use among Turks and Moroccans, a questionnaire was constructed. Furthermore, information about practical and methodological issues regarding alcohol prevalence research obtained in the qualitative study initiated an experimental study, in which the effect of data collection mode and ethnicity of interviewers was tested on response rates and alcohol reports. The results of this methodological experiment are described in *Chapter 4*. Higher response rates were found with the face-to-face interviews compared to the written questionnaires. No differences in response rates were evident between people interviewed by an ethnically-matched interviewer and people interviewed by an autochthonous interviewer. Furthermore, on the basis of the 'more is better rule' (according to which higher alcohol reports are considered more reliable), it was concluded that face-to-face interviews with autochthonous Dutch interviewers are most appropriate to learn about the percentage of drinkers in the Turkish and Moroccans populations, whereas written questionnaires are more appropriate for the measurement of mean and excessive alcohol use.

Furthermore, in the experimental study, the appropriateness of two alcohol prevalence measures was tested in assessing alcohol use among second-generation Turks and Moroccans (see *Chapter 5*). We concluded that the Quantity-Frequency-Variability (QFV) measure is more appropriate in measuring alcohol use among second-generation Turks and Moroccans than the Weekly-Recall (WR) measure, because alcohol reports were higher with the QFV measure than with the WR measure, and because item non-response rates were lower for the QFV measure than for the WR measure. However, since the drinking sample was relatively small, we have to be cautious about drawing definite conclusions.

Based on the results of the experimental study investigating the reliability and usefulness of different scales and variables, the questionnaire was adjusted. Furthermore, the conclusion based on the results of the experimental study about the appropriateness of a written questionnaire to study the amount of alcohol use, including excessive alcohol use (excessive alcohol use being a relevant outcome variable for prevention), initiated a prevalence study among second-generation Turks by means of a postal survey. To increase power, this study was performed among a larger sample of second-generation Turks, among whom the prevalence of alcohol use is higher than among Moroccans. Findings from this prevalence study are described in *Chapter 6*. The prevalence study showed higher abstinence rates among women, respondents younger than 21 years, and among unemployed Turkish respondents. Furthermore, binge drinking was found to be higher among men. In addition, some patterns were found, such as higher alcohol use among men and single respondents, and lower alcohol use among older (25-40 years) and higher educated respondents. Prevalence data from this study were compared with prevalence data from a study exploring alcohol use among the autochthonous Rotterdam population and showed higher prevalence and drinking rates among the autochthonous population. However, when comparing regular drinkers, weekend use of alcohol was higher among Turks.

Religious, cultural and social cognitive correlates of alcohol use were dealt with in *Chapter 7*. Traditional religious and cultural beliefs and practices were related to higher abstinence rates. An important acculturative factor, which was positively related to alcohol use, was not feeling accepted in Dutch society. Social influence of family and of Turkish and Moroccan

peers, and outcome expectancies were social cognitive factors related to alcohol use. These factors showed to be more important in explaining alcohol use than the religious and cultural factors.

### **8.3. Methodological issues**

Before elaborating on the above-described results, some methodological issues will be discussed. First, non-response rates should be considered. Although non-response rates in our studies are high (ranging from 60.3% to 62.4%) these are comparable with non-response rates in other Dutch alcohol studies among the general population (Bongers & Van Oers, 1998; Lahaut, Jansen, Van de Mheen & Garretsen, 2002; Planije, Verdurmen & Van Wamel, 2000). It should be noted, however, that non-response may have affected our results. For instance, the experimental study showed some differences in gender and age between respondents and non-respondents, with more people aged 22 to 27 years responding to the interview than the younger (16-21 years) and older (28-34 years) age groups, and more women than men responding to the mail survey. However, no differences in alcohol use between respondents and non-respondents within age and gender categories were evident. Therefore, differences in the socio-economic characteristics of respondents and non-respondents are not expected to have seriously biased our results. However, with regard to gender, both the review study (Chapter 2) and the prevalence study (Chapter 6) indicated that the prevalence of drinking is higher among men than women. Therefore, in the mail survey non-response may have been higher among drinking men than among drinking women. Since the non-response study was conducted by the same research method (i.e. by means of mailed questionnaires) similar selective non-response effects may have occurred in the non-response study. This may explain why no differences were found in alcohol use between responding and non-responding men. As a result of this, the prevalence of drinking may have been underreported in the mail survey condition of the experimental study.

Second, the specific selection of second-generation Turks and Moroccans in Rotterdam should be considered. Although most Turkish and Moroccan inhabitants of the Netherlands live in the four largest cities, the present study does not allow assumptions to be made about Turks and Moroccans in other Dutch cities, since Turks and Moroccans living in different cities may differ in their cultural and religious background, because of differential geographic origins. However, the distribution of demographic characteristics in our sample generally fitted the distribution of these characteristics in the general Turkish and Moroccan second-generation population living in the Netherlands, as well as in Rotterdam. For example, the percentage of lower, intermediate and higher educated Turkish and Moroccan respondents in our study compares to figures reported by the Dutch Central Bureau of Statistics (CBS, 2004): about 30% lower educated Turks and Moroccans (vbo/mavo) and about 60% of second-generation Turks and Moroccans who attended at least intermediate education (mbo). This fit between response and population figures is probably the result of our selection procedure. Respondents were randomly selected from the municipal population register and were then approached by mail surveys or interviewers. In this way, selectivity in response only resulted from respondents' willingness to participate and not from the sampling method. To illustrate this point, a recent Dutch study among non-western immigrants in the Netherlands, using telephone numbers from the KPN (Dutch Telephone Company), generated an unrepresentative sample when comparing population and sample figures on education and employment (Cornelisse-Vermaat, 2005). In this study, the proportion of lower

educated Turks (49.6%) and Moroccans (17.4%) in the sample was much lower compared to these proportions in the general Dutch population, which was 74.9% for Turks and 71.7% for Moroccans. This effect may have resulted from the selectivity in telephone penetration; most allocthonous households use mobile phones instead of a KPN connection.

Third, the data from the studies presented in this thesis are based on self-reports. Regarding alcohol, it has often been implied that consumption will generally be underreported. This assumption is largely based on differences between alcohol reports and sales statistics, indicating lower alcohol consumption when assessed with self-reports (Lemmens, Knibbe & Tan, 1988; Neve, Diederiks, Knibbe & Drop, 1993). In the Turkish and Moroccan populations (in which many people report to be Muslim), it seems plausible that alcohol consumption will be underreported even more than in the autocthonous population. Therefore, conclusions in the present thesis regarding the most reliable method to study alcohol use were based on the so-called 'more is better rule'. However, this rule has been surrounded by controversy (Polich, 1982; Rehm, 1998). For example, it has been argued that among young people 'the less is better rule' would be more appropriate, since youngsters may exaggerate alcohol use when they perceive heavy alcohol use as socially desirable (Schwartz et al., 1998). Although this assumption is supported by some studies, e.g. a study by Van Eijk (2000) showed higher prevalence rates among younger Turkish and Moroccan respondents (aged 15-29 years) compared to older Turkish and Moroccan respondents (aged 30 years and older), the prevalence study presented in Chapter 6 did not show significant age effects on alcohol reports. As a result, we do not expect serious overreporting of alcohol use by young people in the prevalence study.

Fourth, in the introduction of this thesis we discussed the disadvantages of combining data from Turks and Moroccans when analysing data. The cultural background of Turks and Moroccans, and the way in which they live their lives in the Netherlands, would differ too much to assume that results would be similar for Turks and Moroccans. Because of statistical power problems, however, we were obliged to combine data from Turks and Moroccans in the experimental study (Chapters 4 and 5). This decision, however, can be justified by our data, since results of the experimental study were similar for Turks and Moroccans (see Chapter 4). However, it is again illustrated that a very large sample is needed to allow to draw conclusions on alcohol reports among ethnic groups in which the percentage of drinkers is rather small.

A fifth methodological issue to be mentioned here is the cross-sectional character of our data. No inferences about causality regarding the predictors of alcohol use can be made (see Chapter 7). However, the problem of directions of associations seems to hold particularly for cognitive factors, and to a lesser extent for the more stable religious and cultural factors, which will probably not be influenced inversely by alcohol use, as may be the case for the social cognitive factors. Thus, additional longitudinal research would be needed to draw conclusions about the social cognitive determinants of alcohol use.

Finally, the present research was performed among second-generation Turks and Moroccans only. As we argued in the present thesis, first-generation Turks and Moroccans generally will differ in cultural and religious orientation from second-generation Turks and Moroccans. Therefore results cannot be generalized to first-generation Turks and Moroccans.

Table 1 Overview of the main findings concerning the aims of the present thesis		<i>Chapter</i>
<b><i>Methodological problems related to the measurement of alcohol use</i></b>		
Due to differences in mode of data collection, operationalisation of ethnicity and operationalisation of alcohol use, data of different prevalence studies regarding alcohol use are difficult to compare.		2
Both first and second-generations may prefer face-to-face interviews, because they fear dissemination of written answers among Turkish and Moroccan populations.		3
Among first-generation Turks and Moroccans, commitment seems to be needed before they will talk about alcohol use, which might be achieved with ethnically-matched interviewers. Among second-generation Turks and Moroccans, a Dutch interviewer may be more appropriate in eliciting reports about alcohol use.		3
<b><i>Appropriateness of different methods and measures</i></b>		
A face-to-face interview performed by autochthonous Dutch interviewers seems more appropriate in measuring prevalence of abstinence among second-generation Turks and Moroccans than interviews performed by ethnically-matched interviewers.		4
A postal survey seems more appropriate in measuring mean and excessive alcohol use among second-generation Turks and Moroccans than a face-to-face interview.		4
The Quantity-Frequency-Variability approach seems more appropriate to measure alcohol use among second-generation Turks and Moroccans than the Weekly-Recall approach.		5
<b><i>Prevalence and correlates of alcohol use</i></b>		
Abstinence is higher among Turks and Moroccans compared to autochthones.		2, 6
The proportion of occasional drinkers among Turkish and Moroccan drinkers is relatively high.		4, 6
Among Turks and Moroccans, abstinence is more prevalent among women and young people. Furthermore, among Turks abstinence is higher among unemployed persons.		2, 6
Regular drinking Turks living in Rotterdam drink as much or even more than autochthonous citizens of Rotterdam.		6
Among Turks, binge drinking is higher among men.		6
Abstinence is higher among Turks and Moroccans with strong cultural and religious traditions. Abstinence is also higher among Turks and Moroccans who have abstainers among family members and Turkish/Moroccan friends, and family members and Turkish/Moroccan friends who disapprove of alcohol use.		7
Among Turks, but not among Moroccans, the number of drinkers is higher when having more drinking autochthonous Dutch friends.		7
The number of drinkers is higher among Moroccans who do not feel accepted by the Dutch society. Turks and Moroccans who do not feel accepted by the Dutch society drink relatively more alcohol.		7
Higher drinking rates are found among Turks and Moroccans who expect alcohol to increase openness in their personal communication and who believe that their Turkish/Moroccan friends will approve of alcohol use. Among Moroccans, but not among Turks, expecting more negative outcomes of alcohol use is related to lower alcohol use.		7

#### 8.4. Discussion of results

##### *Methodological problems related to the measurement of alcohol use among Turks and Moroccans*

The present thesis comprised three aims. Main findings regarding these aims are described in Table 1. The first aim was to describe the methodological problems related to the measurement of alcohol use among Turks and Moroccans.

First of all, the operationalisation of both ethnicity and alcohol use are important features of alcohol studies among Turks and Moroccans which may affect the validity and reliability of alcohol reports (Chapter 2). To improve comparability across surveys, standardization of these operationalisations is absolutely necessary. The review study showed several operationalisations of ethnicity since the 1970s. However, in the last 10 years a classification on the basis of country of birth of respondents and both parents has been used as a standard in the Netherlands (CBS, 2000). It has been argued that this classification is an appropriate way to classify first generations (the respondent and at least one or both parents being born in a foreign country) and second generations (the respondent being born in the Netherlands but having at least one of both parents being born in a foreign country), but it does not allow for identification of third generations, i.e. the children of the second generation (Stronks, Glasgow & Klazinga, 2004). However, it is unclear whether distinguishing third generations will be necessary in future alcohol research among Turks and Moroccans. This will depend upon characteristics of this fast-growing generation, such as the degree to which Dutch social norms about alcohol use become internalized. Thus, at this moment, the country-of-birth classification seems appropriate to categorize first- and second-generation allochthonous inhabitants of the Netherlands, but in the near future additional classifications may be needed. For instance, identification with one's own cultural background (Schriemer, 1999).

Regarding the standardization of alcohol measures, it has been argued internationally that alcohol measures should match the drinking patterns in the corresponding culture (Knibbe & Bloomfield, 2001; Bloomfield, Stockwell, Gmel & Rehn, 2003). Since most Turks and Moroccans have an Islamic background, drinking patterns are expected to be rather similar among these ethnic groups. The studies described in the present thesis revealed a large proportion of occasional drinkers among both the Turkish and the Moroccan populations. Although a single measure might be appropriate for both the Turkish and Moroccan groups, we were not able to draw conclusions on this matter in the present thesis. Due to a lack of power caused by a large proportion abstainers, we combined Turks and Moroccans in statistical analysis (Chapter 5).

##### *Practical issues*

The qualitative study revealed that some other factors affect the methodological qualities of alcohol studies among Turks and Moroccans (Chapter 3). For example, the recruitment of Turks and Moroccans at home or by telephone was mentioned to cause high non-response rates. Furthermore, it was advised to carefully consider the introduction of the study to respondents. In this regard two factors were important: the topic of the study and the agencies carrying out the research. It was argued that higher response rates and more reliable answers would be reached if researchers are honest about the purpose of the study, tactful about how they introduce the topic of alcohol use, and introduce the study as

originating from a university or a local health authority rather than from an addiction research institute. In addition, among first-generation Turks and Moroccans, language problems and type of questions were mentioned as important factors which could affect the reliability and validity of results.

### *The appropriateness of different methods and measures*

Based on the studies presented in this thesis, we are able to generate information regarding the second aim of our study: examining the appropriateness of different research methods and measures to study alcohol use among second-generation Turks and Moroccans. In our qualitative study (Chapter 3), it was argued that, although Turks and Moroccans may fear that alcohol reports will disseminate among their own community members when interviewed face-to-face (especially by ethnically-matched interviewers), unfamiliarity with the Dutch bureaucratic society might make Turks and Moroccans prefer face-to-face interviews instead of written questionnaires. This preference was suggested to result from the fear that written personal information would be misused for purposes other than that described by the researchers. However, data from the experimental study indicated higher reports of mean and excessive alcohol use in the written questionnaire compared to the face-to-face interviews (Chapter 4). Therefore, we concluded, on the basis of the 'more is better rule', that a written questionnaire would be most appropriate to measure the amount of alcohol use among second-generation Turks and Moroccans. However, as was argued earlier, selective non-response may have been higher in the mail survey compared to the face-to-face interview, with probably higher non-response rates among drinking Turks and Moroccans. Therefore, and because we recommended to use face-to-face interviews with autochthonous Dutch interviewers to measure the prevalence of alcohol use (Chapter 4), a multi-method approach including both methods seems most appropriate.

Although response rates did not differ between ethnically-matched and autochthonous Dutch interviewers, alcohol reports of drinking versus abstaining were much higher among respondents who were interviewed by autochthonous Dutch interviewers. Although the results seem clear, some explanations remain unclear. In line with the literature about answering questions according to the norms of the interviewer, we hypothesized that the results could be a consequence of underreports of alcohol use to an ethnically-matched interviewer, but also of exaggeration to an autochthonous Dutch interviewer. However, another hypothesis was that Dutch interviewers had better interviewer skills than Turkish/Moroccan interviewers. Higher prevalence rates of occasional drinking among respondents interviewed by Dutch interviewers gave rise to this hypothesis. Or to put it in another way, Turkish and Moroccan interviewers may have felt reluctant to probe further about the answers respondents gave, whereby they may more easily have accepted answers indicating abstinence. Notions on this matter were experienced during the data collection process when guiding the interviewers, which may indicate that interviewer skills and personality characteristics (such as assertiveness), may be important in eliciting alcohol reports from second-generation Turks and Moroccans. This implies that an intensive training of interviewers is very important, in addition to an intensive selection of interviewers.

Regarding the different prevalence measures, we found higher alcohol reports and lower item non-response rates with the QFV measure than with the WR measure (Chapter 5). Thus, results appeared to favor the QFV measure as the most appropriate measure to study alcohol use among second-generation Turks and Moroccans, which is in accordance with



statements that a 'recent occasions' approach is not useful in infrequent drinking groups (Room, 2000; Dawson, 2003; Bloomfield et al., 2004). Thus, eliciting alcohol reports from occasional drinkers seems an important advantage of the QFV measure, while these drinkers will be misclassified as abstainers when using an exact recall approach, such as the WR measure (Dawson, 2003).

### *Prevalence and determinants of alcohol use*

The third aim of the study was to gain insight into the prevalence and correlates of alcohol use among second-generation Turks and Moroccans. As was expected because of their Islamic background and their non-drinking culture, abstinence is much higher among Turks and Moroccans compared to the autochthonous Dutch population (Chapters 2 and 6). Additional separate analysis for Turks and Moroccans showed that, in line with results from the review study (Chapter 2), the prevalence of abstinence was much higher among Moroccans (90.8%) than among Turks (68%). This finding can probably be explained by the stronger adherence to Islamic rules by Moroccans compared to Turks (Chapter 7). In the prevalence study (Chapter 6), the prevalence of alcohol use among second-generation Turks was 36.7% and thus somewhat higher than the prevalence of alcohol use among second-generation Turks in the written questionnaire mode from the experimental study (28.6%) (Chapter 4). In the prevalence study, the sample of second-generation Turks was weighted for gender and age according to the total group of second-generation Turkish inhabitants of Rotterdam in the age group 16 to 35 years. Therefore, we consider the results from the prevalence study as more representative for the total Turkish population than results from the experimental study.

Furthermore, the proportion of occasional drinkers is relatively high among both Turks (46%) and Moroccans (35%) (Chapters 6 and 7). It would have been interesting to know more about the degree of alcohol used on these occasions, but we were not able to measure this for infrequent drinkers. However, for regular drinkers such data were available and showed that, among the total Turkish drinking sample, the prevalence of heavy episodic drinking was 15.2% (Chapter 6). Among the combined sample of Turkish and Moroccan respondents to the mail survey mode of the experimental study, however, the prevalence of heavy episodic drinking was somewhat higher, i.e. 19.4% (Chapter 4). This difference cannot be attributed to the inclusion of Moroccans in the experimental study, since additional analyses showed that binge drinking was lower among Moroccans compared to Turks. Since the prevalence data from the prevalence study are weighted for age and gender, these figures are considered to be more reliable.

Although the prevalence of drinking was much lower among Turks compared to autochthonous Dutch people (Chapter 6), the amount of alcohol used by regularly drinking Turks is comparable to that of the autochthonous Dutch population, and during weekend days even higher among Turks. Data from other studies suggest that alcohol use among regular drinking Moroccans is also comparable to that of the autochthonous Dutch population (Dijkshoorn, Erkens & Verhoeff, 2001; Planije, Verdurmen & van Wamel, 2000). It has been argued that among so-called 'dry cultures' in which alcohol consumption during everyday activities is not common, abstinence is more prevalent, but when drinking occurs it is more likely to result in high-risk drinking, because people do not learn how to regulate their drinking behavior (Bloomfield et al., 2003; Weiss, 2001). In this regard, the present thesis showed that, in accordance with other Dutch studies, particularly men, youngsters, single and lower



educated Turks are at risk for higher alcohol use.

In accordance with the ethics of the Islam, being a Muslim seems to be a protective factor for drinking among second-generation Turks and Moroccans. However, it is not just being a Muslim (96.3% of the Turks and 99.3% of the Moroccans reported to be Muslim) which predicts abstinence but the extent to which the Islam is practised. Adhering to ancient cultural and religious traditions seems to keep Turks and Moroccans from drinking alcohol.

A striking result regarding the influence of Dutch society on alcohol use is that feelings of discrimination predicted higher alcohol use. The fact that a number of Turks and Moroccans do not feel accepted in Dutch society most likely is related to them being members of a minority group. However, these feelings may have become stronger after the September 11 attack, because politics are more concerned with integration issues of allochthonous groups in the Netherlands, particularly of Islamic groups. Additionally, many public discussions have taken place about the adaptation of, particularly, Turks and Moroccans within the Dutch society. Worries about this adaptation process have been expressed in the media, and Turks and Moroccans have become aware of this negative image. The association with alcohol use may result from feelings of stress caused by these negative public debates. Thus, as has been argued previously, drinking may be a coping mechanism in dealing with acculturative stress (Cervantes, Gilbert, Salgado de Snyder & Padilla, 1990/1991; Gil, Wagner & Vega, 2000).

Other acculturation factors, such as difficulties with the Dutch language and the extent to which Turks and Moroccans are in contact with Dutch people, were not related to alcohol use. Since second-generation Turks and Moroccans are born and brought up in the Netherlands, we doubted whether to include questions about the Dutch language in the questionnaire. However, although no difficulties in using Dutch were reported by interviewers, data showed variation in the extent to which Turks and Moroccans experience difficulties in reading and writing the Dutch language. Thus, small variance in the acculturation factor of experienced problems with the Dutch language cannot explain the fact that this factor was not related to alcohol use. However, the acculturation instrument used in the present study may have some limitations, e.g. a low internal consistency.

Although religious and cultural factors were important in explaining alcohol use, social cognitive factors seem to be more important. The influence of particularly family members and Turkish/Moroccan friends are important in this regard. The influence of Dutch friends' drinking behavior and opinions are less important compared to what we reported in the general introduction: i.e. friends from one's own ethnic group seem to exert more influence on drinking behavior. Besides these influences of peers and family members, expectancies of outcomes of alcohol use also seem important in the prediction of drinking behavior among Turks and Moroccans, as has been found among the general Dutch populations; particularly the expectation that alcohol use leads to more openness in social communications relates to higher alcohol use among Turks and Moroccans. Thus, in this regard, alcohol use seems to have a social function, as can also be argued from the high number of occasional drinkers and the higher use of alcohol during weekend days.

## **8.5. Practical implications**

The present results provide some indications for alcohol prevention programs. Data from the present study show that the number of abstainers is relatively high among both Turks and Moroccans compared to the autochthonous population. However, the extent of alcohol used

among regular drinking second-generation Turks is at least as high as among the autochthonous Dutch population. Other studies also indicate that the same applies to Moroccans. Therefore, prevention of high-risk drinking seems important among these ethnic groups living in the Netherlands. In this regard, commitment of family members seems important, because they exert an important influence on the drinking behavior of family members their own drinking behaviour, and by their opinions about drinking. In addition, as stated before, it is possible that high-risk drinking among second-generation Turks and Moroccans results from the fact that they are brought up with abstinence rules and without rules on how to regulate drinking behavior (Bloomfield et al., 2003; Weiss, 2001). However, involving family members in the regulation of the drinking behavior of other family members seems trivial and difficult to realize, since the Turkish and Moroccan cultures and religion are generally oriented towards abstinence from alcohol use. Perhaps it is better and easier to involve schools or neighborhood organizations. Future studies should clarify if and how such organizations may assist in activities directed at prevention of excessive alcohol use among these groups. In addition, prevention programs should aim at the perception Turks and Moroccans have of the drinking behavior of their Turkish and Moroccan peers. Studies in the USA indicated positive effects of programs aiming at changing these perceptions. Underlying thoughts of these programs are that youngsters often misperceive the drinking behavior of their friends to be greater than it actually is, and that perceived norms are strongly related to individual drinking levels. Furthermore, the present study indicates that changing expectancies of alcohol outcomes should be part of alcohol prevention programs. Generally, it is suggested that prevention activities targeting particular groups should maximally fit the perceptions and experiences of these target groups. However, with regard to social cognitive factors, similar factors seem to predict alcohol use among Turks/Moroccans and autochthonous people. Since prevention activities among the autochthonous Dutch population were already directed at social cognitive factors, the same campaigns may be used among Turks and Moroccans. However, it is unclear if these prevention activities reach Turks and Moroccans and are accepted by these groups. Thus, before developing tailor-made prevention activities, as a first step, it seems important to study the acceptability and effectiveness of existing prevention activities among these particular groups.

### **8.6. Recommendations for future research**

In the present thesis, conclusions on the most appropriate methods and measures to study alcohol use among second-generation Turks and Moroccans have been provided. The QFV measure seems to be the most appropriate prevalence measure to be used in alcohol studies among Turks and Moroccans. Face-to-face interviews with Dutch interviewers seem most appropriate to study the prevalence of alcohol use, and written questionnaires to most appropriately measure mean and excessive alcohol use. However, since researchers generally are interested in both prevalence of abstinence *and* excessive alcohol use, this conclusion is not very practical. If a choice must be made, we suggest that research among (especially) these groups preferably use an approach by means of municipal population registers, combined with postal questionnaires. Researchers thereby should keep in mind that the prevalence of alcohol use may be underestimated. Since this was a pioneer study we recommend to further study the validity and reliability of measures and methods in alcohol studies among Turks and Moroccans. In order to compare results, it is recommended to also include autochthones in these studies. Because standard measures are needed to be able

to compare prevalence data from different groups, uniformity in prevalence measures is necessary. However, this seems to contradict the assumption underlying the present research that different measures may be valid for different ethnic groups. To resolve this discrepancy in international comparison studies, Bloomfield and colleagues (2003) have argued to use a split sample design. In this way, besides standard measures, specific measures can be used to test the validity of alcohol measures in specific groups.

Because response rates in postal surveys have declined dramatically in the last decades and are still declining in the future, a multi-method approach may be most appropriate to obtain the highest response rates and to be able to control for selective non-response, such as for instance higher non-response among drinking men than among drinking women. In this regard, it is important to note that, within the next years, the Internet penetration is expected to grow, especially among immigrant groups (e.g. Lindeman, Oosterwijk, Slot & Bosveld, 2005). As a result, the use of online research among an access panel may become a useful method for research among ethnic minority groups. Using representative panels of specific groups may then provide researchers with longitudinal data at relatively low costs. This also means that more research should be carried out on the data quality of Internet surveys. At present, the ease in which the Internet is used for research goals is inversely related to studies on the data quality of this research mode.

The conclusions in the present thesis regarding appropriate methods and measures to study alcohol use among second-generation Turks and Moroccans are importantly based on the 'more is better rule'. Although we explained this rule to be most appropriate for these ethnic groups, we were not able to verify the tenability of this rule systematically. Therefore, future research should aim at elucidating whether second-generation Turks and Moroccans in general are inclined to underreport or overreport alcohol use and, more specifically, how this works under different conditions. The best method would be to compare a self-report measure and an objective measure, such as a biochemical test. However, such tests are often impractical and costly in large surveys. A bogus pipeline procedure (i.e. a methodology in which subjects are told that their self-reports will be verified by, for example, a biochemical test, while in fact no such test will be performed), may be a good alternative.

Future research should also further address religious, cultural and social cognitive determinants of alcohol use, preferably in large-scale studies using validated scales. The relationship between these factors and alcohol use may then be further clarified. Furthermore, since power problems prevented us from substantiating conclusions, more large-scale studies should be conducted aiming at excessive, binge and problem drinking, as well as help seeking behavior. With regard to the latter, it would be interesting to conduct additional studies in addiction care institutions. Future prevention studies should also be performed to evaluate the effects of prevention campaigns and other activities directed at excessive alcohol use among second generation Turks and Moroccans.

The work presented in this thesis enables us to draw some conclusions about alcohol use among second-generation Turks and Moroccans in the city of Rotterdam. Additional studies should focus on other Dutch cities and/or use national representative samples. Finally, future studies are needed to explore whether alcohol use differs between age-matched first-generation Turks and Moroccans and second-generation Turks and Moroccans.

## References

- Bloomfield K, Stockwell T, Gmel G & Rehn N (2003). International comparisons of alcohol consumption. *Alcohol Research & Health*, 27(1): 95-109.
- Bongers IMB, Van Oers JAM (1998). Mode effects on self-reported alcohol use and problem drinking: mail questionnaires and personal interviewing compared. *Journal of Studies on Alcohol*, 59: 280–285 .
- Central Bureau of Statistics (2000). Standaarddefinitie van allochtonen. Index, no.10, pp.: 10-13.
- Central Bureau of Statistics (2004). Allochtonen in Nederland 2004. Heerlen: CBS.
- Cervantes RC, Gilbert MJ, Salgado de Snyder N & Padilla AM (1990/1991). Psychosocial and cognitive correlates of alcohol use in younger adult immigrant and U.S.-born Hispanics. *International Journal of Addictions*, 25: 687-708.
- Cornelisse-Vermaat JR (2005). Household production, health and happiness. A comparison of the native Dutch and non-western immigrants in the Netherlands. Proefschrift. Wageningen: Universiteit Wageningen.
- Dawson DA (2003). Methodological issues in measuring alcohol use. *Alcohol Research & Health*, 27(1): 18 – 29.
- Dijkshoorn H, Erkens CGM & Verhoeff AP (2001). Gezondheidsenquête Amsterdamse Gezondheidsmonitor 1999/ 2000. Opzet, verloop van het onderzoek en eerste resultaten. EDG-reeks 2001/6. Amsterdam: GG&GD Amsterdam (intern rapport).
- Gil A, Wagner E & Vega W (2000). Acculturation, familism, and alcohol use among Latino adolescent males: longitudinal relations. *Journal of Community Psychology*, 28(4): 443-458.
- Knibbe RA & Bloomfield K (2001). Alcohol consumption estimates in surveys in Europe: Comparability and sensitivity for gender differences. *Substance Abuse*, 22(1): 23-28.
- Lahaut VMHCJ, Jansen HAM, Van de Mheen D & Garretsen HFL (2002). Non-response bias in a sample survey on alcohol consumption. *Alcohol & Alcoholism*, 37: 256–260.
- Lemmens P, Knibbe RA & Tan F (1988). Weekly recall and diary estimates of alcohol consumption in a general population survey. *Journal of Studies on Alcohol*, 49: 131–135.
- Lindeman E, Oosterwijk S, Slot J & Bosveld W (2005). De Amsterdamse burgermonitor 2004. Factsheet nummer 1 december 2004. Amsterdam: Dienst Onderzoek en Statistiek.
- Neve RJM, Diederiks JPM, Knibbe RA & Drop M. J. (1993). Developments in drinking behaviour in the Netherlands from 1958 to 1989, a cohort analysis. *Addiction*, 8: 611–621.

Planije M, Verdurmen J & Van Wamel A (2000). Alcohol- en druggebruik onder jonge Marokkanen in de gemeente Utrecht. Utrecht: Trimbos Instituut.

Polich JM (1982). The validity of self-reports in alcoholism research. *Addictive Behaviors*, 7(2): 123–132.

Rehm J (1998). Measuring quantity, frequency and volume of drinking. *Alcoholism: Clinical and Experimental Research*, 22: 4-14S.

Room R (2000). Measuring drinking patterns: the experience of the last half century. *Journal of Substance Abuse*, 12: 23–31.

Schriemer MR (1999). Registratie Etnische Herkomst: Uitgangspunten en Praktijk. Rotterdam: ISEO.

Stronks K, Glasgow IK & Klazinga N (2004). The identification of ethnic groups in health research, additional to the country of birth classification. Amsterdam: University of Amsterdam, Department of Social Medicine.

Van Eijk CJ (2000). Alcoholgebruik onder allochtonen in Nederland. Kwantitatief onderzoek onder Turken, Marokkanen, Surinamers en Antillianen/ Arubanen, februari-maart 2000. Utrecht: MCA Communicatie.

Weiss S (2001). Religious influences on drinking: illustrations from select groups. In *Learning about drinking*, Houghton E & Roche A eds., pp.109-127. Philadelphia: Brunner-Routledge.

## APPENDIX

1. Which alcoholic drinks did you use during the past six months?

Response categories: beer, wine, breezers ....., have not used alcohol during the past six months (skip the next questions), never used alcohol (skip the next questions)

### Quantity Frequency Variability measure

2. On how many of the three weekend days (Friday through Sunday) do you drink on average? (F)

Response categories: 3 days, 2 days, 1 day, occasionally, I never drink on weekend days (skip question 3).

3. How many glasses do you drink on average on a weekend day? (Q)

Response categories: 11 or more, 7-10, 6, 4-5, 3, 2, 1.

4. On how many of the four weekdays (Monday through Thursday) do you drink on average? (F)

Response categories: 4 days, 3 days, 2 days, 1 day, occasionally, I never drink on weekdays (skip question 5).

5. How many glasses do you drink on average on weekdays? (Q)

Response categories: 11 or more, 7-10, 6, 4-5, 3, 2, 1.

6. During the past six months, how often did you use 6 or more glasses of alcohol in one day? (V)

Response categories: every day, 5-6 times a week, 3-4 times a week, 1-2 times a week, 1-3 times a month, 3-5 times per six months, 1-2 times per six months, never.

### Weekly Recall measure

7. Please, indicate for each day in the previous 7 days how many glasses of alcohol you drank.

What day is it today? Monday? Tuesday? ..... Sunday?

Yesterday was                    [...], I drank [...] glasses

Two days ago was                [...], I drank [...] glasses

.....

Seven days ago was            [...], I drank [...] glasses

8. Have you drunk more, less, or the same amount of alcohol during the past seven days compared to the amount of alcohol you usually drink in a week?

Response categories: the same (skip question 8), more than usual, less than usual.

9. How much alcohol do you usually drink during a week?

On Mondays, I usually drink [...] glasses

On Tuesdays, I usually drink [...] glasses

.....

On Sundays, I usually drink [...] glasses

### **Problem scale**

From the 18-item scale (Cornel *et al.*, 1994) a shortened version (Candel, 2001) was used in the present study. Answering categories were no (0) or yes (1). The following weighted sum of scores were used as an indicator for problem drinking:

$$\begin{aligned} \text{Score} = 0.047 & & + 1.739 * \text{score item 1} \\ & & + 2.334 * \text{score item 2} \\ & & + 1.969 * \text{score item 3} \\ & & + 1.585 * \text{score item 4} \\ & & + 3.296 * \text{score item 5} \\ & & + 3.546 * \text{score item 6} \end{aligned}$$

1. In the past six months did you feel the need to drink less?
2. When you start drinking, have you ever thought that it is difficult to stop drinking?
3. Have you skipped meals in the past six months because you drank too much alcohol?
4. In the past six months have you drunk alcohol to forget about problems?
5. Have family members or your partner worried about your drinking behaviour in the past six months, or did they complain about it?
6. Do you get annoyed when others comment on your drinking behaviour?

When the sum of scores on the above scale was 2.5 or higher (i.e. score 1 on at least two of the first four items, or score 1 on at least one of the last two items), and someone was an excessive drinker or a binge drinker, the person was defined as a problem drinker.





SUMMARY  
SAMENVATTING  
DANKWOORD  
ABOUT THE AUTHOR



## SUMMARY

Alcohol use has a number of adverse effects on health; it may cause cancer and heart diseases and consequently may lead to an increased mortality rate. Besides negative effects, alcohol use may also have positive effects on both mental and physical health. However, the negative consequences of excessive alcohol use are undisputed. In this sense, prevention of excessive alcohol use is important. To be able to construct effective prevention activities, reliable information about the extent of alcohol use in the population is needed. Since many studies have explored alcohol use in the general Dutch population, such information is available for the autochthonous Dutch citizens. However, data on alcohol use among allochthonous groups in the Netherlands are scarce, such as for instance among Turks and Moroccans, who constitute the largest non-western groups in the Netherlands. Furthermore, since studies on alcohol use among Turks and Moroccans are accompanied by methodological difficulties, it is unclear whether available data are reliable. These methodological problems are mainly related to the Islamic background; many Turks and Moroccans are Muslim and alcohol use is prohibited according to the Islamic religion. To attain more information about alcohol use among these ethnic groups, more insight is needed in methodological and conceptual problems accompanying prevalence studies on alcohol use among Turks and Moroccans in the Netherlands.

In the present thesis, methodological issues regarding alcohol research among second-generation Turks and Moroccans are described and results with regard to alcohol use are presented. The goal of the present study is threefold. First, methodological problems regarding the measurement of alcohol use among Turks and Moroccans are described. Second, the appropriateness of different data collection modes and different prevalence measures are studied. Third, insights will be gained into both the prevalence and determinants of alcohol use among second-generation Turks and Moroccans.

Prevalence studies regarding alcohol use among Turks and Moroccans were reviewed in *Chapter 2*. This overview shows that Turks and Moroccans drink alcohol, but that the prevalence of alcohol use is much lower among these groups than among the autochthonous Dutch population. Some results are comparable to findings from prevalence studies among the autochthonous Dutch population, for example, men appeared to drink more than women and younger people more than older people. Comparing alcohol use among Turks with alcohol use among Moroccans showed that the prevalence of alcohol use is higher among Turks in almost all studies. Besides an overview of prevalence data, *Chapter 2* also shows that several methodological differences exist between studies. Data have been collected with face-to-face interviews or postal surveys, and sometimes face-to-face interviews were used in which respondents were allowed to answer questions about alcohol use on paper. Furthermore, differences exist in the way in which the concept of ethnicity has been defined. In the oldest studies, ethnicity was based on nationality or country of birth of the respondent. In more recent studies, ethnicity is often defined according to the country of birth of respondent and both parents. In addition, operationalisations of alcohol use were different across studies. Alcohol use has been measured according to the past year, the past six months, as well as according to the last month and the last week.

The review study presents an overview of results regarding alcohol use among Turks and Moroccans in the Netherlands. However, due to many methodological differences between studies, comparability of results is rather low and, consequently, only the above-described

conclusions can be drawn from the results.

The review study showed the importance of exploring which questions and which methods will attain most reliable data on alcohol use. The first part of such an exploration consisted of qualitative interviews with: (1) Turkish and Moroccan (health) practitioners, (2) representatives of the target population (Turks and Moroccans living in Rotterdam), and (3) researchers either experienced with research among ethnic groups or with research on the prevalence of alcohol use. The results from these interviews are presented in *Chapter 3*. From these interviews it became evident that alcohol use among Turks and Moroccans is probably related to child raising, peer influence, integration and the extent to which Islam is practised, and that alcohol use would probably be more prevalent among Turks than among Moroccans. In addition, among both Turkish and Moroccan populations alcohol use would be more prevalent among men, youngsters and higher educated people. Regarding the data collection mode, the results from this study suggested that written questionnaires are appropriate in measuring alcohol use among second-generation Turks and Moroccans. However, due to fear of dissemination of written information, face-to-face interviews with an autochthonous interviewer were suggested to be preferred among both first-generation and second-generation Turks and Moroccans.

The appropriateness of different data collection modes is dealt with in *Chapter 4*. An experimental study was conducted to test the appropriateness of postal surveys and face-to-face interviews in the measurement of alcohol use among second-generation Turks and Moroccans in Rotterdam. In the face-to-face mode, the effect of the ethnicity of the interviewer (autochthonous Dutch versus Turkish/Moroccan) on response rates and alcohol reports was tested. Higher response rates were found with the face-to-face interviews compared to the postal surveys. Results regarding the validity of alcohol reports showed higher reports of mean and excessive alcohol use in the postal survey mode (although the differences were not statistically significant). The same result has been reported in other studies and has been explained by a higher perceived anonymity when questions are answered on paper, without the close presence of an interviewer. This feeling of anonymity may be even more important in the Turkish and Moroccan culture, in which the Islamic religion is of great importance and social control mechanisms are evident. No differences in response rates were found between people interviewed by an ethnically-matched interviewer and people interviewed by an autochthonous Dutch interviewer. However, differences in alcohol reports were found between people interviewed by interviewers with a different ethnic background, with a higher reported prevalence of alcohol use among people interviewed by autochthonous Dutch interviewers compared to people interviewed by Turkish/Moroccan interviewers. The most likely explanations for this result are underreports of alcohol use to Turkish/Moroccan interviewers, overreports of alcohol use to autochthonous Dutch interviewers, and/or better (more experienced) interviewer skills of autochthonous Dutch interviewers. Within the scope of this thesis, however, we were not able to draw definite conclusions.

The results indicate that face-to-face interviews with autochthonous Dutch interviewers are most appropriate to learn more about the percentage of drinkers in the Turkish and Moroccan populations, whereas written questionnaires are more appropriate in measuring the amount of alcohol used. These conclusions are based on the 'more-is-better rule', according to which higher alcohol reports are considered more valid.

Further, in *Chapter 5*, the appropriateness of two different prevalence measures was studied to establish which measure would acquire the most valid alcohol reports: the Quantity-

Frequency-Variability (QFV) measure or the Weekly-Recall (WR) measure. Respondents in the experimental study (described in Chapter 4), answered questions regarding both these prevalence measures. Comparing results on an individual level showed that more respondents reported a higher alcohol use when measured with the QFV measure than with the WR measure. On an aggregated level, results were not significant but pointed in the same direction, i.e. higher alcohol reports measured with the QFV measure. This result is in line with other studies which suggested that prevalence measures which question alcohol use during recent occasions, such as the last seven days, are inappropriate among populations in which alcohol is used infrequently. Our sample, included rather a lot of infrequent drinkers, who would have been misclassified as abstainers when measured with the WR measure. Furthermore, item non-response rates were higher according to the WR measure compared to the QFV measure, which may be explained by the large number of questions that have to be answered regarding the WR measure. These results led to the conclusion that the QFV measure is more appropriate in measuring alcohol use among second-generation Turks and Moroccans than the WR measure. In addition, an advantage of the QFV measure is that it has been used in many studies among the general population, making comparisons with other populations possible.

In *Chapter 6*, the prevalence of alcohol use among second-generation Turks in Rotterdam was studied with the developed instrument. In line with results from other studies, in the Turkish population, abstinence was more prevalent among women, younger people and unemployed people. Binge drinking (excessive alcohol use during a short period) appeared to be more prevalent among men than women. Prevalence data from the present study among Turkish inhabitants of Rotterdam were compared with prevalence data of a study among autochthonous Dutch inhabitants of Rotterdam and revealed interesting results. As expected, the prevalence and extent of alcohol use was significantly lower among second-generation Turkish inhabitants of Rotterdam compared to their autochthonous inhabitants. However, comparing data of only the regular drinking Turks and autochthones showed a higher weekend use of alcohol among second-generation Turks compared to autochthones. Moreover, no significant differences remained between Turks and autochthones in mean and excessive alcohol use. Higher alcohol use among regular drinkers has been reported more often in so-called 'dry cultures', in which the prevalence of alcohol abstinence is high. Turks may not learn how to regulate their drinking behavior and, therefore, may more easily use alcohol excessively.

Finally, *Chapter 7* focused on the determinants of alcohol use. More specifically, the association between religious, cultural and social-cognitive factors and alcohol use among second-generation Turks and Moroccans was studied. For these analyses data from the experimental study were used, correcting for differences in data collection modes. In accordance with our expectations, the extent to which Islam is practised showed to be a restraining factor for alcohol use. Praying five times a day, fasting during Ramadan, and having traditional religious and cultural beliefs were related to a lower chance of drinking alcohol. Although the association between cultural and religious factors and alcohol use was significant, the association with social-cognitive factors appeared to be stronger. For example, having drinking family members and drinking Turkish/Moroccan friends as well as having family members and Turkish/Moroccan friends approving of alcohol use, increased the chance of drinking among Turkish and Moroccan respondents. Having drinking Dutch friends only affected drinking behavior among Turks. Regarding the amount of alcohol used, expectancies regarding alcohol outcomes also showed to be an explanatory factor. In

accordance with other studies, positive expectancies were positively related to alcohol use. More specifically, it concerns expectancies that alcohol use increases openness in personal communications. In addition, negative alcohol expectancies were negatively related to alcohol use only among Moroccan respondents.

Based on the foregoing, some conclusions regarding prevalence studies of alcohol use among second-generation Turks and Moroccans can be drawn. The most appropriate prevalence measure to study alcohol use among these ethnic groups (in which many drinkers are occasional drinkers) seems to be the Quantity-Frequency-Variability measure, in contrast to the Weekly-Recall measure. Both postal surveys and face-to-face interviews have advantages and disadvantages. Face-to-face interviews with autochthonous Dutch interviewers seem most appropriate to measure the number of drinkers among second-generation Turks and Moroccans, whereas a postal survey seems to be more applicable to study excessive alcohol use among these groups. However, most researchers are interested in both the prevalence of drinking/abstaining and the prevalence of excessive drinking. Since excessive alcohol use is the most interesting outcome for prevention research and this outcome will be most sensitive to under- and overreports, our advice would be to study alcohol use among second-generation Turks and Moroccans with postal surveys. However, researchers should keep in mind that the prevalence of alcohol use may be underestimated in these groups.

Besides, some conclusions can be drawn which are relevant for the prevention of excessive alcohol use. Although the number of drinkers among Turks and Moroccans is much lower compared to the number of drinkers among autochthonous Dutch people of the same age, the mean weekend use seems relatively high among regularly drinking Turks. Furthermore, excessive drinking and problem drinking seems to be as prevalent among Turks and Moroccans as among autochthonous Dutch drinkers. Aiming prevention activities at Turks and Moroccans therefore seems warranted. The present study indicated that social cognitive factors are importantly related to alcohol use among second-generation Turks and Moroccans as has been found among the autochthonous Dutch population. This implicates that these ethnic groups may be reached by the same prevention activities as used to prevent excessive alcohol use among autochthones. However, to be able to draw this conclusion, more research is needed, since no information is available about the extent to which second-generation Turks and Moroccans are reached by such interventions, and the effectiveness of such interventions among these ethnic groups. The present study also indicates that religious and cultural factors are important in explaining alcohol use among second-generation Turks and Moroccans. Therefore, future studies are needed to elucidate how excessive alcohol use among Turks and Moroccans may be prevented.

## SAMENVATTING

Alcoholgebruik heeft een aantal negatieve consequenties voor de gezondheid, het kan bijvoorbeeld verschillende vormen van kanker en hart- en vaatziekten veroorzaken en als gevolg daarvan tot een verhoogde kans op mortaliteit leiden. Alhoewel matig alcoholgebruik ook positieve effecten op de gezondheid heeft, zowel geestelijk als lichamelijk, zijn de negatieve gezondheidseffecten van excessief alcoholgebruik onomstreden. In dit opzicht is preventie van excessief alcoholgebruik van belang. Om effectieve preventieactiviteiten te kunnen ontwikkelen zijn betrouwbare data nodig over de mate van alcoholgebruik in de bevolking. Omdat er onder de algemene Nederlandse bevolking veel onderzoek is gedaan, is deze informatie beschikbaar voor de autochtone populatie. Voor allochtone bevolkingsgroepen in Nederland, zoals bijvoorbeeld Turken en Marokkanen die de grootste niet-westerse bevolkingsgroepen vormen, is soortgelijke informatie echter schaars. Bovendien is niet duidelijk hoe betrouwbaar de beschikbare informatie is, daar prevalentieonderzoek naar alcoholgebruik onder Turken en Marokkanen gepaard gaat met methodologische problemen. Deze problemen zijn gerelateerd aan de Islamitische achtergrond; veel Turken en Marokkanen zijn moslim en volgens het Islamitische geloof is alcoholgebruik verboden. Om meer informatie te verkrijgen over alcoholgebruik onder deze bevolkingsgroepen is daarom meer inzicht nodig in de methodologische en conceptuele problemen die gepaard gaan met prevalentie onderzoek naar alcoholgebruik onder Turken en Marokkanen in Nederland.

In dit proefschrift zijn methodologische factoren met betrekking tot alcoholonderzoek onder tweede-generatie Turken en Marokkanen besproken en onderzoeksresultaten met betrekking tot alcoholgebruik gepresenteerd. Het doel van de huidige studie is drieledig. Ten eerste zijn methodologische problemen rond het meten van alcoholgebruik onder Turken en Marokkanen beschreven. Ten tweede richt de studie zich op het exploreren van de betrouwbaarheid van verschillende onderzoeksmethoden en prevalentievragen. Ten derde beoogt de studie inzicht te verwerven in de prevalentie, alsmede in determinanten van alcoholgebruik onder tweede-generatie Turken en Marokkanen.

In *hoofdstuk 2* wordt een overzicht gegeven van studies naar de prevalentie van alcoholgebruik, waarbij Turken en/ of Marokkanen deel uitmaakten van de onderzoekspopulatie. Deze reviewstudie laat zien dat Turken en Marokkanen wel alcohol drinken, zij het in veel mindere mate dan de autochtone Nederlandse populatie. Daarnaast blijken de resultaten enkele overeenkomsten te vertonen met die onder autochtone Nederlanders; zo blijken mannen meer te drinken dan vrouwen en jongeren meer dan ouderen. Uit een vergelijking tussen Turken en Marokkanen blijkt dat de prevalentie van alcoholgebruik onder Turken in bijna alle studies hoger is dan onder Marokkanen. Hoofdstuk 2 laat echter tevens zien dat er veel methodologische verschillen bestaan tussen de studies. De prevalentie is afwisselend gemeten met 'face-to-face' interviews en met postenquêtes, en in een enkel geval met 'face-to-face' interviews waarin alcoholvragen schriftelijk mogen worden ingevuld. Daarnaast bestaan er verschillen in de manier waarop etniciteit is geoperationaliseerd. Etniciteit is vooral in de oudste studies gebaseerd op nationaliteit of geboorteland van de respondent. In latere studies wordt etniciteit vaker gedefinieerd op basis van geboorteland van de respondent en beide ouders. De manier waarop alcoholgebruik gedefinieerd is blijkt ook te verschillen over de studies heen. Naast alcoholrapportages over het afgelopen jaar en het afgelopen half jaar, is alcoholgebruik ook wel gemeten door te

vragen naar het gebruik over de afgelopen maand of week. De review biedt een overzicht van resultaten met betrekking tot het alcoholgebruik van Turken en Marokkanen in Nederland, maar door de veelheid aan methodologische verschillen tussen studies is de vergelijkbaarheid klein, waardoor het niet mogelijk is om meer conclusies dan de bovenstaande aan de resultaten te verbinden.

Uit de review blijkt het belang van onderzoek naar welke vragen en methoden de meest nauwkeurige schattingen bieden van het daadwerkelijk alcoholgebruik. Een eerste onderdeel hiervan bestond uit kwalitatieve interviews met Turkse en Marokkaanse praktijkwerkers, representanten van de doelgroep (Turken en Marokkanen woonachtig in Rotterdam) en onderzoekers met ervaring op het gebied van alcoholgebruik dan wel allochtone bevolkingsgroepen. De resultaten uit deze interviews worden gepresenteerd in *hoofdstuk 3*. Uit de interviews kwam naar voren dat alcoholgebruik onder Turken en Marokkanen is gerelateerd aan opvoeding, invloed van vrienden, integratie en de mate waarin de islam wordt gepraktiseerd. Daarnaast zou alcoholconsumptie meer voorkomen onder Turken dan onder Marokkanen. Binnen de Turkse en Marokkaanse bevolkingsgroepen zou volgens de experts alcohol meer gebruikelijk zijn onder mannen, jongeren en hoger opgeleiden. Met betrekking tot de onderzoeksmethode zou een schriftelijke enquête het meest betrouwbaar zijn onder de tweede- generatie, maar zou wegens angst voor uitlekken van schriftelijke informatie het face-to-face interview met een autochtone interviewer onder zowel eerste- als tweede-generatie Turken en Marokkanen worden geprefereerd.

De toepasbaarheid van verschillende onderzoeksmethoden komt aan bod in *hoofdstuk 4*. In een experimentele studie werd de toepasbaarheid van postenquêtes en face-to-face interviews onderzocht bij het meten van alcoholgebruik onder tweede-generatie Turken en Marokkanen in Rotterdam. Binnen de mondelinge methode werd onderzocht in hoeverre een Turkse/ Marokkaanse of autochtone Nederlandse interviewer een hogere respons en meer valide antwoorden zou genereren. Er werden inderdaad responsverschillen gevonden tussen onderzoeksmethoden. Hierbij lieten de face-to-face interviews een significant hogere respons zien ten opzichte van de postenquêtes. Met betrekking tot de alcoholrapportages bleken, hoewel niet statistisch significant, postenquêtes hogere rapportages van gemiddeld en excessief te laten zien dan face-to-face interviews. Dit resultaat is ook in andere studies gerapporteerd, en wordt verklaard door de hogere mate van anonimiteit die mensen ervaren als ze enquêtes schriftelijk kunnen invullen, zonder de aanwezigheid van een interviewer. Dit zou juist in de Turkse en Marokkaanse cultuur, waarin de Islam een grote rol speelt en waarin sociale controle in sterke mate aanwezig is, een grote rol kunnen spelen. Er werden geen responsverschillen gevonden tussen autochtone interviewers en Turkse/Marokkaanse interviewers. Wel bleek het aantal drinkers hoger onder respondenten geïnterviewd door autochtone Nederlandse interviewers dan geïnterviewd door Turkse of Marokkaanse interviewers. Of hier sprake is van onderrapportage bij Turkse of Marokkaanse interviewers of van overrapportage bij Nederlandse interviewers wordt niet helemaal duidelijk, zeker niet omdat ook sprake zou kunnen zijn van betere interviewkwaliteiten bij de Nederlandse interviewers. Het strekt tot de aanbevelingen om hier in later onderzoek aandacht aan te besteden. Op basis van de resultaten van deze experimentele studie wordt geadviseerd om, als het om het aantal drinkers gaat, face-to-face interviews met een autochtone Nederlandse interviewer in te zetten. Maar, als het om de hoeveelheid alcoholgebruik gaat, lijken schriftelijke postenquêtes beter toepasbaar. Deze laatste conclusie is gebaseerd op de 'more is better' regel, hetgeen wil zeggen dat hogere alcoholrapportages meer valide geacht worden.



Vervolgens is in *hoofdstuk 5* de toepasbaarheid van twee verschillende alcohol-prevalentiematen onderzocht, om antwoord te krijgen op de vraag welke vraagstelling leidt tot de meest valide alcohol rapportage. Gebruik is gemaakt van de Quantity-Frequency-Variability-maat (QFV) en de Weekly-Recall-maat (WR). Respondenten die aan de experimentele studie, beschreven in hoofdstuk 4, hebben deelgenomen, hebben beide vragen beantwoord. Uit vergelijkingen op individueel niveau bleken significant meer mensen een hoger alcoholgebruik te rapporteren op de QFV-maat dan op de WR-maat. Op geaggregeerd niveau bleken de resultaten niet significant, maar wezen ze wel in dezelfde richting, namelijk hogere alcoholrapportages met de QFV-maat. Dit is in overeenstemming met literatuur die laat zien dat prevalentie-maten die vragen naar recente gelegenheden, zoals de afgelopen zeven dagen, niet geschikt zijn voor populaties waarin alcohol onregelmatig wordt gedronken. In onze onderzoekspopulatie werden relatief veel gelegenhedrinkers gevonden, die met de WR-maat fout geclassificeerd zouden zijn als geheelonthouders. Item non-respons bleek hoger bij de WR-maat dan de QFV-maat en is simpel uit te leggen door de vele vragen die beantwoord moeten worden bij de WR-maat. Op basis van deze resultaten wordt geconcludeerd dat de QFV-maat beter toegepast kan worden in alcohol onderzoek onder tweede-generatie Turken en Marokkanen dan de WR-maat. Een extra voordeel van QFV is dat deze maat vaak wordt gebruikt in onderzoeken onder de algemene populatie, waardoor vergelijking met andere populaties mogelijk is.

In *hoofdstuk 6* is met behulp van het ontwikkelde instrument de prevalentie van alcoholgebruik onder tweede-generatie Turken in Rotterdam onderzocht. In overeenstemming met de resultaten van eerder onderzoek bleek geheelonthouding bij tweede-generatie Turken meer voor te komen onder vrouwen, jongeren en werklozen. Als we naar verschillende typen alcoholgebruik kijken, bleek binge drinken (het in korte tijd veel drinken van alcohol) vaker voor te komen onder mannen dan onder vrouwen. Excessief en probleemdrinken bleken vaker voor te komen onder lager opgeleiden. Vergelijking met prevalentie data van autochtone inwoners van Rotterdam liet, zoals verwacht, zien dat de prevalentie van alcoholgebruik en de mate waarin alcohol wordt gedronken significant lager was onder tweede-generatie Turkse inwoners van Rotterdam dan onder autochtone inwoners van Rotterdam. Echter, wanneer data van Turkse en autochtone regelmatige drinkers werden vergeleken, bleek het drankgebruik in het weekend significant hoger onder Turken. Bovendien werden er geen verschillen meer gevonden in gemiddeld alcoholgebruik en excessief alcoholgebruik. Een hogere mate van alcoholgebruik onder regelmatige drinkers is vaker gevonden in zogenaamde 'droge culturen', waarin geheelonthouding veel voorkomt. Dit zou te maken hebben met het gegeven dat in culturen waarin abstinentie de regel is, men niet leert om het alcoholgebruik te reguleren, waardoor de kans op excessief gebruik groter is.

Tenslotte is in *hoofdstuk 7* aandacht besteed aan de determinanten van alcoholgebruik. Hierbij is onderzocht hoe religieuze, culturele en sociaal cognitieve factoren samenhangen met alcoholgebruik onder tweede-generatie Turken en Marokkanen. Hiervoor zijn de data van de experimentele studie gebruikt, waarbij in de analyses gecontroleerd is voor verschillen tussen onderzoeksmethoden. Zoals verwacht bleek de mate waarin de Islam wordt gepraktiseerd een remmende factor te zijn voor alcoholgebruik. Vijf keer per dag bidden en vasten tijdens de Ramadan, maar daarnaast ook het hebben van traditionele religieuze en culturele overtuigingen, hingen samen met een verminderde kans op alcoholgebruik. Hoewel religieuze en culturele factoren sterk samenhangen met alcoholgebruik onder tweede-generatie Turken en Marokkanen, bleek de samenhang met

sociaal cognitieve factoren sterker te zijn. Zo bleek het hebben van drinkende familieleden, drinkende Turkse/Marokkaanse vrienden en familieleden en Turkse/Marokkaanse vrienden die alcoholgebruik goedkeuren, de kans op alcoholgebruik onder de Turkse en Marokkaanse respondenten te verhogen. Alleen het drankgebruik van Turken en niet die van Marokkanen leek verhoogd te worden door het drankgebruik van Nederlandse vrienden. Met betrekking tot de hoeveelheid alcoholgebruik bleken alcoholverwachtingen ook een belangrijke verklarende factor. Zoals vaker is aangetoond, bleken positieve alcoholverwachtingen positief samen te hangen met alcoholgebruik. Meer specifiek ging het hier om de mate waarin men verwacht dat alcoholgebruik een open en persoonlijke communicatie vergemakkelijkt. Daarnaast bleken negatieve alcoholverwachtingen alleen bij Marokkanen negatief samen te hangen met alcoholgebruik.

Op basis van het voorgaande kunnen enkele conclusies getrokken worden met betrekking tot alcohol prevalentie onderzoek onder tweede-generatie Turken en Marokkanen. De prevalentie maat die het meest geschikt lijkt om alcoholgebruik te meten onder deze bevolkingsgroepen waarin veel gelegenheidsdrinkers voorkomen, blijkt de Quantity-Frequency-Variability maat te zijn. De Weekly Recall maat lijkt vaker een onderschatting te geven. De verschillende wijzen van afname hebben beide voor- en nadelen. De face-to-face interviews met autochtone Nederlandse interviewers bleken het meest toepasbaar om het aantal drinkers onder tweede-generatie Turken en Marokkanen te achterhalen. Daarentegen bleek de postenquête meer geschikt om de mate van excessief alcoholgebruik te meten. Echter, de meeste onderzoekers zullen veelal geïnteresseerd zijn in zowel het aantal drinkers en geheelonthouders als het aantal excessieve drinkers. Aangezien excessief drankgebruik de meest interessante uitkomst is voor preventie onderzoek en deze maat het meest gevoelig zal zijn voor onder- en overrapportage, adviseren wij daarom om alcoholgebruik onder tweede-generatie Turken en Marokkanen te onderzoeken middels postenquêtes. Hierbij dient dan wel rekening te worden gehouden met een onderschatting van het aantal drinkers.

Daarnaast kunnen enkele conclusies worden getrokken die relevant zijn voor preventie met betrekking tot excessief alcoholgebruik. Hoewel het aantal drinkers onder Turken en Marokkanen veel lager is dan onder autochtone leeftijdgenoten, blijkt het gemiddelde weekendgebruik bij regelmatige drinkers in verhouding hoger te zijn. Daarnaast blijkt dat excessief drinken en probleemdrinken bij regelmatige drinkers evenveel voorkomen als onder de Nederlandse regelmatige drinkers. Preventie-activiteiten gericht op tweede-generatie Turken en Marokkanen lijkt dus gewenst. De huidige studie heeft laten zien dat sociaal-cognitieve factoren bij tweede-generatie Turken en Marokkanen belangrijke voorspellers van alcoholgebruik zijn. Dit zou kunnen impliceren dat deze groepen met dezelfde preventieve interventies bereikt zouden kunnen worden als Nederlanders. Echter, om deze conclusie te kunnen trekken zou meer gericht onderzoek noodzakelijk zijn. Er is immers niets bekend over de mate waarin dergelijke interventies tweede-generatie Turken en Marokkanen bereiken en de mate waarin deze worden geaccepteerd. Daarnaast suggereert het huidige onderzoek dat religieuze en culturele factoren wel degelijk een rol spelen. Toekomstig onderzoek zal dan ook uit moeten wijzen hoe overmatig alcoholgebruik bij Turken en Marokkanen voorkomen kan worden.

## DANKWOORD

Regina, ik wil jou als eerste bedanken voor de goede en plezierige begeleiding. Ik heb heel veel van je geleerd en waardeer je grote inzet voor dit proefschrift. Ondanks je drukke werkzaamheden kon ik altijd een beroep op je doen, zowel voor de inhoud van het project als op persoonlijk vlak. Ik had me geen betere copromotor kunnen wensen! Daarnaast wil ik natuurlijk ook Henk en Willem bedanken. Henk, je hebt me vaak aangesproken als 'Aaf, de nuchtere Fries', maar als er iemand nuchter is dan ben jij het wel! Met jou als promotor wist ik zeker dat we de hoofdlijnen van het project niet uit het oog zouden verliezen. Wanneer de copromotoren weer eens te enthousiast werden, wist jij altijd goed de planning te bewaken. Ik vond het plezierig om met je samen te werken. Willem, jou wil ik bedanken voor je pragmatische manier van denken en je inspirerende ideeën. Bij alle resultaten was jou reactie: 'Wat betekent dit nou eigenlijk?' Ik heb veel van je geleerd en vind het jammer dat we niet vaker om de tafel hebben gezeten, want dat had vast nog veel meer leuke ideeën opgeleverd.

Ook wil ik hier mijn collega's van het IVO bedanken voor de goede werksfeer waarin ik dit proefschrift mocht schrijven. Een aantal collega's wil ik in het bijzonder bedanken: mijn kamergenoten, Vivienne, Marjolijn, Jessica en Marloes. Het was altijd erg gezellig op de 'meidenkamer'. Zonder jullie was het werk minder leuk geweest! Renske, als promovendus in dezelfde fase heb ik onze gesprekken gedurende het afgelopen half jaar erg gewaardeerd. Dusty en Kitty, bedankt voor jullie inzet tijdens de dataverzameling, en voor de hulp bij de praktische zaken in de laatste fase.

Daarnaast wil ik hier de mensen bedanken, zonder wie er geen onderzoek zou hebben plaatsgevonden. Allereerst ZonMw, bedankt voor jullie vertrouwen in een goede afloop van het project en de beurs voor de reis naar Istanbul. Ook de personen die ik in het eerste kwalitatieve deel van het project heb mogen interviewen: erg bedankt, jullie hebben de basis voor dit project gelegd. Daarnaast wil ik de interviewers bedanken voor hun inzet en de respondenten dat ze de moeite hebben genomen om de vragen te beantwoorden.

Als laatste wil ik mijn vrienden en familie bedanken. Diana en Verena, heel erg bedankt voor alles wat jullie als paranimfen voor mijn promotie hebben gedaan. Vrienden en familie: bedankt voor jullie belangstelling voor mijn werk. Ja jongens, jimme begrepen d'r niks fan, mar bleaunen dochs altiten freegjen nei 'myn study'. Ik sil jim no einlings út 'e dream helpe: it wie gewoan wurk wat ik die en dit is it resultaat d'r fan. Ik hoopje fanôf no gjin jierdeis mear te ferjitten en faker te beljen.

Bert, ik mocht je hier niet bedanken, maar doe het lekker toch. Bedankt voor je geduld en de zorg voor Sigrid als ik voor de zoveelste keer geen tijd had. Sigrid, hier was mamma dus mee bezig als ze moest werken. En vraag nu niet 'waarom'; dat leg ik later nog wel eens uit

## ABOUT THE AUTHOR

Aafje Dotinga was born on September 27, 1972 in Stiens. She finished secondary school in 1993. In the same year, she started her study in Social Psychology at the University of Groningen. During the final year of her study, she assisted in a project at the department of General Practice of the University of Groningen. She performed a quantitative study on the effect of group education and individual tailored food education letters on (psychosocial determinants of) Mediterranean eating behavior among people living in the province of Groningen. She graduated in 1998 on Social Psychology and Work-, Organization- and Personnel Psychology. In the same year she started to work at the department of Public Health of the Erasmus Medical Center. There she studied the effect of a Community Intervention Trial on (determinants of) health related behaviors among inhabitants of deprived neighborhoods. From September 2000 till March 2005, she worked as a Phd-student at the Addiction Research Institute in Rotterdam on the measurement of alcohol use among Turks and Moroccans in the Netherlands, as described in the present thesis. In 2001 she obtained her Masters of Science-degree in Epidemiology of the Netherlands Institute of Health Sciences (NIHES). From 1 till 15 March 2004 she stayed at the Bilgi University of Istanbul to work on an alcohol prevalence study among Turks in Istanbul, which was granted by the research program 'Culture and Health' of the Netherlands Health Research and Development Council. In March 2005, Aafje Dotinga started working at the centre of Health Services Research of the National Institute of Public Health and the Environment in Bilthoven, the Netherlands. Here, she works on the prevalence and determinants of socio-economic differences in health.