



# Annual Report 2009

## Supplement

**IVO**

**ADDICTION RESEARCH INSTITUTE**

ANNUAL REPORT 2009

**Supplement**

IVO  
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## 2. Project descriptions

In this chapter the research projects will be discussed per research theme. For each project the aim, methods, results and researchers are described.

### Alcohol

#### 1 Determinants of unhealthy lifestyles in low educated youth

##### Aim and research questions

A recent research report in the Netherlands showed that adolescents of a lower educational level lead unhealthier lifestyles than adolescents of higher educational level. Lower educated adolescents, in the age of 12-16 years, more often use alcohol, nicotine and marijuana, they start having sex at an earlier age and use less protection, they eat unhealthier food and exercise less. On behalf of the National Institute for Public Health and the Environment (RIVM), IVO conducted a literature study on explanatory factors of these unhealthy behaviors.

The study had three goals: (1) to provide explanations for the relatively unhealthy lifestyles of low educated youth compared to higher educated adolescents, focusing on the aforementioned areas, (2) to formulate ideas for the prevention of unhealthy lifestyles among low educated youth, and (3) to describe existing evidence-based interventions in the Netherlands aimed at promoting a healthier lifestyle in adolescents with a low level of education.

##### Methods

A literature search was performed on Dutch and international studies focusing on determinants of unhealthy behaviors of lower-educated young people between 12 and 16 years. In addition, existing health promotion interventions targeted at the unhealthy lifestyles of low educated youth were identified. An expert meeting with key figures in the field of Dutch health education was organized, in which the identified determinants were presented. Furthermore, participants were asked to estimate how these determinants could be changed through preventive interventions.

##### Results

The literature review showed that the social environment and socio-emotional problems are related to substance use and sexual risk behavior of low-skilled youth. For example poorly educated young people have a higher risk of smoking when they have parents or friends who smoke, and low-skilled girls exhibit less sexual risk behavior when they have a good relationship with their mother. It should be noted that research on explanations for the relatively unhealthy lifestyle of people with low socio-economic status has mainly been conducted in the USA. Therefore, the results are not directly comparable to the Dutch situation.

There is a very limited range of preventive interventions aimed at preventing substance use and sexual risk behavior of low-skilled youth. In addition, existing interventions have insufficient focus on the influence of parents/friends and socio-emotional problems on the risk behavior of low-skilled youth.

##### Researchers

A Risselada MSc (researcher), TM Schoenmakers PhD (project leader), C Schrijvers PhD (project leader)

**In collaboration with:** RIVM National Institute for Public Health and the Environment

**Term:** January 2009 - November 2009

**Financing:** RIVM National Institute for Public Health and the Environment

## **2 Development of a protocol for early detection and brief interventions of alcohol abuse in young people**

### **Aim and research questions**

To develop a protocol for early detection and brief interventions of alcohol problems in youth (12-24 years) at increased risk for alcohol problems. The protocol will be applicable to adolescents in school and recreational settings.

### **Methods**

An expert meeting was organized to identify successfully applied interventions for recognition of adolescent alcohol consumption, such as screening instruments, best practices, guidelines, and promoting and impeding factors in current interventions. Based on these best practices and scientific literature on interventions and screening instruments, IVO wrote the protocol. A number of institutions for mental health and addiction were involved in the developmental process as co-authors of the protocol. These institutions represent the settings the protocol focuses on (school and recreation). Finally, a focus group discussion was organized with peer educators to include the perspective of adolescents in the protocol.

### **Results**

The protocol focuses on increasing young people's motivation to recognize and acknowledge their problematic drinking behavior. Guidelines are provided for staff in schools and intermediates on the street or other places where young people spend their free time (community centres, youth centres, night clubs) regarding early detection of alcohol abuse among young people, discussing the signals with the adolescent, and adequate referral to specialised care when needed. Through the interactive process that was used to develop the protocol, the expertise of both clients and end users (professionals) was optimally used. Moreover, it helped to motivate professionals in the field to actually start using the protocol.

### **Researchers**

A Risselada MSc (researcher), TM Schoenmakers PhD (project leader)

**In collaboration with:** Project group 'Youth' of the Partnership Early Detection of Alcohol Problems (PVA), Mental Health Care Noord- en Midden Limburg, JellinekMentrum, Bouman Mental Health Care, Tactus Addiction Care

**Term:** June 2009 - December 2009

**Financing:** Partnership Early Detection of Alcohol Problems

## **3 Effectiveness of the treatment of the addiction care clinic Solutions**

### **Aim and research questions**

The treatment of the addiction care clinic Solutions, which is a combination of the Twelve Step Minnesota Model and cognitive behavioral therapy, has a number of specific features, including the possibility of immediate admittance, and the assignment of a personal counselor. The study aims at evaluating the effectiveness of this treatment and with a focus on alcohol addiction. The program's effectiveness will be determined by measuring alcohol use versus abstinence in former patients of Solutions. Apart from measuring alcohol use, we will also study factors that might influence treatment success. Such factors are spiritual wellbeing of patients, since this is one of the central factors in the Solutions treatment program. Additionally, alcohol and drug use within the patient's social network will be studied as an important predictor of recovery and abstinence.

### **Methods**

The study focuses on clients with an alcohol problem (possibly in combination with a cocaine problem). The prospective study includes all clients entering therapy during a period of two years. Clients are interviewed and fill out questionnaires at entrance and 1 month later at discharge. And follow-up questionnaires will be sent out 3 months and 12 months after discharge from treatment. Major outcome variables are success rate and relapse rate. These rates will be compared to success rates in other Dutch clinics.



Solutions expects to have higher success rates because of their intensive aftercare program. The first patients will be included in January 2010.

## **Results**

Available in 2011.

## **Researchers**

GJ Meerkerk PhD (researcher), TM Schoenmakers PhD (project leader)

**Term:** 2009 - 2011

**Financing:** Solutions Center Voorthuizen

## **4 Evaluation of a pilot study on early detection and treatment of problem drinking in Rotterdam primary care**

### **Aim and research questions**

The municipality of Rotterdam aims to reduce the number of problematic alcohol users within the municipality. To achieve this goal, the Municipal Health Authority (GGD) Rotterdam-Rijnmond has developed a pilot study in which early detection and treatment of problem drinking in primary care is stimulated. IVO has been asked to evaluate this pilot study.

The aim of the pilot which IVO will evaluate is three fold: (1) the pilot provides a method for the detection and treatment of problematic alcohol use that is relatively easy to implement, (2) the pilot contributes to an improvement in the identification of problem drinkers in general practice, and (3) the pilot contributes to an increase in the number of problematic alcohol users who are treated with a brief intervention or referred to specialised addiction care.

### **Methods**

Fourteen general practitioners (GPs) participate in the project. Several interventions are implemented:

- a factsheet for all GPs in Rotterdam on early recognition, treatment and referral of problematic alcohol use;
- a training on early identification of alcohol problems for GPs and other health professionals in general practice;
- the possibility to receive support in the form of an addiction counsellor. This counsellor is on call for consultation and short-term treatment of patients from the general practice.

The pilot is evaluated by monitoring the change in patient care and by evaluating the interventions applied by participating GPs. Change in patient care is measured by the number of (suspected) problematic alcohol users, which are registered by the participating health profession during the pilot period. Assessment of applied interventions is evaluated using written questionnaires and face-to-face interviews with participating GPs.

### **Results**

Results are expected in June 2010.

### **Researchers**

A Risselada MSc (researcher), TM Schoenmakers PhD (project leader)

**In collaboration with:** Municipal Health Authority Rotterdam-Rijnmond  
Regional Support Structure ZorgImpuls  
Netherlands Organization for Health Research and Development  
Bouman Mental Health Care  
Brijder Lifestyle Rotterdam  
Context, Centre for Mental Health Care Prevention

**Term:** May 2009 - June 2010

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

## **5 Peer influence revisited: an experimental study on the association between peer influence susceptibility and adolescent alcohol use**

### **Aim and research questions**

Although adolescents' drinking attitudes are associated with those of their peers, there is no univocal evidence that especially this association is causally related to peer influence processes i.e. drinking friends leads to drinking yourself. Research on adolescent development suggests that especially popular peers may play a key role in these types of social influence processes.

The present study experimentally examines whether adolescents modify their drinking attitudes when confronted with the attitudes of peers in a chat-room session and whether these effects are moderated by the social status of peers.

### **Methods**

In a screening, we collected survey data on drinking behavior, social status and drinking attitudes among 533 14-15 year olds. Of this sample, 80 boys with average social status participated in a simulated Internet chat-room study a few weeks later. The use of chat-rooms is a common way of peer online communication among adolescents. During the chat-room session, participants believed they were interacting with grade mates, but these were in fact e-confederates. Participants were confronted with pre-programmed pro-alcohol or anti-alcohol answers of 'grade mates'. Accordingly, we tested whether participants adapted their alcohol attitudes to the answers of the 'grade mates', and compared participants' attitudes in the chat-room with their attitudes from the pre-test. To test whether adaptations in drinking attitudes would depend on peers' social status, we manipulated the level of popularity of the 'grade mates'.

### **Results**

Data collection was recently finished. Preliminary results indicate that adolescents adapt their attitudes in the chat-room to the pro-alcohol as well as anti-alcohol attitudes of peers.

### **Researchers**

HA Teunissen MSc (researcher), R Spijkerman PhD (supervisor), MJ Prinstein PhD (advisor, University of Chapel Hill), Prof RCME Engels PhD (promotor), RHJ Scholte PhD (project leader)

**In collaboration with:** University of Chapel Hill, Dept. of Psychology, North Carolina, USA

**Term project:** October 2008 – June 2013

**Financing:** Netherlands Organization for Scientific Research (NWO)

## **6 Communication about alcohol between mother and adolescent: an observational study**

### **Aim and research questions**

The aim is to gain insight into 1) how mothers communicate with their (adolescent) children about alcohol use, 2) the reaction of parents on the alcohol onset of (their) children and, 3) test to what extent the communication and the rules of parents influence the development of alcohol use of children. In a following step, these results will provide parents with clear guidelines about how to communicate with their adolescent child to prevent early onset of alcohol use, early use and excessive alcohol use later on.

### **Methods**

The initial data were gathered at five different schools among 620 first-year students. They filled in a questionnaire which (in addition to demographic data) contained 17 scales to measure parenting, communication between mother and adolescent, and alcohol use. Of these 620 students, 155 participated with their mothers in the observational part of this study. Mother-child dyads were observed at home. During this observation, they had 5 alcohol-related conversations varying from 2-7 minutes.

The following aspects of communication were measured: Strategies (asking questions, lecturing, discussion, explaining and listening), Responsiveness (acceptance, reassurance, disagreeing and rejection) and Affect (positive, neutral and negative).

Observational variables were measured on a 7-point scale. One month after the observation, mothers filled in a questionnaire that is similar to that of their child. Collection of the follow-up questionnaire data from the 155 mother-adolescent dyads is currently taking place.

## **Results**

Data collection and analysis are in progress.

## **Researchers**

E Koopman MSc (researcher), Prof RCME Engels PhD (project leader), H van der Vorst PhD (project leader), J Verdurmen PhD (advisor, Trimbos Institute), I Schulten MSc (advisor, Trimbos Institute)

**In collaboration with:** Netherlands Institute for Mental Health and Addiction (Trimbos Institute)

**Term:** July 2008 – December 2009

**Financing:** Netherlands Organisation for Health Research and Development (ZonMw)

## **7 Predictive value of young people's smoker and drinker prototypes: tests using innovative designs**

### **Aim and research questions**

A promising concept for the explanation of young people's alcohol use is the role of young people's social images associated with alcohol use. Youngsters have clear and salient social images of the type of people of their age who engage in alcohol use. Their perceptions of the typical drinker are also referred to as 'prototypes'. The relationship between drinker prototypes and young people's alcohol intake is well established. However, the existing research stems from correlational studies that are based on adolescents' self-reports. No definite conclusions can be drawn about the predictive value of drinker prototypes on youngsters' actual drinking behaviour, the direction of the relationship between these two variables, and possible moderation effects of contextual and individual characteristics. The aim of the present project is to critically examine the true value of prototypes in predicting actual alcohol use among young adults.

The study addresses the following questions:

- 1) Are young people's drinker prototypes related to their actual drinking behaviour in a social drinking context?
- 2) Are drinker prototypes affected by other people's image and drinking behaviour in a social drinking context?
- 3) Do drinker prototypes have a stronger impact on young people's drinking behaviour within a favourable normative context towards drinking compared to an unfavourable normative drinking context?
- 4) Are drinker prototypes more influential among people with an increased social comparison tendency and who are triggered by collective associations with their identity?

### **Methods**

The research questions are answered by employing observational experiments in a naturalistic drinking setting. This consists of four observational studies among weekly drinking students conducted in a bar lab. Drinker prototypes will be manipulated by working with confederates (assistants collaborating in the study) who either display positive or negative image characteristics combined with a specific drinking pattern.

### **Results**

The first two research questions have been examined in two studies. The first study was carried out among 200 college students who participated with their group of friends in evaluation research on alcohol prevention campaigns (cover story). In a pre-test, participants filled out questions about drinker prototypes and drinking behaviour. Participants' actual drinking behaviour was observed during a break in the bar lab. Findings showed that students' drinker prototypes were related to their observed drinking behaviour, over and above the impact of their group of friends.

The second study aimed to test whether young people's drinker prototypes would be affected by social interaction with another person who showed a specific drinking pattern (not drinking versus heavy drinking) and appearance (desirable versus undesirable). To manipulate the other person's image and drinking behaviour, we used confederates who were instructed to dress either in a desirable or an undesirable way and to engage in non-drinking or heavy drinking.

Preliminary findings show that participants held more favourable abstainer prototypes after social interaction with a heavy drinking model with an undesirable appearance.

### **Researchers**

R Spijkerman PhD (researcher), Prof RMCE Engels PhD (project leader), Prof FX Gibbons PhD (advisor, Iowa State University)

**In collaboration with:** Iowa State University

**Term:** June 2007 – March 2011

**Financing:** Netherlands Organisation for Scientific Research (NWO)

## **8 Coronary heart disease and the interaction of alcohol consumption, causal attribution and stress**

### **Aim and research questions**

This project aims to establish whether moderate alcohol intake has a positive effect on the development of coronary heart disease. Special reference is given to possible alternative explanations of the observed J-shaped curve, centering on questions of selection and causation. Alternative hypotheses concern the effects of the methodology in epidemiological studies, and psychological aspects of drinking behavior and health.

### **Methods**

A cohort of about 32,000 persons has been recruited via general practitioners; 34 general practices located in the southern and western part of the Netherlands participated. Approximately 16,000 men and women aged 45-70 years responded to the baseline questionnaire and were followed over a five-year period. Data collection consisted of three parts. First, the respondents received a follow-up questionnaire annually. Second, all health problems during life were registered by the general practitioners. Finally, the general practitioners reported all persons diagnosed with myocardial infarction or who died during follow-up.

### **Results**

The Lifetime Drinking History questionnaire (LDH-q) is a new self-administered questionnaire used in the present study; previously only interview data were available on this topic.

Therefore, the reliability and validity of the LDH-q were examined. It was concluded that the LDH-q was reliable and valid, and comparable to interview formats asking about lifetime drinking.

It was investigated if there were differences between respondents and non-respondents regarding health variables (at baseline), and (prospective) mortality risk. Results showed that among respondents coronary heart disease was more prevalent. Compared with respondents, non-contacts had a higher mortality risk during follow-up. Refusals more often had hypercholesterolaemia, and less often coronary heart disease, or diabetes mellitus, compared to non-contacts. The paradoxical results that respondents are less healthy at baseline, but prospectively have a lower mortality risk may suggest a selection effect indicating that the 'worried ill' are more inclined to participate. This effect could imply that observed relationships between risk factors or behaviors and outcomes in cohort studies may be attenuated.

The relationship between life events and alcohol consumption, and the possible effect of coping and social support on this relationship, and gender differences were examined prospectively. It was found that, independent of stressful life events, coping styles and social support were associated with drinking level. Scoring high on cognitive coping, and having a higher frequency of social contact was associated with a lower alcohol use, whereas scoring high on action coping and receiving more actual social support was associated with a higher alcohol use.

Alcohol consumption was measured using different methods. First the LDH-q, but also a Quantity-Frequency questionnaire about alcohol intake over the past year and a Weekly Recall about actual consumption in the past week.

These three methods were analyzed for association with incidence of cardiovascular diseases and all-cause mortality.

Alcohol consumption in the past week was found to be associated with morbidity and mortality in the follow-up period of 5 years. Less effect was found for alcohol consumption over the last year, and for lifetime intake and consumption in the distant past no association was found.

With data from the LEGO study, it was determined whether diabetics and non-diabetics differ in alcohol intake. Secondly, the association of alcohol intake with risk of cardiovascular events, and all-cause mortality was assessed in diabetics. Diabetics at baseline and those diagnosed with diabetes during the 5 years of follow-up showed similar drinking patterns. Diabetics less often drank alcohol at baseline compared to non-diabetics.

Diabetic men who did not drink or drank occasionally appeared to have a higher risk for cardiovascular events and all-cause mortality compared to those drinking moderately. For diabetic women, never and occasionally drinking seemed to be associated with higher risks for cardiovascular events compared to moderate drinking.

Although the study shows interesting effects, it cannot be concluded that a stress buffering effect of alcohol use offers an additional explanation for the J-shaped risk relationship between alcohol use and cardiovascular disease.

The dissertation of IHM Friesema was published in September 2006.

Title: Alcohol and cardiovascular disease; A longitudinal study on the impact of intake measurement and health status. The dissertation of MY Veenstra has been accepted and she will defend it spring 2010.

#### **Researchers**

MY Veenstra MSc (PhD student till 8/2006), IHM Friesema PhD (PhD student till 1/2006), PHHM Lemmens PhD (project leader, copromotor), Prof MJ Drop PhD (†) (promotor), Prof HFL Garretsen PhD (promotor), Prof JA Knottnerus PhD (promotor, Maastricht University), PJ Zwietering PhD (copromotor, Maastricht University)

**In collaboration with:** Maastricht University

**Term:** 1996 - 2010

**Financing:** Netherlands Heart Foundation, Foundation for Responsible Alcohol Consumption (STIVA), IVO, Erasmus University Rotterdam, Maastricht University

## **9 Process evaluation 'Do not be fooled!' ('Laat je niet flessen!')**

### **Aim and research questions**

Adolescent alcohol use in the south-east region of Brabant has recently increased and is higher compared to other regions in the Netherlands. This has motivated 21 municipalities in the south-east region of Brabant to start the project '*Laat je niet flessen!*' ('Do not be fooled!'), aimed at developing an effective alcohol policy for adolescents under the age of 16 years (the legal drinking age in the Netherlands). Over a three-year period, the aim is to explore all aspects regarding the supply, promotion, education and regulation of alcohol use. The project incorporates an effect evaluation and a process evaluation.

The process evaluation has been conducted by IVO and served two goals: 1) to detect factors impeding or facilitating implementation of the project in order to make appropriate adjustments over time, and 2) to systematically collect information on the implementation and progression of the project to transfer (when proven successful) to other regions and municipalities in the Netherlands.

## **Methods**

Research activities were aimed at monitoring the three central aspects of the project: 1) education and public support, 2) regulation and compliance, and 3) assertion of laws and regulations. These aspects were covered by three project groups and one general project group to oversee the whole project. The plan is to conduct three measurements during the project period. At each measurement, employees of municipalities and other relevant parties, such as the police and the municipal health authority, are interviewed by telephone. In addition, focus group interviews are conducted with members of the three project groups. After each measurement, results are reported to the general project group.

## **Results**

Measurements of the first and second year have been completed. The results indicate that the project has finished the preparatory phase. Implementation of activities has begun, but respondents indicated that more support is needed during this phase. The third and last measurement was scheduled to start summer 2009, but was cancelled after consultations with the participating partners and project financier.

## **Researchers**

A Risselada MSc (researcher), A van der Poel PhD (project leader), TM Schoenmakers PhD (project leader)

**In collaboration with:** Region Eindhoven (SRE), STAP (Dutch Institute for Alcohol Policy)

**Term:** 2007 - 2009

**Financing:** Volksbond Foundation Rotterdam

## **10 Low-threshold screening and intervention on alcohol among the elderly in general practice: development, training and evaluation of the module 'Drinking safely at old age'**

### **Aim and research questions**

Excessive alcohol consumption is a risk factor for health and welfare problems. Health risks of alcohol consumption differ for elderly people (65+ years) as compared to younger adults. This is because of the increasing social and biological susceptibility with age, development of chronic diseases, and chronic use of medication (e.g. benzodiazepines and selective serotonin re-uptake inhibitors, SSRIs). These specific issues for the recognition and treatment of alcohol problems in the elderly often are not recognized by health professionals and are not covered in current training programs for general practice. To fill this gap, IVO developed a special module called 'Drinking safely at old age', as an addition to the general training of GPs and assistants in early detection and interventions on excessive alcohol consumption in the general population. The module describes the identification and discussion of risky drinking with elderly patients in general practice.

### **Methods**

The module was implemented in general practices in three regions of the Netherlands: Rotterdam region, Limburg and Noord-Brabant. The implementation process was tailored to the specific regional structure of consultation and training of general practitioners and assistants. Implementation was evaluated by a short self-completed questionnaire for GPs and assistants of health professionals beforehand, and short follow-up interviews two weeks and four weeks after training.

### **Results**

In total, 37 health workers have been trained using the module. Results show that awareness and alertness of health professionals regarding alcohol problems in the elderly has increased. After the training, at two-weeks follow-up, participants estimate the percentage of older drinkers in their risky practices to be higher. The number of health workers that discussed alcohol consumption with elderly patients increased, as did the number of elderly patients they discussed it with. At four-weeks follow-up, these effects had decreased gradually, but remained higher than the initial value prior to baseline measurement. The limits for safe alcohol use in elderly patients, as reported by participants, decreased after the training. For older women, however, the limits reported by health professionals are still higher than the guidelines from the module (that are set by experts).

When developing a revised version of the module, it is recommended that extra attention should be paid to the limits for safe drinking in the elderly (especially elderly women). In addition, it is essential to explore possibilities to retain health workers' awareness of this topic for a longer period of time.

### **Researchers**

A Risselada MSc (researcher), HAM Jansen PhD (project leader)

**In collaboration with:** Netherlands Organisation for Health Research and Development, Mental Health Care North- Middle- and South-Limburg, Roder consult/Novadic-Kentron Addiction Care

**Term:** September 2008 - March 2009

**Financing:** Netherlands Organisation for Health Research and Development (ZonMw)

## **11 Gender, alcohol and culture: an International Study (GENACIS)**

### **Aim and research questions**

IVO has been the Dutch base for research on aspects of alcohol and gender for several years. An earlier eight-country BIOMED study has now developed into the wider project called GENACIS (Gender, Alcohol and Culture, an international study) in which more than 35 countries are involved. The participants are as diverse as Argentina, Australia, Canada, Europe, India, Japan, Kazakhstan and the USA. The focus of the Dutch contribution has been to describe alcohol-related problems in all countries included in the GENACIS data set, and on gender and country variation in the informal control of drinking.

### **Methods**

Surveys among general populations.

### **Results**

A series of articles is in preparation on the influence of gender and social roles on alcohol in different countries.

One of the research questions concerns country and gender differences in the extent drinkers suffering from typical symptoms of heavy or prolonged alcohol use report informal control from others (reactive informal control), and country and gender differences in the extent comments on someone's drinking are (also) directed at those who do not suffer from these symptoms (pro-active informal control). The results show that men suffering from typical symptoms of heavy or prolonged alcohol use are more likely to be criticized than equivalent women (reactive control).

Irrespective of gender, reactive informal control is more prevalent in poorer countries and in countries with a high proportion of abstainers. Concerning pro-active control, among women a larger part of criticism appeared to be directed at those who (as yet) do not suffer from symptoms typical for heavy or prolonged alcohol use. There is much variation between countries in pro-active informal control. This variation is only weakly related to the prosperity of a country, but not to its proportion of abstainers.

Other results show that whilst the countries differed a lot as to which proportion of drinkers reported having experienced family members' pressuring to drink less, drinking women in all countries reported this less than drinking men in their own society. In all of the countries studied, the person carrying out the informal pressure is most often the spouse or sexual partner. However, also other family members had acted in this way. Informal pressuring was highly correlated with the country's socioeconomic conditions. It is concluded that informal pressuring of family members' drinking is on one hand an expression of social deprivation and family problems caused by heavy drinking especially in the economically less developed countries. On the other hand, a similar type of gender difference is seen in all the societies examined, with men reporting more informal pressuring than women. Informal pressuring to drink less reflects the gender conflict caused by heavy use of alcohol in all of the countries studied.

## **Researchers**

S Kuntsche MSc (researcher, SIPA), Prof RA Knibbe PhD (project leader), J Joosten PhD (researcher), M Derickx (research assistant).

**In collaboration with:** SIPA, Swiss Institute for the Prevention of Alcohol and Drug Problems

**Term:** January 2002 – January 2010

**Financing:** European Union (EU), World Health Organization (WHO), National Institute on Alcohol Abuse and Alcoholism (NIAAA)

## **12 Development and examination of a brief intervention for adolescents treated in a hospital emergency room because of excessive alcohol use**

### **Aim and research questions**

Aim of the study is to develop and test a brief intervention for adolescents who have to be treated in the emergency room of a hospital due to excessive alcohol use.

The research question is: What is the effectiveness of a brief intervention aimed at adolescents who are treated for an injury resulting from excessive alcohol use in the emergency room of a hospital? Excessive alcohol use is defined as consumption of six or more alcohol units on a single occasion.

### **Methods**

This study consists of a brief intervention for adolescents who, due to excessive alcohol use, have to be treated in the emergency room of the Meander Medical Centre in Amersfoort or the Erasmus Medical Centre in Rotterdam. Participants randomized (after informed consent) in the experimental group were invited for an interview 7-10 days after their visit to the emergency room. In this interview, a staff member of the prevention department of Parnassia Psychomedical Center discussed the participants' individual alcohol use and accompanying harmful consequences, using the principles of motivational interviewing (MI). The effect of this intervention are compared with that of a randomized control group which includes participants who did not receive any intervention.

Measures that are used for comparison are excessive alcohol use and risky behaviour after alcohol consumption. These measures are included in a follow-up questionnaire, which was sent to participants six months after the intervention (experimental group), or six months after their visit to the emergency room (control group).

### **Results**

A total of 204 participants were included in the study. 95 participants were randomized in the control group and 109 participants were randomized in the experimental group. Of the experimental group, 42 participants (39%) received the intervention. At follow-up, 57 participants (60%) in the control group and 25 participants (23%) in the experimental group returned the questionnaire.

Despite the design of the study, randomization did not succeed as a result of selective drop-out. Drop-out was particularly high in the experimental group and among risky and non-Dutch drinkers. Consequently, the control and experimental groups could not be compared to investigate the effects of the intervention. Therefore, we investigate the data by looking at the differences between baseline and follow-up for the experimental group only. Results showed that weekly alcohol consumption increased significantly from baseline to follow-up. Readiness to change decreased, but not significantly. The number of risky drinkers increased and alcohol-related risk behavior decreased, but these changes could not be tested for significance due to low numbers.

Accurate investigation of the effects of MI on alcohol-related behavior among young adults was not possible, because randomization did not succeed. We discuss the process of data collection and implementation of the intervention. Motivation among young adults in the experimental group to receive the intervention was remarkably low, especially among the risky drinking group, who could probably benefit most from an intervention. This leads to a need to reconsider the way young adults were recruited and received the intervention, since they evidently comprise a difficult target group. The process of deliverance of interventions aimed at this target group has to be accessible and have a low-threshold. Integration of MI in standard care is recommended.



## Researchers

A Risselada MSc (researcher), T Magnée (research assistant), Prof H van de Mheen PhD (project leader).

**In collaboration with:** Meander Medical Centre Amersfoort, Parnassia Psychomedical Centre Den Haag, Erasmus Medical Centre Rotterdam

**Term:** January 2006 – June 2009

**Financing:** Netherlands Organisation for Health Research and Development (ZonMw)

## 13 Experimental observational studies on peer influence processes and alcohol consumption

### Aim and research questions

Reviews of theories on adolescents' substance use state that peer influences are the most consistent and strongest factor in the initiation and maintenance of substance use. When young people are in the company of drinking peers, they tend to *imitate* their peers' drinking behaviours. However, recent longitudinal survey research does not provide convincing evidence that adolescents are highly susceptible to peer influences on alcohol use as predictions are quite weak. This does not necessarily imply that young people do not imitate each other in drinking behaviour. In this project, we start from the assumption that observational methods that capture the dynamics of peer interactions may be more suitable to test the effect of peers on individual drinking. More specifically, this project examines the conditions under which people imitate peer behaviour by employing an experimental observational paradigm in which youngsters are confronted with peer drinking in a naturalistic context (a bar lab). The aim is to test the effects of exposure to a drinking peer on individual drinking levels in an *ad lib* (free) drinking context. We also examine whether imitation effects differ in same-sex and opposite-sex dyads, and whether effects depend on the development of dyadic interaction both in real-time and over two consecutive sessions. Finally, to investigate whether some people are more susceptible to alcohol cues than others, we study gene-environment interactions. To understand individual variability in sensitivity to alcohol cues and subsequent drinking, we argue that it is crucial to take individual genetic variance into account. Activity at dopamine receptors is an acknowledged biological mechanism for the initiation of craving (incentive salience). We test whether the *DRD4 VNTR* polymorphism affects whether people model other people's alcohol use.

### Methods

To study respondents' drinking in a naturalistic setting, this project consists of at least five experimental observational studies in a bar lab and in a real bar, both located at Radboud University Nijmegen. The advantage of conducting observational experiments in a naturalistic setting is that people generally display more typical, real-life behaviours than in a clinical lab setting. To assess interaction patterns that develop over time, we use the state space grid method. This approach offers an intuitively appealing way to view complex, interactional behaviour, by displaying dyadic interaction moment to moment as it stabilizes into particular patterns and as those patterns change over time. To study gene-environment interactions saliva of the participants is collected and analyzed in collaboration with the Department of Human Genetics, Radboud University Nijmegen Medical Centre.

### Results

#### *Imitation of Alcohol Consumption in a Semi-naturalistic Drinking Contexts*

The first experimental study showed that youths who were exposed to heavy drinking models consumed more alcohol compared to those exposed to light-drinking and non-drinking models. As expected, after controlling for craving, the mean differences in the amount of alcohol consumed between the three conditions were substantial. Also, as anticipated, in general men consumed more alcohol than women in the 30-minute observational sessions. Moreover, no gender differences were found in the levels of imitation. This first study extends previous results by demonstrating that imitation of alcohol consumption also occurs in an *ad lib* naturalistic drinking context. Although women generally drank less than men, the extent of imitation was similar in both groups.

#### *Imitation of Alcohol Consumption in a Real Bar*

Two experimental observation studies were conducted in a real bar at a university campus in order to validate the ecological validity of the bar lab. Both studies had results similar to those of the bar lab study. The participants consumed significantly and substantially more alcohol when they were exposed to a heavy drinking confederate compared to when they were with a non-drinking confederate. These results show that a bar lab is an excellent context to conduct research on influence processes in relation to alcohol consumption.

#### *Imitation of Alcoholic and Non-alcoholic Beverages*

In another study, we investigated whether imitation is more evident when peers drink alcohol compared to other beverages. We observed sipping behavior during a 30-minute interaction between same-sex confederates and participants in an *ad lib* semi-naturalistic drinking context (bar lab). Findings showed that participants imitated the sips of the confederates, but that the likelihood of participants imitating a sip was lower when confederates were drinking alcoholic beverages and participants non-alcoholic beverages compared to when both were consuming alcohol.

#### *Imitation of Alcohol Consumption in Same-sex versus Opposite-Sex Dyads*

To test whether imitation of alcohol consumption differs when being in the company of a same-sex versus opposite-sex drinking partner, a 2 (drinking condition: alcohol vs. no alcohol) by 2 (sex constellation of dyad: same-sex vs. opposite-sex) mixed between-within subjects design was used. Results demonstrated that imitation of alcohol consumption did not differ when participants were drinking with same-sex partners compared to opposite-sex partners. Men and women seem to imitate regardless of their drinking partner's sex.

#### *Gene by Environment Interaction*

With a 3 (drinking condition: alcohol vs. no alcohol) by 2 (genotype: risk allele vs. no risk allele) experimental design, we tested whether higher susceptibility to alcohol-related cues (i.e. seeing someone drink) was related to the *DRD4* VNTR 7-repeat polymorphism. A strong gene-environment interaction showed that participants carrying at least one copy of the 7-repeat allele consumed substantially more alcohol in the presence of heavy-drinking others than those without the risk allele. This study highlights that individual variability in sensitivity to other people's drinking behavior may be attributed to genetic differences. Carrying the 7-repeat allele may increase the risk for heavy alcohol use and/or abuse when in the company of heavy-drinking peers

#### **Researchers**

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**In collaboration with:** The Hospital for Sick Children Toronto Canada, University Utrecht

**Term:** 2006 - 2011

**Financing:** Netherlands Organisation for Scientific Research (NWO), Radboud University Nijmegen

## **14 Social roles and alcohol consumption: an European study**

### **Aim and research questions**

That alcohol consumption is also connected with the societal and social position of a person is rarely doubted. However, few theories make explicit which relations one can expect between the social position and alcohol consumption.

One of these theories is the social role theory; its central assumption is that the more social relevant roles a person has, the less opportunities he/she has to drink to excess; conversely, the fewer social roles a person has, the more likely that person may use situations in which alcohol is consumed to structure his/her daily life.

This study focuses on three main problems:

- How do the three main position roles (living with a partner, paid employment and care for children) interact with gender and social class to explain alcohol consumption?
- To what extent do European countries differ in how position roles are related to alcohol consumption?
- To what extent is there a systematic difference between men and women in how position roles are related to consumption?

### **Methods**

Two datasets are used. One is a set of surveys from European countries in which alcohol consumption (level of consumption and drinking six or more glasses per occasions) and the explanatory variables are measured in a comparable way. The other dataset is a large Swiss study among the adult population; this study will be used to analyze the extent to which the relation between social roles and consumption is mediated or moderated by psychological variables.

### **Results**

A cross-national study in 10 (industrialized) European countries shows that in all countries multiple roles tend to protect against excessive consumption. However, in some countries the additional role of employment over having a partner and/or care for children did not correlate with a lower consumption. The protective effect of multiple roles appears to be hardly mediated or moderated by psychological variables like mastery or depressed mood.

A first multi-level analysis including country indicators for gender equity, indicates that the protective effect of multiple roles may depend on the extent mothers are enabled to have (also) a paid job.

### **Researchers**

S Kuntsche MSc (PhD student, SIPA), Prof RA Knibbe PhD (promotor)

**In collaboration with:** Swiss Foundation of Alcohol Research (SIPA)

**Term:** 2005 - 2010

**Financing:** Swiss Foundation of Alcohol Research (SIPA)

## **15 Genes, family environment, and gene-family environment interactions as predictors of adolescent alcohol use**

### **Aim and research questions**

We examine how family-environmental factors interact with candidate genes in predicting alcohol use in early, middle, and late adolescence. The main starting point is that adolescents who possess a certain genetic liability (because of genetic mutations: polymorphisms) and who experience specific environmental conditions, may be at a greater risk to use alcohol, or develop alcohol-related problems, than adolescents who do not have this genetic vulnerability or the environmental stressors.

Research questions are:

- Which genes interact with environmental factors in relation to alcohol use in adolescents? And which environmental factors exert the largest influence in determining alcohol consumption while interacting with specific genetic polymorphisms?
- Do genotype and parenting (e.g., rules, control) interact in predicting alcohol-related behavior?
- Is there a specific role for alcohol-specific parenting practices in the relation between genes and alcohol use?
- To what extent are polymorphisms in selected genes related to different stages of alcohol use?

### **Methods**

Research questions will be answered with the use of a longitudinal study with six annual waves. At wave one a total of 428 families, consisting of two parents and two adolescent children (aged 13 and 15 years at wave 1) were participating.

Six assessments have been conducted, and saliva samples from all family members were collected at wave four. At each wave, all family members individually filled in an extensive battery of instruments on child and parenting behavior.

In addition, a small cross-sectional study among approximately 100 13-year-olds will be initiated to examine relationships between genetic polymorphisms, impulsivity and alcohol use in an endophenotypic approach. Data will be collected at secondary schools.

## Results

The first study of this project demonstrated that shared environmental factors (parental rule-setting and control, and modeling effects) influence the development of alcohol use in young adolescents. When adolescents grow older and move out of the initiation phase, their drinking behavior may be more influenced by other factors, such as genetic susceptibility and peer drinking (Van der Zwaluw et al., 2008).

The second study of this project comprised a descriptive review of the relation between the m-opioid receptor gene (*OPRM1*) and alcohol dependence. Little evidence was found for a direct association between polymorphisms in *OPRM1* and alcohol dependence. Explanations for the lack of positive findings were discussed (Van der Zwaluw et al., 2007).

The third study showed that adolescents and their intimate partners were relatively similar in alcohol use. This resemblance was best explained by adolescents' selection of future partner on the basis of alcohol consumption. Less indication was found for influence effects, perhaps due to the transient nature of most adolescent romantic relationships (Van der Zwaluw et al. in press).

The fourth study is a review of empirical studies that test gene-environment interactions on alcohol use and dependence. Despite the fact that the importance of this type of research is well acknowledged, we identified only nine empirical studies. In these studies the interactions between a plethora of candidate genes and several environmental factors were associated with alcohol use or dependence. (Van der Zwaluw & Engels, 2009).

The fifth study tested for interaction effects between the dopamine D2 receptor gene (*DRD2*) taq1 genotype and parental rule-setting on the initiation of alcohol consumption. We selected adolescents who did not drink at Time 1 or Time 2 and examined whether they consumed alcohol one year later. Indeed adolescents with the *DRD2* A1 allele, whose parents were highly permissive towards alcohol use, consumed significantly more alcohol one year later than did adolescents without these characteristics (Van der Zwaluw et al., 2010).

The sixth study was a review on associations between the dopamine transporter gene (*DAT1*) and alcohol use and dependence. Little evidence was found for a direct association between polymorphisms in *DAT1* and alcohol dependence. Explanations for the lack of positive findings were discussed (Van der Zwaluw et al., 2009).

In our seventh study we showed that adolescents who drink to cope with stress and negative mood (i.e. coping drinkers) reported more alcohol-related problems and binge drinking. This relationship was particularly strong among those with the *DRD2* risk allele (Van der Zwaluw et al., resubmitted). In study eight we examined the development of adolescent alcohol use over 5 waves (from 13 to 17 years old). Both the starting point and the growth of alcohol use differed significantly from zero. In addition, a polymorphism (5-HTTLPR) of the serotonin transporter gene (*SLC6A4*) significantly predicted adolescent alcohol use; those adolescents with the risk (short) allele showed a steeper increase in alcohol use over time than adolescents without the risk allele.

## Researchers

CS van der Zwaluw MSc (PhD student), RHJ Scholte PhD (advisor), Prof RCME Engels PhD (promotor), Prof JK Buitelaar PhD (copromotor, Radboud University Nijmegen Medical Centre), RJ Verkes PhD (copromotor, Radboud University Nijmegen Medical Centre)

**In collaboration with:** Radboud University Nijmegen Medical Centre

**Term:** April 2006 – March 2011

**Financing:** Netherlands Organization for Scientific Research (NWO)

## **16 Development of automatic and controlled processes with regard to substance use in adolescence**

### **Aim and research questions**

This study tests a recent model on the development of addictive behaviors in adolescence. The central hypothesis is that these problematic behaviors are the result of a disturbance in the balance between two classes of neurocognitive processes with regard to alcohol and drug use. The first class of processes are appetitive responses to drug cues, including attentional bias, automatic arousal associations and automatic approach action tendencies.

These appetitive processes become stronger as a result of alcohol and drug use through sensitization. The second class of processes are executive control processes including working memory, inhibitory control and error monitoring. The development of these processes is negatively affected by alcohol and drug use during adolescence. Furthermore, brain regions associated with these processes are not fully developed in adolescence. Some scattered research findings have provided preliminary support for the model, but an integrated, longitudinal project investigating the development of these processes is lacking.

### **Methods**

Four hundred adolescents participated in this longitudinal study (three waves, with six-month intervals). Subjects performed computer tasks which assess both appetitive and control processes at wave one and wave three. Examples are, for instance, the implicit association test and the self-ordered pointing task (working memory).

Furthermore, subjects filled in questionnaires regarding, for example, attitudes towards alcohol and alcohol expectancies. Saliva samples are collected to identify genetic polymorphism associated with alcohol.

### **Results**

First results are published in Addictive Behaviors:

Pieters, S., Van Der Vorst, H., Engels, R.C.M.E., & Wiers, R.W. (2010). Implicit and explicit cognitions related to alcohol use in children (in press). *Results will be added.*

### **Researchers**

S Pieters MSc (PhD student), H van der Vorst PhD (advisor), Prof RCME Engels PhD (promotor), Prof RW Wiers PhD (promoter Free University Amsterdam, IVO/Radboud University Nijmegen, till 01-08-2008)

**Term:** February 2007 - February 2012  
**Financing:** Radboud University Nijmegen

## **17 Effect evaluation of intensified enforcement of the age ban on adolescent drinking and the additional effect of a community intervention**

### **Aim and research question**

The project aims to decrease the alcohol consumption of under-age adolescents by: (a) intensified control of sellers' compliance with the law forbidding to sell alcohol to adolescents younger than 16 years, and (b) by a community intervention aimed at mobilizing support among relevant civil servants, professionals and parents of adolescents for measures restricting opportunities for adolescents to drink and to get drunk.

The intensified control of compliance of sellers with relevant alcohol laws will be carried out by the national organization responsible for inspecting the compliance with these laws: the Food and Consumers Safety Authority (VWA). This organization issues warnings and a seller is fined if compliance is insufficient. There will be a two-year period in which relevant sellers in a region will be visited about 8 times by inspectors of the VWA. In a control region there will be only one exploratory inspection (not followed up by warnings and fines) in this period to identify the relevant sellers in the control region.

The community intervention will be done by the Dutch Institute for Alcohol Policy (STAP). In this context media advocacy aimed at the local media will be used, a training course to increase expertise of relevant civil servants and professionals will be given, and a support group of parents who will develop initiatives both at home and in the public sphere will be instituted. The increased enforcement and the concrete additional measures in the context of the community intervention are planned for a period of 2 years.

### **Methods**

The interventions are evaluated by following a cohort of adolescents, one of their parents, and sellers of alcohol. The cohorts of adolescents, the parents and sellers of alcohol will be recruited from three regions: one with no intervention, one with (only) intensified control of sellers, and one region with both intensified control and a community intervention. At baseline the adolescents are aged 13-15 years. They are interviewed before the start of the intervention, and at 1 and 2 years after the intervention(s) have started. Parents and sellers of alcohol are interviewed before the intervention and again 2 years later.

### **Results**

At the first measurement (Oct/Nov 2008) 2056 adolescents (aged 13-15 years) and one of their parents were interviewed. A maximum of 21% of the approached families actively refused to cooperate. In Oct/Nov 2009 a postal follow-up interview was conducted with the adolescents only (almost 90% follow-up response). Results regarding the planned interventions in 2009 concern implementation of increased enforcement in 2 of the 3 communities in the study, and implementation of the community intervention in 1 of the 2 communities with increased enforcement. Implementation of the enforcement was as planned. Additionally the 2 communities (re-)formulated their policy with respect to public drinking places, which will probably promote the effect of increased enforcement. In the community with an intervention, a parent group was started to coach parents.

In 2009 these parental activities mainly concerned providing information to and discussions with other parents at relevant public events, and a systematic approach of all secondary schools in the community to develop a more alcohol restrictive or, preferably, alcohol-free school policy.

All parents of 13-15 year old adolescents in this community received a brochure outlining the responsibilities of parents regarding alcohol use of their children, and the possibilities for parents to monitor and control their children's alcohol consumption. Also realized in 2009 was the training of relevant civil servants and professionals in developing and implementing a local alcohol policy. Finally, the community started an active media advocacy on the subject of young people and alcohol consumption, resulting in more attention for this topic in the local media. Based on the first measurement, results show that 60.7% of the adolescents had not consumed alcohol in the last 6 months, and that 8.5% had consumed 6 glasses or more (on one or more occasions) in the last 6 months. The most important drinking situations for this age group are drinking at home with their parents or with friends (both >50% of the drinkers) and drinking in public drinking places (about 45% of the drinkers). The proportion of young people receiving alcohol from their parents or peers is larger than the proportion actively acquiring alcohol for themselves. When actively acquiring alcohol, the supermarket, (unasked) taking alcohol at home, and public drinking places are the most important sources for alcohol. Most parents agree that they are responsible for the drinking of their adolescent children, and most want general measures, enforced by relevant authorities, to help them prevent alcohol misuse by their children. However, there is less unanimity as to which measures would be most helpful. Parents are mainly unaware what rules other parents use to prevent alcohol misuse by their children. A more in-depth analysis of the relation between pubertal timing, psychosocial development and alcohol consumption showed that pubertal timing and psychosocial development tend to increase the likelihood of drinking and binge drinking. However, the effect of pubertal timing and psychosocial development was largely mediated by the alcohol-specific rules of parents with respect to their children's consumption.

### **Researchers**

K Offermans MSc (PhD student), M Derickx (research assistant), Prof RA Knibbe PhD (promotor), Prof H van de Mheen PhD (copromotor), Prof R Engels PhD (copromotor)

**In collaboration with:** Dutch Institute for Alcohol Policy (STAP), Food and Consumers Safety Authority  
**Term:** January 2008 – January 2012  
**Financing:** Netherlands Organisation for Health Research and Development (ZonMW)

## **18 Take it or leave it: prevention of early substance use in adolescence**

### **Aim and research questions**

The Healthy School and Drugs (HSD) project is a widely implemented, school-based prevention program in the Netherlands. HSD targets youngsters in primary and secondary schools and aims to reduce or limit alcohol, tobacco and cannabis use in adolescence. This four-wave longitudinal project will examine the effectiveness of HSD in a randomized clustered trial. The primary goal is to test whether HSD is effective. That is, does the HSD program lead to postponing or diminishing substance use among Dutch adolescents? And what are the actual active components of HSD? Are behavioral changes mainly due to the integral working method of HSD or do youngsters benefit more from one specific component, namely the electronic learning modules? The final goal is to investigate how possible behavioral changes come about.

Are increased knowledge, better refusal skills, or changed attitudes towards substance (ab)use (partly) accountable for these effects? Answers will be given based on these mediating analyses.

### **Methods**

The objective of the study is to test the e-learning modules of the HSD program and the integral package of the HSD program. The e-learning modules of HSD concerns three modules: alcohol (4 lessons), tobacco (3 lessons), and cannabis (3 lessons). Students can work through the lessons independently and in their own pace. The lessons work on knowledge, attitude and behavior. The integral package of HSD consists of four major pillars, these are: the e-learning modules, parental participation, a school regulation which addresses substance use, and skill training in signaling and guiding problem users. The parental participation refers to a parental meeting at the school and written information about substance use sent to all parents. The third pillar asks schools to incorporate school regulation on substance use among adolescents and employees. The final pillar concerns a protocol on how to deal with problem users. In addition, employees receive professional development on this subject. The project starts in the first year of secondary education. Schools will be randomly assigned to one of the following conditions: (1) regular curriculum, (2) HSD e-learning modules, or (3) HSD integral package.

In order to test the program all students in the three groups fill out a questionnaire on four occasions (January/February 2009, September/October 2009, September/October 2010, and September/October 2011). Youngsters will be asked about their actual use of alcohol, tobacco and cannabis, as well as about their attitudes, self-efficacy, social influences, etc.

### **Results**

The first two waves have been conducted. On the data of the first wave two research articles have been written. The first article aimed at substance use risk profiles and early substance use in adolescence. It was examined if anxiety sensitivity, hopelessness, sensation seeking, and impulsivity would be related to the lifetime prevalence and age of onset of alcohol, tobacco, marijuana, and to polydrug use in early adolescence. This paper is currently under review.

The second paper, aimed at the associations between pros and cons of marijuana use, self-efficacy, and the intention to start using marijuana in the future, has been submitted. The short-term results on the effectiveness of the HSD are expected in 2010.

### **Researchers**

M Malmberg MSc (PhD student), J Lammers MSc (project leader, Trimbos Institute), M Kleinjan PhD (supervisor, copromotor), GJ Overbeek PhD (advisor, University Utrecht), K Monshouwer PhD (advisor, Trimbos Institute), Prof RCME Engels PhD (promotor), Prof W Vollebergh PhD (copromotor, University Utrecht)

**In collaboration with:** Netherlands Institute for Mental Health and Addiction (Trimbos Institute),  
University Utrecht  
**Term:** June 2008 – June 2012  
**Financing:** Ministry of Health, Welfare and Sport (VWS)

## **19 The Truman Show: effects of alcohol portrayal in the media on actual alcohol consumption**

### **Aim and research questions**

To test the effects of alcohol portrayal in films, soaps and advertisements on actual drinking behaviour of young people. Specifically, we investigate whether individuals imitate drinking of characters on screen and whether they are inspired to drink when confronted with alcohol cues. Further, we examine whether identification with characters and genetic susceptibility for alcohol cues affect the magnitude of imitation.

### **Methods**

Experimental observational methods in naturalistic settings are used to test our hypotheses. Most experiments are conducted in a bar lab or living room lab at the Radboud University Nijmegen. This bar lab is situated in a room furnished as an ordinary small pub, with a bar and stools, tables and chairs, indoor games, and comfortable couches. Respondents know that they are observed.

### **Results**

The first experiment examines the direct effects of television commercials advertising soda on actual sugar-sweetened soda consumption among young women. Results indicated that participants assigned to the condition with soda commercials consumed 1.3 ounces more soda than participants in the water commercial condition. Exposure to soda commercials while watching a movie can have a strong influence on increasing sugar-sweetened soda consumption in young women.

The second experiment assesses the effects of movie alcohol portrayal on alcohol consumption of young adults while watching. Assignment to movie alcohol increased alcohol consumption during the movie for men but not women. Identification and weekly alcohol consumption did not moderate the relation between movie condition and alcohol consumption. We conclude that exposure to alcohol portrayals in a movie can directly influence alcohol consumption in young men.

The third experiment examined the effects of alcohol commercials in movie theatres on alcohol consumption of young adults while watching. Alcohol consumption of high weekly alcohol drinkers was higher in the alcohol commercial condition than in the non-alcohol commercial condition, whereas no differences were found in alcohol consumption between commercial conditions for low weekly alcohol drinkers. No sex differences were found in the association between exposure to alcohol commercials, weekly drinking and alcohol use. We conclude that exposure to alcohol commercials prior to a movie in the movie theatre can directly influence alcohol consumption in high weekly alcohol consumers.

The fourth study examined whether young people imitate actors sipping alcohol on screen. In addition, we investigated cue-specific and individual-specific factors related to responding to alcohol cues. The findings showed that participants were more likely to sip in accordance with the actors' sipping than without such a cue. This indicates the existence of an imitation process. Further, we found that men were more likely to imitate actors' sips than females and that participants tended to respond to actors' sips rather in the beginning of the movie than in the end of the movie.

Results are published or submitted in the following articles:

- Koordeman R, D Anschutz R van Baaren, RCME Engels (submitted to Appetite) Exposure to soda commercials affects sugar-sweetened soda consumption in young women: An observational experimental study.
- Koordeman R, D Anschutz, R van Baaren, RCME Engels (resubmitted to Addiction) Effects of Alcohol Portrayals in Movies on Actual Alcohol Consumption: An Observational Experimental Study.



- Koordeman R, D Anschutz, RCME Engels (submitted to Addictive Behaviors) Exposure to alcohol commercials in movie theatres affects actual alcohol consumption in young adult high weekly drinkers: An experimental study.
- Koordeman R, D Anschutz, R van Baaren, RCME Engels (submitted to alcohol & alcoholism) Do we act upon what we see? Direct effects of alcohol cues in movies on young adults' alcohol drinking.

**Researchers**

R Koordeman MSc (researcher), D Anschutz MSc (advisor), R van Baaren PhD (copromotor, Radboud University Nijmegen), Prof RCME Engels PhD (promotor)

**In collaboration with:** Radboud University Nijmegen, prof dr R Wiers (University of Amsterdam), prof dr J Sargent (Dartmouth-Hitchcock Medical Center), prof dr A Stacy (University of Southern California), dr T Hollenstein (Queen's University)

**Term:** March 2008 – March 2013

**Financing:** Netherlands Organization for Scientific Research (NWO)

## Hard drugs, cannabis and new drugs

### 20 Cannabis branch speaking: backgrounds and motivations of (ex-) exploitants in grass cultivation and developments in the Dutch cannabis branch

#### Aim and research questions

This study investigates the backgrounds and characteristics of (ex-)exploitants in grass cultivation. An important issue will be to what extent the deviant character plays a role in the motivation of (not) being active in this branch, producers and retailers. Moreover, developments in the Dutch cannabis branch since the 1990s will be mapped.

#### Methods

After a review of literature and establishment of a theoretical framework, three types of qualitative data are collected: semi-structured interviews with experts (insiders in the branch and others who are related to the cannabis branch), face-to-face in-depth interviews with (ex-)exploitants in local grass cultivation, and expert meetings with policymakers who are acquainted with the branch and its insiders.

#### Results

Will be reported in a PhD thesis that is expected in 2010.

#### Researchers

NJM Maalsté MSc (researcher/PhD student, till 04/2007), Prof H van Mheen PhD (promotor)

**In collaboration with:** University of Amsterdam (till 2008)

**Term:** January 2003 – August 2010

**Financing:** IVO

### 21 Estimate of the number of problematic hard drug users

#### Aim and research questions

The present research is part of a national estimation of the prevalence of problematic hard drug use in the Netherlands. As part of this broader project, IVO has estimated the prevalence of problematic drug use in Rotterdam and The Hague.

#### Methods

Problematic drug users are defined as persons who (almost) daily use illicit drugs (cocaine, heroin, methadone and amphetamines) and 1) do not have a house of their own; or 2) perform criminal activities; or 3) have a psychiatric disorder; or 4) who cause nuisance.

To estimate the number of problematic drug users in Rotterdam and The Hague, a method employing a multiplier based on the in-treatment rate of problematic drug users is used. The inverse of the in-treatment rate is multiplied by the number of problematic drug users that was in treatment in both cities. To estimate the in-treatment rate, semi-structured interviews with problematic drug users are held at low-threshold facilities. From these data, and data from other cities collected by the Municipal Health Authority Amsterdam and Research Bureau Intraval, the number of problematic hard drug users in the Netherlands is estimated.

#### Results

In Rotterdam, the number of problematic drug users was estimated to be over 2,000 (range 1,952-2,260) and in The Hague over 1,900 (range 1,773-2,202). Results for the total number of problematic drug users in The Netherlands will be presented at the Netherlands Institute for Mental Health and Addiction (Trimbos-Instituut) in 2010.

**Researchers**

JE Baars PhD (researcher), Prof H van de Mheen PhD (advisor), TM Schoenmakers PhD (project leader)

**In collaboration with:** Netherlands Institute for Mental Health and Addiction (Trimbos-Instituut), Municipal Health Authority Amsterdam, Bureau Intraval

**Term:** October 2008 – November 2009

**Financing:** Ministry of Health, Welfare and Sport (VWS)

## 22 Reach of a hepatitis B vaccination campaign among high-risk groups

**Aim and research questions**

To gain insight into the extent to which risk groups of hepatitis B are reached by the national hepatitis B vaccination campaign. In addition, factors related to non-participation and non-compliance were studied. These findings were used to enhance participation and compliance of the vaccination campaign.

**Methods**

Semi-structured interviews among about 300 members per risk group: drug users (DUs), commercial sex workers (CSWs), and men who have sex with men (MSM). These interviews took place in three regions per risk group: Rotterdam, Utrecht and South Limburg. First an ethnographic map was made to identify high-risk groups in the region. Then members of risk groups were interviewed at particular 'gathering spots' of these risk groups, e.g. sex clubs, prostitution zones, methadone stands and gay bars.

**Results**

Results showed that 63% of the DUs, 79% of CSWs, and 74% of the MSM were aware they could opt for free hepatitis B vaccination.

Homeless DUs and those who had visited drug consumption rooms were more frequently familiar with the campaign than those with a stable housing situation. Among CSWs the duration of working in the sex industry was positively associated with the familiarity with the campaign. Among MSM those who were bisexual were less frequently familiar with the campaign. A total of 44% of DUs, 63% of CSWs, and 50% of the MSM obtained vaccination. Analyses showed that among all three groups outreach activities were positively associated with vaccination uptake. Among MSM their sexual risk behavior with casual partners played a more important role in their decision to obtain a vaccination. The most important reasons for non-participation were: the lack of self-efficacy among DUs, inconvenience and lack of time for CSWs, and not perceiving any risk for infection with the hepatitis B virus among MSM. Among those susceptible to the hepatitis B virus (those who reported no hepatitis B vaccination nor infection with the hepatitis B virus), attitude towards hepatitis B vaccination is the most important predictor of intention to obtain vaccination among the three risk groups, next to health benefits among CSWs and perceived susceptibility among MSM. Age was positively associated with intention among DUs, and negatively associated with intention among CSWs.

The results were presented in a thesis called: 'Hard to Reach? Hepatitis B vaccination among high-risk groups' which was successfully defended on January 16, 2009.

**Researchers**

JE Baars PhD (PhD student), BJF Boon PhD (copromotor IVO till 31-05-2008), Prof H van de Mheen PhD (promotor), Prof HFL Garretsen PhD (promotor)

**Term:** July 2003 – January 2009

**Financing:** Netherlands Society of Municipal Health Authorities (GGD-NL)

## **23 Extent and nature of chronic dependent hard drug and alcohol users in Flevoland**

### **Aim and research questions**

In the province of Flevoland, the municipality of Almere is responsible for the coördination of social support for chronic dependent and nuisance-causing hard drug and alcohol users. Stakeholders in the field have indicated that the level of available services does not meet the needs of the target group. To acquire a sound basis for future service planning, the municipality of Almere asked IVO to provide reliable data on the prevalence, nature and needs of the target group.

### **Methods**

After defining inclusion criteria for the target group, registration data of care providers and registration of the public prosecutor were screened for target group members. A count was made of target group members in these registrations.

The capture-recapture method was applied to make an estimation of the total number of the target group. An ethnographic map was constructed that served as a guide to proportionally recruit and interview 100 target group members using a structured questionnaire. It appeared that the cities in the province of Flevoland do not have an open drug scene. Therefore, to construct the ethnographic map we relied on information provided by institutions. This survey describes the target group in terms of demographics, substance use, health and nuisance-related behaviour. Seven experienced service providers estimated the need for services within the target group, based on 60 brief case descriptions. Finally, in a focus group session, 7 members of the target group reflected on the available services in Flevoland.

### **Results**

In a three-month period we interviewed 76 people, 64 of which met the inclusion criteria; their mean age is 42 years, one third is homeless, and 75% is male. The most frequently used substance is alcohol, followed by cocaine and heroin.

Most important source of income is social security benefit, 20% committed petty crime in the past six months, and 80% has debts (on average 7,000 euro). All those interviewed have at least contact with one care provider. Based on capture-recapture methodology the province of Flevoland has an estimated 300 chronic problematic drug users (C.I. 95% 254-364). The expert meeting resulted in a description of the observed gaps in the spectrum of services. According to the experts Flevoland lacks a drug consumption room (Almere and Lelystad), a night shelter (Almere) and a semi-permanent supported housing unit for dependent hard drug users (Almere and Lelystad).

### **Researchers**

C Barendregt MSc (researcher), D Nentjes MSc (research assistant, IVO till 31-12-2008), S Beekvelt (research assistant, IVO till 31-12-2008), EG Wits MSc (project leader)

**Term:** August 2008 - March 2009

**Financing:** Municipality of Almere

## **24 Public opinion on substance use and policy measures**

### **Aim and research questions**

International differences exist on alcohol and drug-related policy measures. However, knowledge of public opinion with respect to alcohol and drug policy is limited. This study explores Dutch public opinion on alcohol and drug policy, and also examines the influence of culture and legislation on opinion. For the latter study, data are compared with Norwegian data, which has a less tolerant policy to alcohol and drug use.

The research questions are:

1. What is the public opinion on alcohol and drug policy in the Netherlands?
2. Does public opinion on alcohol and drug policy correspond with the political climate?
3. To what extent is substance use accepted in the Netherlands and in Norway?
4. What is the public opinion regarding the responsibility of government versus the responsibility of parents to take measures against alcohol and drug use among young people, and is that dependent on the status of the illegality of the drug?

### **Methods**

In 2008 data were collected via an internet survey using a Dutch panel (Longitudinal Internet Studies for Social Sciences, LISS). The LISS panel is based on a true probability sample of 5000 households and includes 8280 panel members aged 16 years and older. In total, 5616 (67.8%) respondents filled out the questionnaire. In Norway 2150 respondents filled out the questionnaire.

### **Results**

Two studies were conducted based on these data. First, we examined the opinion of the Dutch population on cannabis policy measures. Two types of measures were distinguished: measures to reduce the availability of cannabis, and educational measures to prevent the use of cannabis. Opinions on the availability measures are mixed, depending on whether the respondents were recent cannabis users, lifetime cannabis users, or non-users. Own cannabis use was the strongest predictor of the opinion on these availability measures. For the educational measures, almost all respondents agreed with these; being a cannabis user or not had little effect on the opinions regarding educational measures.

Second, we examined the opinion of Dutch youth (aged 16-22 years) on alcohol policy measures and compared their opinion with that of a Dutch group older than 22 years. Again, a distinction was made between availability measures and educational measures. Regarding availability of alcohol, the younger groups (aged 16-18 and 19-22 years) were significantly more negative about these policy measures than the older respondents (22 years and older). Educational measures were more popular than availability measures among all three groups; the opinions of the groups showed significant differences between the groups. Own alcohol use was the main predictor for the opinion on the availability measures, and age was the main predictor for the opinion on educational measures. To date we have focused mainly on 'Opinion on policy measures'. The next step is to explore 'Acceptability of alcohol and drugs use in the Dutch and Norwegian society'.

### **Researchers**

R van der Sar MSc (PhD student), K van Beijsterveldt (PhD student till 15-03-2009), Prof HFL Garretsen PhD (promotor), LAM van de Goor PhD (copromotor), EPM Brouwers PhD (copromotor)

**In collaboration with:** SIRUS (Statens institutt for rusmiddelforskning) Norway

**Term:** February 2008 – February 2012

## **25 Regional Monitor Den Bosch**

### **Aim and research questions**

Novadic-Kentron is the addiction treatment and prevention center in the region of Brabant and (amongst other activities) conducts monitors and quickscans in order to map the current situation with regard to marginalized groups (including drug users). IVO was asked to assist in one monitor of Novadic-Kentron, namely the Regional Monitor Den Bosch. The study provides information on the discrepancy between supply and demand of care for marginalized adults and young people.

The following questions were addressed:

- 1) What is the nature and extent of marginalized groups in the municipality of Den Bosch?
- 2) What is the nature of the experienced problems regarding drug use, housing, health, police, and work and income?
- 3) Which institutions and professionals provide care?
- 4) What are the bottlenecks in providing care?

## **Methods**

IVO consulted on the research methods and the writing of the report. In addition, IVO provided a researcher that contributed to the data collection. The IVO researcher interviewed care providers, social workers, policymakers and drug users. Questions were asked by means of a topic list.

## **Results**

Stakeholders in the field have estimated that there are around 400 to 500 marginalized hard drug and alcohol users in the municipality of Den Bosch. Interviews with stakeholders of the suburbs of Den Bosch revealed that those marginalized hard drug and alcohol users are not visible in the suburbs of Den Bosch, they tend to concentrate in the city. The marginalized group are mostly male (73%), are between 25 and 60 years old and are mostly native (70%). They have diverse psychiatric problems, as well as problems with housing, work and activities.

The most important bottleneck in providing care that is mentioned by the stakeholders in the field is the lack of through-flow of in the social relief sector. There is a lack of adequate services. Suggestions from the field of services that are needed are hostels and day activities.

## **Researchers**

B van Straaten MSc (researcher), GJ Peeters MSc (researcher, Novadic-Kentron), A van der Poel PhD (project leader), M Kleinjan PhD (project leader)

**In collaboration with:** Novadic-Kentron Addiction Care, Municipality of Den Bosch

**Term:** November 2008 – April 2009

**Financing:** Novadic-Kentron Addiction Care

## **26 Five years hepatitis B vaccination: results of a national program among behavioral risk groups**

### **Aim and research questions**

Aim is to assess the extent to which the Dutch nationwide hepatitis B vaccination program has reached behavioral risk groups (men who have sex with men, sex workers, drug users and heterosexuals with multiple sex partners) from 2002-2007. In addition, we studied potential correlates of infection with the hepatitis B virus and compliance with the vaccination schedule.

### **Methods**

This prospective nationwide study is based on an online hepatitis B vaccination registration system dating from 2002 onwards.

Participants can enroll into the vaccination program in different ways, e.g. by making an appointment for the free vaccine at the public health service (n=38 in the Netherlands) or by enhanced outreach (vaccination at gay bars, sex clubs, methadone clinics, etc.).

Multivariate logistic regression analyses were performed with infection with the hepatitis B virus and compliance with the vaccination schedule as the dependent variables.

### **Results**

A total of 80,680 participants, of which 18,510 men who have sex with men, 9,391 sex workers, 13,482 drug users and 39,297 heterosexuals with multiple sex partners took part in the vaccination program. Naturally acquired immunity against the hepatitis B virus was found in 9.2%, and chronic infection in 0.7% of the total sample.

In total, 61.7% (n=39,689) of those eligible for vaccination completed the vaccination schedule (0, 1, 6 months). Several correlates of hepatitis B virus infection and compliance were found. The most prominent correlation was found between endemicity of the country of origin and hepatitis B virus infection occurring among all groups. In addition, our data showed a negative association between being vaccinated at an outreach-location and compliance with the vaccination schedule.

The paper has been submitted for publication and is currently in review.

## **Researchers**

J Baars PhD (researcher), A van der Poel PhD (project leader), M Kleinjan PhD (project leader)

**Term:** May 2008 – May 2009

**Financing:** Netherlands Society of Municipal Health Authority (GGD-NL)

## **27 Specific problems among prisoners with an ISD measure and their need of care**

### **Aim and research questions**

The ISD (Institution for Prolific Offenders, in Dutch: Inrichting Stelselmatige Daders) measure is a measure that can be imposed on systematic offenders. The aim of this study is to provide insight into the specific (mental) problems and the need of care among prisoners with an ISD measure, in comparison with prisoners without an ISD measure.

### **Methods**

To compare ISD prisoners with other prisoners, we interviewed 99 prisoners in a prison in Vught. Data from an earlier study by Novadic-Kentron were complemented by interviews that we conducted for this particular study. The interviews consisted of measures of drug and alcohol use, demographic variables, criminal behavior, psychiatric symptoms and disorders, personality. By means of a subsequent focus group with health care professionals results from the interviews were discussed. Main topics of this focus group were implications for practice, and what type of care should be given to subgroups that were distinguished in the interview data.

### **Results**

The primary crime pattern in the ISD-ers is often related to substance use, more often than the non-ISD-ers. ISD-ers are mainly guilty of crimes against property. They have a lower average estimated IQ score than non-ISD-ers. ISD-ers also have more problems with severe depression. In addition, the ISD group-ers are characterized by lack of qualifications, long periods of unemployment and a significant debt problem. Apart from the comparison of non-ISD and ISD-ers, three subgroups were distinguished in the total sample (ISD-ers and non-ISD-ers), which are relevant for the practice of (addiction) care in a judicial setting.

## **Researchers**

SM Ganpat MSc (researcher), EG Wits MSc (project leader), T Schoenmakers PhD (researcher), P Greeven PhD (project leader, Novadic-Kentron)

**In collaboration with:** Novadic-Kentron Addiction Care

**Term:** February 2008 - February 2009

**Financing:** Novadic-Kentron Addiction Care

## **28 Anxiety disorders and substance abuse: development of a treatment guideline**

### **Aim and research questions**

Many people with substance abuse or dependency suffer from anxiety disorders, and vice versa. Appropriate guidelines for the treatment of co-morbid anxiety disorders and substance abuse disorders are lacking. In 2003 (revised 2009) a guideline for the treatment of anxiety disorders was developed. We aim to develop an addendum to this guideline for people with a co-morbid substance abuse disorder.

### **Methods**

The method will be according to the Master Protocol developed by the 'Scoring Results' program. 'Scoring Results' is a Nation wide program in which Addiction Care Organisations and Scientists work together in order to increase evidence-based working in addiction care. This protocol consist of combining evidence-based, practice-based and preference-based (what clients want) evidence.

The Master Protocol contains the following steps: preparation phase, literature review, field analysis, design phase, comment by experts, internal pilot, external pilot and an implementation and maintenance phase.

### **Results**

Results are expected in 2010 and will result in a treatment guideline.

### **Researchers**

W Meulders MSc (project leader, Mondriaan Addiction Care), A Snoek MSc (researcher), EG Wits MSc (project leader), L de Vooght MSc (advisor, Mondriaan Addiction Care), K Schruers MSc (advisor, Mondriaan Addiction Care), Michaël Wellmer PhD (advisor, Mondriaan Addiction Care), Nele Gielen MSc (advisor, Mondriaan Addiction Care).

**In collaboration with:** Mondriaan Addiction Care (Mondriaan Zorggroep)

**Term:** October 2008 – March 2010

**Financing:** Scoring Results, a program of the Netherlands Society of Mental Health Authorities (GGZ NL)

## **29 Multicenter: development of a monitor for youth addiction care**

### **Aim and research questions**

Many addiction care institutions are starting, or will start, treatment facilities for youth. The Ministry of Welfare, Health and Sports has financed 300 extra beds for youth.

In this project a monitor will be developed to evaluate the outcome of youth addiction care, and to learn from each other's treatment programs and experiences.

### **Methods**

The method will be according to the Master Protocol developed by the 'Scoring Results' program. 'Scoring Results' is a Nation wide program in which Addiction Care Organisations and Scientists work together in order to increase evidence-based working in addiction care. This protocol consists of combining evidence-based, practice-based and preference-based (what clients want) evidence. The Master Protocol contains the following steps: preparation phase, literature-review, field-analysis, design phase, comment by experts, internal pilot, external pilot and an implementation and maintenance phase.

The monitor will be developed in close collaboration with the field of addiction care. Conferences will be organized for the various professionals in youth addiction care to use all available knowledge and involve end-users.

### **Results**

Results are expected in 2010 and will result in a monitor for use in youth addiction care.

### **Researchers**

A Snoek MSc (researcher), Prof H van de Mheen PhD (advisor), GH de Weert PhD (project leader, NISPA/Julius Centrum UMC), Prof CAJ de Jong PhD (advisor, NISPA)

**In collaboration with:** Nijmegen Institute for Scientist-Practitioners in Addiction (NISPA), Julius Centre UMC Utrecht

**Term:** November 2008 – March 2010

**Financing:** Scoring Results, a program of the Netherlands Society of Mental Health Authorities (GGZ NL)



### **30 Early screening on substance misuse and dependency by youth: development of a guideline**

#### **Aim and research questions**

Despite the severity of substance misuse and dependency among youth, little attention is paid to early screening. In this project a guideline will be developed to improve early screening on substance misuse and dependency by youth. Different screening instruments will be examined for their usefulness in the Dutch context. Problem groups will be located, as well as the context in which the screening should take place.

#### **Methods**

The method will be according to the Master Protocol developed by the 'Scoring Results' program. 'Scoring Results' is a Nation wide program in which Addiction Care Organisations and Scientists work together in order to increase evidence-based working in addiction care. This protocol consists of combining evidence-based, practice-based and preference-based (what clients want) evidence. The Master Protocol contains the following steps: preparation phase, literature review, field-analysis, design phase, comment by experts, internal pilot, external pilot and an implementation and maintenance phase. There will be close collaboration with the field of addiction care.

#### **Results**

Results are expected in 2010 and will result in a guideline for the early screening of substance misuse and dependency by youth.

#### **Researchers**

A Snoek MSc (researcher), M Kleinjan MSc (researcher), EG Wits MSc (project leader), Prof H van de Mheen PhD (advisor), Prof CAJ de Jong PhD (advisor, NISPA)

**In collaboration with:** Nijmegen Institute for Scientist-Practitioners in Addiction (NISPA), Mondriaan Addiction Care (Mondriaan Zorggroep)

**Term:** October 2008 – February 2010

**Financing:** Scoring Results, a program of the Netherlands Society of Mental Health Authorities (GGZ NL)

### **31 A complex problem: fitting care for addicted persons subject to judicial measures who have comorbid psychiatric problems and minor learning disabilities**

#### **Aim and research questions**

To improve the relationship between punishment and care, the Ministry of Justice has the resources to procure care for addicts who are subject to judicial measures. Procurement is initially aimed at the complex group of persons subject to judicial measures with triple problems: problematic drug use, psychiatric problems and minor learning disabilities (abbreviated in Dutch LVG). Little is known about this specific group: there is uncertainty about its size and whether the current care offer is adequate. This investigation aims to provide insight into this group.

#### **Methods**

A quick scan was made of available information to assess the size of this target group, its characteristics, its care requirements and the desired offer of care. The Dutch literature was studied first. Subsequently, statistical analyses were made of data from previous studies and of the scores of persons subject to judicial measures (Risk Assessment Scales). A telephone survey established what care is currently offered to the target group (including the study of documents about the offer of care). A meeting was held in which involved experts considered the content that care should have.

#### **Results**

Analysis of the data shows that about 250-1150 detainees are faced with triple problems. A person with triple problems will enter the Prison System 920 to 4,300 times annually.

This could be an underestimate, especially in the case of persons with LVG problems. Drug use, particularly among LVG clients, can lead to additional problems.

The target group often combines problems with housing, work, relationships and finance. The criminal history is often extensive and motivation to accept care and supervision is generally low. The clients often require practical support in, e.g. housing and finance; care providers see this as an important way to motivate clients and create a meaningful context for treatment.

Care objectives depend on the individual problems, but should include/cover the following:

- 1) diagnostics should take place at an early stage. The instruments should be adjusted to the level of the clients and complexity of the problems. Diagnostic tests should be repeated regularly to deal with possible changes;
- 2) a support structure is needed because most of the problems are chronic ones;
- 3) continuous supervision is needed from professionals and (perhaps) from persons in the client's network;
- 4) an attempt should be made to meet/match the motivation and possibilities of the clients by e.g. making care attractive and offering day programs, sports and relaxation (preferably for 24/7). Cognitive behavioural therapies focusing on skills training should be offered. LVG problems require an adjusted approach, whereby repetition, visualisation, exercises, rewards for positive behaviour and (judging by initial signals) nonverbal methods are implemented;
- 5) integrated care or treatment should be offered, whereby the various problems are dealt with simultaneously. Finally, a crisis facility should be available.

The current offer of care is not sufficient in this respect. Knowledge of the approach is fragmented and there is little documentation. Some programs are promising, but most are not fully developed and/or are not geared to the LVG target group. There are waiting lists. The financing structure and the way in which the need is assessed are not in line with a sustained, broad and cross-sectional approach.

### **Researchers**

H Kaal PhD (project leader, WODC), M van Ooyen-Houben PhD (researcher, WODC), S Ganpat MSc (researcher), EG Wits MSc (project leader)

**In collaboration with:** Research and Documentation Centre (WODC) of the Ministry of Justice

**Term:** March 2009 – September 2009

**Financing:** Ministry of Justice

## **32 An empirical pilot study on integrated policy on psychoactive substance in Europe**

### **Aim and research questions**

Within the Pompidou group (the council of Europe section on research into psychoactive substances) a discussion on drug policy took place. A lack of theoretical and empirical considerations was observed and led to the initiation of a pilot study. The study has a theoretical component, carried out by the delegate from Malta Mr. R. Muscat, and an empirical component, carried out by IVO. The research questions are: 1) What does "integrated policy" mean in different countries? and 2) How is an "integrated policy" (as defined in question 1) organized?

### **Methods**

Five European countries participate in this multiple case study: Germany, Great Britain, Ireland, Norway, the Netherlands and Switzerland. Delegates of the respective countries in the Pompidou group identified two national experts on this topic. A brief questionnaire was sent to the experts and follow-up was a telephonic interview on the subject.

### **Results**

Preliminary results indicate that policy becomes integrated based on content and on organization. Regarding content, health (promotion) and addiction prevention are the major denominators. Regarding organization, the most important integration is seen in the form of inter-ministerial working groups and the appearance of national action plans on substance use and addiction.

### **Researchers**

C Barendregt MSc (researcher), GJ Meerkerk PhD (researcher), Prof H van de Mheen PhD (project leader), L Kraus PhD (advisor, IFT)

**In collaboration with:** IFT Institut für Therapieforschung, Munich, Germany

**Term:** September 2009 – May 2010

**Financing:** Council of Europe

## **33 New Addictions in sight. Survey into the nature and prevalence of ‘new addictions’ in the Netherlands**

### **Aim and research questions**

The goal of this study was to explore the nature, prevalence and clinical impact of so-called “new addictions” in the Netherlands – including excessive behaviors such as compulsive internet use and popular drugs.

### **Methods**

Firstly, care clinics, generalized healthcare, and general practitioners were interviewed about their experiences with new addictions. Furthermore, the way the healthcare system dealt with these issues was explored, e.g. were patients sent away or treated, and in which ways? Were treatment programs in place and were they effective? The first part of the study was used as input for a quantitative study in which the established new addictions were measured (prevalence) in a nationally representative sample. An online panel (CentERdata) was utilized to accomplish this goal.

### **Results**

Interviews with the healthcare institutions reveal that two ‘new’ types of addiction have recently emerged, namely gamma-hydroxybutyrate (GHB) addiction and Internet addiction. It should be noted that Internet addiction is a container concept - in practice it mainly involves game addiction and sex addiction.

The survey shows that the prevalence of GHB and Internet addiction among the Dutch population is low, i.e. less than 1% showed signs of internet addiction and no-one appeared to be GHB addicted. Although the prevalence of the two new addictions is low, especially compared to alcohol or opiate abuse, the professionals expected the new forms to require ongoing attention.

An important aspect of the study was whether the addiction care facilities were prepared to help clients with a different demand for help. The interviews revealed that the addiction care facilities are open to addiction problems of any kind. In addition, many organizations have started to develop methods to adequately deal with these new forms of addictions. Separate registration of these new addictions seems desirable.

### **Researchers**

GJ Meerkerk PhD (researcher), AJ van Rooij MSc (researcher), SS Amadmoestar MSc (research assistant), TM Schoenmakers PhD (project leader)

**Term:** October 2008 – March 2009

**Financing:** Ministry of Health, Welfare and Sport (VWS)

## **34 Interferential care: state of the art. An update of the research literature and program descriptions**

### **Aim and research questions**

Interferential care is care offered to those who avoid addiction and other types of care, while it is obvious that they must be helped in one area or another.

Since they do not ask for help themselves, interferential care officers try to make contact with them and tempt them into accepting the care they need. This method is frequently used in the field of Public Mental Health Care (OGGZ). The aim of this study is to gain insight into the characteristics of the care that is provided in the Netherlands under the name 'interferential care'

### **Methods**

A literature study, a study of program descriptions, and semi-structured interviews with key figures and experts in the field of OGGZ and interferential care were conducted to collect information on actual developments in the field of interferential care.

### **Results**

It seems that this type of care is currently used as a broad and comprehensive concept. The broadness of the concept lies particularly in the manner of organization. In the Netherlands interferential care teams that only 'find' clients, teams that 'find and bind' clients, and teams that 'find, bind and provide care' to clients. Ten teams with these different ways of organization are described in the report.

We conclude that interferential care is a method subject to changes due to frequently changing social and financial conditions and, in practice, is heavily dependent on limiting conditions, such as financial resources.

### **Researchers**

B van Straaten MSc (researcher), C Barendregt MSc (researcher), EG Wits MSc (project leader)

**Term:** June 2009 - October 2009

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

# Smoking

## 35 Evaluation of a smoking cessation intervention for parents

### **Aim and research questions**

The present study aims to evaluate the impact of a smoking cessation intervention delivered through counselor-initiated telephone calls to smoking parents, who will be proactively identified and recruited through their children's schools. Telephone counseling will integrate Motivational Interviewing's counseling style and strategies with cognitive-behavioral skill building components. Besides the evaluation of the effectiveness of the intervention on parental smoking, we will test the preventive effects on smoking-related cognitions (e.g., intention to smoke, self-efficacy, pros and cons of smoking, smoking norms) and smoking initiation in their children. This telephone smoking intervention has been successfully implemented in the USA, and many have used these intervention components successfully in the USA for both parent smoking cessation and general adult smoking cessation. Through our approach by proactively recruiting parents (through schools), we expect that this intervention may have a substantial impact and can help, not only to support parents in quitting, but also to establish stronger anti-smoking cognitions in their children and to eventually prevent them to start smoking.

### **Methods**

The present study aims to conduct a 2-arm randomized controlled trial (intervention and control group of smoking parents). Parental smoking will be assessed at baseline, after 3 months and after 12 months. Children will be assessed at baseline and after 12 months.

### **Results**

Data collection and analysis in progress.

### **Researchers**

K Schuck MSc (researcher), R Otten PhD (promotor), M Kleinjan PhD (promotor), Prof RCME Engels PhD (copromotor)

**In collaboration with:** Dutch Foundation on Smoking and Health (STIVORO), the Netherlands Fred Hutchinson Cancer Research Center, USA, Netherlands Institute of Mental Health and Addiction (Trimbos Institute)

**Term:** September 2009 – September 2013

**Financing:** Netherlands Organization for Health Research and Development (ZonMw)

## 36 Predictors of smoking cessation among adolescents: role of psycho-physiological, psychosocial and habitual aspects

### **Aim and research questions**

To establish which factors predict the process of smoking cessation in adolescents, i.e. actual smoking cessation as well as earlier stages in the process.

### **Methods**

In four regions of the Netherlands, a total of 33 schools were selected by taking a random selection of schools. From each school all third and fourth year students of secondary education were selected. This amounts to about 10,000 students. The students in the selected classes filled out three questionnaires with an interval of one year (2004, 2005, 2006).

The questionnaire consisted of questions about the use of cigarettes, nicotine dependence, risk perception, amount and duration of attempt(s) to quit, pros and cons of quitting, disengagement beliefs, parental upbringing with regard to smoking, temptation to smoke, anticipated emotions of successful quitting, and about processes that play a role in smoking cessation. Later on, an experiment was carried out among 180 daily smoking adolescents.

## **Results**

The first study, based on the first of the three longitudinal measurements among adolescents, examined the best way to measure self-reported nicotine dependence. Results show that, in adolescents, self-reported nicotine dependence can best be assessed using a measure that includes multiple dimensions of dependence.

The second study, based on the first measurement, addressed the applicability of the Transtheoretical Model's processes of change in explaining adolescents' readiness to quit smoking. Structural equation modeling showed that the processes of change were only marginally associated with readiness to quit. In a third study we examined the impact of the processes of change and nicotine dependence on actual smoking cessation. In this study, limited relations were found between the processes of change and both forward transition in motivation and actual smoking cessation one year later. Nicotine dependence contributed significantly to the explanation of adolescents' smoking cessation, after adjustment for the processes of change.

The fourth study tested two models among 850 adolescent smokers, specifying the direct and indirect relations between adolescents' readiness to quit smoking, levels of nicotine dependence, and smoking behaviors of their parents and friends. Results showed that, among adolescent smokers, readiness to quit was particularly associated with quit attempts, while nicotine dependence was associated with successful quitting.

The fifth study examined whether, similar to adult smokers, adolescents also adhere to disengagement beliefs. We found that adolescent smokers' adherence to disengagement beliefs is stronger than that of adults. However, in comparison to disengagement beliefs, at follow-up nicotine dependence was the strongest predictor of smoking cessation.

The sixth and seventh study focused on providing a better understanding of the development of nicotine dependence among adolescents. The results showed that four distinctive subtypes of nicotine dependence can be distinguished among adolescent smokers; namely 1) low craving only, 2) high craving and withdrawal, 3) high craving and physical tolerance, and 4) high craving, physical tolerance and withdrawal. The exposure to smoking behaviour of significant others constitutes a risk for the onset of nicotine dependence symptoms, whereas further progression of dependence symptoms is related to having a neurotic or extravert personality.

The above-mentioned experiment among daily smoking adolescents formed the basis for a study on the roles of craving and withdrawal symptoms as determinants of adolescent smoking cessation. It was hypothesized that craving and withdrawal measured in vivo may be better indicators of bio-psychological dependence and, consequently, may be stronger predictors of smoking cessation practices. Results showed that the impact of craving and withdrawal symptoms vary across the different parameters of the process of smoking cessation, and to some extent across the two different measurement situations, indicating differential impacts of craving and withdrawal within the smoking cessation process. Craving assessed during abstinence appeared to be the best measure to predict enduring abstinence four months later.

The results were presented in a thesis called: "Dawning Dependence. Processes underlying smoking cessation in adolescence" which was successfully defended on February 26, 2009.

## **Researchers**

M Kleinjan PhD (PhD student), RJJM van den Eijnden PhD (project leader, copromotor, IVO till 31-05-2008), Prof RCME Engels PhD (promotor), Prof J Brug PhD (promotor, Erasmus MC)

**In collaboration with:** Erasmus MC

**Term:** August 2004 – February 2009

**Financing:** Erasmus MC, Dutch Foundation on Smoking and Health (STIVORO), IVO

### **37 Predictors of smoking cessation among asthmatic adolescents: the role of asthma-specific, psychosocial, environmental and habitual aspects**

#### **Aim and research questions**

To identify which factors predict the process of smoking cessation in asthmatic adolescents, i.e. actual smoking cessation as well as earlier stages of the smoking cessation process.

#### **Methods**

In four regions of the Netherlands, a total of 29 schools were randomly selected. From each secondary school all third and fourth year students were selected, resulting in approximately 12,000 students. The students completed three questionnaires with intervals of one year each. The questionnaire asks about the use of cigarettes, nicotine dependence, health risk perception, number and duration of attempts to quit smoking, pros and cons of quitting, parental upbringing with regard to smoking, temptation to smoke, anticipated emotions of successful quitting, and about Prochaska's processes of change related to smoking cessation. Related psychosocial factors such as depression, self-esteem, and loneliness are also asked about. Asthma-specific factors include asthma symptoms, use of medication and compliance, coping skills, knowledge about asthma, quality of life, positive aspects of asthma, and asthmatic stereotypes.

In addition to the questionnaires, in a more advanced stage of the study, a diary study will be conducted among 30 asthmatic and 30 non-asthmatic students who have committed to quit smoking during one month, to measure the process of smoking cessation in more depth.

#### **Results**

Results indicate that adolescents with asthma felt more ready to quit, and cognitions were more strongly related to readiness to quit among adolescents with asthma than among adolescents without asthma. Moreover, best friends' smoking seemed more relevant to the cognitions of adolescents with asthma. Nicotine dependence and craving were strongly related to cognitions, and to readiness to quit in both groups. The relation between craving and readiness to quit, however, was stronger among participants with asthma. Conclusions are that reduction of nicotine dependence and craving is essential for both groups.

Youth with asthma may benefit even more from cognitive-based cessation services than healthy youth. The finding that adolescents with asthma are relatively more ready to quit, and that their cognitions are more easily affected can be turned into advantages in asthma-specific cessation services.

In addition, 135 daily smoking adolescents aged 15-20 years participated in an Ecological Momentary Assessment (EMA) study. Daily questions about their quitting experiences were administered during four weeks.

Longitudinal logistic regression analyses were applied to test whether parental smoking, expected parental support, parental norms about cessation, and smoking cessation-specific parenting at baseline predicted the first and second lapse into smoking as well as mild and heavy relapse during the four-week period, and abstinence at follow-up two months later. Neither parental smoking nor hardly any of the parenting variables explained successful smoking cessation among adolescents, except for expected parental support. Low expected support predicted the first and second lapse, but not relapse. Despite that parents have been found influential in the development of adolescent smoking, our findings suggest that parents' influence is limited when it concerns actual smoking cessation and relapse. It might, however, be necessary to assess day-to-day variations in parental behavior during adolescents' quit attempts. This paper has been submitted to *Psychology & Health*. Again, 135 adolescents who participated in an EMA study were used to study the effects of cognitions derived from Social Cognitive Theory in association with initial lapses, relapse, and current smoking at follow-up. Perceiving many pros of smoking, reporting a low self-efficacy to quit, and high levels of baseline smoking significantly predicted relapse within three weeks after quitting.

The effects of pros of smoking and self-efficacy on relapse appeared to be indirect as they became insignificant when intensity of smoking was controlled for. Besides that pros of quitting showed a marginal effect on abstinence at the 2-month follow-up, no long-term effects were detected

## **Researchers**

RMP van Zundert MSc (PhD student), RJJM van den Eijnden PhD (copromotor, IVO till 31-05-2008), Prof RCME Engels PhD (promotor)

**Term:** 2004 - 2009

**Financing:** Radboud University Nijmegen, Netherlands Asthma Foundation

## **38 Smoking in movies: impact on European youth and policy options**

### **Aim and research questions**

Longitudinal research suggests that exposure to smoking in movies accounts for as much as half of adolescent smoking initiation in the United States (e.g., Sargent, 2005; Sargent et al., 2005). In European youth the population exposure to smoking in movies and its effects have not been assessed. The aim of this project is to investigate the impact of exposure to smoking in movies on smoking initiation and current smoking in six European countries. In addition, we are interested in exposure to alcohol use in movies and adolescents' drinking. Besides the relation between movie exposure and risk behavior this project will also aim at policy options. Currently, smoking in movies is neglected in European tobacco control initiatives. The focus of this project is to develop policy options to incorporate smoking in movies into the European anti-tobacco strategy.

### **Methods**

Six European countries (the Netherlands, Germany, Italy, Iceland, the UK and Poland) participate in this EU-funded project. We are designing a population-based longitudinal survey study among 13-year-old students to examine our research questions. Data collection will take place at schools in January 2010 and January 2011.

### **Results**

Data collection and analysis in progress.

### **Researchers**

EAP Poelen PhD (researcher), RHJ Scholte PhD (project leader)

**In collaboration with:** IFT-Nord, Kiel, Germany; Avogadro University, Novara, Italy; Public Health Institute of Iceland, Reykjavik, Iceland; Medical Research Council, Glasgow, UK; University of Medical Sciences, Poznan, Poland.

**Term:** 2009 - 2011

**Financing:** European Union

## **39 Effects of new laws on selling tobacco to adolescents**

### **Aim and research question**

Since 2002 the Dutch government has taken an active role in formulating and implementing new laws with respect to smoking. The most important laws are one stipulating that sellers of tobacco have to ensure that they do not sell tobacco to adolescents younger than 16 years. Another major law concerns the obligation of employers to provide a smoke-free work environment. Finally, from 1 June 2008 a law will come into force forbidding tobacco use in restaurants, pubs, discos, sport canteens, etc.

The main questions of this study are:

- What is the effect of the new law forbidding sale of tobacco to those younger than 16 years on the prevalence of buying tobacco by young people and on the prevalence of smoking among young people?
- To which extent do sellers of tobacco comply with the new law and what are the main determinants (including enforcement) of compliance?
- What is the effect of the introduction of the smoke-free work environment on non-smokers' exposure to environmental tobacco smoke?



- What is the effect of the introduction of the smoke-free work environment on the smoking behavior of smokers?
- To which extent do employers comply with the new law about a smoke-free working environment and what are the determinants (including enforcement) of compliance?
- Which factors influence compliance of catering businesses with the new law forbidding smoking in restaurants, pubs, sport canteens, etc.

### **Methods**

The questions on the effect of the minimum age for buying tobacco and the effect of the smoke-free working place are answered with time trend studies investigating the differences before and after introduction of these laws. To evaluate the new law for smoke-free catering business, a cohort of catering businesses will be followed from before the introduction of this law until one year after, with one pre-measurement and two post-measurements.

### **Results**

The effect of the new law requiring a minimum age before being allowed to sell tobacco has had the intended effect. The proportion of purchasers of tobacco decreased strongly after the introduction of the law. The decrease was strongest among those young adolescents who consider themselves to be a 'non-smoker'. Among those who smoke, the likelihood of buying tobacco even increased.

The effect of the introduction of the smoke-free work environment is that non-smokers are much less exposed to tobacco smoke during work hours.

However, the less educated and younger non-smoking employees benefited less than other groups from the new law. For the other research questions data collection and analysis is still in progress.

### **Researchers**

W Verdonk MSc (PhD student, VWA), Prof RA Knibbe PhD (promotor), Prof H de Vries PhD (copromotor, Maastricht University)

**In collaboration with:** Food and Consumer Product Safety Authority (VWA), Maastricht University

**Term:** January 2007 - June 2010

**Financing:** Food and Consumer Product Safety Authority (VWA)

## **40 Media influences on smoking behaviour of youth**

### **Aim and research questions**

Recent research has shown that smoking in movies is omnipresent and is almost always portrayed in a positive and desirable way. Cross-sectional (Sargent et al. 2005) and longitudinal (Dalton et al. 2003) studies have documented that smoking portrayal in movies is associated with smoking initiation among adolescents. The aim of this project is to examine the effect of smoking cues in movies on smokers and non-smokers. Using experimental designs, we test whether adolescents who are confronted with smoking characters in popular movies are more likely to develop positive attitudes towards smoking, have a greater desire to smoke, and show more actual smoking behaviour than adolescents confronted with non-smoking characters. Underlying mechanisms involving identification and transportation will be tested. In addition, following this line, we will conduct in-depth studies to test the development of attentional biases to smoking cues in smoking and non-smoking adolescents and young adults.

### **Methods**

To test the immediate effects of smoking portrayals in movies we will conduct a series of experimental studies. The experiments will be located at the labs of the Radboud University Nijmegen.

### **Results**

Research has shown that smoking-related cues are important triggers for craving. The aim of the present study was to test whether smoking cues in movies also function as triggers to evoke craving. To accomplish this, we conducted a pilot study in which we examined smokers' reactivity to smoking cues from a particular movie in a common cue-reactivity paradigm using pictures. In the main study, we tested whether smokers who are confronted with smoking characters in a movie segment have a greater desire to smoke than smokers confronted with non-smoking characters.

Using an experimental design, participants were assigned randomly to one of two movie conditions (smoking versus non-smoking characters). In a laboratory, that reflected a naturalistic setting, participants watched a 41-minute movie segment. A total of 65 young adults who smoked on a daily basis participated in the experiment. Craving was assessed before and after watching the movie. The pilot study revealed that pictures of smoking characters had strong effects on craving. However, when smokers actually watched a movie segment, no differences in craving were found between those who watched smoking characters and those who watched non-smoking characters. This finding was not affected by baseline craving, the time of the last cigarette smoked, and daily smoking habits. No effect of smoking cues in movies on craving was found, in contrast with research supporting the cue-craving link. Thus, if replicated, this might indicate that smoking cues in such contexts do not affect smokers' desire to smoke as expected (Lochbuehler et al., 2009).

### **Researchers**

K Lochbuehler MSc (PhD student), Prof RCME Engels PhD (promotor), RHJ Scholte PhD (copromotor)

**Term:** December 2007 - December 2012

**Financing:** Radboud University Nijmegen

## **41 Shared and non-shared familial influences on smoking behaviour in adolescence**

### **Aim and research questions**

In general, the majority of previous studies concentrated on parental own smoking behaviour and their smoking-related norms as well as general parenting practices, as precursors of adolescent smoking. However, less is known about the ways parents specifically deal with smoking at home (i.e. antismoking socialization). This project focuses on effects of parental anti-smoking socialization practices on adolescent smoking behaviour. Furthermore, this project investigates to what extent parents raise their children differently, and whether possible differences in treatment affect differences in smoking behaviour between siblings. In addition, this project explores the ways parents might indirectly affect adolescent smoking, since parents may affect their children in their affiliation with particular (smoking) friends, or in their susceptibility to peer pressure.

### **Methods**

Data are gathered from 428 families, consisting of two parents and two adolescent children that were followed for 5 years. This "Family and Health" project, with a total of 6 annual assessments, allows to examine predictors of specific trajectories of smoking in adolescents on the short and long term. An extensive battery of instruments on parental and child behaviours were filled out by all family members.

### **Results**

Results from the first study on the "Family and Health" data demonstrate that a high quality of parental smoking-specific communication is related to a lower likelihood of adolescent smoking, whereas the frequency of communication is positively associated with adolescent smoking. Parental smoking was negatively associated with the quality of smoking-specific communication. The findings suggest that parental smoking-specific communication is associated with adolescent smoking both directly and indirectly by influencing the friends the adolescents will associate with.

In the second study we examined to what extent bi-directional relations exist between smoking attitudes and behaviour. Findings revealed that smoking attitudes did not consistently predict smoking over time. However, past smoking moderately affected subsequent attitudes, suggesting that adolescents who started to smoke developed less negative attitudes towards smoking.

In the third study we tested to what extent smoking-specific parenting and changes in this parenting are related to adolescents' smoking trajectories. Four trajectories were found, consisting of Non-smokers, Increasesers, Stable smokers, and Decreasers.

Quality of parental smoking-specific communication was strongly related to adolescents' membership of the different smoking trajectories, indicating that parents who talked about smoking in a constructive and respectful manner and retained this over time were more likely to have non-smoking children. In contrast, parents who talked often about smoking-related issues and increased these discussions over time were more likely to have smoking children. These findings imply that prevention programs should focus on reinforcing parents' smoking-specific socialization, with which the smoking prevalence among adolescents could be reduced.

In the fourth study we examined the role of smoking in the interpersonal environment on the development of nicotine dependence in adolescence. Findings revealed that smoking of sibling and best friend were related to baseline levels of nicotine dependence, but not to the rates of change over time. Of all models, having only smoking friends in the friendship group was related to a faster development of nicotine dependence. These findings highlight the key role of smoking friends in the development of nicotine dependence and suggest that interventions targeted at peers are probably effective in reducing the prevalence of nicotine dependence symptoms among adolescents.

In the fifth study we examined if the effects of peer smoking, family smoking, and parenting on smoking development during adolescence are moderated by personality characteristics of adolescents.

Findings revealed that having peers who smoked was associated with an increased likelihood of being a smoker at baseline. Further, significant interactions revealed that adolescents lower in agreeableness were more likely to be a smoker at baseline if they had an older sibling who smoked or if their parents engaged in frequent smoking-related discussions with them and that effective smoking-specific conversation was more strongly related to smoking at baseline among adolescents who were highly emotionally stable. No interactions predicted growth in smoking over time; however, significant main effects showed that growth in smoking was associated with higher levels of extraversion, lower levels of emotional stability, and less effective parental smoking-specific communication. This study highlights the relevance of personality-target interventions and policy programs directed at parents and peers.

Apart from the above-described studies on the "Family and Health" data, we conducted two additional studies. In one of these studies we aimed to investigate whether parental smoking was associated with smoking-related play behaviour in young children. We decided to focus on this younger age group as there is growing recognition that examining precursors of smoking in young children promises to yield important insights relevant for prevention. For this study, we asked young children to pretend that they were grown-ups having dinner. They were invited to act out this situation in a play corner with a toy kitchen and a child-sized dining area, including a package of fake cigarettes upon the table. The sample of this study consisted of 100 children between 4 and 8 years of age ( $M = 5.28$ ,  $SD = .94$ ) of which 57% were boys. The majority of the children were born in the Netherlands (99%). The main outcome measure was whether or not a child pretended to be smoking a cigarette. Child and parent reports were used to assess parental smoking. Findings revealed that 37% of the children had at least one "puff" during their play. Children were more likely to pretend to smoke if they reported having smoking parents. Analyses for the model with parent reports on parental smoking did not yield any direct association. Children's explicit attitudes were unrelated to their smoking-related play behaviour. These findings indicate that young children, who reported having smoking parents, already associate having dinner with an (after-dinner) cigarette.

For the other study we collaborated with prof. dr. James D. Sargent (Dartmouth Medical School), dr. Mike Stoolmiller (University of Oregon), and dr. Susanne E. Tanski (Dartmouth Medical School) on a study on media parenting and smoking. In this study we established the prevalence of having a full parental restriction on watching Restricted movies (R-movies) among a nationally representative U.S. sample of adolescents. Moreover, we examined the bi-directional relationship between parental R-movie restrictions and child's sensation seeking, and how this interplay is related to smoking initiation. Data were used from a four-wave longitudinal study including 6,522 adolescents (aged 10-14 years). Findings demonstrated that 32% of the U.S. adolescents report to be completely restricted from watching R-movies by their parents. Model findings revealed that child's sensation seeking was not only directly related to a higher risk for smoking initiation, but also indirectly through their parents becoming more indulgent. Parental restrictions were found to lower the risk of smoking initiation directly and indirectly by changing their child's sensation seeking. These findings imply that the

relation between child's sensation seeking and parental R-movie restrictions in explaining smoking initiation is bi-directional in nature.

#### **Researchers**

RNH de Leeuw MSc (PhD student), Prof RCME Engels PhD (promotor), RHJ Scholte PhD (copromotor)

**Term:** April 2006 - March 2011

**Financing:** Dutch Cancer Society

#### **42 "Smoke-free-kids": test of a smoking prevention program for parents of primary school children**

##### **Aim and research questions**

The aim of '*Smoke-free Kids*' is to test a highly innovative and successful program in the USA for parents of primary school children in a sample of Dutch parents.

##### **Methods**

A randomized controlled trial will be conducted among 856 smoking parents of 9-11 year-old children. The intervention program consists of a series of six activity guides including communication tip sheets for parents and children to complete together.

The control group will receive an alternative program based on facts. This longitudinal design with yearly waves will measure smoking behavior of adolescents, and anti-smoking socialization like communication about smoking, over a 3-year period.

##### **Results**

Data collection and analysis in progress.

#### **Researchers**

JM Hiemstra MSc (PhD student), Prof RCME Engels PhD (promotor), R Otten PhD (copromotor), Prof CP van Schayck PhD (promotor, Maastricht University)

**In collaboration with:** University Maastricht, Netherlands Institute for Mental Health and Addiction (Trimbos Institute), Dutch foundation on Smoking and Health (STIVORO)

**Term:** September 2008 - September 2012

**Financing:** Netherlands Organisation for Health Research and Development (ZonMw)

#### **43 Smoke-free Kids: evaluation of a smoking prevention program for parents of asthmatic children**

##### **Aim and research questions**

A successfully tested program in the USA, *Smoke-free Kids*, will be applied to a Dutch sample of smoking parents of children with asthmatic symptoms. Research has shown that smoking behaviour of adolescents with asthma is similar to that of their non-asthmatic peers. There is evidence that adolescents' responsiveness to smoking prevention programs diminishes once they have initiated smoking; therefore we focus on parents of 9-11 year-olds. We expect that parents involved in this program (compared to controls) will be more involved in constructive communication on smoking topics. Moreover, we expect that children involved in this program will be less likely to experiment with smoking three years post-baseline.

##### **Methods**

A large amount of primary schools have been contacted in order to reach the families. Furthermore, other ways of recruiting participants are being used as well, for instance via media, hospitals, and general practitioners.

Once included, families will receive activity guides, one each month, for five months in a row. All mothers and children will be interviewed by phone by trained (Master's) students before the intervention starts. The children will be interviewed again by telephone right after the intervention period and one, two, and three years later.

### **Results**

Data collection and analysis in progress.

### **Researchers**

L Ringlever MSc (PhD student), R Otten PhD (copromotor), Prof RCME Engels PhD (promotor), Prof O van Schayck PhD (promotor, Maastricht University), C Jackson PhD (advisor, RTI International)

**In collaboration with:** Maastricht University, RTI International N. Carolina USA

**Term:** March 2008 - March 2013

**Financing:** Dutch Asthma Foundation

## **44 Priority medicines: overview of research and pharmacological developments in smoking cessation and alcohol-related liver disease**

### **Aim and research questions**

In 2004, the World Health Organization (WHO) published the research report 'Priority Medicines for Europe and the World'. The purpose of this report was to study pharmaceutical innovation from a public health perspective and to identify 'pharmaceutical gaps' which might affect the European population. This project investigated the Dutch situation with regard to research and pharmacological developments in smoking cessation and alcohol-related liver disease.

### **Methods**

To provide insight in the state-of-the-art, current initiatives, possible bottlenecks and recommendations on research and pharmacological developments for smoking cessation and alcohol-related liver disease in the Netherlands, information was collected in two ways: a study of the literature, and interviews with experts.

### **Results**

Information obtained from the experts provided a relatively consistent picture for both themes.

The WHO report stated that more research is needed on alcohol-related liver diseases, especially since no effective anti-fibrotic treatment is yet available. This also applies to the situation in the Netherlands. Due to the lack of funding for this topic, there are few possibilities for research. Also, as stated by the experts, there is a general lack of interest in alcohol-related liver disease.

For smoking cessation, the WHO stated that the EU could make a considerable contribution to this field by encouraging the development and testing of new compounds for treatment. In the Netherlands, several organizations and universities are working on this topic. A list of current projects is described in the report. The experts concluded that more research on behavioural interventions, pharmaceutical treatments and combinations of behavioural and pharmaceutical interventions are required.

### **Researchers**

B van Straaten MSc (researcher), M Kleinjan PhD (project leader)

**Term:** December 2008 - February 2009

**Financing:** Netherlands Organisation for Health Research and Development (ZonMw)

# Obesity

## 45 Shared and nonshared family influences on adolescent eating behaviour

### Aim and research questions

Central in this study are three eating styles: Emotional eating, which is the tendency to eat in response to emotional (dis)stress; external eating, which is the tendency to eat in response to food cues such as sight and smell of food; and restrained eating, which is the tendency to restrict food intake in order to lose weight or prevent weight gain. The aim of this research was to study the relation between parental influences and eating behaviours on one hand, and between eating behaviours and weight status (BMI) on the other hand.

### Methods

We aim to deal with most of these shortcomings by performing analyses on data of two ongoing projects at our institute. This project will provide substantial new information about causes of overeating in adolescents and more specifically the role of parents in the development of eating behaviours and overeating.

### Results

Emotional, external and restrained eating were not associated with elevated weight increases during adolescence. Emotional eating was unrelated to weight status and high external eating was associated with a lower chance of being overweight. Restrained eating was associated with higher weight status in cross-sectional analyses and also related to a higher BMI trajectory over time. However, this association is probably mainly due to the fact that heavy individuals are more likely to diet rather than the other way round. Thus, for a general population of adolescents, emotional, external, and restrained eating did not seem to have high predictive value for the development of overweight. Previous studies have linked these eating behaviours to all kinds of eating pathology. Therefore, identifying high-risk groups of adolescents with elevated emotional and external eating tendencies, and targeting research as well as prevention of further disordered eating and treatment of this group, is probably more useful than studying these behaviours in relation to weight problems in a general population. Also, prevention programs must take into account the fact that overweight youngsters already are engaged in restrained eating behaviours, which seems harmless for weight increases but is unsuccessful in weight management and a risk factor for eating pathology.

Moderate family similarities in restrained, emotional, and (for siblings) external eating were found. However, less support was found for parent-adolescent similarities in body dissatisfaction. Also, for restrained eating prospective influences between parents and children were not found. Thus, adolescents resemble their parents and siblings in eating behaviours, but these similarities are not strong and during the course of adolescence there seems to be no direct transmission (modelling) of eating behaviour. General and specific parenting behaviours seem to affect at least some of the eating and weight-related behaviours. Adolescents who perceived less parental control and higher behavioural and psychological control reported higher emotional eating. Parental dissatisfaction was cross-sectionally associated with adolescents' own dissatisfaction which in turn predicted adolescents' body dissatisfaction over time. Our results further suggest that when mothers are permissive and enforce little control, while their children are highly dominant, these children will make more unhealthy food choices. Some degree of control therefore seems indispensable. Future research should especially focus on a combination of general and food-specific parenting and their interactions. In addition, observation studies proved to be very useful in thoroughly studying maternal control over young children's food choices.

Positive associations between TVV and snacking were stronger in adolescents who scored high on external and (only for boys) emotional eating, whereas restrained eating weakened these associations. The three types of eating behaviours seem to be related to susceptibility to influences of TVV on food intake, and should therefore be considered when studying the associations between TVV and food intake. Moreover, the theories of eating behaviour can provide insight into the complex mechanisms by which TVV increases food intake.

## **Researchers**

HM Snoek MSc (PhD student), Prof RCME Engels PhD (promotor), T van Strien PhD (copromotor, Radboud University Nijmegen), Prof J Janssens PhD (promotor, Radboud University Nijmegen)

**In collaboration with:** Radboud University Nijmegen

**Term:** 2003 - 2009

**Financing:** Radboud University Nijmegen

## **46 Sex and the City: effects of thin media images on body image and food intake**

### **Aim and research questions**

The aim of the study is to examine the effects of exposure to thin media images on mood, body image and food intake of normal weight adolescent females, in relation to their dietary restraint and tendency to overeat.

The research questions are: Does exposure to thin body images result in overeating and changes in mood and body image? Does this occur in relation to the subjects' degree of dietary restraint or rather in relation to the subjects' tendency toward overeating? Do changes in mood and body image support the negative contrast or rather the inspiration hypothesis? Finally, what is the moderating role of thinness attainability beliefs in this? We will test our hypotheses in a series of experiments among adolescent females.

### **Methods**

A series of experiments is conducted to study the participants' behaviour in a naturalistic setting (specially equipped relaxing room at our lab), due to the lack of ecological validity of studies in the laboratory and their high association with demand characteristics. Each experiment will include about 120 participants.

### **Results**

The results of the first study show that high restrained females who were exposed to commercials with slim models and diet-related products ate less food, whereas low restrained eaters ate slightly more after seeing commercials with slim models and diet-related products. These findings suggest that restrained eaters who are confronted with diet products and slim media images when watching television will be reminded of their restricted eating behaviour and eat less.

The second study examines the effects of exposure to televised thin and average size models on body dissatisfaction and actual food intake. Two interaction effects were found between screen size and restrained eating on body dissatisfaction and actual food intake. Restrained eaters tended to feel worse and eat less in the average size condition compared to the thin model condition, whereas unrestrained eaters felt worse and ate less in the thin model condition compared to the average size condition. Thus, body size of televised images affected body dissatisfaction and food intake, differentially for restrained and unrestrained eaters.

Results of a third study showed that the ideal body figure of young women was unaffected by exposure to thin ideal media, whereas the perception of their own body figure changed. Women exposed to a thin ideal television program perceived themselves as larger than women exposed to a neutral movie.

## **Researchers**

DJ Anschutz MSc (PhD student), T van Strien PhD (copromotor, Radboud University Nijmegen), Prof RCME Engels PhD (promotor)

**In collaboration with:** Radboud University Nijmegen

**Term:** 2005 - 2010

**Financing:** Radboud University Nijmegen

## **47 Mental health and health habits in adolescence**

### **Aim and research questions**

Adolescents are faced with a variety of novel experiences that may tax their regulation resources and jeopardize their well-being. Moreover, high-risk health behaviors, such as smoking, alcohol use, and fat intake are increasingly prevalent among adolescents. The current prospective study examines the reciprocal relations between mental health and health behaviors and possible mediators and moderators of these relations.

### **Methods**

A three-year prospective cohort study of adolescents aged 12-13 and 14-15 years at baseline (adolescents from first and second grades). A nation-wide group of 2200 heterogeneous adolescents (equal number of boys and girls) will be enrolled in this prospective study at baseline to eventually gain complete prospective information of 1600 adolescents fulfilling the standards of this study.

### **Results**

We found that for girls, but not for boys, the depression-smoking association disappeared after controlling for weight concerns and dieting. Moreover, depressive symptoms led to an increased use of expressive suppression, rather than the other way around. We also found socialization effects on depressive symptoms among best friends. However, no socialization effects were found for body dissatisfaction and dieting among girls' reciprocal friends. The peer group appeared to be important in snacking behavior, particularly when snacks were readily available in the school canteen. Finally, we found a weak association between depressive mood and body weight among adolescent girls, which was partly explained by menarcheal status as a third variable.

### **Researchers**

JK Larsen PhD (researcher), Prof RCME Engels PhD (project leader)

**In collaboration with:** Radboud University Nijmegen, Utrecht University, Wayne State University, Free University Amsterdam

**Term:** 2006 - 2010

**Financing:** Netherlands Organisation for Scientific Research (NWO), Radboud University Nijmegen

## **48 Relationship between parental behaviour and overweight in primary school children in the Netherlands, the IVO Nutrition and Physical Activity Child cohort (INPACT)**

### **Aim and research questions**

The INPACT study aims to gain insight in the influence of parents on weight development of children aged 8-12 years. The study started in 2008 and focuses on the home environment concerning eating and physical activity. The home environment can be divided into a social environment and a physical environment. The social environment consists of parenting styles in general, parental policies around eating/physical activity, and parental role-modelling of healthy eating/physical activity. The physical environment consists of the availability and accessibility of food/physical activity.

The main study question of INPACT is: Which - modifiable - parenting styles, parental role behaviours and other factors in the home situation of children aged 8-12 years are most predictive of their body mass index; and how do they relate to demographic and environmental factors? In the search for preventive interventions that are able to diminish a child's risk to become overweight, there is a need for insight into parental behaviours that are modifiable.

### **Methods**

This is a four-year longitudinal cohort study in which body weight and height of children are measured (n=1,840). Questionnaires are filled in with schoolchildren and their parents, at four moments in time (with one-year intervals), starting when the children are 8 years old (group 5 in primary schools). The first period of data collection took place from September to December 2008; the second from September to December 2009.



## Results

The first paper, based on the INPACT study, focuses on the relationship between parenting and child weight. One aim was to examine whether adding the parenting dimension 'psychological control' to the generally accepted dimensions 'support' and 'behavioural control' would help to elucidate the mechanisms through which parenting effects child weight. The second aim was to investigate whether socio-demographic variables moderate the potential association between parenting and child weight. Based on the data collected in the autumn of 2008, we conducted a cross-sectional study among 1,622 parent-child dyads. Mean age of the children was 8 years.

The child's height and weight were objectively measured by qualified research assistants. We regressed parenting on child BMI-z scores, and adjusted for maternal BMI, paternal BMI and socio-demographic variables (child age, child ethnicity and education level of the parent). Psychological control was found to be positively related to child BMI after adjustment for parental BMI. Moreover, the relationship was found to be moderated by ethnicity: among children of non-Dutch origin the relation was significant ( $\beta=0.164$ ), while it was non-significant for native Dutch children ( $\beta=-0.011$ ).

The study provided initial insight into the relationship between parenting and child weight in two ways: by adding the dimension of psychological control to the concept of parenting, and by taking socio-demographic moderating influences into account. The results showed that psychological control is a risk factor for child overweight in children of non-Dutch origin. The results indicate the need to develop more comprehensive and better-targeted interventions.

## Researchers

G Rodenburg MSc (PhD student), SPJ Kremers PhD (copromotor, Maastricht University), A Oenema PhD (copromotor, Erasmus MC), Prof H van de Mheen PhD (promotor)

**In collaboration with:** Erasmus MC, Maastricht University

**Term:** March 2007 – March 2012

**Financing:** Erasmus MC, Netherlands Organisation for Health Research and Development (ZonMw), IVO, Erasmus University

## 49 Ethnic differences in overweight and obesity among primary school children in the Netherlands, the IVO nutrition and physical activity child cohort (INPACT)

### Aim and research questions

In the Netherlands, the prevalence of overweight and obesity is higher in migrants. These prevalence rates also apply to children. Although Dutch figures on migrant children are scarce, available evidence shows a higher prevalence in migrant than in native Dutch children.

In order to design effective prevention programmes, knowledge is needed on the factors affecting overweight and obesity in children, especially in modifiable factors.

The present study addresses these factors in children aged 7/8 – 11/12 years old, focusing on ethnic differences in these factors.

The hypothesis is that parental behaviour is the link between environment on the one side, food intake and physical exercise of children on the other side. Although information is available on the role of some aspects of parental behaviour, the role of other aspects remains unclear (e.g. the role of rewarding children with specific foods). Also, the influence of own parental role behaviour with respect to eating and physical activity is unclear.

The present PhD project addresses what the ethnic differences are in modifiable factors affecting overweight and obesity in Dutch primary school children (aged 8-12), focusing on the role of parental influence in the relation between environment and food intake and physical exercise.

Main research question are:

1. What is the prevalence of overweight and obesity and of (un)healthy eating and exercise patterns among
2. migrants children as compared to Dutch children? To what degree these differences reflect socioeconomic difference?

3. Are these differences in eating and exercise behaviour between native and migrants children? To what degree these differences reflect socioeconomic differences and to what degree they reflect differences in parental educational styles?
4. Are these differences in the relative importance of environmental and parental factors in the development of overweight and between native and migrants children? How do parental and environmental factors interact in the development of overweight and obesity in migrant children?

### **Methods**

This is a four-year longitudinal cohort study in which body weight and height of children are measured (n=1,840). Questionnaires are filled in with schoolchildren and their parents, at four moments in time (with one-year intervals), starting when the children are 8 years old (group 5 in primary schools). The first period of data collection took place from September to December 2008; the second from September to December 2009.

### **Results**

First results are expected in 2010

### **Researchers**

LJW Labree (researcher/PhD student Erasmus University), Prof H van de Mheen PhD (promotor), Prof F Rutten PhD (promotor Erasmus University), M Foets (projectleader Erasmus University)

**In collaboration with:** Erasmus University Rotterdam

**Term:** 2008 - 2012

**Financing:** Erasmus University Rotterdam

## **50 Social Influence on Food Intake**

### **Aim and research questions**

Experimental studies employing experimental confederates who were instructed to eat a lot or a little showed that people tend to eat as much or as little as those with whom they eat. These so-called modeling or imitation effects are extremely powerful and may even overrule feelings of hunger and satiety, even after a food-deprived period of 24 hours.

However, the extent to which people model each other's eating behavior is not the only situational cue that eaters use in deciding how much to eat. Some researchers suggested that the physical appearance of the people with whom one eats is important in explaining the magnitude of modeling effects. Further, studies showed that larger portion sizes led to greater energy intake.

To date, the portion-size literature, social-modeling and impression-management literature have been relatively independent research areas. In this research project, we intend to combine these three fields by examining the potential influences of these types of situational norms (eating confederate and portion size). In sum, the overall aim of this project is to gain insight into the underlying mechanisms of social-modeling effects on food intake by examining whether and how situational cues moderate social modeling of eating.

### **Methods**

We will conduct a series of experiments to study participants' modeling of eating behavior in a relatively naturalistic setting. The advantage of these kinds of observational experiments in a naturalistic setting is that people generally display more typical, real-life behaviors than in a clinical or experimental setting.

To stimulate a naturalistic setting, we made use of small room furnished as a living room. People feel at ease quickly and several participants commented on the pleasant atmosphere of the room. Each experiment will include about 100-120 participants.

### **Results**

- Females who were exposed to confederates who ate a large amount of high-density food (chocolate-coated peanuts; M&Ms) consumed more than those who were confronted with confederates who ate a little or nothing at all. However, these modeling effects were only found in

the manipulated conditions (a confederate who had a somewhat thicker abdomen). Findings suggest that women only model the eating behavior of another woman if their appearance is somewhat similar.

- In a replication of the first study, we again found that women consumed more when exposed to large-eating confederates. However, in this experiment we offered the participants and the confederates healthy snack food (carrots and cucumber), instead of M&Ms.
- No differences were found between participants' intakes in the slim and normal-weight confederate conditions, suggesting that the physical appearance of the model was of no influence on the intake of healthy food.
- To test whether the nature of the social interaction between the participant and the confederate was of influence in the amount of food consumed, we made use of a sociable and an unsociable model. It was found that participants consumed significantly less if exposed to an unsociable woman who consumed only a small amount of M&Ms, this suggests that impression-management strategies or uncertainty suppressed participants' intentions to eat palatable food.
- To test whether young males are also vulnerable to social modeling, we conducted a study among male students. It was found that only the males who were hungry, modeled the intake of the same-sex confederate. This finding suggests that men have to be in a state of hunger before social modeling processes come to the fore, whereas women's default response seem to be modeling the intake of the other person.
- To examine whether social modeling affects food intake in situations for which a pre-existing norm for appropriate intake already exists, we conducted a study on modeling of breakfast intake in young women. It was found that participants only ate less when their eating companion ate nothing, whereas they did not eat more when the other ate a small or large amount of breakfast. This study suggests that social modeling might be restricted to situations in which the norm for appropriate intake is unclear.

### **Researchers**

RCJ Hermans MSc (PhD student), JK Larsen PhD (co-promotor) Prof CP Herman PhD (co-promotor, University of Toronto), Prof RCME Engels PhD (promotor)

**In collaboration with:** University of Toronto

**Term:** 2007 - 2012

**Financing:** Radboud University Nijmegen

## **51 Imitation of food intake and choices in children**

### **Aim and research questions**

The aim of this project is to explore the social influence in children's food choices related to their food intake and food purchases. The study investigates whether there is a difference in the magnitude of imitation behavior between overweight and normal-weight children and whether imitation behavior is influenced by maternal restriction strategies.

Main research questions:

1. Do children model eating behavior?
2. Do maternal restriction strategies influence imitation behavior or food intake?

### **Methods**

Data are gathered in several (including longitudinal) experimental studies at primary schools and in shops.

Imitation behavior will be tested by using confederates, who are instructed in advance to perform certain behavior. Information about maternal restriction strategies and other (control) factors are collected via questionnaires.

## **Results**

- Children imitate food intake regardless of their weight
- A more restrictive feeding style by parents decreases children's food intake in a free access setting to palatable food
- For girls, the higher the BMI the less popular regardless of the class mean BMI

## **Researchers**

KE Bevelander MSc (PhD student), Prof RCME Engels PhD (promotor)

**Term:** September 2008 – September 2013

**Financing:** Radboud University Nijmegen

## **52 How beauty ideals influence our self-appraisal: effects of media on body image**

### **Aim and research questions**

Many women in the Western world are dissatisfied with their bodies. This is of great concern, given the relationship between body dissatisfaction and the development of eating disorders, social phobias and depression. One of the major contributors to body image dissatisfaction is the extremely thin beauty ideal that is promoted by the media. Although this ideal is unrealistic, unhealthy and unattainable for most women, women feel pressurized to live up to this ideal, feel themselves lacking and experience negative effects. Indeed, numerous studies have demonstrated the detrimental effects thin-ideal media have on women's body image. However, not all women are negatively affected by the thin-ideal. For some women the thin-ideal works in an inspiring way, leading to more positive self-evaluations. But which individual characteristics determine whether one is positively or negatively affected by thin-ideal media?

This study investigates the effect of thin-ideal music-video exposure on women's self-perception, in relation to self-esteem.

### **Methods**

A total of 56 normal weighted adolescent females participated in this study; 50% was exposed to three thin-ideal music-videos that strongly emphasized the idealized female body and 50% watched three music-videos of the same artists, but neutral in content. Both before and after video exposure the participant's perceived and ideal body figures were assessed by performing a self-perception task that used (horizontally stretched) photographs of the participant's own body in a swimming garment.

### **Results**

The results show that self-esteem moderates the effect of thin-ideal video exposure on self-perception. Whereas women low in self-esteem were less satisfied with their bodies after watching thin-ideal videos, women high in self-esteem actually experienced the opposite effect, and felt more satisfied with their bodies after watching thin-ideal videos. These effects can primarily be explained by changes in the perceived body figure: women low in self-esteem perceived their body sizes as bigger after thin-ideal exposure, whereas women high in self-esteem perceived themselves as thinner than before. Thus, thin-ideal exposure influences self-perception differently for women low and high in self-esteem.

### **Researchers**

IHS Mischner MSc (PhD student), Prof RCME Engels PhD (promotor), H van Schie PhD (copromotor, Radboud University Nijmegen), R van Baaren PhD (copromotor, Radboud University Nijmegen), Prof D Wigboldus PhD (copromotor, Radboud University Nijmegen)

**In collaboration with:** Radboud University Nijmegen

**Term:** November 2008 – November 2013

**Financing:** Radboud University Nijmegen

## Social Relief and Social Care

### 53 Client flow within the social relief system: perspective and practice

#### Aim and research questions

Objective of the Strategy Plan Social Relief is to prevent social and personal decay of homeless people, and to increase safety and liveability of the cities concerned. Since the Strategy Plan Social Relief was put into practice in 2006, many homeless people in Rotterdam and other large cities have been offered a trajectory of care that aims to attain the highest level possible of self-sufficiency. New housing projects, with various degrees of support, were initiated and a system to monitor and manage client flow was implemented. Basic assumption is that (former) homeless people follow a step-by-step trajectory leading to the highest level of self-sufficiency possible.

This study focuses on what care providers can do to stimulate self-sufficiency and (thus) the upward flow of clients within the social relief system, and what care providers can do to prevent relapse and (thus) downward flow in the social relief system.

#### Methods

A total of 31 trajectories (selected in 2008 for a study on monitoring and management of client flow) form the basis for this study. The trajectories selected represent all involved care organizations. Cases that appeared to be simple at the time were not selected. Almost two years after the first interview, the clients concerned were approached again and the majority were interviewed (five persons were non-traceable). The care professionals most concerned with the clients (usually a mentor and a counsellor) were also interviewed. If available, the initial trajectory plans of the clients were examined. The flow of trajectories was examined by reading the input of care professionals entered in a central database that monitors all clients who use municipal social relief provisions.

#### Results

Preliminary results show that most trajectories showed an upward movement on the so-called 'housing ladder'. This achievement is due to the extensive level of housing provisions on the one hand and the individual characteristics of the client on the other. Successful upward flow is related to less or shorter periods of marginalisation. Intensive substance use, physical problems and psychological/cognitive limitations were associated with stagnant and instable trajectories.

Care providers and counsellors appear to have a pragmatic approach to their clients. This approach may be typified as: first-things-first. Self-sufficiency is an non-explicit but almost self-evident reference to judge (on a daily basis) what the clients needs are. Other expected results concern perspective and practice on the organisational level.

#### Researchers

C Barendregt MSc (senior researcher), B van Straaten MSc (researcher), C Schrijvers PhD (project leader)

**Term:** October 2009 – March 2010

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

### 54 Care for young homeless people with severe mental health problems

#### Aim and research questions

In the Netherlands, the care for young homeless people with severe mental health problems is still inadequate. The current situation concerning the care for this target group in Rotterdam is being investigated in order to:

1. obtain knowledge on the gaps in care for young homeless people (aged 18-23 years) with severe problems, such as mental health problems, addiction or moderate mental disabilities and
2. develop a suitable offer of (residential) care for these categories of young homeless people in Rotterdam.

### **Methods**

The research combines several strategies:

1. Analysis of documents and interviews with key informants;
2. A longitudinal study, following 55 young homeless people who sought help from the Rotterdam social care organisations in 2009. After the baseline measurement (October 2009-February 2010), two follow-up measurements will take place; six months and one year after the baseline measurement;  
Respondents are interviewed about their home situation during childhood, health (both mental and physical); financial situation; education; daily activities; need for care; use of care; use of alcohol and drugs;
3. A qualitative study on the turning point in the lives of 15 former young homeless people, who have been living in a stable situation for at least one year;
4. Using the 'Matching Needs & Services' method, to determine a suitable offer of (residential) care for young homeless people with severe mental health problems.

### **Results**

Data collection and analysis in progress.

### **Researchers**

J Baars PhD (researcher), A van der Poel PhD (project leader), C Schrijvers PhD (project leader), V Choenni MSc (research assistant),  
E van der Wal MSc (research assistant)

**Term:** April 2009 – June 2011

**Financing:** Municipality of Rotterdam; Volksbond Foundation Rotterdam

## **55 Evaluation of pilot project: Family group conference (*Eigen Kracht*) for former homeless**

### **Aim and research questions**

Family group conferencing ("Eigen Kracht") for ex-homeless people is rooted in the experience with this method among young people in contact with youth protection service. In family group conferencing, an independent conference coordinator organizes a network meeting with friends and family of a person concerned. The general aim is to reduce problems and strengthen the informal support network. This pilot project aims to implement the method within the social relief and addiction service for adults.

The research questions are:

- How is the family group conference for former homeless implemented?
- What social benefits are apparent three months after the conference?
- What mechanisms make family group conferences beneficial for former homeless people?

### **Methods**

The pilot project will be evaluated using the basic assumption of realistic evaluation (Pawson & Tilley, 1997). The assumption is that the outcome of an intervention can only be understood if both the context and the mechanism are taken into account.

A total of 25 cases will be monitored, 10 of them intensively. Of the intensively monitored cases, the conference coordinators will be interviewed twice, the institution that 'delivers' the former homeless person will be interviewed once, as will one person from the former homeless network. After the conference the person concerned will also be interviewed. The remaining cases will be monitored from

a distance. The conference coordinator keeps a diary of the processes involved in organizing the conference. Working group and steering board meetings are taken place.

### **Results**

Preliminary results indicate that the care and treatment services that should deliver candidates are reluctant to cooperate. This may have led to relaxation of the eligibility criteria, which resulted in failure to organize a conference.

### **Researchers**

C Barendregt MSc (researcher), C Schrijvers MSc (project leader)

**Term:** October 2009 – December 2010

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

## **56 Meaning of life among former homeless people**

### **Aim and research questions**

The Strategy Plan Social Relief is the result of collaboration between four large Dutch cities and central government. The aim of Strategy Plan is to supply housing, income and regular contact/care to homeless people. The background is concern for the quality of life of homeless people and public nuisance attributed to homelessness. Policymakers want to keep those in supported housing, housed. They are examining the notion that material improvement of living conditions does not necessarily lead to a better quality of life. Feedback from care professionals indicates that supported housing does not guarantee a stable and 'bright - sided' life. This concern gave rise to the research question: How do former homeless substance abusers assign meaning to their life?

### **Methods**

Open interviews were based on current living situation, daily spending, social relations, future plans, and meaning of life. In Rotterdam 22 former homeless people were selected, assisted by professional workers employed in several types of supported housing that reflect the spread of different housing projects in the city. All participants were in a stable trajectory, meaning that they had at least 3 consecutive months with stable housing, income and care contact. Within a week after the first face-to-face contact with the participant, the in-depth interview took place. The interviews were audiorecorded and transcribed ad verbatim. The four needs of meaning (need for purpose, value, efficacy and self-worth; Baumeister, 1991) were used as analytic framework. The interviews were analysed by close reading, selection of text fragments on the same topic (coding), and comparison of the selected text fragments.

### **Results**

To a certain extent all participants try to assign meaning to life, but the way they accomplish this differs. Significant differences were found between participants with less or more limitations in mental and cognitive functioning. The need for purpose is met by reference to the rehabilitation process and to short-term expectations. Rehabilitation adds value to current behaviour and those who do not rehabilitate demonstrate justification strategies. The need for efficacy is found in control over substance use and in deployment of care professionals to get things done. The need for self-worth is provided by in-group comparison and the claim for respect during rehabilitation.

The four needs for meaning proved to be a useful tool to explore the meaning of life among former homeless substance users. A distinction based on level of function and rehabilitation was useful to understand the different strategies participants use to fulfil their need for meaning.

### **Researchers**

C Barendregt MSc (senior researcher), B van Straaten MSc (researcher), EG Wits MSc (project leader)

**Term:** May 2009 – November 2009

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

## **57 Effectiveness of intensive community-based care for persons with complex addiction problems: contribution of specific program components**

### **Aim and research questions**

Intensive community-based care is meant for clients who do not make use of available health care services despite having serious problems on several life areas, such as addiction, psychiatric disorders, housing and finance. Many organizational variants exist. In Europe, little is known about the effectiveness of the different variants. This study aims to provide longitudinal information on the effectiveness of intensive community-based care, and to formulate hypotheses on the contribution of specific (groups of) program components to effectiveness.

The research questions are: 1) What is the effectiveness of intensive community-based care programs on the client level, including both short-term and long-term outcome measures? 2) What specific (groups of) program components are related to effectiveness?

### **Methods**

The study has a natural quasi-experimental research design. Three intensive community-based care programs are involved. The three programs are comparable on their corporate strategy, including who they target, where they are situated, what their organizational structure is, and what they aim at. All clients entering these programs during a period of three years will be followed. Measurements are done for each client at intake (T=0), after referral (T=1) and at a 6-month follow-up (T=2). For the 'long stay' clients remaining in the team long enough, additional measurements are done every six months until they are referred. Measures included are: problem severity, engagement to healthcare services, regular healthcare use, quality of life and satisfaction with healthcare services. Team characteristics are measured with the Intensive Community-Based Care Program Characteristics (ICPC) (Roeg, 2007; Roeg et al., 2008). The ICPC is a descriptive instrument, developed in the Netherlands, to profile an intensive community-based care team on all its relevant features, including items on the organization, healthcare process, staff and objectives. The ICPC enables detailed comparison of teams. The study is performed in close cooperation with the teams.

### **Results**

Data collection and analysis in progress.

### **Researchers**

DPK Roeg MSc (project leader), M Voogt MSc (PhD student), LAM van de Goor PhD (advisor), Prof HFL Garretsen PhD (advisor)

**In collaboration with:** Community-Based care teams of Mental Health Care (GGZ) Oost Brabant, Community-Based Care Team Eindhoven, Community-Based Care Team Tilburg, Novadic-Kentron Addiction Care, Municipal Health Authority "Hart voor Brabant"

**Term:** April 2008 – April 2012

**Financing:** Netherlands Organisation for Health Research and Development (ZonMw)

## **58 Match between residential homeless clients with the housing project they live in**

### **Aim and research questions**

The aim of the study is to gain insight in the match between clients and housing projects/assisted living projects for the (formerly) homeless. Additionally the study may show gaps in the housing types or related facilities for this specific group.

### **Methods**

Records of 48 clients of five different housing projects for (formerly) homeless people were studied with the Health of the Nation Outcome Scales (HoNOS). This scale has been developed to measure the health and social functioning of people with severe mental illnesses.



This scale was measured at T0 (when entering the housing project), and at T1 (prior to the data collection period). This information was input for an expert meeting. This meeting included eight experts (from outside the Rotterdam-Rijnmond) who matched these anonymous clients to different housing projects on the basis of the Matching Needs and Services method.

## **Results**

The results are published in an internal document to the Public Health Service Rotterdam.

## **Researchers**

JE Baars PhD (researcher), SS Amadmoestar MSc (research assistant), A van der Poel PhD (project leader), M Kleinjan PhD (project leader)

**Term:** May 2008 - March 2009

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

## **59 Trajectory coordination: implementation of a new working process in social relief and mental health care**

### **Aim and research questions**

The Dutch cabinet and the four major cities wish to improve the living conditions of people who are homeless (or in danger of becoming homeless) and thereby to substantially reduce the disruption and criminality often associated with their behaviour. Since 2006 the Strategy Plan for Social Relief has been active to achieve these goals. One of the basic principles of the Strategy Plan is the individualised approach to homeless people. This approach entails that for each homeless person a tailor-made and phased plan (trajectory, comparable to case-management) is designed, one care provider coordinates its execution and other care providers commit themselves to co-execute the plan. Each plan is confirmed by the so-called Trajectory Allocation Commission, in which all organisations concerned (social relief and mental health care) participate. To monitor the progress of each trajectory, the Municipal Health Authority Rotterdam Rijnmond has appointed trajectory coordinators who monitor the progress of the trajectories every three months. If necessary they intervene in stagnating trajectories through consultation, advice and mediation between executing organisations. The participating organisations are expected to set up client management. Client managers are responsible for the information flow from clients and their immediate care providers to the trajectory coordinators.

The research questions focus on the implementation process, the extent to which organisations have implemented client management, and issues concerning collaboration between executors and co-executors of the trajectories.

### **Methods**

The study is centred on 30 trajectories selected by the Trajectory Allocation Commission. For each selected trajectory the client, the immediate care provider, the client manager and trajectory coordinator are interviewed using a semi-structured questionnaire. After 3-5 months, follow-up interviews are conducted. Managers of social relief and mental healthcare organisations and policy staff of the municipal health authority are also interviewed using a semi-structured questionnaire.

### **Results**

The interviews reveal that trajectory coordination is welcomed by social relief organisations. Mental healthcare organisations view trajectory coordination basically as extra work without much added value. In general all interviewed immediate care providers and client managers appreciate the counselling role of the trajectory coordinators. Clients appear not to be aware of the new monitoring system, but generally appreciate the fixed terms and smooth collaboration between organisations. Social relief organisations have tangibly integrated the function of client management in their organisations. Within the mental healthcare organisations the function of client management is less visible because they are merged with other functions. The mental healthcare organisations appear to have more opposition to the monitoring frequency. In one case the flow of monitoring data has stagnated considerably.

In general, social relief organisations collaborate smoothly, whereas collaboration between social relief and mental healthcare organisations incidentally provokes difficulties. Notably, mental healthcare organisations appear to be reluctant to exchange information with social relief organisations.

#### **Researchers**

C Barendregt MSc (researcher), EG Wits MSc (project leader)

**Term:** February 2008 – January 2009

**Financing:** Municipal Health Authority Rotterdam-Rijnmond

### **60 Evaluation of municipal person-focused care: progress, added value and improvements needed for community-based person-focused care for vulnerable citizens**

#### **Aim and research questions**

In recent years, integral person-focused tracking (under control of the local authority) has been used to provide care for the homeless in Amsterdam. IVO was asked by the Dept. of Care & Community Services to evaluate this approach and make recommendations for improvements.

#### **Methods**

Data collection and analyses have taken place on two levels:

1. on the operational level: analysis of the course of 25 individual tracks of care by interviewing clients and mentors/track holders, as well as a representative of the clients' interest.
2. on the organizational level: interviews with (middle-) managers and policy advisors of all involved parties, i.e. several municipal services, institutions for social care, public health care and mental health care, care insurer AGIS and the police.

The preliminary results have been discussed in a meeting with all involved experts.

#### **Results**

One finding is that a specific group of clients, i.e. homeless persons without psychopathology, may be missed. In addition, the following items need attention: the function of the track holder, the track plan and client follow-up system, and the source and content of consultation at the (middle-)managers level.

Finally, the flow through and out of social relief needs to be stimulated. Input from clients is essential for further development of the stage-management approach.

#### **Researchers**

EG Wits MSc (project leader), E van der Giesen MSc (researcher), M Stoele MSc (researcher)

**Term:** July 2009 – December 2009

**Financing:** Municipal Health Authority Amsterdam

## Internet

### 61 Treatment of internet addiction: evaluation of a pilot treatment for internet addiction

#### **Aim and research questions**

Because internet addiction is a relatively new form of problematic behavior, no evidence-based treatment programs currently exist that take into account the specific characteristics of this form of compulsive behaviour. In February 2009 Brijder Addiction Care started a pilot treatment program in which 20 self-proclaimed internet addicts were treated with the well-established cognitive-behavioral treatment program "Lifestyle training" (*Leefstijltraining*), adjusted for internet addiction. IVO evaluates the pilot treatment program, with the aim to establish whether the program is suitable for the treatment of problematic internet use and which aspects need modification.

#### **Methods**

Using a combination of validated questionnaires and qualitative reports, the current study evaluates the strengths and shortcomings of the applied "Lifestyle training" treatment program. Information is collected from a website-based intake questionnaire. Additional questionnaires are presented before the first session, after the program ends, and once during a follow-up by mail. Qualitative information is also collected from treating psychologists, both in written form (structured session notes) and from (group) interviews.

#### **Results**

Results will be available in 2010 and will consist of a qualitative paper evaluating the fit of the pilot treatment program and an article in a Dutch journal (aimed at professionals).

#### **Researchers**

AJ van Rooij MSc (researcher), TM Schoenmakers PhD (project leader), M Zinn MSc (advisor, Brijder Addiction care)

**In collaboration with:** Brijder Addiction Care

**Term:** October 2008 – March 2010

**Financing:** Volksbond Foundation Rotterdam

### 62 Games: brief overview of research on the effects of playing digital games

#### **Aim and research questions**

A booklet, written for the Dutch Kennisnet Foundation, provides an overview of research on the positive and negative effects of playing both commercial and educational games. Of special interest is the applicability of the findings to the classroom situation and the perspective of teachers.

#### **Methods**

The basis for the overview was an extensive study of current scientific and mainstream literature on the effects of gaming, focusing on an educational perspective.

#### **Results**

A draft version of the booklet has been approved by Kennisnet. A published version is expected by June 2010.

#### **Researchers**

AJ van Rooij MSc (researcher), TM Schoenmakers PhD (project leader), Prof J Jansz PhD (project leader, Erasmus University Rotterdam)

**In collaboration with:** Erasmus University Rotterdam  
**Term:** July 2009 – March 2010  
**Financing:** Kennisnet Foundation

## **63 Monitor Internet and youth Fourth and Fifth measurement: video game addiction**

### **Aim and research questions**

During the last 10 years, Internet use has become the most important leisure time activity among Dutch adolescents. On average, Dutch adolescents aged 13-14 years spent about 16 hours a week on Internet use for private purposes. However, until now, few Dutch studies have been conducted on this subject, and none of these studies have used representative samples. Moreover, few studies have used a longitudinal research design. These methodological shortcomings limit conclusions about the Internet use of Dutch adolescents. They also indicate a need for more systematic research, in which a representative sample of Dutch adolescents is followed for a longer period of time. Therefore, the present study has a longitudinal research design and includes a representative sample of 10-15 year old Dutch adolescents. The fourth measurement for the Monitor Internet and Youth was conducted in April 2009. The aim of the fourth and fifth measurement of the monitor was to obtain fundamental knowledge about the phenomenon of video game addiction.

Some areas of focus in the fundamental research project are the following:

Prevalence and incidence of excessive online video game usage

- Developments over time in excessive gaming
- Multi-use or co-morbidity when compared to substance use and other internet applications
- Risk factors (personal and environmental) which might contribute to developing excessive gaming
- Consequences of excessive gaming
- The question of diagnosis and terminology – can excessive gaming be viewed as a behavioral addiction?

### **Methods**

A three-wave longitudinal study will be conducted among a representative sample of 4500 Dutch adolescents aged 10-15 years. In January 2006, the first wave of this longitudinal study took place. A total of 16 schools for primary education and 9 schools for secondary education participated in this first measurement. The schools were selected by region, degree of urbanization and school level. Data collection for the fourth measurement took place in April 2009. As in the third measurement, only secondary schools participated in the study. One new school was recruited, while three schools dropped out, leaving a total sample of ten schools.

Participation in the study means that the adolescents fill out a paper questionnaire in the classroom, under the supervision of their teacher. Instructions are provided for the teacher, and questionnaires are returned in closable white envelopes to increase the anonymity of responses entered.

### **Results**

One study using the Monitor (Eijnden et al. 2009) showed that qualitatively good communication regarding internet use is a promising tool for parents to prevent their teenage children from developing compulsive internet use. Also, parental rules regarding the content of internet use may help prevent compulsive use. Strict rules about time of internet use, however, may promote compulsive tendencies.

A second study using the Monitor (Rooij et al. 2010) showed that social (i.e. communication) applications on the internet and games were associated with Compulsive Internet Use. Of these, online gaming was shown to have the strongest association with Compulsive Internet Use. Moreover, changes in online gaming were most strongly associated with changes in Compulsive Internet Use over time for a longitudinal cohort.

In a third study (Rooij et al. under review) we identified a small group of compulsive heavy online gamers by using latent class analysis (3% of all online gamers), representing about 1.5% of all children aged 13-16 years in the Netherlands. Although these gamers report addiction-like problems, relationships with decreased psychosocial health were less evident.

The basic research project will culminate in a PhD thesis. The results from the Monitor Study which are published or submitted for publication include:

- Eijnden RJJM, R Spijkerman, AA Vermulst, AJ van Rooij, RCME Engels (2009) Compulsive Internet Use Among Adolescents: Bidirectional Parent–Child Relationships. *Journal of Abnormal Child Psychology*, 38(1), 77-89.
- Rooij AJ van, TM Schoenmakers, RJJM van den Eijnden, H van de Mheen (2010) Compulsive Internet Use: The Role of Online Gaming and Other Internet Applications. *The Journal of Adolescent Health*.
- Rooij AJ van, TM Schoenmakers, AA Vermulst, RJJM van den Eijnden, H van de Mheen, (under review). Online Video Game Addiction: Identification of Compulsive Adolescent Gamers.

### **Researchers**

AJ van Rooij MSc (PhD student, researcher), TM Schoenmakers PhD (copromotor, project leader), Prof H van de Mheen PhD (promotor), RJJM van den Eijnden PhD (copromotor, University of Utrecht, IVO till 31-05-2008)

**Term:** Fourth and Fifth measurement January 2009 - July 2011

**Financing:** Netherlands Organization for Health Research and Development (ZonMw)

## **64 Monitor Internet and youth Fourth and Fifth measurement: internet use**

### **Aim and research questions**

The fourth measurement for the Monitor Internet and Youth was conducted in April 2009. A monitor is a repeated study with fixed intervals, which uses the same questions to systematically collect information about changes over time in a certain group. The aim of this part of the monitor study was to obtain knowledge about what adolescents do on the internet, and to establish the prevalence and correlates of internet addiction.

As the main project focuses increasingly on scientific knowledge, several initiatives were undertaken to facilitate further dissemination of results within the Netherlands towards professionals, policymakers and parents. Firstly, education-oriented questions were included in the Monitor Study for the Kennisnet Foundation. Secondly, steps were taken to translate and expand the results in Dutch (written and spoken) for Volksbond Foundation Rotterdam and Tactus Addiction care.

### **Methods**

Data collection for the fourth measurement took place in April 2009. As in the third measurement, only secondary schools participated in the study. One new school was recruited, while three schools dropped out, leaving a total sample of ten schools.

Participation in the study means that the adolescents fill out a questionnaire in the classroom, under supervision of their teacher. Instructions are provided for the teacher, and questionnaires are returned in closable white envelopes to increase the anonymity of responses entered.

### **Results**

A factsheet was published, a press release was distributed through the media, a table book was submitted to the Kennisnet Foundation, and a seminar on parenting and internet addiction was organized at the end of 2009 (WTC Rotterdam). Additionally, the study resulted in a Master's thesis (Vanbrabant, 2009).

Primary results can be summarized as follows. The most popular applications on the internet are Youtube, surfing, and MSN. Social network sites (such as Hyves) have become more and more popular in the last few years, whereas writing blogs ('bloggin') has decreased in popularity.

Between 3 and 4 percent of Dutch children between 12 and 16 years old use applications on the internet compulsively. The compulsive use of internet is also called 'internet addiction'. Girls are more often 'addicted' to the internet than boys, and children of lower educational level are more often addicted than those of higher educational levels. The most addictive applications are online games, such as World of Warcraft, followed by social network sites.

Results are published in:

- Rooij AJ van, TM Schoenmakers, GJ Meerkerk, H van de Mheen (2009) Monitor Internet en Jongeren 2006-2009: Wat doen jongeren op internet en hoe verslavend is dit? [Monitor Internet and Youth. Activities of adolescents on the internet: how addictive are they?] (Factsheet). Rotterdam: IVO.
- Rooij AJ van (2009, November 23) Monitor Internet en Jongeren 2006-2009. Wat doen jongeren op Internet en hoe verslavend is dit? Presentation presented at the IVO Seminar Internet en Opvoeding, WTC Rotterdam.
- Rooij AJ van (2009) Stichting Kennisnet: Internet op School: Ontwikkelingen van 2006 tot 2009 [Internet on Schools: Developments from 2006-2009]. Rotterdam: IVO.

### **Researchers**

AJ van Rooij MSc (PhD student, researcher), TM Schoenmakers PhD (copromotor, project leader), Prof H van de Mheen PhD (promotor)

**Term:** January 2009 – November 2009

**Financing:** Volksbond Foundation Rotterdam, Kennisnet Foundation, Tactus Addiction Care

## **65 Video game overuse and social responsibility: role of industry in prevention of video game overuse**

### **Aim and research questions**

This project addressed state-of-the-art research in the field of video game overuse or 'addiction', and explored whether the gaming industry has a social responsibility in preventing video game overuse. Many signals have emerged from practice (specialized video game addiction clinics are being founded) and from research (surveys and experimental setups) indicating that video games, (especially online video games) can be associated with video game overuse.

Main research goals are: summarizing state-of-the-art research, establishing collaboration with leading scientists, and contacting the video game industry.

### **Methods**

A combination of methods are used: market research and a survey of the scientific literature are combined to provide a draft of a paper, which is used as a starting point for debate with scientists and the video game industry.

### **Results**

Online games, especially multiplayer online role playing games, are often associated with video game addiction. In this study, we explored whether and how the video game industry should act out on their social responsibility in the prevention of game addiction. Parallels were drawn to the gambling industry which is heavily regulated. Presently, online video game publishers provide neither referral services nor customer care with regards to video game addiction. In our opinion, however, a dual approach is needed. Firstly, consumers should be informed about potential addiction risks that can be attributed to playing online video games. Secondly, game publishers should implement proper referral services. These changes might be in the best interest of the video game industry as well, as it may very well prevent revenue restricting governmental intervention. Therefore, taking action on the issue of social responsibility will benefit both the customer – who will be informed and properly referred – and the game industry alike.

Both a full report and an editorial have been written and published. Based on the latter, a brief report and letter were sent to several major parties in the video game industry in an attempt to start a dialogue on the issue of video game addiction and social responsibility. No replies were received. Prof M Griffiths (UK) acted as co-author and advisor.

The following reports are available:

- Rooij AJ van, TM Schoenmakers, GJ Meerkerk, H van de Mheen (2009) Introduction to video games, their publishers, and social responsibility concerning video game addiction. Rotterdam: IVO.
- Rooij AJ van, GJ Meerkerk, TM Schoenmakers, M Griffiths, H van de Mheen (2009) Video game addiction and social responsibility. *Addiction Research & Theory*, 1-5.

### **Researchers**

AJ van Rooij MSc (researcher), GJ Meerkerk PhD (advisor), TM Schoenmakers PhD (project leader), Prof H van de Mheen PhD (advisor)

**In collaboration with:** Prof dr Mark Griffiths (UK)

**Term:** May 2008 - June 2009

**Financing:** Volksbond Foundation Rotterdam

## **66 Media attention for the social responsibility of the game industry**

### **Aim and research questions**

Our publication on the social responsibility of the game industry in game addiction (Van Rooij et al., 2010, *Addiction Research and Theory*) presents evidence for the existence of game addiction and examines whether the industry offers referral services or customer care for online game addicts. We concluded that the industry is insufficiently involved in preventing game addiction or helping people with these problems. Within this project we tried to contact the game industry to ask their opinion about this issue. Since there was no response, this follow-up project aims to inform a broader audience about the publication, thereby triggering the industry and policymakers to consider this issue.

### **Methods**

Our publication was translated into an easy-to-read Dutch report. The national newspaper Trouw was invited to write an article on the role of the industry, referring to our report. The day the Trouw article was published (2 Feb, 2010), we sent a general press release to inform the media about our report. Also, several members of parliament (SP and CU) were requested to discuss the role of the industry with the Minister of Health.

### **Results**

Trouw placed an article on the front cover, as well as a 2-page article (background information) inside the newspaper. The same day, the topic was addressed in several online news sites. Further, we had 4 radio interviews (twice on Radio 1, Funx Radio, Wereldomroep/Dutch World Service), 1 interview on a national channel (SBS6), and 1 on a regional channel (TV Gelderland). Other newspapers reported the issue on the following day (as a news article), or on the following weekend (background information). Further, the SP discussed the matter with the Minister of Health; no response has been received yet. Some organizations within the game industry responded to the media reports, generally indicating that they believe game addiction does exist.

However, they did not agree with the placement of warning messages (one of our proposals). We are still waiting for a response from the NFI, the Dutch branch organization.

### **Researchers**

AJ van Rooij MSc (researcher), TM Schoenmakers PhD (project leader), G Moorlag (research assistant), Prof H van de Mheen PhD (advisor)

**In collaboration with:** Prof dr M Griffiths (UK)  
**Term:** December 2009 – February 2010  
**Financing:** Volksbond Foundation Rotterdam

**67 Neurocognitive aspects of online game addiction  
The role of inhibition and reward sensitivity**

**Aim and research questions**

Computer game addiction is characterized by compulsive online gaming behavior and diminished control. Prolonged compulsive gaming may result in psychological, social, and occupational or learning problems. In contrast to the emerging knowledge on the neurocognitive mechanisms of alcohol and drug addiction, the neurocognitive mechanisms behind game addiction are poorly understood. The main goal of the present proposal is to examine these mechanisms of game addiction to identify why some gamers become addicted to computer games.

The proposal is based on the theory that both reward sensitivity and lack of behavioral inhibition play a major role in the development and maintenance of addictive behaviors. Further, it elaborates on studies suggesting an important role for these brain structures which are thought to regulate, mediate and inhibit reward-related stimulus driven responses.

The main question is: is game addiction related to deficiencies in the areas known to be involved in reward processing and behavioral inhibition: the mesolimbic reward circuit, dorsal prefrontal cortex, and anterior cingulate gyrus?

**Methods**

To answer the research question the mesolimbic and prefrontal functioning of two groups of participants are compared: compulsive gamers and healthy controls. The two groups will be compared using fMRI scanning techniques while performing 5 tasks measuring aspects of reward sensitivity and behavioral inhibition.

**Results**

Data collection and analysis in progress.

**Researchers**

GJ Meerkerk PhD (researcher), M Luijten (researcher, Erasmus University Rotterdam), TM Schoenmakers PhD (project leader), Prof I Franken PhD (project leader, Erasmus University Rotterdam), A van der Lugt PhD (advisor Erasmus University Rotterdam), M Smits PhD (advisor Erasmus University Rotterdam), J van der Geest PhD (advisor Erasmus University Rotterdam)

**In collaboration with:** Erasmus University Rotterdam, Department of psychology, Erasmus MC  
**Term:** September 2009 – September 2011  
**Financing:** Volksbond Foundation Rotterdam



## Other research

### 68 Development of a manual to repress/prevent handling in stolen goods

#### Aim and research questions

The study 'Markets of stolen goods, a closer look' (2007) concluded that in the Netherlands the handling of stolen goods has low priority among policymakers and citizens. The report also stated that many steps can be taken to repress/prevent such trade. The Ministry of Justice assigned IVO to develop a manual with the aim to repress/prevent handling of stolen goods.

#### Methods

Literature and telephone surveys were conducted to collect information from various experts about suitable practices to repress the handling of stolen goods. The manual also focuses on repression as well as prevention.

#### Results

A manual is compiled that presents an integrated approach in which various 'stakeholders' collaborate in order to prevent and/or repress the handling of stolen goods. The manual can be used by, for example, the police, tax offices, municipalities, public prosecution services, retailers, marketeers, auction sites and citizens, etc. as a guide on how to prevent and/or repress trade in stolen goods, and how they can cooperate to achieve this.

#### Researchers

A Snoek MSc (researcher), A van der Poel PhD (project leader), Prof H van de Mheen PhD (project leader)

**Term:** October 2008 – May 2009

**Financing:** Ministry of Justice

### 69 Role of Holland Casino in the development and maintenance of gambling addiction in the Netherlands

#### Aim and research questions

In the Netherlands, gambling activities are strictly controlled by the government to prevent problematic gambling. A limited number of suppliers are allowed to provide a limited range of gambling products, including Holland Casino with its 14 legal casinos. Nevertheless, in 2008, over 2600 clients were in treatment for pathological gambling. The aim of this project is to elucidate the nature, extent and development of gambling addiction in the Netherlands, with special attention to the role of Holland Casino in the prevention, development and/or maintenance of gambling problems.

#### Methods

The project consists of two phases. In the first phase, IVO will determine the nature and extent of gambling addiction in general and the role of Holland Casino in particular. A mixture of qualitative and quantitative research methods is used:

- Literature review on problem gambling;
- Interviews with key informants including staff members of addiction care centres, self-help groups, and employees of Holland Casino regarding their professional opinion on problem gambling;
- Interviews with clients currently in treatment for gambling problems, focusing on the development of their problematic gambling and co-occurrence with substance abuse;
- Online survey among clients currently in treatment for gambling problems;
- Online survey among a sample of the Dutch general population aged 16 years and older.

The results of the first phase provide direction for the second phase of the project: extension and adaptation of the National Alcohol and Drug Information Registration System (LADIS).

This should ultimately allow monitoring of the development of gambling addiction in the Netherlands in greater detail. The second phase will be conducted by the Foundation for the Facility of Information on Care (Stichting IVZ).

### **Results**

Data collection and analysis will be completed in May 2010.

### **Researchers**

A Risselada MSc (researcher), GJ Meerkerk PhD (researcher), C Schrijvers PhD (project leader)

**In collaboration with:** Foundation for the Facility of Information on Care (Stichting IVZ)

**Term:** October 2009 – May 2010

**Financing:** Holland Casino

## **70 Acceptance of help among perpetrators of domestic violence. A qualitative study on factors influencing the acceptance of help among perpetrators of domestic violence.**

### **Aim and research questions**

In January 2009 a new national approach to domestic violence was introduced. Perpetrators of domestic violence may be served with a temporary restraining order related in situations where there is an acute threat to victims and/or children. The initial restraining order lasts 10 days but can be extended to 4 weeks if the threat continues. The people involved will receive professional help during the 10-day restraining order.

The study explores whether perpetrators who received the 10-day restraining order are more likely to accept professional help compared with perpetrators who are in a rapid-justice trajectory. The study is limited to the Rotterdam region.

### **Methods**

Semi-structured interviews were held with local professionals responsible for the issuing of temporary restraining orders (i.e. police, local health authority, probation officers) and with professionals offering help to perpetrators and victims. Semi-structured interviews were held with 8 perpetrators in a rapid-justice trajectory and 12 perpetrators who received a restraining order. All interviewed perpetrators accepted professional help. Semi-structured interviews were held with 20 victims of domestic violence; 10 of the perpetrators were in a rapid-justice trajectory and 10 had been issued with a restraining order. Interviews were audiorecorded and transcribed ad verbatim. The interviews were entered in Nvivo and codes were assigned to text fragments. All codes were associated with the phenomenon "treatment acceptance". Based on a comparison between and within codes the results were produced.

### **Results**

Most perpetrators who accepted treatment were extrinsically motivated when they started treatment, some developed intrinsic motivation in the course of treatment. Perpetrators who are intrinsically motivated from the beginning are exceptional. Three perpetrator types emerged from the interviews: calculating perpetrators who typically try to avoid negative consequences; docile perpetrators are also extrinsically motivated but less calculating, and tend to do what public servants tell them to do; and the intrinsically motivated perpetrator who is ready to change because they want to stop the violence. The calculating and docile perpetrators consider the restraining order as punishment and were reluctant to enter treatment because they felt they had already been punished. The rapid-justice approach seems to contribute to the extrinsic motivation, as formal imprisonment and offender registration can often be avoided if treatment is accepted.

### **Researchers**

C Barendregt MSc (researcher), B van Straaten MSc (researcher), S Eppinga MSc (researcher/student), A Nanhoe (researcher, Municipal Health Authority, Rotterdam-Rijnmond), EG Wits MSc (project leader)

**In collaboration with:** Municipal Health Authority Rotterdam-Rijnmond  
**Term:** Juni 2009 – December 2009  
**Financing:** Municipal Health Authority Rotterdam-Rijnmond

## **71 Satisfaction level of practitioners who refer patients to Altrecht (Mental Health Care Agency)**

### **Aim and research questions**

The aim is to determine the level of satisfaction that practitioners (mainly GPs) have with the services of Altrecht (a mental healthcare agency) after referral of their patients. In addition, to identify aspects of the service (e.g. feedback information, patient registration, professional information, etc.) that need improvement.

### **Methods**

The study consists of three measurements. First, all GPs that refer their patients to Altrecht are invited to fill out a brief online questionnaire, mainly to gather quantitative data regarding their satisfaction with the different services/divisions of Altrecht. Second, about 20 GPs are interviewed by telephone to elaborate on the quantitative information. Third, Altrecht staff with regular contacts with the GPs have a focus group meeting to discuss and generate ideas for improvement.

### **Results**

Data collection and analysis in progress.

### **Researchers**

J Baars PhD (researcher), TM Schoenmakers PhD (project leader), C Barendregt MSc (researcher), S Issa MSc (research assistant)

**Term:** October 2009 – April 2010  
**Financing:** Altrecht Mental Health Care Agency

## **72 Research into the nature, severity and extent of poker addiction in the Netherlands**

### **Aim and research questions**

The popularity of poker has increased considerably in recent decades, especially the ability to play poker via the Internet. With the growing popularity of poker, increasing attention is paid to the potential for adverse effects of playing poker, such as excessive poker play and poker addiction. Very little is known about the number of people in the Netherlands with a problem with poker, or about possible causes or consequences of the problem.

The study describes the extent to which poker is addictive, and the role of poker compared to other gambling games in the development and maintenance of gambling addiction. In addition, the characteristics of poker addicts are investigated, the role of the location within the risk profile of poker is evaluated, and the current prevalence of poker addiction within the Dutch population is estimated.

### **Methods**

The study uses several methods: literature study, face-to-face interviews with key figures (including addiction care workers and clients) and analysis of survey data.

### **Results**

Data collection and analysis in progress.

### **Researchers**

GJ Meerkerk PhD (researcher), C Schrijvers PhD (project leader)

**Term:** November 2009 – May 2010  
**Financing:** Executive Control of Gambling (College van toezicht op de kansspelen)

### **73 Use of doping substances among the general population: prevalence data and background**

#### **Aim and research questions**

The use of doping substances is an increasing problem. Until now, data on substance use mainly concern organized sports (top and amateur level). However, there are signs that, especially the use of doping substances, is increasing in unorganized sports, e.g. fitness centers. Knowledge about the extent of the problem is necessary to formulate policy (especially with respect to long-term health effects) and to develop or improve preventive measures.

#### **Methods**

The prevalence of doping use among the general Dutch population is investigated. Data come from a large-scale population survey on substance use (National Prevalence Study; NPO, 2005). More than 20,000 subjects (aged 15-65 years) were sent an online questionnaire asking about performance-enhancing substances (doping). In addition, we enquired about what kinds of doping were used, reasons for use, use of other substances (e.g. tobacco, alcohol and illegal drugs), and points of sale.

#### **Results**

About 2% of the Dutch general population have ever used doping, especially anabolic steroids and stimulants. The use of other substances is much higher among doping users than among the general population. Prevalence data are presented by gender, age, cultural background and level of urbanization. Reasons for doping use include, to look better, increase muscle power, to avoid fatigue or to increase endurance. In addition, main points of sale are reported.

#### **Researchers**

TM Schoenmakers PhD (researcher), Prof H van de Mheen PhD (project leader), O de Hon MSc (researcher, Doping Authority, the Netherlands)

**In collaboration with:** Doping Authority, the Netherlands  
**Term:** June 2009 - December 2009  
**Financing:** Ministry of Health Welfare and Sport (VWS)

### **74 Nonmedical use of prescription and over-the-counter drugs among Dutch adolescents aged 14-17 years: a follow-up study**

#### **Aim and research questions**

The aim of this study is to gain more insight in the prevalence, frequency, motives and the experienced impact of nonmedical use of prescription and over-the-counter drugs among Dutch adolescents aged 14-17 years.

#### **Methods**

Data collection took place by using an online panel survey among Dutch adolescents aged 14-17 years. They were asked to participate in the study during a two-week period in January 2009. The questionnaire is based on validated international questionnaires. The definition of nonmedical use of prescription and over-the-counter drugs are drugs taken for reasons of stimulating or sedative effects. Drugs taken for self-medication are not taken into account.

#### **Results**

In total, 7.1% of the Dutch adolescents aged 14-17 years ever used nonmedical prescription drugs. When over-the-counter drugs are also taken into account this increases to 13%. Most used drugs are over-the-counter drugs (10%), followed by pain-killers (3%) and ADHD medication (2%). Mean age that youngsters start with non-medical use of medication is 14 years.

Reported reasons for use are for fun (64%), to experiment (56%) and to perform better (e.g. sports, study) (20%). Most youngsters get prescription drugs from friends, parents and physicians. Most youngsters report both positive as well as negative effects of non-medical use of drugs.

**Researchers**

S Ganpat MSc (researcher), M Kleinjan PhD (project leader), Prof H van de Mheen PhD (project leader)

**Term:** November 2008 - April 2009

**Financing:** Volksbond Foundation Rotterdam, Ministry of Health, Welfare and Sports (VWS)

## Education: Research and Development

### 75 Master Class Addiction 2010: *Nanos gigantum humeris insidentes*<sup>1</sup>

#### **Aim and research questions**

Scientific insight into the mechanisms behind addiction has increased considerably in the last decades. Unfortunately, knowledge transfer between various disciplines (e.g. psychology, neurobiology, sociology, epidemiology, criminology and history) appears less than optimal and disciplines may, therefore, not benefit from the progress made in other disciplines.

Moreover, young researchers tend to be educated in one main discipline, then become more and more specialized during their career, thus impeding broader views. As a result, the influence of scientific knowledge on the addiction and drug policy, prevention and treatment is less than optimal.

#### **Methods**

The Master Class Addiction 2010 aims to stimulate exchange of knowledge between various scientific disciplines and to offer young scientists the opportunity to broaden their horizon beyond their own discipline and thus enrich their scientific world view.

#### **Results**

A committee of recommendation has been formed consisting of prof dr W van den Brink (AMC/University of Amsterdam), prof dr HFL Garretsen (University of Tilburg) and prof dr H van de Bunt (Erasmus University Rotterdam). About 25 candidates, both senior and junior, are invited. The Masterclass will take place in April 2010.

#### **Researchers**

GJ Meerkerk PhD (researcher), Prof H van de Mheen PhD (project leader)

**Term:** September 2008 – April 2010

**Financing:** Volksbond Foundation Rotterdam

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<sup>1</sup> Standing on the shoulders of giants

## Advise and Implementation

### 76 Novadic-Kentron: providing advice for the Region Monitor

#### Aim and research questions

Novadic-Kentron is the addiction treatment and prevention center in the region of Brabant. Prevention workers of Novadic-Kentron also conduct various types of monitoring research (applied, practice-based). IVO is involved in one of the types of monitoring research that Novadic-Kentron performs: i.e. the Region Monitor.

#### Method and results

IVO provides advice on how to conduct the research (methodology, expertise), and is a critical reader of the products that emerge from the monitors.

#### Researcher

A van der Poel PhD (researcher), Prof H van de Mheen PhD (project leader)

**Term:** January 2009 – December 2009

**Financing:** Novadic-Kentron Addiction Care

### 77 Alcohol and drug problems in Arnhem. Analyses on behalf of the municipal addiction policy 2010-2014

#### Aim and research questions

The municipality of Arnhem has asked IVO for an analysis of the situation regarding alcohol and drugs problems. Aim of this analysis is to get input for the addiction policy 2010-2014 for the municipality of Arnhem.

#### Methods

Three methods were used: study of policy documents, interviews with professionals and patients, and registration data of addiction care institutions. At the end of the project, an expert meeting was held in which experts in the field of addiction care in Arnhem reflected on the results.

#### Results

In 2008, 415 patients were registered in addiction care in Arnhem with alcohol problems. That is the 'tip of the iceberg' of the actual number of persons with alcohol-related problems, as in the region of Gelderland 16.5% of the population is an excessive or heavy drinker. The report discusses the registered patients, and also estimates the number of people in the general population who have problems with the use of other drugs, such as cannabis, cocaine and opiates.

Important bottlenecks that exist in the social care field in Arnhem are a lack of a well-differentiated offer of (housing) care, work and day activities. The flow-through in low-threshold services seems to stagnate because of the lack of a differentiated offer for the different types of patients. In addition, the aftercare in the areas of housing guidance, financial support and the construction of a social network is not adequate.

The expert meeting showed that the following recommendations are widely supported: more attention to alcohol problems (especially for the 'hidden' group with alcohol problems), improving the early detection of substance abuse, and a better differentiation of care.

#### Researchers

B van Straaten MSc (researcher), EG Wits MSc (project leader), Prof H van de Mheen PhD (advisor)

**Term:** February 2009 – May 2009

**Financing:** Municipality of Arnhem

## **78 Introduction of the national guideline methadone maintenance treatment: establishing national support and benchmark**

### **Aim and research questions**

In 2004-2005, the national guideline 'Methadone maintenance treatment' (RIOB) was developed to improve treatment of chronic opium dependent patients in outpatient addiction care. Initiator of this guideline was (amongst others) the Netherlands Health Care Inspectorate, who concluded that methadone programs in the Netherlands did not reach satisfactory standards and used various methods of operation. With the guideline 'Methadone maintenance treatment' ready for use, it will be implemented on a national basis. In 2006, the program Scoring Results of the Netherlands Society of Mental Health Authorities has asked the scientific institute NISPA and IVO to support this national implementation.

General objective of the project 'Supporting Implementation of the Guideline Methadone Maintenance Treatment' is to bring about national implementation of the guideline methadone maintenance treatment by means of central national support and quality monitoring. Within available timetables, the guideline will be introduced, (partially) implemented, evaluated and, if necessary, adjusted.

### **Methods**

Support during the implementation process of the guideline methadone maintenance treatment will take place by offering the following services:

- visitation rounds and subsequent advice;
- professional training modules regarding the guideline;
- formats for an agency-bound implementation plan;
- for each participating agency: support by the formation and execution of the implementation plan;
- a short version of the guideline methadone maintenance treatment including a brochure for patients.

### **Results**

Ten agencies for addiction care join the project. By way of development and introduction of supporting materials (i.e. patient information and training modules) the RIOB implementation has been supported. Furthermore, the expertise of the workers has been increased by means of meetings in which experiences and knowledge were exchanged. The first visitation round took place between April and August 2007. The second will take place in 2010. The first visitation round showed that the introduction of the RIOB has resulted in an improvement in quality. Nevertheless, many bottlenecks that were identified in 2005 have not yet been solved.

The first visitation round showed that the introduction of the RIOB has resulted in an improvement in quality. Nevertheless, many bottlenecks that were identified in 2005 have not yet been solved.

### **Researchers**

EG Wits MSc (researcher), C Loth MSc (researcher, NISPA), Prof H van de Mheen PhD (project leader), Prof C de Jong PhD (project leader, NISPA)

**In collaboration with:** Nijmegen Institute for Scientist-Practitioners in Addiction (NISPA)

**Term:** November 2006 – September 2010

**Financing:** Scoring Results, a program of the Netherlands Society of Mental Health Authorities (GGZ NL)

## **79 Intervention on drug abuse in juvenile offenders: development and theoretical rationale of ambulant care in a judicial setting**

### **Aim and research questions**

In the framework of the project 'Development of Accepted Behavioral Interventions, the Child Protection Board appointed IVO and Tactus Addiction Care Centre to develop an effective behavioral intervention to reduce drug abuse in juvenile offenders.



The aim of this intervention is to prevent criminal recidivism among juvenile offenders. IVO is focused on the theoretical rationale for the intervention.

### **Methods**

The theoretical rationale is based on a literature search.

### **Results**

The intervention, called Stay-a-way, is based on Cognitive Behavioral Therapy and Motivational Interviewing. In principle, treatment of the youth will take place on an individual basis. Parents and caregivers will be involved as often as possible in the therapy. This intervention will be evaluated in March 2010 by the Accreditation Panel for Behavioral Programs of the Ministry of Justice. When the full or partial acknowledgment is obtained, the intervention will be nationally implemented.

### **Researchers**

S Ganpat MSc (researcher), EG Wits MSc (project leader), R den Ouden MSc (senior prevention worker, Tactus Addiction Care Centre), J Boonstra MSc (project leader, Tactus Addiction Care Centre)

**In collaboration with:** Tactus Addiction Care Centre

**Term:** April 2009 – April 2010

**Financing:** Child Protection Board

### 3. ORGANISATION

#### Staff 2009

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drs Samson M Issa	0,8	Research assistant Rotterdam	since 1/10	issa@ivo.nl
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drs Tessa Magnée	0,6	Research assistant Rotterdam	1/9 - 30/11	
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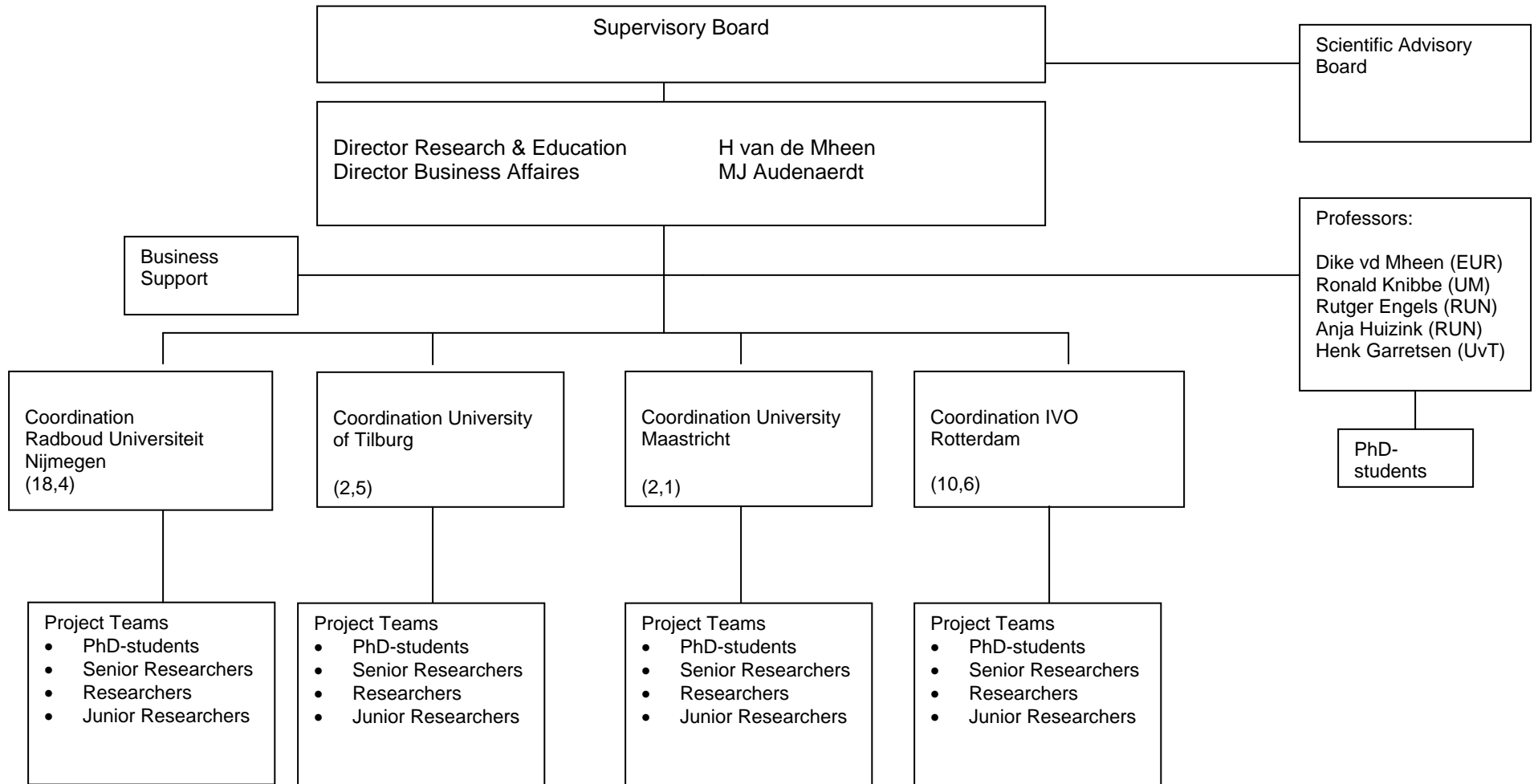
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ir Elske G Wits	0,8	Coordinator Advice and Implementation Rotterdam		wits@ivo.nl
drs Rinka MP van Zundert	0,8	PhD student Nijmegen	till 02/11	
drs Carmen van der Zwaluw	0,8	PhD student Nijmegen		c.vanderzwaluw@pwo.ru.nl
Total fte's research in 2009:	33,6			

**Organization chart IVO**



## 4. PUBLICATIONS

### International Journals

Aa N van der, GJ Overbeek, RCME Engels, RHJ Scholte, GJ Meerkerk, RJJM van den Eijnden (2009) Daily and compulsive internet use and well-being in adolescence: A diathesis-stress model based on Big Five personality traits. *Journal of Youth and Adolescence*, 38, 765-776.

Aarts MJ, LAM van de Goor, JAM van Oers, AJ Schuit (2009) Towards translation of environmental determinants of physical activity in children into multi-sector policy measures: study design of a Dutch project. *BMC Public Health*, 9(1), 396.

Ait-Khaled N, N Pearce, HR Anderson, P Ellwood, S Montefort, J Shah, the ISAAC Phase Three Study Group. Global map of the prevalence of symptoms of rhinoconjunctivitis in children: The International Study of Asthma and Allergies in Childhood (ISAAC) Phase Three. *Allergy* 2009; 64: 123–148. (Otten R, RCME Engels are part of the Phase Three Study Group).

Anschutz DJ, RCME Engels, ES Becker, T van Strien (2009) The effects of commercials using average-sized models on young women's mood, body image and actual food intake. *Body Image*, 6, 270-276.

Anschutz DJ, RCME Engels, JFJ van Leeuwe, T van Strien (2009) Watching your weight? The relations between watching soaps and music television and body dissatisfaction and restrained eating in young girls. *Psychology & Health*, 24, 1035-1051.

Anschutz DJ, RCME Engels, T van Strien (2009) Side effects of television food commercials on concurrent nonadvertised sweet snack food intakes in young children. *American Journal of Clinical Nutrition*, 89, 1328-1333.

Anschutz DJ, LJA Kanters, T van Strien, AA Vermulst, RCME Engels (2009) Maternal influences on body dissatisfaction and restrained eating in young children. *International Journal of Eating Disorders*, 42, 54-61.

Anschutz DJ, T van Strien, MOM van de Ven, RCME Engels (2009) Eating style and energy intake in young women. *Appetite*, (53), 119-122.

Baars J, B Boon, HFL Garretsen, H van de Mheen (2009) Vaccination uptake and awareness of a free hepatitis B vaccination program among female commercial sex workers. *Women's Health Issues*, 19(1), 61-69.

Baars J, B Boon, HFL Garretsen, H van de Mheen (2009) The reach of a free hepatitis B vaccination program: Results of a Dutch study among drug users. *International Journal of Drug Policy*. (Online)

Barelds A, LAM van de Goor, M Bos, GLM van Heck, J Schols (2009) Care and service trajectories for people with intellectual disabilities: Defining course and quality determinants from the client's perspective. *Journal of Policy and Practice in Intellectual Disabilities*, 6, 163-172.

Barendregt C, H van de Mheen (2009) Then there was silence on the streets. Developments in the street scene of Rotterdam in the last decade. *Drugs: education, prevention and policy*, 2009(16), 497-511.

Bricker JB, R Otten, JL Liu, AV Peterson (2009) Parents who quit smoking and their adult children's smoking cessation: a 20-year follow-up study. *Addiction*, 104(6), 1036-1042.

Couwenbergh CPG, RJ van der Gaag, M Koeter, C de Ruiter, W van den Brink (2009) Screening for substance abuse among adolescents: validity of CAGE-AID in youth mental health care. *Substance Use and Misuse*, 44(6), 823-834.

Eijnden RJJM van den, R Spijkerman, AA Vermulst, AJ van Rooij, RCME Engels (2009) Compulsive Internet Use Among Adolescents: Bidirectional Parent-Child Relationships. *Journal of Abnormal Child Psychology*, 38(1), 77-89.

Engels RCME (2009) Early pubertal maturation and drug use: underlying mechanisms - Commentary. *Addiction*, 104(1), 67-68.

Engels RCME, RCJ Hermans, RB van Baaren, T Hollenstein, SM Bot (2009) Alcohol portrayal on television affects actual drinking Behaviour. *Alcohol & Alcoholism*, 44, 244-249.

Field M, T Duka, E Tyler, TM Schoenmakers (2009) Attentional bias modification in tobacco smokers. *Nicotine & Tobacco Research*, 11(7), 812-822.

Ha PT, GJ Overbeek, RCME Engels (2009) Effects of attractiveness and social status on dating desire in heterosexual adolescents: An experimental study. *Archives of Sexual Behavior (Online)*.

Ha PT, GJ Overbeek, AA Vermulst, RCME Engels (2009) Marital quality, parenting, and adolescent internalizing problems: A three-wave longitudinal study. *Journal of Family Psychology*, 23(2), 263-267.

Harakeh Z, RCME Engels, E den Exter Blokland, RHJ Scholte, AA Vermulst (2009) Parental communication appears not to be an effective strategy to reduce smoking in a sample of Dutch Adolescents. *Psychology and Health*, 24, 823-841.

Hendriks AWCJ, RCME Engels, MAE Roek (2009) Sensual expressions on faces. *Perception*, 38(suppl.), S82.

Hendriks L, MJ Witteman, LJG Frietman, RB van Baaren, GJ Westerhof, RCME Engels, AJ Dijksterhuis (2009) Imitation can reduce malnutrition in residents in assisted living facilities. *Journal of the American Geriatrics Society*, 57(1), 187-188.

Hermans RCJ, RCME Engels, JK Larsen, CP Herman (2009). Modeling of palatable food intake: the influence of quality of social interaction. *Appetite*, 52, 801-804.

Hermans RCJ, JK Larsen, CP Herman, RCME Engels (2009) Effects of social modeling on young women's nutrient-dense food intake. *Appetite*, 53, 135-138.

Hiemstra M, L Ringlever, R Otten, C Jackson, OCP van Schayck, RCME Engels (2009) Efficacy of Smoking Prevention Program 'Smoke-free Kids': Study Protocol of a Randomized Controlled Trial. *BMC Public Health*, 9:477.

Holmilla M, K Raitasola, RA Knibbe, K Hradilova-Selin (2009) Country variations in family members'informal pressure to drink less. *Contemporary Drug Problems*, 36, 13-29.

Hradilova-Selin K, M Holmilla, RA Knibbe (2009) Informal social control of drinking in intimate relationships: a comparative analysis. *Contemporary Drug Problems*, 36, 3-58.

Huver RM, R Otten, H de Vries, RCME Engels (2009) Personality and parenting style in parents of adolescents. *Journal of Adolescence*, 33(3), 395-402.

Joosten J, RA Knibbe, M Derickx, K Hradilova-Selin, M Holmila (2009). Criticism of drinking as informal social control: A study in 18 countries. *Contemporary Drug Problems*, 36, 85-109.

Kemp RAT de, AA Vermulst, C Finkenauer, RHJ Scholte, GJ Overbeek, EW Rommes, RCME Engels (2009) Self-control and early adolescent antisocial behavior: A longitudinal analysis. *The Journal of Early Adolescence*, 29, 497-517.

Kleinjan M, RJJM van den Eijnden, RCME Engels (2009). Adolescents' rationalizations to continue smoking: The role of disengagement beliefs and nicotine dependence in smoking cessation. *Addictive Behaviors*, 34(5), 440-445.

Kleinjan M, RCME Engels, JFJ van Leeuwe, J Brug, RMP van Zundert, RJJM van den Eijnden (2009) Mechanisms of adolescent smoking cessation: Roles of readiness to quit, nicotine dependence, and smoking of parents and peers. *Drug and Alcohol Dependence*, 99(1-3), 204-214.

Koning IM, WAM Vollebergh, F. Smit, JEE Verdurmen, RJJM van den Eijnden, TFM ter Bogt, H Stattin, RCME Engels (2009) Preventing heavy alcohol use in adolescents (PAS): cluster randomized trial of a parent and student intervention offered separately and simultaneously. *Addiction*, 104(10), 1669-1678.

Kuntsche S, RA Knibbe, G Gmel (2009) Social roles and alcohol consumption: a study of 10 industrialized countries. *Social Science and medicine*, 68, 1263-1270.

Kuntsche E, H van der Vorst, RCME Engels (2009) The earlier the more? Differences in the links between age at first drink and adolescent alcohol use and related problems according to quality of parent-child relationships *Journal of Studies on Alcohol and Drugs*, 70, 346-354.

Larsen H, RCME Engels, I Granic, GJ Overbeek (2009) An Experimental Study on Imitation of Alcohol Consumption in Same-Sex Dyads. *Alcohol and Alcoholism*, 44(3), 250-255.

Larsen JK, R Otten, RCME Engels (2009) Adolescent depressive symptoms and smoking behavior: The gender-specific role of weight concern and dieting. *Journal of Psychosomatic Research*, 66, 305-308.

Larsen JK, B van Ramshorst, LJP van Doornen, R Geenen (2009) Salivary cortisol and binge eating disorder in obese women after surgery for morbid obesity. *International Journal of Behavioural Medicine*, 16, 311-315.

Leeuw RNH de, RCME Engels, AA Vermulst, RHJ Scholte (2009) Relative risks of exposure to different smoking models on the development of nicotine dependence during adolescence: A five-wave longitudinal study. *Journal of Adolescent Health*, 45, 171-178.

Lochbuehler K, RCME Engels, RHJ Scholte (2009) Influence of smoking cues in movies on craving among smokers. *Addiction*, 104(12), 2102-2109.

Lochbuehler K, RCME Engels, RHJ Scholte (2009) Influence of smoking cues on craving among smokers. *Addiction*, 104, 2102-2109.

Meerkerk GJ, RJJM van den Eijnden, AA Vermulst, HFL Garretsen (2009) The Compulsive Internet Use Scale (CIUS): Some Psychometric Properties. *Cyberpsychology & behavior*, 12(1), 1-6.

Müller BCN, RB van Baaren, SM Ritter, ML Woud, H Bergmann, Z Harakeh, RCME Engels, AJ Dijksterhuis (2009) Tell me why ... The influence of self-involvement on short term smoking behaviour. *Addictive Behaviors*, 34(5), 427-431.

Otten R, RCME Engels, MJ Prinstein (2009) A Prospective Study of Perception in Adolescent Smoking. *Journal of Adolescent Health*, 44(5), 478-484.

Otten R, MOM van de Ven, RCME Engels, RJJM van den Eijnden (2009) Depressive mood and smoking onset: A comparison of adolescents with and without asthma. *Psychology & Health*, 24(3), 287-300.



Otten R, B Wanner, F Vitaro, RJJM van den Eijnden, RCME Engels (2009) Disruptiveness, peer experiences, and adolescent smoking: A long-term longitudinal approach. *Addiction*, 104(4), 641-650.

Poel A van der, G Rodenburg, M Dijkstra, M Stoele, H van de Mheen (2009) Trends, motivations and settings of recreational cocaine use by adolescents and young adults in the Netherlands. *International Journal of Drug Policy*, 20(2):143-51.

Poelen EAP, RCME Engels, RHJ Scholte, DI Boomsma, G Willemsen (2009) Predictors of problem drinking in adolescence and young adulthood: A longitudinal twin-family study. *European Child and Adolescent Psychiatry*, 18, 345-352.

Poelen EAP, RCME Engels, RHJ Scholte, DI Boomsma, G Willemsen (2009) Similarities in drinking behavior of twin's friends: Moderation of heritability of alcohol use. *Behavior Genetics*, 39, 145-153.

Rooij AJ van, GJ Meerkerk, TM Schoenmakers, MD Griffiths, H van de Mheen (2009) Video game addiction and social responsibility. *Addiction Research & Theory*, 1476-7392.

Scholte RHJ, GJ Overbeek, G ten Brink, E Rommes, RAT de Kemp, L Goossens, RCME Engels (2009) The significance of reciprocal and unilateral friendships for peer victimization in adolescence. *Journal of Youth and Adolescence*, 38, 89-100.

Snoek HM, T van Strien, JMAM Janssens, RCME Engels (2009) Longitudinal relationships between fathers', mothers', and adolescents' restrained eating. *Appetite*, 52(2), 461-468.

Spijkerman R, RA Knibbe, K Knoop, H van de Mheen, RJJM van den Eijnden (2009) The utility of online panel surveys versus computer assisted interviews in obtaining substance-use prevalence estimates in the Netherlands. *Addiction*, 104, 1641-1645.

Straaten I van, RCME Engels, C Finkenauer, RW Holland (2009) Meeting Your Match: How Attractiveness Similarity Affects Approach Behavior in Mixed-Sex Dyads. *Personality and Social Psychology Bulletin*, 35(6), 685-697.

Strien T van, HM Snoek, CS van der Zwaluw, RCME Engels (2009) Parental control and the dopamine D2 receptor gene (DRD2) interaction on emotional eating in adolescence. *Appetite*. (Online).

Ven MOM van de, RCME Engels, SM Sawyer (2009) Asthma-specific Predictors of Smoking Onset in Adolescents with Asthma: A Longitudinal Study. *Journal of Pediatric Psychology*, 34(2), 118-128.

Verhaegh MJM, IMB Bongers, H Kroon, HFL Garretsen (2009) Model fidelity of Assertive Community Treatment for clients with first-episode psychosis: a target group-specific application. *Community Mental Health Journal*, 45(1), 12-18.

Verdonk-Kleinjan WMI, RA Knibbe, FES Tan, MC Willemsen, HN de Groot, H de Vries (2009) Does the workplace smoking ban eliminate differences in risk for environmental tobacco smoke exposure at work?. *Health Policy*, 92, 197-202.

Vorst H van der, AA Vermulst, W Meeus, M Deković, RCME Engels (2009) Identification and prediction of drinking trajectories in early and mid-adolescence. *Journal of Clinical Child and Adolescent Psychology*, 38, 329-341.

Zijlstra H, HR Boeije, JK Larsen, B van Ramshorst, R Geenen (2009) Patients' Explanations for Unsuccessful Weight Loss after Laparoscopic Adjustable Gastric Banding (LAGB). *Patient Education and Counseling*, 75, 108-113.

Zijlstra H, JK Larsen, DTD de Ridder, B van Ramshorst, R Geenen (2009) Initiation and maintenance of weight loss after laparoscopic adjustable gastric banding. The role of outcome expectancy and satisfaction with the psychosocial outcome. *Obesity Surgery*, 19, 725-731.

Zundert RMP van, E Boogerd, AA Vermulst, RCME Engels (2009) Nicotine withdrawal symptoms following a quit attempt: An ecological momentary assessment study among adolescents. *Nicotine & Tobacco Research*, 11(6), 722-729.

Zundert RMP van, RCME Engels (2009) Parental Factors in Association with Adolescent Smoking Relapse. *European Addiction Research*, 15(4), 209-215.

Zundert RMP van, LM Nijhof, RCME Engels (2009) Testing Social Cognitive Theory as a Theoretical Framework to Predict Smoking Relapse among Daily Smoking Adolescents. *Addictive Behaviors*, 34(3), 281-286.

Zwaluw CS van der, RCME Engels (2009) Gene-environment interactions and alcohol use and dependence: Current status and future challenges. *Addiction*, 104(6), 907-914.

Zwaluw CS van der, RCME Engels, J Buitelaar, RJ Verkes, B Franke, RHJ Scholte (2009) Polymorphisms in the dopamine transporter gene (SLC6A3/DAT1) and alcohol dependence in humans: a systematic review. *Pharmacogenomics*, 10(5), 853-866.

Zwaluw CS van der, RCME Engels, AA Vermulst, B Franke, J Buitelaar, RJ Verkes, RHJ Scholte (2009) Interaction between dopamine D2 receptor genotype and parental rule-setting in adolescent alcohol use: evidence for a gene-parenting interaction. *Molecular Psychiatry*. (Online).

Zwaluw CS van der, B Franke, RCME Engels (2009) Research highlights. *Pharmacogenomics*, 10(9), 1385-1388.

Zwaluw CS van der, B Franke, RCME Engels (2009) A polymorphism in the SOD2 gene and its association with esophageal cancer. *Pharmacogenomics*, 10(9), 1385-1386.

Zwaluw CS van der, RHJ Scholte, AA Vermulst, J Buitelaar, R Verkes, RCME Engels (2009) The Crown of Love: Intimate Relations and Alcohol Use in Adolescence. *European Child and Adolescent Psychiatry*, 18(7), 407-417.

## **Dutch Journals**

Deursen DS van, E Salemink, TM Schoenmakers, RW Wiers (2009) Het hertrainen van automatische cognitieve processen bij angst- en verslavingsproblematiek. *GZ-Psychologie*, 1(2), 24-31.

Garretsen HFL, EPM Brouwers, LAM van de Goor, J van Oers, N de Vries (2009) Kom over de brug: het verbinden van beleid, onderzoek en praktijk. *TSG Tijdschrift voor Gezondheidswetenschappen*, 87, 75-76.

Goor LAM van de, E Hendriks, MJH van Bon-Martens, HFL Garretsen (2009) Evidence-based werken: van theorie naar praktijk. Casus 'Preventie van overgewicht bij jeugdigen in gemeente X'. *TSG Tijdschrift voor Gezondheidswetenschappen*, 87(3), 15.

Harakeh Z, RHJ Scholte, AA Vermulst, H de Vries, RCME Engels (2009) De relatie tussen het rookgedrag van ouders, hun opvoeding en het rookgedrag van hun adolescenten. *Kind en Adolescent*, 30(4), 243-259.

Kleinjan, M, RJMM van den Eijnden, J Bouwens, L Peters (2009) Aanbevelingen voor interventies gericht op stoppen met roken: Resultaten van een programmeerstudie. *Tijdschrift Verslaving*, 5, 3-18.

Kleinjan M, RCME Engels, JFJ van Leeuwe, J Brug, RMP van Zundert, RJJM van den Eijnden (2009) Stoppen met roken bij adolescenten: De rol van intentie om te stoppen, nicotineafhankelijkheid en het roken van ouders en vrienden. *Psychologie & Gezondheid*, 37(4), 252-266.

Leeuw RNH de, RCME Engels, RHJ Scholte (2009) Jong geleerd, oud gedaan? Roken van ouders en gespeeld rookgedrag van jonge kinderen. *Tijdschrift voor Orthopedagogiek*, 48, 471-482.

Mheen H van de (2009) Alcoholproblematiek bij jongeren: de cijfers. *TSG Tijdschrift voor Gezondheidswetenschappen*, 2009(87)77-78.

Oliemeulen L, RJJM van den Eijnden, M van Ooyen-Houben, H van de Mheen (2009) Problematisch middelengebruik onder Nederlandse gedetineerden. *Tijdschrift Verslaving*, 5, 3-18.

Roeg DPK, LAM van de Goor, HFL Garretsen (2009) Onderdelen van bemoeizorg voor mensen met (comorbide) verslaving en aanbevelingen voor richtlijnontwikkeling voor de Nederlandse praktijk. *TSG Tijdschrift voor Gezondheidswetenschappen* 87(3), 92-99.

Rooij AJ van (2009) Videogameverslaving - een verkenning. *TSG Tijdschrift voor Gezondheidswetenschappen*, 87(3), 24.

Rooij AJ van, A Snoek (2009) Symposiumverslag. Gameverslaving, fabel of feit. *TSG Tijdschrift voor Gezondheidswetenschappen*, 87(5), 148-149.

Spel L, GJ Meerkerk, TM Schoenmakers (2009) Verliezen in de virtuele wereld. Enkele overwegingen bij het concept internetverslaving. *De Psycholoog*, 44(12), 628-633.

### **Dutch Books/Other Publications**

Baars J, A van der Poel A, M Kleinjan, SS Amadmoestar, H van de Mheen. Match cliënten-woonzorg. Intern rapport GGD Rotterdam-Rijnmond. IVO: Rotterdam, 2009.

Barendregt C, B Straaten, EG Wits (2009) Een zinvol bestaan. Levensinvulling onder dak- en thuislozen binnen de Rotterdamse Maatschappelijke Opvang. Fact sheet. Rotterdam: IVO

Barendregt C, EG Wits (2009) Chronisch problematische verslaafden in Flevoland. Problematiek en behoefte aan woonzorg, laagdrempelige voorzieningen en dagbesteding. Rotterdam: IVO

Bastiaanssen ILW, JW Veerman, G Kroes, RCME Engels (2009) Aantoonbare Effectiviteit: onderzoek naar de residentiële jeugdzorg van Entréa. Resultaten eerste fase. Nijmegen: Entréa.

Ganpat S, M Kleinjan, H van de Mheen (2009) Oneigenlijk Medicijngebruik onder jongeren. IVO reeks nr. 64 Rotterdam.

Ganpat S, E van Vliet, A van der Poel (2009) Evaluatie van de Rotterdamse Woon-Zorg-Werk voorziening voor bewoners met complexe problematiek. Resultaten van onderzoek onder medewerkers, bewoners en ex-bewoners. Rotterdam: IVO.

Ganpat S, EG Wits, TM Schoenmakers, P Greeven (2009) Problematiek en zorgbehoefte van gedetineerden met een ISD-maatregel in JI Vught. IVO reeks nr. 62. Rotterdam/Vught: IVO, Novadic-Kentron.

Gerris JRM, RCME Engels (Eds.) (2009). Professionele kwaliteit in jeugdzorg en jeugdonderzoek (Gezinsonderzoek, 22). Assen: Van Gorcum.

Heijerman-Holtgreve A, EG Wits (2009) Resultaten van het screeningsinstrument Verslaving en Psychiatrie. Evaluatie van de zorgtoeleiding van dak- en thuislozen in de Rotterdamse maatschappelijke opvang. Rotterdam: IVO.

Kaal HL, MMJ van Ooyen-Houben, S Ganpat, EG Wits (2009) Een complex probleem. Passende zorg voor verslaafde justitiabelen met co-morbide psychiatrische problematiek en een lichte verstandelijke handicap. Den Haag: Ministerie van Justitie.

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