

REPORT: THE OVERALL
RESULTS FROM THE
LONGITUDINAL STUDY
EVALUATING THE
EFFECTIVENESS
OF THE PROGRAM
"PRATA OM ALKOHOL"

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FOREWORD

This report is the final report written to capture the major relevant results from the Swedish longitudinal project evaluating the alcohol prevention program "Prata om Alkohol". This project has been running for the better part of four years starting in the beginning of 2014.

A number of people have been involved to make this project happen. I hereby want to thank all of the persons, pupils, teachers, project-staff, collaborators, stakeholders and all others who have invested time and effort into this project. Thanks! Without all of your dedicated work and interest into the project, little would have been achieved.

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BACKGROUND

As well known, Swedish authorities including municipalities has a long-standing ambition to prevent the development of substance use problems among children and adolescents. This ambition has been codified into a national prevention strategy, the so called ANDT-strategy (Alcohol, Narcotics, Doping, and Tobacco). The strategy is an important tool for all societal bodies at different levels both as a general policy document but also to serve as a guide to actors on what to focus on and how the work should be integrated into an overall framework.

Non-surprisingly, the school and the school arena is an important focus area for preventive work in general and for substance use prevention in particular. For more than half a century the school-curriculum have had general writings of the necessity of preventive work in schools and specific paragraphs demanding schools to take preventive actions within the over-all school work. However, during all this time federal agencies have only worked with rather vague recommendations how this preventive work should be outlined and focused. Instead, municipalities and single schools have been and still are, allowed to form their prevention curriculum as they find fit and best for the for them, taking local circumstances into consideration. It is no exaggeration to say that this relatively loose regulation on how prevention for substances should be carried out have resulted in a variety of home grown preventions programs in many school throughout the country of Sweden.

Traditionally lot of these programs have been based on scaring students not to use substances. This has been achieved (in theory) by letting former addicts and police officers talk about the dark sides of addiction. However, as results from evaluations consistently show, this form of preventive work is not effective, things have slowly start to change in schools throughout the country. There are currently no Swedish studies on the various prevention efforts undertaken in schools but as said, one can on good grounds assume a great variety of actions and most of these programs do have little or no scientific evidence of efficiency when it comes to prevent initiation of substances or abstinence. In fact, very few of the efforts/programs have ever been evaluated and many lack sufficient documentation to allow a more stringent evaluation.

Summing up, there is a great need to evaluate the programs used today In Swedish schools and specifically study efficiency and effectiveness of those programs.

PRATA OM ALKOHOL

One of the program used in today's Swedish schools are the program "*Prata om alkohol*". As of today, about 75% of Sweden's primary and secondary schools have ordered the work material, however, the use of the program and the degree of implementation in school-curricula's is unknown. But based on common sense and what one now of the preventive work done in schools today, the program should be one of the most frequent programs used in Sweden when it comes to alcohol prevention among adolescents.

Prata om alkohol is developed as an alcohol preventive tool focusing on adolescents at the later stage of primary school or secondary school's students. The work material is developed into about 30 classrooms based practices lead by the regular teacher. Most practices are value-oriented and student practice skills and learning values thru role-plays and discussions in class.

The work material and its exercises are divided into three levels. Level One - for pupils that has no use or only using a small amount of alcohol. Level Two for pupils that use alcohol now and then and Level Three for pupils with a regular use of alcohol.

Level One starts with a few exercises to establish the level of use of alcohol in the class. This procedure enables the teacher to adopt the program to the actual level of consumption and use the interventions from the right level. Each level has about 10 exercises each taking 20 to 140 minutes to conclude. All exercises follow the same structure where one starts with some facts, establish a work modus, an introduction followed by the actual exercise and conclusions.

The teacher gets support throughout the work book how to perform the various exercises.

PREVIOUS RESEARCH

The short-term effects of *Prata om alkohol* has been evaluated in a smaller study comprising 6 intervention classes and some control classes. The study shows that participating students lowered their alcohol intake, consuming alcohol less frequently than previously and overall lesser amount of alcohol than the control-group (Fernandes et al: 2010). Based on these promising findings - a more extensive and long-term study has been suggested to be carried out.

AIM

The study aims at evaluate the effects of "*prata om alkohol*" in a long-term perspective regarding primary school student's attitudes towards alcohol and their consumption of alcohol. Students are followed from year 7 to the conclusion of year 9 in primary school.

Primary hypothesis: At the end of the study, adolescents in the intervention group have consumed alcohol to a significant lesser extent during their lifetime compared to the control group.

Secondary hypothesis: At the end of the study, adolescents in the intervention group have to a lesser extent being intoxicated during the past year compared to the control group.

METHOD

DESIGN

The current study is a prospective cluster randomized study where the level of randomization is school classes. Further, the study is an efficacy study where the intervention is delivered by a specially trained teacher selected for his teaching experience and familiarity with the program. The teacher was employed by the study. The study's intention to follow students over a longer period of time is fulfilled by following the same student for three years from class 7 to the conclusion of class 9 where they complete primary school. Pupils are measured annually in the fall-semester, except for the spring semester in class 9 where an additional data collection is conducted.

SAMPLE

High schools in Huddinge, Lidingö, Nacka, Botkyrka, Sollentuna and Solna municipalities (municipalities surrounding the city of Stockholm) has participated in the study. Schools in each municipality have been contacted with a request to participate in the study with at least two classes, one intervention class and one control class, where the intervention class is subjected to the *Prata om alkohol* program during the full three years of the study. In the cases the headmaster consented to participation, the school has been included in the study. No schools have been excluded from the study, however two schools who initially agreed to participation failed to enroll in the research process. Despite this, the study almost managed to reach its basic inclusion targets which were 20 schools - 40 classes and 600 pupils. Still, it is estimated that the study has sufficient power to be able to answer the study's hypotheses.

The sample should be viewed as a convenient sample, meaning that schools were asked to participate in the study in a non-random order and where chosen for the study just because they could meet the basic inclusion criteria. Further, headmasters were allowed to choose at their own discretion which classes from each school that should be picked for the study. It should be stated that headmasters had no specific knowledge about the compositions of students in the classes as all classes were newly formed at the start of year 7.

Regardless of the risk of bias in a convenience sample, it is concluded that this study at least could be representative for adolescents in major city areas in Sweden. This statement is backed by the fact that all municipalities have been chosen to participate in the study because of their differences in population and socio-economic conditions within the community.

The study is approved in its current form by the ethical board at the Karolinska Institutet, 2014/1308-31/5

PROCEDURE

At the start of the fall semester in class 7, an informed consent form for the pupil to participate in the study together with an information letter was presented to parents or legal custodians in classes participating in the study. To be able to participate in the study both parents/custodians had to agree to the study requirements. The parents consented to that their children were asked questions via a questionnaire 4 times during 3 years, with a possible subsequent follow-up no longer than 5 years after this study's completion in 2017.

At the time for the first data collection, adolescents were thoroughly informed during class about the study's goals and about the procedure, and they could ask questions about the study and what was required of them. They were not informed about their status as an intervention or control-class at this point. In conjunction with the data collection, students had to present the signed consent form from parents, otherwise they were not allowed to participate. A research assistant is responsible for handing out the questionnaires, to answer questions and to assist those with language difficulties. After students finished the questionnaire, they presented the form for the research assistant that quickly went through the questions to spot omissions of answers. When satisfied students were given a cinema ticket as a reimbursement for their time spent filling out the questionnaire. All data waves have had a similar data-collection procedure, except that consent was only collected once in the outset of the study.

THE QUESTIONNAIRE

The questionnaire is the same throughout the study. At year 3, six questions are added that focus on a more elaborated use of alcohol.

The questionnaire comprises questions from various areas. A substantial part focus on attitudes, experiences with and consumption of alcohol. With the same scope questions about narcotics are asked as well. Questions about the most prominent risk- and protective factors are asked. Most of those questions are related to various form of wellbeing or lack thereof, as those conditions are known to be linked to alcohol initiation and sustained use. The student is not only asked about their own wellbeing but also his/hers family and extended family, as, again, those factors are well known to influence alcohol use over generations.

From the third data collection wave the CRAFFT tool was included. CRAFFT Screening Test is a short clinical assessment tool designed to screen for substance-related risks and problems in adolescents. CRAFFT stands for the key words of the 6 items in the second section of the assessment - Car, Relax, Alone, Forget, Friends, Trouble.

THE INTERVENTION - PRATA OM ALKOHOL

For all intervention classes an experienced teacher highly trained in the content in the manual Prata om alkohol performed all training in classes. One session per semester was conducted in the intervention classes following the manual available for *Prata om Alkohol*. One session is 40 minutes. In total 6 session was performed for each intervention class throughout the study period.

RESULTS

The result section focuses on reporting some basic data on the study-characteristics and answering the study's hypotheses.

BASIC CHARACTERISTICS

In total, 17 schools have been included in the study with a total of 34 classes and with the total number of 584 pupils. Almost 53% of the students were girls and 47% boys and most of them were 13 years of age or younger when included in the study but 8% were 14 years of age. Also, most of the students were in public schools where only 9% went to private schools.

In general, the data quality was good with few omissions of answers from students. For each analysis typically 2-5% of cases were omitted due to lack of data.

TABLE 1.

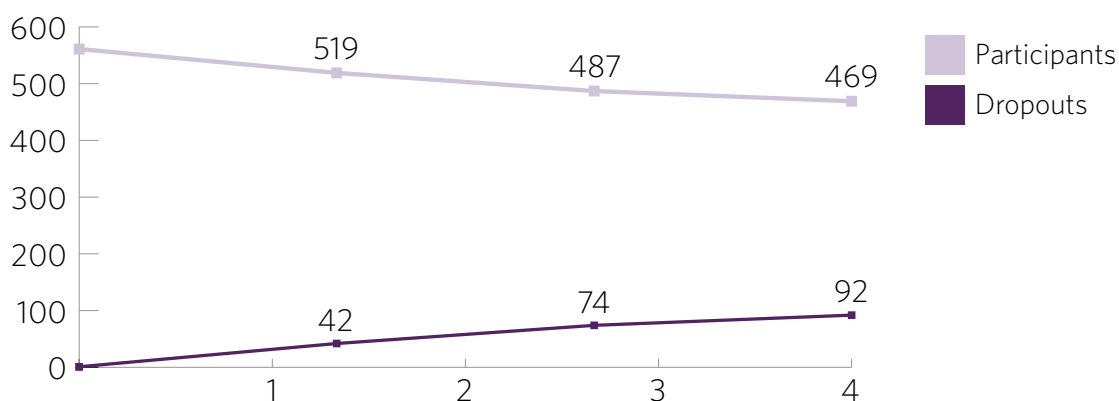
Basic individual descriptive data at the onset of the study

	GIRLS	BOYS
Sex	52,8%	47,2%
Public school	90%	92%
Private school	10%	8%
Inclusion at age 13 years or younger	91%	92%
Inclusion at age 14 years or older	9%	8%

The drop-out rate over the three study years was modest. At the last data collection wave 84% of the initial participants answered the questionnaire. Drop-out was mainly due to that participants were not present in the class room at the time for data collection. Some of the students changed school during the study period and was considered as a drop-out.

FIGURE 1.

Chart over participants/dropouts in the various data waves



In order to detect possible systematic differences between the two study groups a number of baseline variables were tested to investigate possible bias that subsequently could affect the outcome. As shown in table 2, no differences were detected between the study groups.

TABLE 2.

Comparison between study groups on important baseline variables

	INTERVENTION	CONTROL	TEST
Separated parents (yes)	25,3%	26,1%	P = .46
Born in Sweden	89,1%	88%	P = .36
Sum of risk factors (index)	5,18	5,22	P = ,35
Health index (physical)	9,71	9,85	P = ,59
Health index (psychological)	19,30	19,08	P = ,66

ALCOHOL CONSUMPTION

In Table 3 the basic distribution of alcohol consumption is presented, where participants report if they have consumed alcohol during their lifetime, and if so, how many times they consumed alcohol during the last year. In total 173 or 36.7% of the participants reported having consumed alcohol. Of the total sample 46% of the girls and 26% of the boys reported having consumed alcohol ever. The mean age at first consumption was 14.5 years (Median 15 years).

TABLE 3.

Consumption of alcohol during lifetime

	NUMBER OF PARTICIPANTS	PERCENT OF TOTAL NR OF PARTICIPANTS
Once a year or less	33	7%
2-6 times during a year	62	13%
Once a month	40	8%
Two times a month	27	6%
Once a week	9	2%
Twice a week	4	1%
Every second day	0	0%
Every day	0	0%

In Table 4 reports on the number of occasions where the subject has consumed enough alcohol to feel intoxicated during the past year. In total 133 participants reported being intoxicated in the past 12 months, a total of 28.2% of the sample.

TABLE 4.

Number of intoxications during the past year

	NUMBER	PERCENT OF ALL PARTICIPANTS
Once	41	8%
2-4 times	48	10%
5-10 times	23	5%
11-20 times	13	3%
21-50 times	7	1%
More than 50 times	1	0%

TESTING THE PRIMARY HYPOTHESIS

Primary hypothesis: At the end of the study, adolescents in the intervention group have consumed alcohol to a significant lesser extent during their lifetime compared to the control group.

The primary hypothesis was tested comparing the intervention group with the control group on how many participants in each group who had consumed alcohol during their lifetime. As seen in Table 4, no significant differences were revealed between groups. The hypothesis was hence rejected.

TABLE 4.

Number of participants in the two conditions that have consumed alcohol during their lifetime

	NO	YES
Intervention	64,5%	35,5%
Control	62,2%	37,8%*

**non-significant difference*

Breaking down the analysis and study possible differences between sexes reveals that the boys in the intervention group, although not significant have a tendency to have had consumed alcohol to a lesser extent compared to the control group. This trend was not evident among girls where the proportions are similar between study groups.

TABLE 5.

Number of boys in the two conditions that have consumed alcohol during their lifetime

	NO	YES
Intervention	79,2%	20,8%
Control	70,7%	29,3%*

**non-significant difference*

TABLE 6.

Number of girls in the two conditions that have consumed alcohol during their lifetime

	NO	YES
Intervention	54,1%	45,9%
Control	53,0%	47,0%*

*non-significant difference

TESTING THE SECONDARY HYPOTHESIS

Secondary hypothesis: At the end of the study, adolescents in the intervention group have to a lesser extent being intoxicated during the past year compared to the control group.

The secondary hypothesis was tested comparing the intervention group with the control group on how many participants in each group who had being intoxicated by alcohol during the past year. As seen in Table 7, there was an overall significant effect where fewer adolescents in the intervention group reported being intoxicated. The hypothesis was hence confirmed.

TABLE 7.

Comparison between groups regarding the proportion who has been intoxicated during the past year

	NO	YES
Intervention	75,8%	24,2%
Control	68,0%	32,0%*

*P=0,3

Breaking down the analysis and study possible differences between sexes reveals that the boys in the intervention group show a highly significant difference as they are much less likely to be intoxicated compared to the control group (9.4% vs 25.2%). Among the girls no such difference was revealed.

TABLE 8.

Comparison between groups regarding the proportion who has been intoxicated during the past year among boys

	NO	YES
Intervention	80,6%	9,4%
Control	74,8%	25,2%*

*P=0,002

TABLE 9.

Comparison between groups regarding the proportion who has been intoxicated during the past year among girls

	NO	YES
Intervention	65,2%	34,8%
Control	61,0%	39,0%*

*non-significant difference

SECONDARY ANALYSES

With the two primary hypotheses answered we set out to further study important results regarding alcohol but also results from drug use in the study group.

CRAFFT

In this analysis we studied the reported negative consequences of alcohol use using the CRAFFT instrument. Included in the analysis was all of the subjects who reported any use of alcohol in their lifetime. As seen in Table 10, there was a significant difference between study groups, where the intervention group reports on average fewer negative consequences of alcohol use.

TABLE 10.

Negative consequences of alcohol use measured by (CRAFFT)

	ALL
Intervention	1,1
Control	1,9*

* $P=,008$

Breaking down the analysis and study possible differences between sexes reveals that the boys in the intervention did not show any significant differences compared to the control group regarding negative consequences of alcohol use. Among the girls a significant difference emerged comparing groups where the intervention group on average reported fewer negative consequences.

TABLE 11.

Negative consequences of alcohol use measured by (CRAFFT) among boys

	BOYS
Intervention	0,7
Control	1,3*

*non-significant difference

TABLE 12.

Negative consequences of alcohol use measured by (CRAFT) among girls

	GIRLS
Intervention	1,2
Control	2,2*

*P=,005

DRUG USE

Participants were asked in the study if they had used any drugs at some point in their lives. Drugs were defined as any form of narcotic substance and medical substances containing an opioid. A proportion of 4.8% reported that they have used any drug (22 participants, 9 boys and 13 girls). Almost all of the drugs used with a few exceptions were cannabis/hashish/spice. Table 13 shows the proportion of participants in each group who reported using drugs at any point in life.

TABLE 13.

Any drug use during lifetime

	NO	YES
Intervention	96,4%	3,6%
Control	93,9%	6,1%*

*non-significant difference

ATTITUDES TOWARDS SUBSTANCE USE

The questionnaire contained questions about attitudes towards alcohol consumption and drug use. More specifically the questions probed if the respondent ever had considered to try alcohol or drugs. Regarding alcohol a higher proportion in the control group reported that they

have considered to drink alcohol. There was no significant difference between the two groups, although a statistic trend was observed.

When separately investigated boys and girls, no significant difference was found between study groups.

TABLE 14.
Proportions who have considered drinking alcohol

N=278	NO	YES
Intervention	62,1%	37,9%
Control	53,4%	46,6%*

*non-significant difference - although a trend $P = .09$

The question asking about considering testing cannabis was somewhat differently constructed. Instead of a simple yes, several response options were available. Here are the options:

No

Don't know

Probably not

Maybe, at the right occasion

Yes, absolutely

Due to few responses in each cell, all response options except the No- answer were collapsed to form a single response the "Not no" response. This new response could best be described just a response separated from a No answer. Analyzed this way a significant difference between the study groups emerged with more participants in the response group saying to considering testing cannabis.

TABLE 15.

Proportions who have considered testing cannabis

N=425	NO	NOT NO
Intervention	72,4%	27,6%
Control	63,9%	36,1%*

*P = .04

Breaking down the analysis to study possible differences between sexes reveals that the boys in the intervention group significantly more often responded No to the question if they had considered testing cannabis. Among girls an equal proportion between study groups was found.

TABLE 16.

Proportions who have considered testing cannabis among boys

	NO	NOT NO
Intervention	73,0%	27,0%
Control	56,5%	43,5%*

*P = .01

TABLE 17.

Proportions who have considered testing cannabis among girls

	NO	NOT NO
Intervention	71,9%	28,1%
Control	72,0%	28,0%*

*non-significant difference

DISCUSSION

The discussion will highlight some of the results and bring them into context by comparing them to other studies or by just commenting the results.

- No differences on key characteristics were found between study groups at baseline. This means that the result in the study is not likely to be due to systematic differences among participants in each study group.
- In total 173 or 36.7% of the participants reported having consumed alcohol. Of the total sample 46% of the girls and 26% of the boys reported having consumed alcohol ever. Among 15 years old in Sweden the figures are 44% for girls and 36% for boys (CAN, 2017) suggesting that the proportion of boys in the study who have tested alcohol is somewhat lower. The difference could in part be due to effects of the program as it was found that boys in the interventions group reported to a lesser extent having used alcohol (C 29.3% vs I 20.8%) a non-significant statistical difference but a statistical trend in the expected direction.
- Testing the study's hypotheses revealed that the primary hypothesis had to be rejected as no difference was found between intervention- and control group regarding participants use of any alcohol during their lifetime. Overall it was concluded that the program could not change the number of adolescents who consumed alcohol during the study period.
- The second hypothesis was partly confirmed as the boys in the intervention group were significantly less likely compared to the control group to be intoxicated during the last year. No such difference was found for the girls.
- It was found that girls in the intervention group significantly less suffered from negative consequences due to their alcohol consumption.
- Overall it was concluded that the program could help adolescents decrease their "risky behavior" associated with alcohol consumption.
- The program was not able to effect adolescents use of drugs during the study period. However, the number of participants who actually used any drugs in the frame of this study was tiny and no definite conclusion should be drawn from the result presented here. A more definite answer has to be investigated in a larger study.

- The program was not able to influence more adolescents to reach the conclusion that they should not try alcohol. The results, however, went in the expected direction where more subjects in the intervention group rejected the idea of trying alcohol but the difference was not statistically significant, although a statistical trend could be observed. This result warrants further investigation perhaps with a larger study group to reach a more definite answer.
- The program significantly more often managed to have the boys in the study to respond with a no when asked if they considered testing drugs in the future.
- Overall conclusion: The program *Prata om Alkohol* showed in this study some promising results as to influence the adolescents when it comes to the use of substances or attitudes towards substances. It is evident that the program needs to be studied further in future studies. But as for now, the results at hand should trigger those studies to be conducted.
- Limitations: The study had some limitations that should be highlighted. The use of only one teacher delivering the program could have influenced the performance of the intervention in various unknown ways, including the sex of the teacher. The study was conducted in an urban/semi-urban setting in the municipalities surrounding the City of Stockholm. It is unclear how the program works in other settings than this.

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