

GREENLANDIC FAMILY STRUCTURE AND COMMUNICATION WITH PARENTS: Influence on schoolchildren's drinking behaviour

ABSTRACT

Objectives. The objective of this paper is to investigate how changes in the Greenlandic family structure and perceived difficulties in communicating with parents affect the prevalence of alcohol consumption and the risk of drunkenness among schoolchildren. Study design. The survey was carried out in February 1998 in all schools in Greenland in the context of the WHO Health Behaviour in School-Aged Children (HBSC) study. Altogether 3,081 questionnaires were returned, which gave a response rate of 68% of the total study population. The present sample consists of 1,648 students, 826 boys and 822 girls in the age groups 11, 13 and 15 years. Descriptive statistics and a logistic regression model were applied.

Results. The results showed that the risk of drinking alcohol among Greenlandic schoolchildren increased when they were living in a broken/restructured family setting, as a single mother home or living with mother and a stepfather. This risk was higher when communication with parents was regarded by the children as being poor. The risk of drunkenness increased with age. Different age groups are influenced by different factors as regards their drinking behaviour.

Conclusions. The analysis showed that alcohol drinking rose when children were living in broken families but neither gender differences of influential factors to being drunk nor differences in drinking behaviour between social classes were found.

Keywords. Greenland, family structure, schoolchildren, drinking behaviour, communication with parents.

*Maria del Carmen
Granado Alcón¹,
Johan Michael Pedersen²,
Ana María
Carrasco González¹*

¹ Faculty of Educational Sciences,
Dept. of Psychology,
University of Huelva, Spain
² HBSC-Greenland,
WHO Cross-National Survey,
Frederikssund, Denmark

The family constitutes one of the main contexts where human development takes place. This context is basically understood as an organized group of persons composed of parents of different sex and their children (1,2) and characterized by both the complex network of interactions established between its members, and by the social, cultural and historical influences that are simultaneously affecting it (3). In contrast to the traditional conception, the function of the family is not only rearing, education and protection of the children, but also to create a context where the quality of the interaction between parents and children builds adult persons with positive self-esteem and capacity for facing challenges, assuming responsibilities and solving conflicts in a social context (4). This interactive process works and facilitates an appropriate psychological development, if based on a firm familiar requirement, democratic climate, and expressions of warmth between parents and children (4-6). Some research demonstrated that when these principles were absent in the children's education, factors like socialization and school performance were affected (5, 7, 8), resulting in low school efficiency, poor cognitive capacity and autonomy, and deviations from the rules: delinquency, and alcohol and drug consumption (9). In view of the structural changes that the family has undergone during the 20th century, it could be important to study children's development when the family dynamics are thrown off balance (10-13). The possible reactions to these events are either a progressive adjustment to the new situation, or that the adaptation does not happen. In case of the latter, the probability of having self-control problems and showing anti-social behaviour, smoking, drinking or drug-taking increases. Most studies (11,14-16) have focused on negative outcomes associated with being brought up in a broken or restructured family, driven by a value orientation that assumes that living with the biological parents is the ideal structure. The reasons underlying this could be associated with lower opportunities of the parents for supervising rules and discipline (15), talking to their children, and expressing support, affection and love or warmth, precisely at the moment when they need more attention to overcome their anguish and fears (17). In spite of the importance demonstrated that intact families act as a regulating factor for preventing behaviour problems, this constitutes only one of the possible associated variables. In fact, some studies (11, 18-20) affirmed that children can grow up healthy in almost any kind of

family when the raising conditions were based on a good relationship between parents, fluent communication between parents and children, parent's involvement in children's education, having activities together, supervision of children's behaviour and family support (7).

The survey "Health Behaviour in School-Aged Children" carried out among 25 countries in 1998 showed that Greenland had the lowest prevalence of children living with both biological parents, and that the proportion of children who had been drunk two or more times increased from 1994 (46%) to 1998 (59%) (21). In relation to drinking behaviour, previous studies in Greenland showed that at the age of 15 there was an increase in "heavy drinkers" (students taking more than six drinks per occasion) from 1994 to 1998 and a higher prevalence of "very heavy drinking" (ten or more drinks per occasion) for boys (22-25). For the Greenlandic population as a whole, alcohol consumption decreased from 17.5 liters of pure alcohol per year (persons above 14 years old) in 1989 to 13.3 liters in 1998 (26).

The aim of this paper is to evaluate the benefits of living in an intact family for children's development by using the prevalence of drinking and being drunk as an example. Our hypothesis is that children living in a biological family have less risk of drunkenness, and that good communication with parents and more time spent with the family, as opposed to time spent with friends, reduces the risk of getting drunk.

MATERIAL AND METHODS

The survey in Greenland took place in February 1998. All public schools with more than ten students in the selected age groups were invited to participate in the survey. The questionnaires were sent out to the schools and administered by teachers in the schools, guaranteeing anonymity and confidentiality, at approximately the same time in each school. After answering the questions the children had to seal the questionnaire in an envelope and all envelopes were collected and sent to the researchers. The survey was ethically approved by the Commission for Scientific Research in Greenland. From the Statistics Greenland (29) the number of children in the age groups of 11-17 was reported to be 6,001 persons (January 1, 1998). From this population, 4,819 persons were attending public schools, so this was the target population. 3,081 questionnaires were returned. Six schools

chose not to participate (303 students), but we do not know why. It was the decision of the leadership of the schools and the students, so we do not expect this group of students to be different in regard to health behaviour and well-being. The response rate was then calculated to be $3,081/(4,819-303) = 68\%$. The WHO Health Behaviour in School-Aged Children study (HBSC) selected schoolchildren from the age groups of 11, 13 and 15 in 25 countries by a mutual sampling procedure according to the criteria of the HBSC study as described in the "Health and Health Behaviour among Young People" (21). The Greenlandic sample consisted of 1,648 students.

From the HBSC questionnaire the following variables were selected and grouped into four contexts:

a) The sociodemographic variables were gender and age groups, father's occupational level and mother's occupational level.

b) Family context variables. Two variables were created. One of who the children were living with (mother, father, brothers, sisters, stepmother, stepfather, grandmother, grandfather or other people) and from this, a second dichotomous variable was created with the categories "Biological family" and "Broken/restructured family". Communication with parents had two variables, "Easy to talk to father" and "Easy to talk to mother".

c) Peers. The variable was the number of evenings spent with friends during a week.

d) The behavioural outcome variables were: "How often do you drink beer?", "How often do you drink spirits/liqour?", "How often do you drink wine?" and "Have you ever had so much alcohol that you were really drunk". From this variable a new dichotomous variable was created, "Have you ever been drunk?".

Statistical analysis

Crosstabulations were used for estimating the relation between variables. The statistical significance was tested using the Chi-square test. The significance level chosen for all the analyses was 95 %.

Logistic regression analysis was made with a double objective: a) a univariate logistic regression to quantify the relation between the dependent variable of "getting drunk", and each of the variables mentioned above as independent variables, and b) a multivariate logistic regression to calculate schoolchildren's probability of getting drunk. In both cases the method used for the logistic analysis was the "Enter

Method". The Wald test was used for making the contrasts, and the significance level for letting a variable into the model was 0.05 (30). This analysis was carried out separately for each age group, considering that each age group represents the children at different stages of the human development. All analyses were completed in SPSS version 10.

RESULTS

Univariate descriptive analysis. Family structure and alcohol consumption.

Most of the schoolchildren lived with their biological parents (61%), 55% lived only with their parents and siblings, and 6% lived with their parents, siblings and with their grandparents (Table 1). 39% of the children came from broken/restructured families as specified in Table 1. The 5% living with "other people" could be living with foster parents, in a school home or with other relatives.

55% of the children found it easy talking to their father and 33% of the children reported to have difficulties. The rest of the children (13%) did not see or have this person. The easiness of talking to the father decreased with age ($p < 0.001$), and girls had more difficulties than boys (40% and 26% respectively ($p < 0.001$)).

Most of the schoolchildren reported having less problems talking to their mother than to their father. Thus, 77% of the children found

Family structure	N	%
Parents, siblings, grandparents	93	6.4
Mother, father, siblings	798	54.7
Mother	226	15.5
Mother, grandparents	45	3.1
Mother, stepfather	104	7.1
Father	53	3.6
Father, grandparents	7	0.5
Father, stepmother	26	1.8
Grandparents	29	2.0
Other people	78	5.3
Total	1459	100

Table 1.
Family structures.
Distribution of children in
family structure groups
according to whom the child
was living with.

it easy talking to their mother and 19% experienced difficulties. The rest of the children (4%) did not see or have this person. Difficulties increased with age ($p<0.001$), and girls had more difficulties at the age of 15 ($p<0.05$).

The prevalence of schoolchildren reporting beer consumption was 54%. 48% of the total number of students drank beer less often than every month. Consumption increased with age ($p<0.001$). Significantly more girls than boys had beer consumption at the age of 13 (5% and 2% respectively, $p<0.01$).

The percentage of schoolchildren reporting to drink spirits was 40%. Of the total, 29% had a drink less often than every month. There was no significant gender difference ($p=0.814$), but consumption increased with age ($p<0.001$). Thus, at the age of 11, 94% of the children reported never to have had spirits versus 28% at the age of 15.

The prevalence of wine consumption (24%) was lower than the consumption of beer and spirits. 21% of the total number of children reported to have had a drink of wine less often than every month. Consumption increased with age ($p<0.001$), so that at the age of 11, 89% of the children reported that they never drank versus 61% at the age of 15. The gender differences in consumption of wine within each age group were insignificant.

The proportion of schoolchildren reporting ever to have been drunk was 48%. Among those who confirmed having been drunk, 16% had been drunk once, 14% two or three times, 9% between four and ten times, and 9% more than ten times. There were no gender differences ($p=0.97$). Having been drunk was a behaviour which increased with age ($p<0.001$), showing the prevalences 12%, 45% and 80% for the age groups 11, 13 and 15, respectively.

Bivariate descriptive analysis. Drinking behaviour and family structure

The prevalence of getting drunk among children living in a biological family was lower than among children living in a broken/restructured family (44% versus 53%, respectively; $p<0.001$) (not shown in any table). The prevalence differences within each family structure in which the children were living, is shown in Table 2. In the biological family structures, the prevalence of being drunk was higher for children living with their parents and siblings (44%) than for those living with their parents, siblings and grandparents (40%). The highest

prevalence of getting drunk was for children living with the mother and stepfather (65%).

Schoolchildren with difficulties in talking to their fathers consumed alcohol or reported to have been drunk more often than those who did not consume alcohol or never got drunk. At the age of 13 the percentage of children consuming beer was higher for those perceiving difficulties in communication with the father versus those perceiving it to be easy ($p<0.01$). The same trend was found at the age of 11 ($p<0.05$), but no significant relations were found between beer consumption and communication with father at the age of 15. The 13-year-olds consuming spirits perceived more difficulties in talking to their fathers ($p<0.01$), but no significant relations were found in the other two age groups. The prevalence of getting drunk, when the children perceived difficulties of communication with the father, was higher the more difficulties in communication they reported to have. These relations were only significant at the age of 13 ($p=0.01$).

Table 2.
Family structure and prevalence of being drunk among Greenlandic schoolchildren. Shown as absolute numbers of children (N) and percentages (%).
Missing cases=216.

Family structure	Have been drunk				Total N
	Yes		No		
	N	%	N	%	
Parents, siblings, grandparents	36	39.6	55	60.4	91
Mother, father, siblings	344	44.0	437	56.0	781
Mother	117	52.9*	104	47.1	221
Mother, grandparents	16	35.6	29	64.4	45
Mother, stepfather	67	65.0***	36	35.0	103
Father	23	43.4	30	56.6	53
Father, grandparents	3	42.9	4	57.1	7
Father, stepmother	15	57.7	11	42.3	26
Grandparents	17	60.7	11	39.3	28
Other people	39	50.6	38	49.4	77
Total	677	47.3	755	52.7	1432

* = $p<0.05$ *** = $p<0.001$

Children perceiving more difficulties in talking to their mother got drunk more often than those having less difficulties. These differences were significant at the age of 11 ($p < 0.001$) and 13 ($p < 0.01$). Statistical significance were also found in the relation between poor communication with the mother and higher consumption of beer at the age 11 ($p < 0.01$) and 13 ($p < 0.05$), and wine at the age of 13 ($p < 0.01$). No significant relations were found in relation to spirits consumption and communication with the mother.

The results showed that the prevalence of drunkenness among children living in broken/restructured families and having great difficulty in talking to their father was higher (85%) than the prevalence among children living in biological families and having great difficulty in talking to their father (52%). Thus, poor communication with the father has a stronger negative impact on drinking behaviour when the children live in a broken/restructured family situation. The same tendency was not seen regarding communication with the mother.

Logistic Regression Analysis

The univariate logistic regression analysis supported the results formerly described about getting drunk in relation to the family context variables, gender and age group. In addition, results showed that the more evenings the children spent with friends, the higher the probability of getting drunk ($p < 0.001$). No statistical significance was found between social classes defined as father's or mother's occupation, but some approximations had to be made when coding the social class causing some blurring of the pattern, and 25% of values were missing in the material.

The variables which showed significance in the univariate logistic regression analysis were included in the multivariate logistic regression (Table 3). The socio-demographic variables, the family context variables and the peer variable, as described in "Method", were entered as explanatory variables for all three age groups.

11-year-olds. Children living in a broken/restructured family (OR= 5.5, $p < 0.05$), and specifically living with the mother and stepfather (OR= 22.2; $p < 0.05$), showed the highest risk of drunkenness. In relation to the rest of the variables no influence on the probability of getting drunk could be observed.

13-year-olds. The family structure did not show significant influence on the probability of getting drunk. This result was true for both

variables "family structure" and "biological-broken/restructured family". In contrast, the number of evenings spent with friends seemed to be a good predictor of drunkenness. So, the more evenings the children spent with friends the higher the risk of being drunk.

15-year-olds. The risk of drunkenness was higher for children living in a broken/restructured family (OR=2.6; $p<0.05$) and for those who reported to have difficulties in talking to their father (OR=4.3; $p<0.01$).

DISCUSSION

The results showed that when children are living with both biological parents, the prevalence of being drunk is lower than for children living in a broken/ restructured family. Within biological families a

Table 3.
Multivariate logistic regression.
Variables entered as a block with "Being drunk" as the dependent variable. The same variables were included in the analysis of all age groups. Only significant categories are shown.

Variables	Wald Test	Significance	Odds Ratio
<i>11 -year-olds</i>			
Family structure	9.602	0.294	
Mother + stepfather	4.241	0.039	22.2
Parents + siblings + grandparents			1
<i>13 -year-olds</i>			
Evenings with friends	16.959	0.018	
2	4.945	0.026	7.4
3	3.855	0.050	5.5
4	6.892	0.09	9.6
5	6.543	0.011	9.6
6	8.418	0.04	14.0
7	10.767	0.001	15.1
0			1
<i>15 -year-olds, living in</i>			
Broken/restruct. family	4.612	0.032	2.6
Biological family			1
Communication with father	7.197	0.126	
Difficult	7.111	0.008	4.3
Very easy			1

higher prevalence was found for children living with only parents and siblings than for children living with parents, siblings and grandparents (44%/ 39.6% (Table 2)). These differences could be due to the fact that grandparents, although not directly responsible for their grandchildren's upbringing, constitute an important source of help for the parents, create a warm and communicative atmosphere, and have more time for attending to children. Some studies support that the presence of grandparents had a positive effect on the children's development (31) and reduced the adolescent propensity to drink or smoke (32).

In relation to broken/restructured families, living in stephomes showed one of the most risky structures for drunkenness, especially when the children were living with the mother and the stepfather. This result was supported by literature saying that children whose single parent shares a residence with another partner, often have more problems with their social and personal development (33), experience hostility, sadness, and develop anguish or stress - feelings that push them to drink or taking drugs (34, 35). With regard to living in a single parent home, other studies show that single mothers heading the home, having to be the financial supporter of the family and being the only parent to bring up the child, is normally characterized by low supervision and difficulties in setting rules (20). But normally supervision in single father homes was found to be lower than in single mother homes (36, 37). However, our results showed that when the father was the only parent, the prevalence of drunkenness was lower than when the child was living with the mother alone. Living with grandparents only was also one of the risky structures related to drunkenness in our study, supported by studies that said that grandparents heading the home alone have more problems supervising their grandchildren's behaviour and often develop permissiveness (38).

The association between communication with parents and being drunk showed a higher prevalence for those perceiving more difficulties in communication at the age of thirteen and fifteen. This association became stronger when the children were living in a broken/ restructured family. However, some studies suggest that although living in a broken/ restructured family is always a risk, having a family environment with good communication, support, demands, fixed rules and love is a framework that makes the adolescents better at making their own decisions and putting up with group pressure regarding alcohol consumption, as well as avoiding behavioural problems (39).

When we looked at the risk of drunkenness by each age group separately, the predicting variables changed. The transition from childhood to adolescence is a period of the vital cycle characterized by an adolescent's disengagement from the family and an attachment to peers (9), and by a wish to belong to a group and get the members' acceptance. This could make the adolescent vulnerable to group influence and feel pressured to drink, smoke or use drugs, if the group stimulates this behaviour (27, 28). At the age of eleven it seems that, even if communication is reported to be a good predictor of avoiding risk behaviour, the most important thing for the children at this age is family stability. The results showed that those living in an intact family had a higher risk of being drunk, especially if they were living with the mother and a stepfather. This pattern changed at the age of thirteen, showing that the reliance on friends became more important and that spending more time with them increased the risk of drunkenness. The trend changed again at the age of fifteen, showing that living in a biological family and good communication with the father reduced the risk of drunkenness.

The study had several weaknesses. Our only source of information were the adolescents' own reports. When one is inquiring about alcohol there is always a risk of under-reporting and when one is asking questions about communication with parents the answer is related to the children's subjective view of their parents. So the results could become more objective if the parents could take part in the study. We did not ask about parental consumption, which is supposed to be a predictor of the degree of the children's substance use/abuse (40). Furthermore, we did not analyze ethnicity as a factor influencing drinking behaviour.

CONCLUSION

Different age groups are influenced by different factors with regard to their drinking behaviour. At the age of 11 living in a broken/ re-structured family seems to be influential, but not at the age of 13, where the influence of peer relations becomes more apparent. Age group 15 seems also to be sensitive to alterations in family structure and to the quality of communication with parents.

Emphasising the influence of the family structure on drinking behaviour and the influence of parental support and control, we consider the need of developing future research focused on parenting style and risk behaviour.

Our results make it advisable to take family context factors into consideration when prevention programs on health behaviour are developed. These programs should focus on the need to support the family as a unit and involve the parents in the preventive process and make them realize the importance of creating a supportive environment at home, communicating on a daily basis with their children, and being able to set clear norms.

Acknowledgements

The article is based on data on Greenland from the WHO collaboration study, Health Behaviour in School-Aged Children, HBSC, 1997-98. International coordinator: Candace Currie, University of Edinburgh, Scotland. Databank manager: Bente Wold, University of Bergen, Norway. Principal investigator in Greenland: Dr. Johan Michael Pedersen, Frederikssund, Denmark. Special thanks to translator Niels Andersen, Copenhagen, for language revision and for scientific support at the Center for empirical research on Children's health and lifestyle, at the National Institute of Public Health, Copenhagen. The survey and this publication were funded by the Danish Research Councils, The Greenlandic Medical Society Fund, and the Director E. Danielsen and Wife Fund.

REFERENCES

1. Fromm E et al. The family. New York: Nadan, Harper and Brothers Publisher 1970.
2. Gottfried AE, Gottfried WA. Demography and changing families: Introduction to the issues. In: Gottfried AE, Gottfried WA, eds. Redefining families: Implications for children's development. New York: Plenum Press 1994; 3-7.
3. Bronfenbrenner U. The ecology of human development. Cambridge: Harvard University Press 1987.
4. Snowden PL, Conway K. A comparison of self-reported parenting behaviours and attitudes of parents of academically precocious and nonprecocious preschool children. *Roeper Review* 1996; 19: 97-109.
5. Steinberg L, Lamborn S, Dornbusch S, Darling N. Impact of Parenting Practices on Adolescent Achievement: Authoritative Parenting, School Involvement, and Encouragement to Succeed. *Child Development* 1992; 63: 1266-1281.
6. Baumrind D. Current patterns of Parental Authority. *Developmental Psychology Monograph* 1971; 4: 1-103.
7. Steinberg L, Lamborn S, Darling N, Mounts N, Dornbusch S. Overtime changes in adjustment and competence among adolescents from authoritative, authoritarian, indulgent and neglectful families. *Child Development* 1994; 65: 754-770.
8. Lamborn S, Mounts N, Steinber L, Lamborn S, Dornbusch S. Patterns of competence and adjustment among adolescent authoritative, authoritarian indulgent and neglectful families. *Child development* 1991; 62: 1049-1065.
9. Baumrind D. The influence of parenting style on adolescent competence and substance use. *Journal of early adolescence* 1991; 11: 56-59.
10. Granado Alcón MC, Pedersen JM. Family as a child development context and smoking behaviour among schoolchildren in Greenland. *Int J Circumpolar Health*, 2001; 60: 52-63.

11. Schucksmith J, Glendinning A, Hendry L. Adolescent drinking behaviour and the role of family life: a Scottish perspective. *Journal of Adolescence* 1997; 20: 85-101.
12. Glendinning A, Schucksmith J, Hendry L. Family life and smoking in adolescence. *Social Science & Medicine* 1997; 44: 93-101.
13. Anderson K. Young people and alcohol, drugs and tobacco. WHO Regional Publications 1995; 66.
14. Lintonen T, Rimpelä M, Vikat A, Rimpelä A. The effect of societal changes on drunkenness trends in early adolescence. *Health Education Research* 2000; 15: 261-269.
15. Cookston J. Parental supervision and family structure: effects on adolescent problems behaviours. *Journal of Divorce and Remarriage* 1999; 32: 107-122.
16. Miller P. Family structure, Personality, Drinking, Smoking and Illicit Drug Use: A Study of UK Teenagers. *Drug and Alcohol Dependence* 1997; 45: 121-1529.
17. Schucksmith J, Glendinning A, Hendry L. Adolescent drinking behaviour and the role of family life: a Scottish perspective. *Journal of Adolescent* 1998; 20: 85-101.
18. Kaufmann D, Gesten E, Santa Lucia R, Sakedo O, Rendina G, Gadd R. The relation between parenting style and children's adjustment: the parents' perspective. *Journal of Children and Family Studies* 2000; 9: 231-245.
19. Demo D. Parent-child relations: Assessing recent changes. *Journal of Marriage and the Family* 1992; 54: 1504-1513.
20. Hetherington EM. Coping with family transitions: winners, losers, and survivors. *Child Development* 1989; 64: 1773-1785.
21. Currie C, Hurrelmann K, Settertobulte S, Smith R, Tood J. Health and Health Behaviour among Young People. WHO Policy Series: Health policy for children and adolescents Issue 1. International Report. Copenhagen 2000; 11-13.
22. Pedersen JM. Skoleelevers brug af rusmidler [Schoolchildren's use of substances]. *Ugeskrift for Læger* 1990; 152: 3535-7.
23. Pedersen JM. Substance abuse among schoolchildren in Greenland. *Arctic Medical Research* 1992; 51: 67-71.
24. Pedersen JM. Skoleelevers brug af rusmidler i Grønland 1992 [Schoolchildren's use of substances in Greenland 1992]. *Ugeskrift for Læger* 1994; 156: 4036-8.
25. Pedersen JM. Sundhedsadfærd blandt grønlandske skolebørn. DIKE's Grønlands-skrifter nr. 8, København, 1997.
26. Grønland 1999 Kalaallit Nunaat, Statistisk Årbog, Nuuk 1999; 328.
27. Wood MD, Nagoshi, CT, Dennis, DA. Alcohol norms and expectations as predictors of alcohol use and problems in a college student sample. *American Journal of Drug and Alcohol Abuse* 1992; 18: 461-476.
28. Dielman TE, Butchart AT, Shope JT. Environmental correlates of adolescent substance abuse: Implications for prevention programs. *The International Journal of the Addictions* 1991; 857-882.
29. Grønland 1999. Kalaallit Nunaat. Statistisk Årbog. Statistics Greenland: Nuuk 1999.
30. Hosmer DW, Lemeshow S. Applied logistic regression. John Wiley & Sons, New York 1989.
31. Del Barrio V. Education and new types of families. *Educational Psychology* 1998; 4: 23-47.
32. Gurko T. Characteristics of the personal development of adolescents in different family types. *Sotsiologicheskije Issledovaniya* 1996; 23: 81-90.
33. Newcomb MD, Bentler PM. Substance use and abuse among children and teenagers. *American psychologist* 1989; 44: 242-248.
34. Triana B, Rodrigo MJ. Families with members addicted to drugs and alcohol. In: Rodrigo MJ, Palacios J, eds. Family and human development. Madrid: Alianza 1998; 423-439.
35. Macnamara GC. Family structure and substance use: a mediational analysis. *Dissertation Abstracts International: The Sciences and Engineering* 1998; 59: 2458.
36. Turner R, Irwin Ch, Millstein S. Family structure, family processes, and experimenting with substances during adolescence. *Journal of research on adolescence* 1991; 1: 93-106.
37. Griffing K, Botvin G, Scheier L, Diaz T, Miller N. Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Moderating effects of family structure and gender. *Psychology of Addictive behaviors* 2000; 14: 174-184.
38. Aquilino WS. The life course of children born to unmarried mothers: childhood living arrangements and young adult outcomes. *Journal of marriage and the family* 1996; 58: 293-310.
39. Brook JS, Witheman M, Brook DW, Gordon AS. Paternal and peer characteristics: interaction and association with male college students' marijuana use. *Psychological reports* 1982; 51: 1319-1330.
40. Pedersen JM. Skoleelevers brug af rusmidler i Grønland [Schoolchildren's use of substances in Greenland]. *Ugeskrift for Læger* 1992; 154: 242731.

Johan Michael Pedersen, Dr
 Færgevej 66
 DK-3600 Frederikssund, Denmark
 phone +45-4738 7207
 fax +45-4738 7208
 e-mail mikep@dadlnet.dk