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PREVALENCE OF SELF-REPORTED RISK BEHAVIORS RELATED TO NON-COMMUNICABLE DISEASES AMONG SEYCHELLOIS STUDENTS AGED 15 YEARS AND RELATIONSHIPS WITH PERSONAL AND OTHER CHARACTERISTICS

Pascal Bovet, Sandra Gustafsson, Jakob Ortegren, George Madeleine, Bharathi Viswanathan

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Auteurs: Pascal Bovet[1,2], Sandra Gustafsson[3*], Jakob Ortegren[3*], George Madeleine[1], Bharathi Viswanathan[1]

1) Unit for Prevention and Control of Cardiovascular Disease (UPCCD), Ministry of Health, Seychelles
2) Institute of Social and Preventive of Medicine, University of Lausanne, Switzerland
3) Medical School, University of Göteborg, Sweden

* SG and JO are 4th-year medical students who did a 2-month attachment at UPCCD in Nov-Dec 2001 and were actively involved in the conduct of the survey. The attachment was arranged with Professor Dag Thelle, The Cardiovascular Institute, Sahlgrenska University Hospital and Academy, Göteborg, Sweden.

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TABLE DES MATIERES

1 EXECUTIVE SUMMARY

Background. Behaviors such as smoking habits, physical exercise, alcohol drinking and dietary patterns have large impact on later development of cardiovascular disease and other non-communicable diseases. This survey examined the prevalence of such risk behaviors among students aged 15 and relationships between these behaviors and various personal and other characteristics of the students.

Methods. A shortened version of the Health Behavior in School Children (HBSC, World Health Organization) was administered in November 2001 to all 537 students of S3 classes (mean age: 14.9±0.4 years) of 4 secondary schools of Mahé. Data were collected using an anonymous self-administered questionnaire including 47 closed-ended questions on smoking, drug taking, alcohol drinking, dietary patterns, physical exercise and a broad range of personal, social and other characteristics of the students. The use of the standard HBSC questionnaire permits to compare data in Seychelles with those from other countries.

Results

Smoking. 13% of children (95% CI: 10%-16%) reported to smoke cigarettes at least once per week. This emphasizes the need to strengthen measures to control tobacco products among children.

Drugs. 11% of children (95% CI: 8%-14%) reported to have ever taken marijuana or hashish.

Alcohol. 20% of children (95%CI: 16%-23%) reported to drink alcohol at least once per week. 58% reported to have been drunk once and 11% to have been drunk 4 times or more often.

Relationships between risk behaviors and other factors. Smoking, drug taking, and drinking were strongly inter-related. These risk behaviors were more frequent in boys than girls and in students from lower (C3-5) than higher scholar level (C1-2). These behaviors were also associated with hanging out often with friends, practicing sports (drinking), feeling unhappy (drinking), and in families less well off (as perceived by the students). Students feeling confident did not report less of these behaviors.

Knowledge, attitude and practice about these risk behaviors. Responses such as 'I wanted to try', 'my friends do it', or 'it is a tradition among young people' were often reported among students reporting smoking, drinking or drug taking. For alcohol, 60% of students said that they 'drink on important occasions', which may reflect social tolerance for this behavior.

Physical exercise and activities related to sedentary lifestyle. Only 25% of girls and 46% of boys reported more brisk physical exercise for at least 1 hour of per week (outside of school). Children in Seychelles had lower physical activity levels than in other countries with HBSC data. Nearly two thirds of students reported to watch TV at least 4 hours per day.

Dietary patterns. As many as 80% of children reported to drink fruit juice daily (a favorable trend). The percents of children reporting to drink soft drinks or eat salted snacks were higher in Seychelles than in several other countries with HBSC data.

Body weight. 9.1% of boys (95% CI: 5%-13%) and 16.0% of girls (95% CI: 12%-20%) are overweight or obese (IOTF criteria). Overweight and particularly obesity are more frequent in girls than boys and in children from C12 than C35 classes. The majority of overweight children (but boys less than girls) feel that they have excess weight.

Communication with other people. Children reported that they could talk most easily with a friend of the same sex. Talking to his/her mother, elder sister and elder brother came next. Less than 40% of children found it easy or very easy to talk to a school nurse, a doctor or a priest.

Perceived health, happiness, self-confidence and body weight. Approximately 80% of the children reported to feel 'quite' or 'very' healthy or 'quite' or 'very' happy. Less than 20% reported to feel lonely 'often' ore 'very often'. Around 50% felt confident 'always' or 'often'. A good proportion of children with overweight felt they were good looking, which may reflect social norms favoring overweight.

Perception of school and pocket money. Around three quarters of students liked school 'a bit' or 'a lot'. More than 80% ranked their performance at school as 'best', 'good' or 'average'. Less than a third of students reported to do homework every day. Around 80% spend less than 100 rupees per week.

Conclusions. This survey provides a broad range of information on the prevalence of risk behaviors and associated factors among children aged 15. This information is useful to guide health education and other health promotion and disease prevention measures in this age group. Vigorous interventions to promote healthy lifestyles among children -including no smoking habits, healthy diet and regular physical exercise- would have the potential to prevent a large proportion of the burden of non-communicable diseases that these children will develop in their adulthood if they fail to adopt such healthy lifestyles.

2 METHODS

The questionnaire used in this survey was derived from a standard questionnaire (Health Behavior in School-aged Children, HBSC) developed by the World Health Organization. The HBSC questionnaire was specifically developed to explore lifestyle-related behaviors among adolescent aged 11-15 years and it has been used previously in various countries, particularly among children aged 11.5, 13.5 and 15.5 years. The questionnaire is intended to be applied on at least 500 students per age group in order to give accurate age-specific prevalence estimates.

In view of the objectives of the survey in Seychelles (i.e. to gain knowledge on risk factors for non-communicable diseases as a basis to strengthen the relevant prevention programs targeting heart health), we used a shorter version of the questionnaire focusing on non-communicable diseases. Due to time and resource constraints, we conducted the survey only in the oldest age group (14.5 to 15.5 years old), which corresponds to S3 classes. We also choose this age group to ensure that children would be able to understand well the questions (which were kept in their original English format). We pre-tested successfully the questions with a few children.

The questionnaire included 47 questions on dietary habits, physical exercise, smoking, drugs, drinking habits, and several social dimensions. All questions were closed-ended except for two questions in which figures were asked for. In addition, we measured height and weight of all children. These values were written down on the questionnaire before the questionnaire was given to and filled by the children.

The administration of the questionnaire was supervised by two teams of two persons made of one staff member from UPCCD and one medical student from the University of Gothenburg, Sweden. The Swedish students involved in this survey carried out on a 2-month attachment at UPCCD, upon the request of one professor of this University and chairman of a Council of the World Heart Federation (Prof Dag Thelle). The survey took place on Monday, 19 Nov. 2001 and Tuesday, 20 Nov.2001. The 4 schools were Pointe Larue, Beau Vallon, Belonie and Anse Boileau. All S3 students from S3:1 to S3:5 were included. No student refused to take part in the survey.

The schools were chosen by officials of the Ministry of Education. As all schools in Seychelles have the same curriculum and are attended by children living nearby, we do not expect major differences in the distribution of children among the various schools of Seychelles with respect to the behaviors under study. Also, because almost 100% of children attend school up to the S4 level, a survey in S3 students is representative of all the children of this age. Hence, we expect that the selection of the 4 schools will provide results that are representative of the entire population of children aged 15 in Seychelles.

One must be aware of the advantages and limitations of surveys using anonymous self-administered questionnaires. This technique has the large advantage to enable participants to give answers without fear, even if answers are not socially desirable. However, some answers may not necessarily represent the truth, e.g. if questions are not well understood or if voluntarily 'provocative' answers are given by some children. On the other hand, prevalence estimates may under-estimate some risk behaviors. Indeed, risk behaviors such as smoking or drug taking are likely to be more frequent among non-participants than among participants (as non-participants may include problem children who do not attend school regularly).

3 DATA COLLECTION PHASE AND PARTICIPATION

3.1 COLLECTION OF DATA

The survey supervisors explained the aim of the survey to the students and gave instructions on how to fill out the questionnaire. Students were requested to answer all questions. Students were told that the survey was not a test and that the questionnaire was administered anonymously (the name and birth date of participants were not to be provided in the questionnaire). Students were also told to ask questions to the survey supervisors present in the class during the survey if there was any difficulty.

The students answered the questionnaire in their usual classrooms. Survey supervisors were present in the class but teachers were not. For all classes, students took between 40 to 90 minutes to answer all questions. All students were allowed enough time to answer all questions.

We experienced that students in S3-4- and S3-5 needed substantially more time than other classes to complete the questionnaire, they showed more often a lack of concentration and needed more explanations about the questions. From a subjective standpoint, we felt that the questionnaire was well received by a large majority of children. An openly negative attitude towards the questionnaire was encountered only in very few instances. Many students expressed the view that such surveys should be done more often. Many students expressed the wish to be informed on the results.

3.2 PARTICIPATION

The Tables show the break down of participants by school, class and sex.

Tableau 3-1 Participants in the study by school, class and sex

	Class 1		Class 2		Class 3		Class 4		Class 5	
	G	B	G	B	G	B	G	B	G	B
Belonie	24	8	19	11	14	17	13	10	5	9
Anse Boileau	20	12	18	16	16	14	16	8	6	14
Beau Vallon	23	10	24	8	15	11	12	14	1	16
Pointe Larue	18	20	27	15	11	9	7	11	5	10

Tableau 3-2 Participants by class and sex

	G	B	Total
Class 1-2	173	100	273
Class 3-5	121	143	264
Total	294	243	537

The total participation rate (i.e. participants/eligible students) was 87%. It was 89% among girls and 85% among boys. Participation rates varied from 84% to 89% among the 4 schools. The participation was 88% in C1, 94% in C2, 85% in C3, 83% in C4, and 76% in C5. 513 students were Seychellois, 12 were from another country 12, and 11 were both Seychellois and from another country.

3.3 MEAN AGE OF PARTICIPANTS

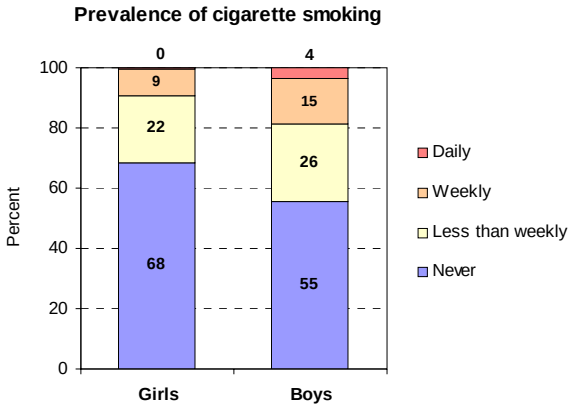
Mean age of participants was 14.92 ± 0.35 (range: 13.6 to 16.1). Age did not significantly differ by sex or by class.

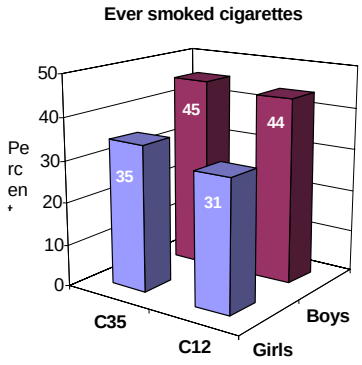
3.4 PRESENTATION OF ANALYSES OF PREVALENCE

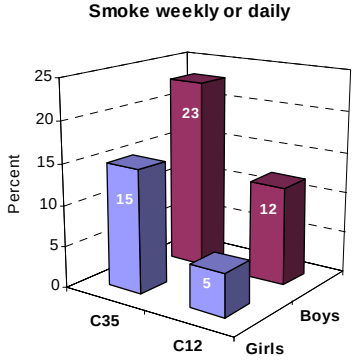
Prevalence estimates are provided mainly by sex and class levels (S3:1-2 versus S3:3-5). These two categorizations are chosen as they are based on objective criteria and result in categories with similar numbers of children.

4 TOBACCO

4.1 PREVALENCE







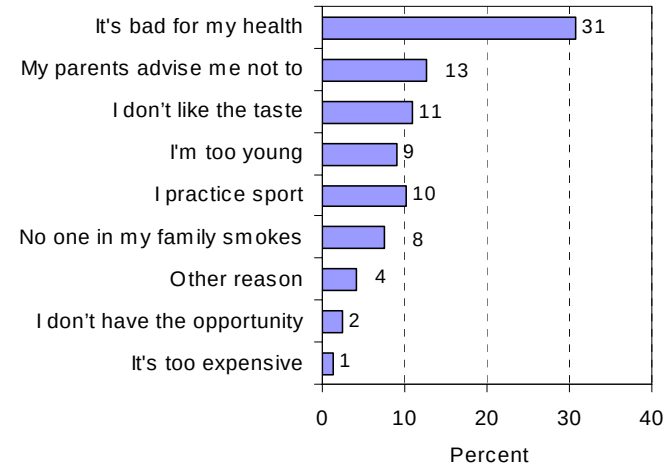
Cigarettes per day per smoker (average ±SD): daily smokers: 10.8 ±8.4; weekly smokers: 2.4±2.3.

Comments

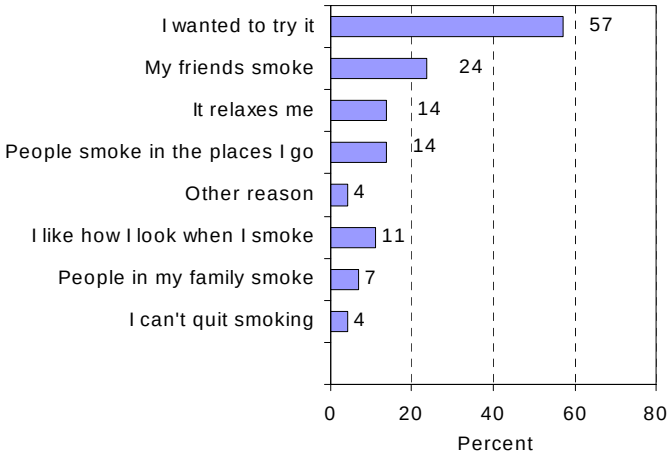
- As many as 18.5% of boys (95% CI: 14%-23%) and 9.2% of girls (95% CI: 6%-12%) aged 15 years report to smoke weekly or daily. Overall, the prevalence was 13.4% (95% CI: 10%-16%).
- Boys smoke more often than girls but the sex difference in smoking prevalence among children is much smaller than the sex difference among adults in Seychelles (around 45% vs. 8% in men and women, respectively). A similar smoking prevalence between males and females is typically seen in western countries since a decade or two.
- The not largely different smoking prevalence between boys and girls in Seychelles may announce a largely increased prevalence of smoking among women in Seychelles in the next 10-20 years.
- The prevalence of smoking is larger among boys and girls of classes S3:3-5 than S3:1-2. This pattern may correspond to the classical pattern of a higher smoking prevalence among adults of lower than high educational or socio-economic status.
- The substantial prevalence of smoking among 15-year old children emphasizes the need to strengthen health education and other measures to prevent children to start smoking and to help smokers quit.

4.2 REASONS FOR SMOKING OR FOR NOT SMOKING

Reasons for not smoking among non smokers (not weekly, n=458)



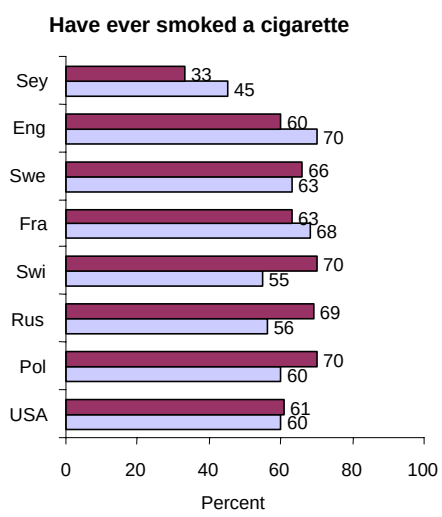
Reasons for smoking among current smokers (weekly, n=72)

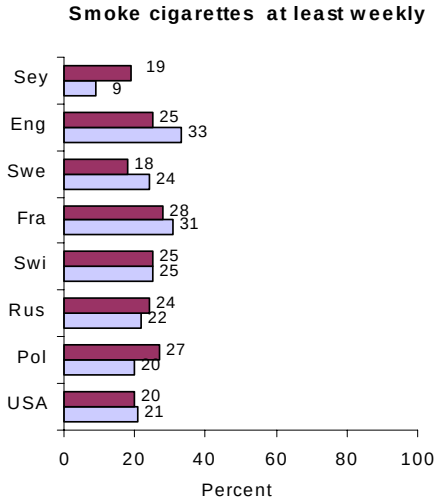


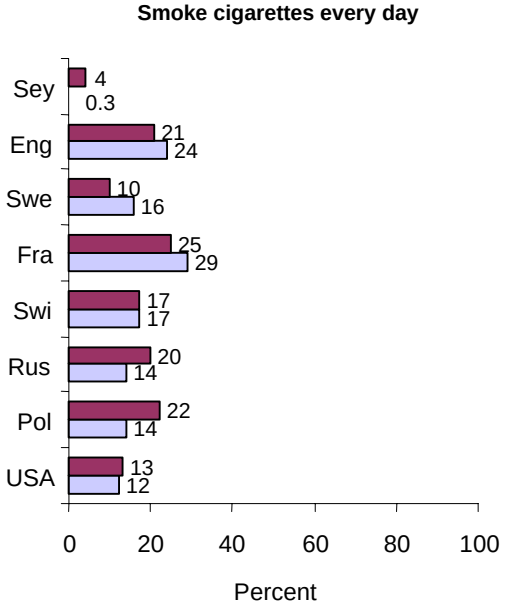
Comments

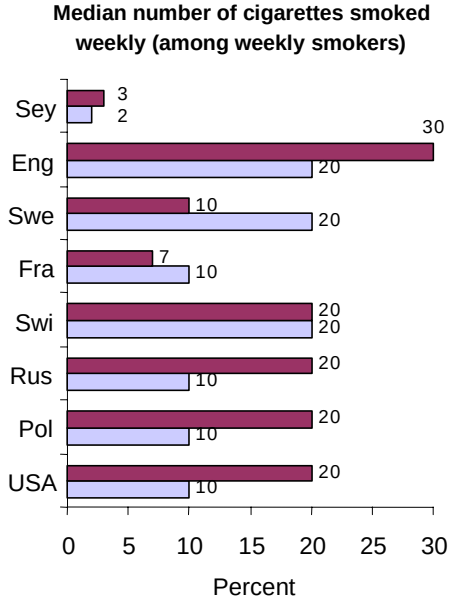
- Only 31% of children mention that smoking cigarettes is bad for health. This may relate to the common tendency to underestimate the hazards of cigarettes (while cigarettes actually kills prematurely 50% of regular users). Such underestimation is typically due to the long-time social acceptation of tobacco products and skilful advertising and lobbying by tobacco manufacturers. This emphasizes the need to provide students with updated information on the actual smoking hazards and the strategies employed by tobacco manufactures to downplay the hazards of cigarettes.
- The most frequent reason to start smoking is 'to try'. While experimentation by young people can hardly be prevented, this emphasizes the need for providing students with adequate information on tobacco products, including a critical appraisal of the marketing and advertising strategies by manufacturers, in order to de-glamorize smoking and prevent that experimentation further leads to regular use.

4.3 COMPARISON WITH OTHER COUNTRIES







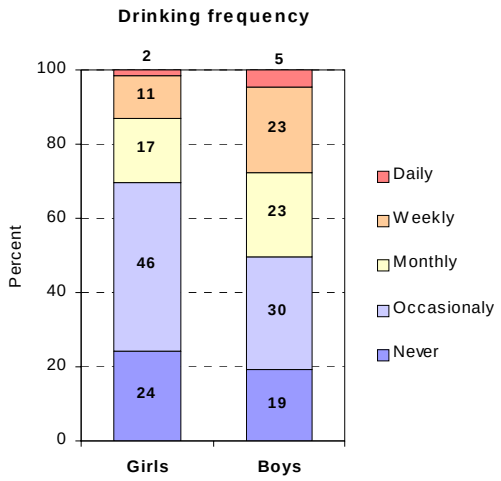


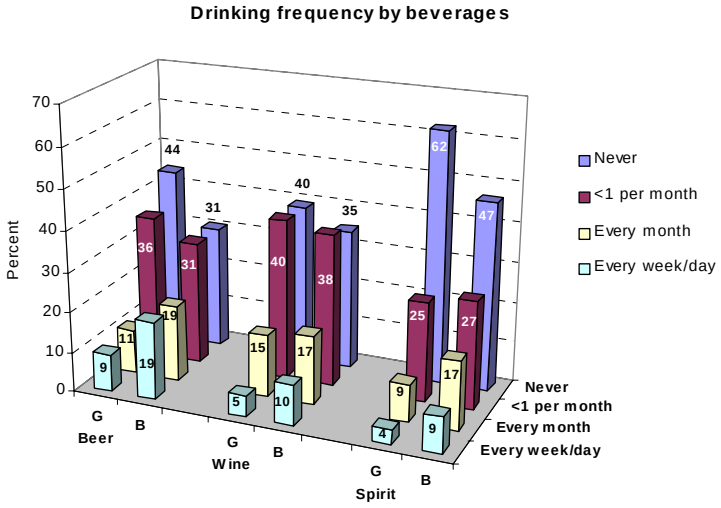
Comments

- The prevalence of smoking in 15-year children and the number of cigarettes used per smoking child is generally lower in Seychelles than in the mentioned other countries (one should however realize that smoking prevalence, although declining, is still particularly high in western countries).
- Considering that the goal of tobacco control is to reduce smoking prevalence to zero in children (and in adults), the prevalence of smoking is high in S3 students, which emphasizes the need for strengthening tobacco control measures among children.

5 DRINKING HABITS

5.1 PREVALENCE

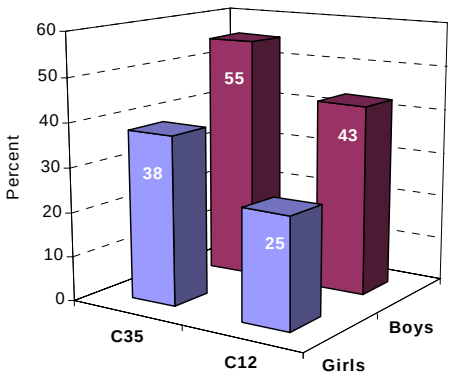




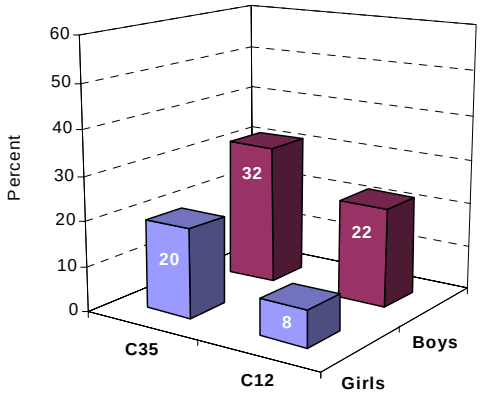
Comments

- Large proportions of boys (27.6%; 95%CI: 30%-33%) and girls (12.9%; 95%CI: 9%-17%) drink alcohol at least once per week. The overall prevalence was 19.6% (95% CI: 16%-23%).
- The proportion of children drinking at least once per month is 50.2% for boys and 30.2% for girls.
- Drinks used by children include all three beverages most commonly available in Seychelles: beer, wine and spirits.
- Very large proportions of boys (64%; 95%CI: 58%-70%) and girls (53%; 95%CI: 47%-59%) reported to have been drunk at least once (overall: 57.9%; 95%CI: 54%-62%).
- Substantial proportions of boys (14.8%; 95%CI: 10%-19%) and girls (7.8%; 95%CI: 5%-11%) reported to have been drunk at least 4 times (hence, a stage that is much beyond experimentation).

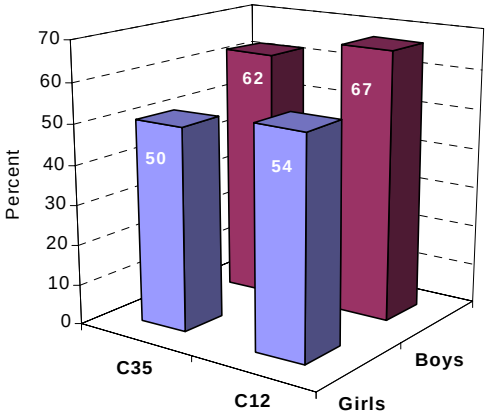
Drink monthly, weekly or daily (n=211)



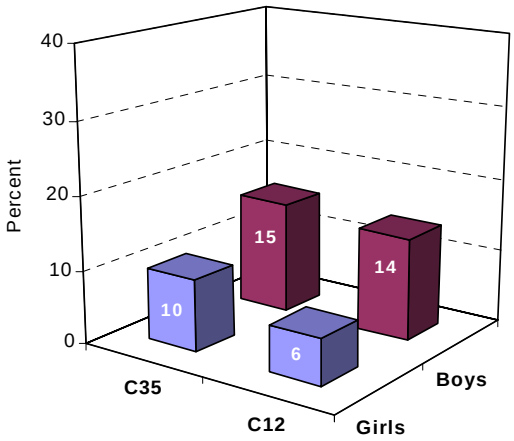
Drink alcohol weekly or daily (n=105)



Have been drunk at least once



Have been drunk at least 4 times



Comments

- Boys tend to drink more often than girls and children of C35 more often than children of C12.
- Boys experience also drinking problems more often than girls.
- However, the prevalence of drinking and drinking problems (i.e. having been drunk) is not largely different between genders and classes, which emphasizes that drinking and drinking problems are frequent in all categories of children. This indicates large social tolerance for drinking.
- Interventions to reduce drinking frequency, drinking problems and related social norms are warranted in school-going children.

5.2 REASONS FOR DRINKING OR FOR NOT DRINKING

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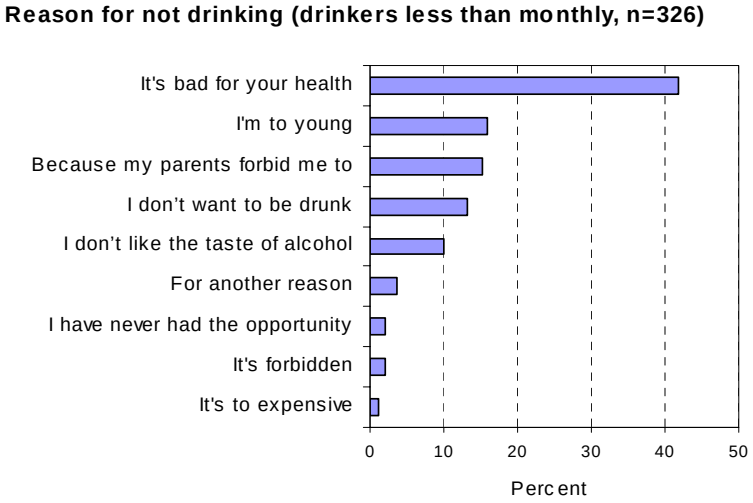
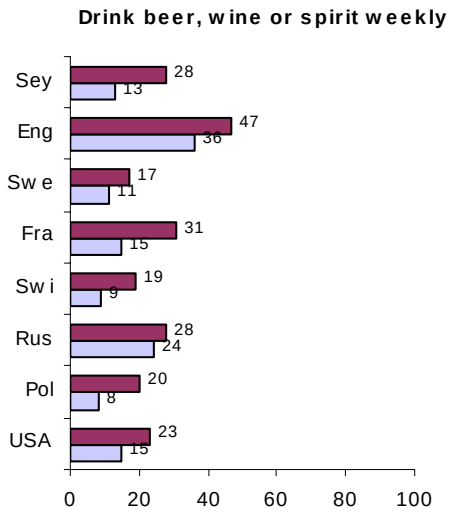
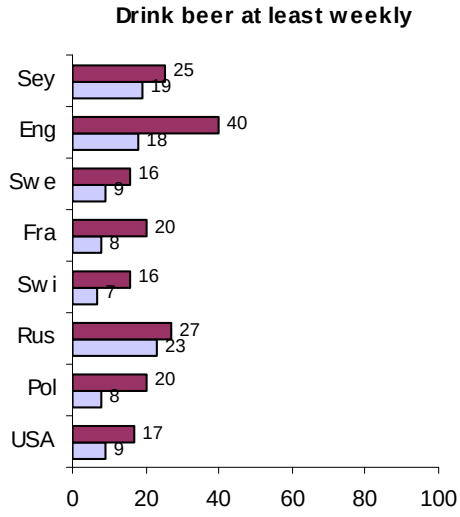


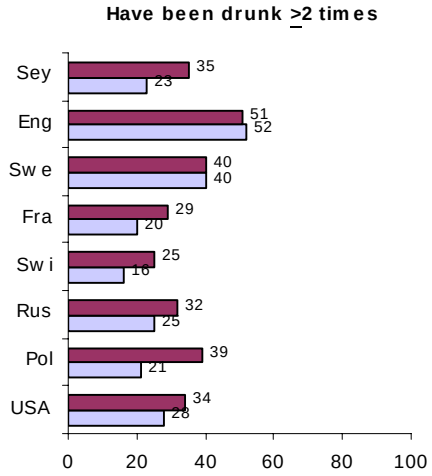
Comments

- The fact that as many as 60% of children report to drink 'on important occasions' reflect that the habit is deeply ingrained in the society and culture.
- Prevention of frequent drinking by children should include, among others, measures aimed at changing such social norms.

5.3 COMPARISON WITH OTHER COUNTRIES





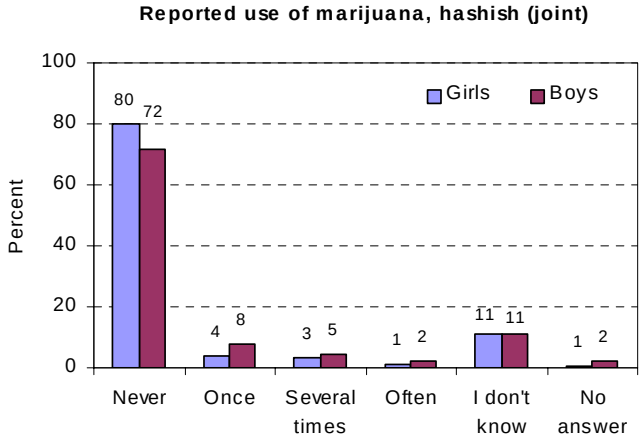


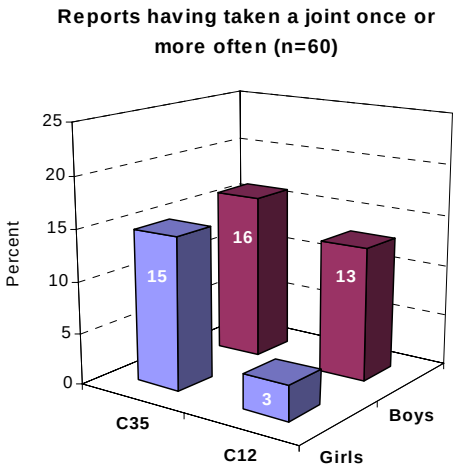
Comments

- Drinking frequency is higher in Seychelles than in several western countries (e.g. Sweden, USA) inclusive several countries in which drinking is traditionally deeply ingrained in the culture (France, Poland, Switzerland).
- The frequency of drunkenness episodes is higher in Seychelles than in several western countries (France, Switzerland) and similar to countries where drinking abuse is notoriously frequent such as Russia. It is however lower than in countries in which binge drinking is frequent (UK, Sweden).
- It should be realized the countries provided for comparison (mainly western countries) count among the countries with the highest alcohol consumption in the world. Drinking frequency and volume are much lower in many Asian, African and other countries.

6 MARIJUANA OR HASHISH

6.1 PREVALENCE



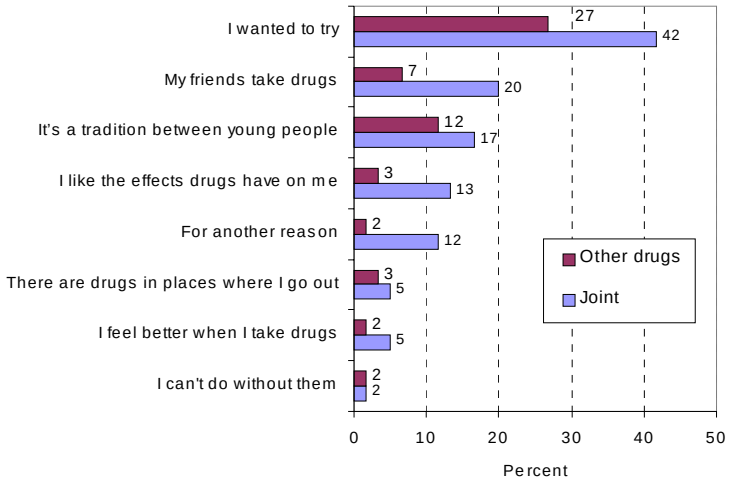


Comments

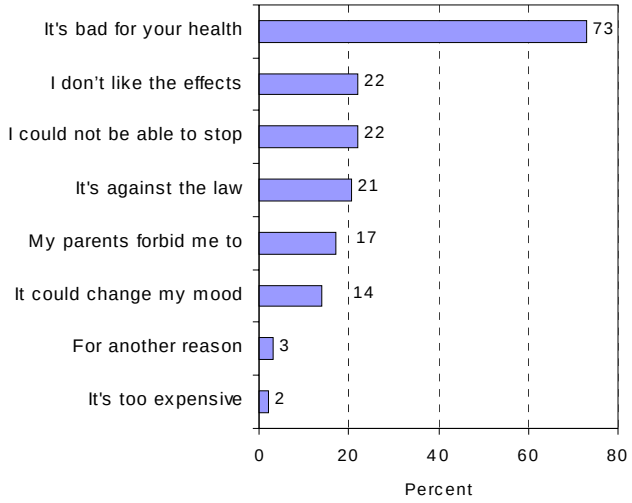
- Overall, 11.2% of all children (95% CI: 8.5%-13.8%) reported to have ever used marijuana/hashish (once: 5.8%; several times: 3.7%; often: 1.7%).
- One must be aware that estimates of small magnitude (e.g. 1-5%) are particularly sensitive to random error or systematic error and such estimates should therefore be interpreted with caution.
- Marijuana/hashish is used similarly often by boys and girls of classes C35. Girls of classes C1-2 report to use marijuana/hashish less often.

6.2 REASONS FOR TAKING DRUGS AND FOR NOT TAKING DRUGS

Reported reasons for taking drugs among reported users (joint=60, other=55)



Reasons for not taking drugs among nonusers (n=445)



Comments

- The most frequent responses given by drug users are that they "wanted to try" and "because friends do it", which reflects the inclination of the young for experimentation and the attractiveness (e.g. trend, code) of this behavior among youth.
- This emphasizes the need to provide students with quality and factual information on these issues, by means of all possible communication channels, including peers (since children mention that they can talk most easily with friends of same sex, as another question of the survey shows).

6.3 RELATIONSHIPS BETWEEN SMOKING, DRINKING AND TAKING MARIJUANA

Correlation coefficients between several risk behaviors

	Smoking	Alcohol	Joint
Smoking	1		
a Alcohol	0.25	1	
Joint	0.31	0.19	1

All Spearman correlation coefficients are significant (P<0.001).

Smoking: at least once monthly.

Alcohol: at least once monthly.

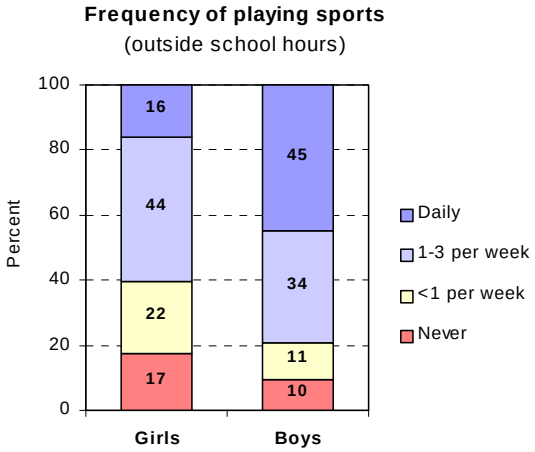
a Joint (marijuana, hashish): ever taking.

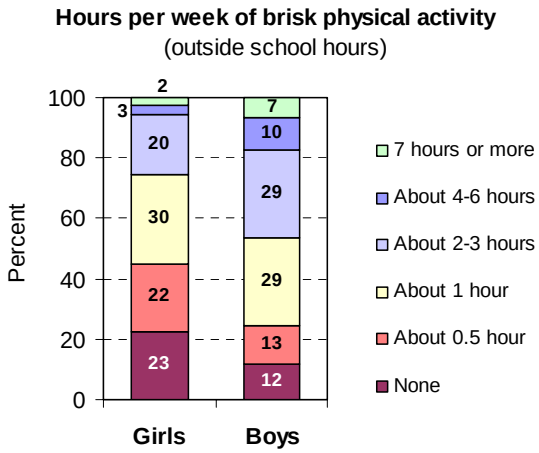
Comments

- As it is known in many other countries, there is in Seychelles also a fairly strong correlation between the use of marijuana/hashish, drinking and smoking.
- This implies that risk behaviors (smoking, drinking, drug use) tend to cluster in a few same children.

7 PHYSICAL ACTIVITY OUTSIDE SCHOOL HOURS

7.1 PREVALENCE

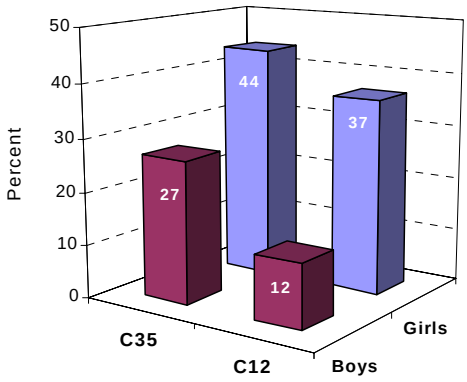




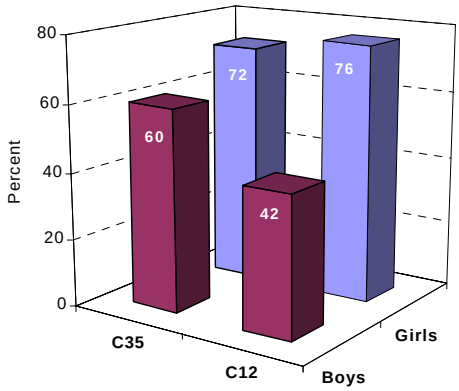
Comments

- Girls report lower levels of physical exercise than boys.
- 60% of girls and 80% of boys report playing sports at least once weekly.
- As many as 54% of boys and 75% of girls take physical exercise for no more than 1 hour per week. This suggests that a majority of boys and girls have insufficient levels of physical exercise.
- Because physical exercise is an important factor to prevent excess body weight, sedentary habits are likely to play an important role in the increasing prevalence of overweight in children in Seychelles, particularly among girls.
- Admittedly, accurate data on physical exercise are difficult to obtain in view of the difficulty to evaluate the intensity of physical exercise and sports from self-reported records. However, a recent detailed prospective study (New England Journal of Medicine, 5 Sep 2002) reported the worrying finding that school-going girls in the USA decreased their level of physical exercise from high values at a young age to a level close to 0 at age 17.
- Such unfavorable trend in modern countries is likely to increasingly apply also for Seychelles. This points to the need to promote physical activity among the young and develop an enabling environment.

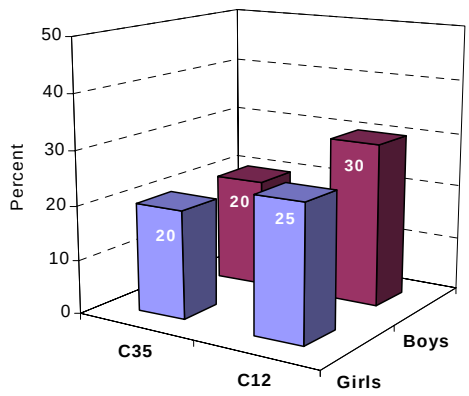
Sport outside school hours less than once a week



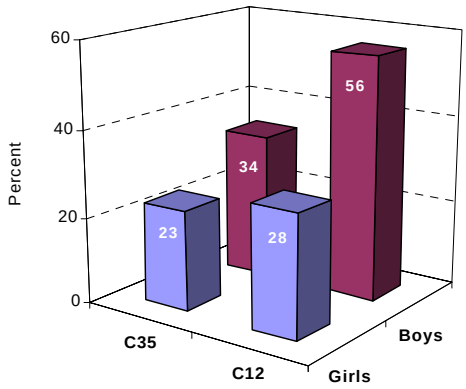
Brisk physical activity <2 hours per week



Median walking time per week day
(minutes)



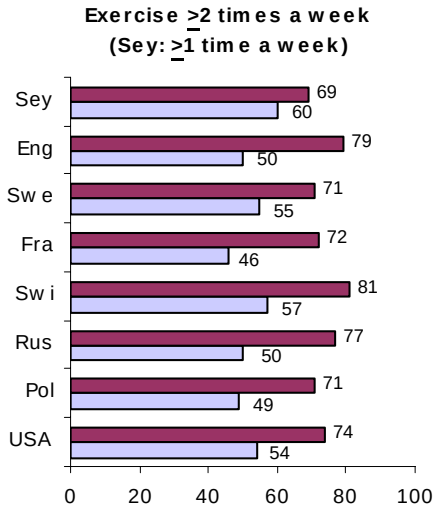
Brisk physical activity outside school hours at least 2 hours per week

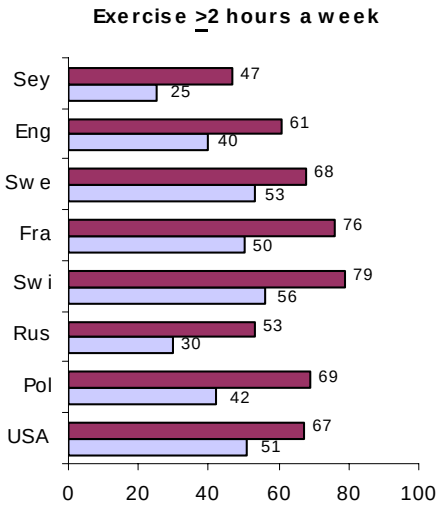


Comments

- Girls do less exercise than boys and children from classes C3-5 do less exercise than children from classes C1-2.
- A majority of children walk less 30 minutes per day. Although previous data on walking time of children is not available, it is likely that this important source of energy expenditure has decreased dramatically over the last years. This is another important factor that can explain the increasing prevalence of overweight in children. Walking, which is an exercise that can be done by all children and does not cost money, should be actively promoted.

7.2 COMPARISON WITH OTHER COUNTRIES

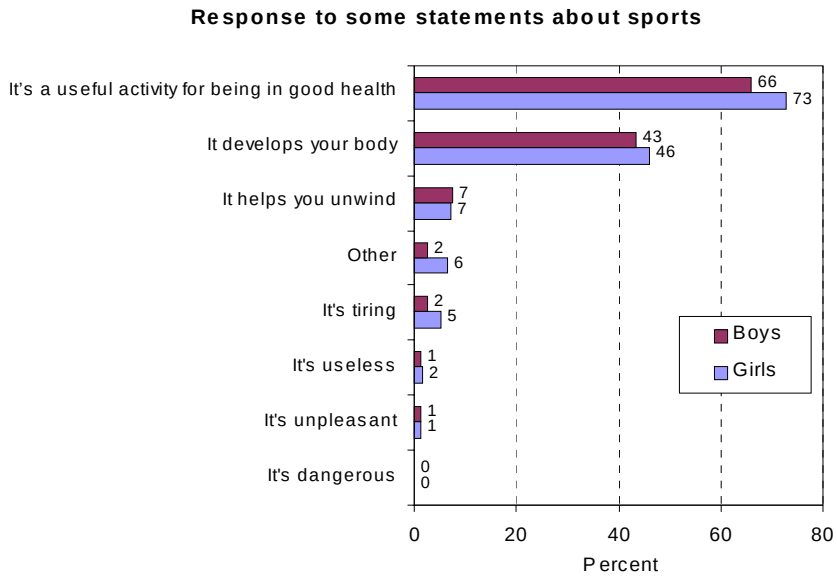




Comments

- Children in Seychelles tend to do less physical exercise at leisure time than children from several Western countries.
- This points to the need for further developing facilities and programs for sports outside school hours targeting all children (in addition to the programs for competitors, which involve only a small minority of already physically active children).

7.3 RESPONSE TO STATEMENTS ABOUT SPORTS

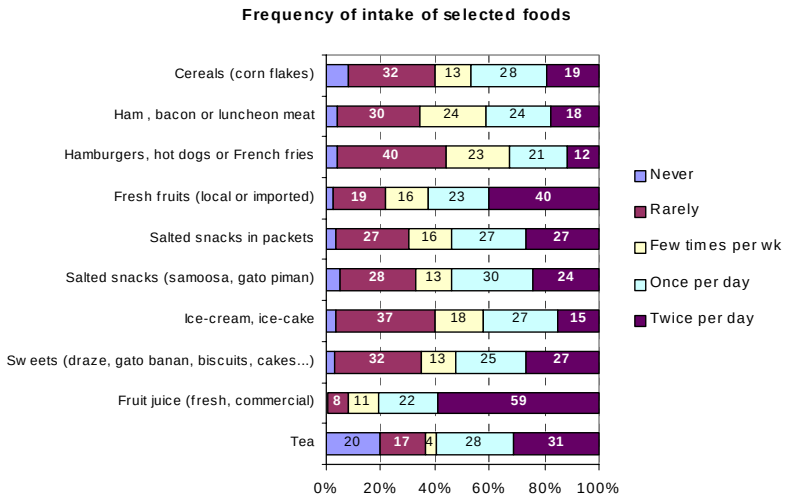


Comments

- Very few children express negative views on sports.
- This suggests that strengthening ongoing programs or developing new programs for physical exercise outside school hours would receive a good response by children.

8 DIETARY HABITS

8.1 FREQUENCY OF INTAKE OF SELECTED FOODS

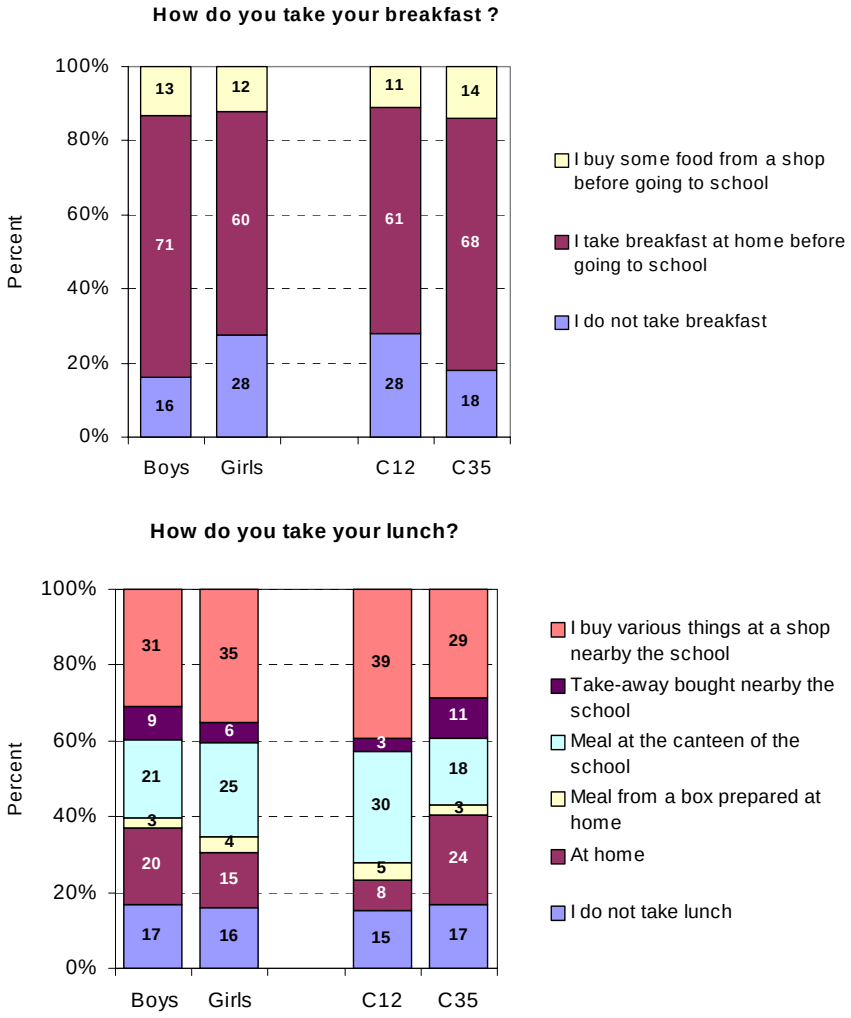


	Sex		Class	
	Girls	Boys	C 1-2	C 3-5
Tea	46	72	54	60
a Fruit juice	82	70	75	77
Soft drinks	70	76	76	68
Sweets (draze, gato banan, chocolates, biscuits, cakes)	51	52	57	45
Ice-cream, ice-cake	42	40	28	49
Snacks salted (somoosa, gat piman)	52	53	50	50
Snacks salted (commercial)	54	51	50	50
Hamburgers, hot dogs or French fries	31	33	28	36
Ham, bacon, luncheon meal	35	46	32	49
Cereals	45	47	41	51

Comments

- A large proportion of children drink fruit juices or eat a fruit every day (a favorable trend).
- A large proportion of children eat salted snacks and/or ice cream/cakes every day (an unfavorable trend). Health education programs should emphasize on the detrimental effect of excess fat/calories and alternative healthy food habits.
- Less than half of children eat cereals every day. Regular intake of cereals (e.g. for breakfast every day) should be promoted as cereals bring both energy and several important micronutrients (both natural components of flour and fortification).

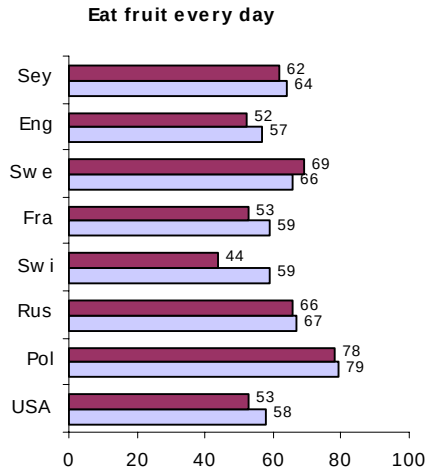
8.2 PATTERNS FOR TAKING BREAKFAST AND LUNCH

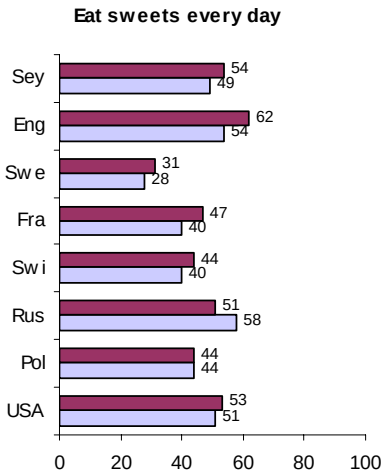


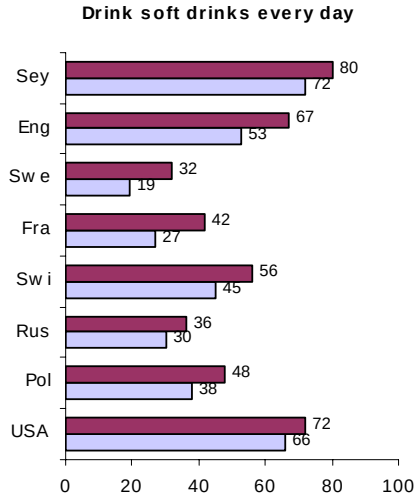
Comments

- Overall, 23% of children do not take breakfast and 12% buy some food (likely to include mostly salted and/or fatty snacks and sweets) on their way to school. Efforts should be made to promote the habit for children to regularly take a healthy breakfast at home to provide children with both energy and micronutrients.
- Overall, 16% of children do not take a lunch and 33% report to buy various foods (likely to be fatty snacks or sweets in many instances). Further development of school canteens is a possible measure to promote healthy lunches for children.

8.3 COMPARISON OF FOOD INTAKE WITH OTHER COUNTRIES







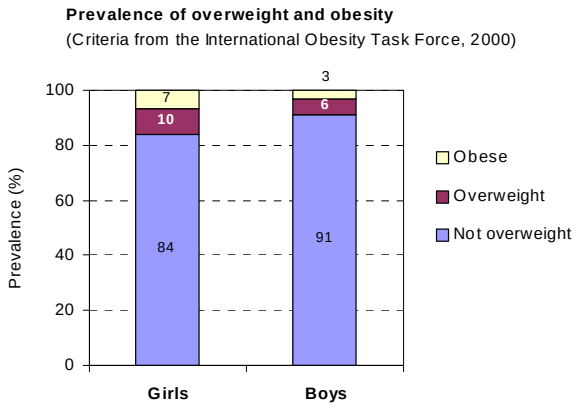
Comments

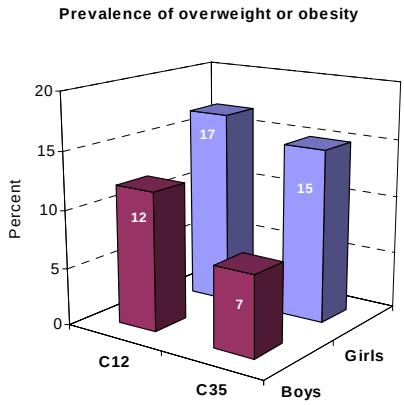
- The consumption of fruits by children in Seychelles is intermediate as compared to western countries.
- The consumption of sweets by children is rather high in Seychelles as compared to western countries.
- The consumption of soft drinks by children is much higher in Seychelles than in Western countries. This may be explained in part by the warmer climate in Seychelles than in European countries.
- Drinking water instead of soft drinks should be actively encouraged among children (and adults) in view of the high content of carbohydrates of soft drinks, hence an important contributing factor to the epidemic of overweight.

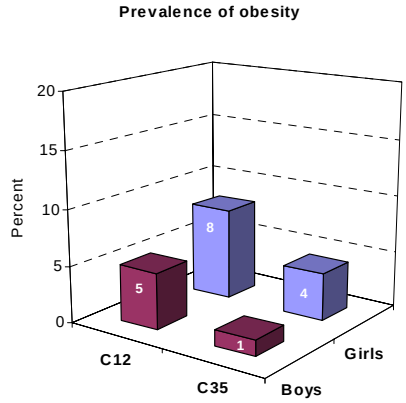
9 BODY WEIGHT AND PERCEPTION OF BODY IMAGE

9.1 PREVALENCE OVERWEIGHT AND OBESITY

Body weight and height were measured and written down on the questionnaires just before the questionnaire were given to children. Criteria for defining overweight and obesity in children depend on weight, height, age and sex. Criteria used here are those of the International Obesity Task Force (British Medical Journal, 200;320:1240-43).



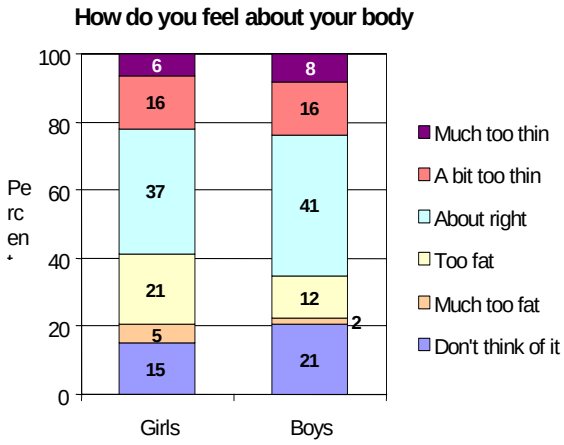


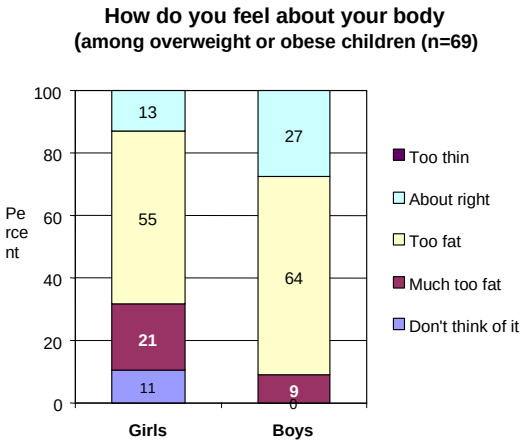


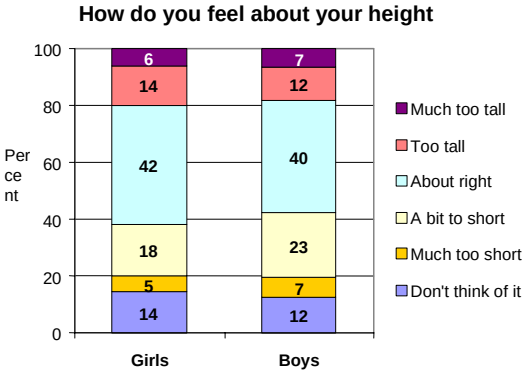
Comments

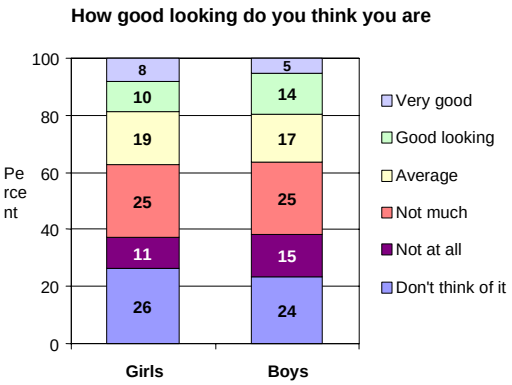
- The prevalence of overweight and obesity at age of 15 is in the high range compared to other countries (data for other countries from the International Obesity Task Force).
- Overweight, and particularly obesity, is more frequent in girls than boys and in children of classes C12 than classes C35.
- In western countries overweight is currently more frequent in persons of low than high socio-economic status (the reverse was true some decades ago) while in several developing countries overweight is currently found more frequently in persons of high than low socio-economic categories (possibly an external sign of 'wealth').
- It is important to shape social norms favoring lean weight because overweight is a major cause for several severe diseases, inclusive diabetes (that can already occur in obese adolescents), hypertension (that can already occur in children) and blood lipid disorders.

9.2 SELF-PERCEIVED SIZE, HEIGHT APPEARANCE





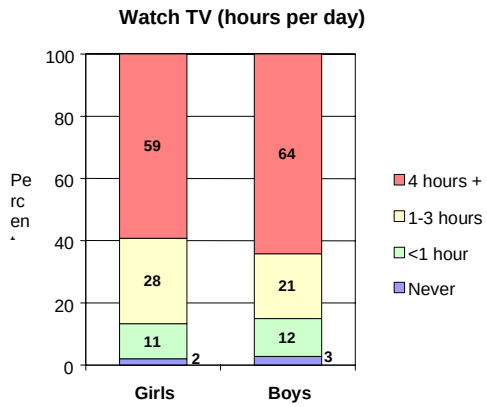


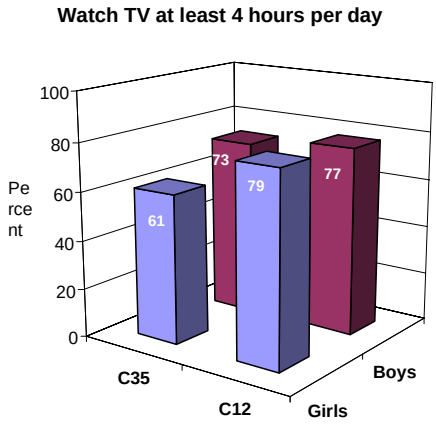


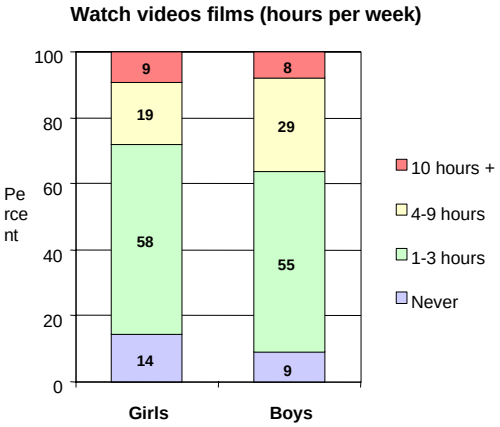
Comments

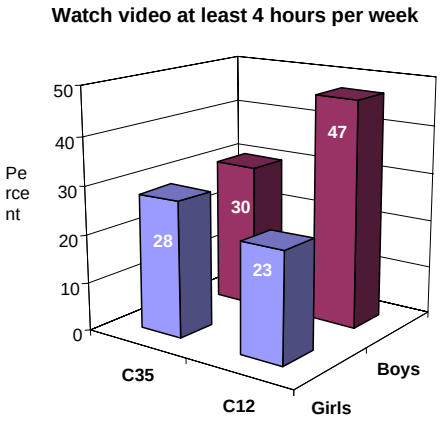
- Most overweight children feel that they have excess weight although a small but substantial proportion feel that their body weight is fine.
- However boys tend to underestimate overweight more than girls (notice that measure of excess weight is adjusted for sex, age and height).

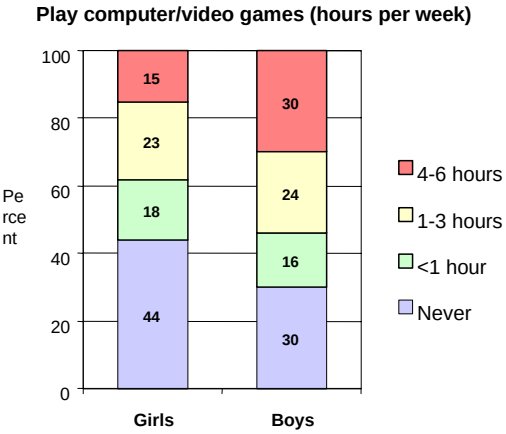
10 PRACTICES DURING LEISURE TIME

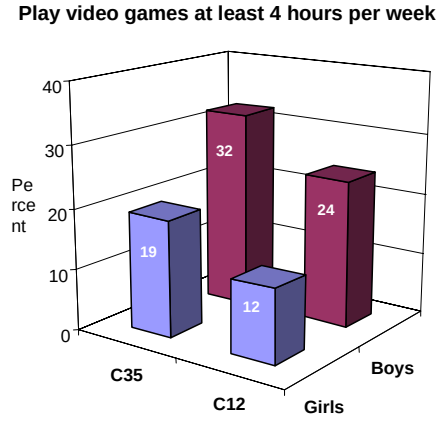








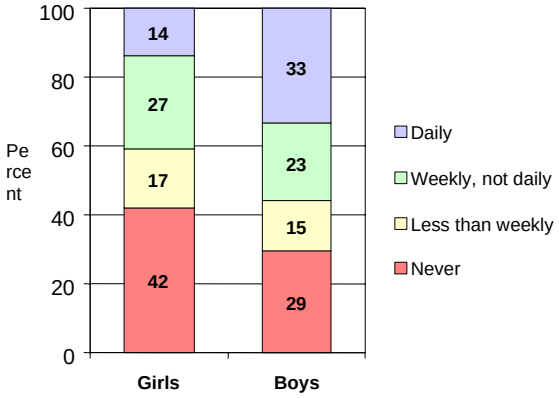




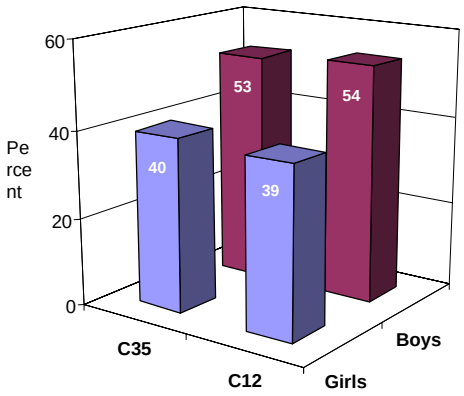
Comments

- Substantial proportions of boys and girls spend large amounts of time watching TV.
- Time spent for watching TV (or videos and videogames) deters children from practicing physical activity and steps up the consumption of snacks and other foods, leading to overweight.

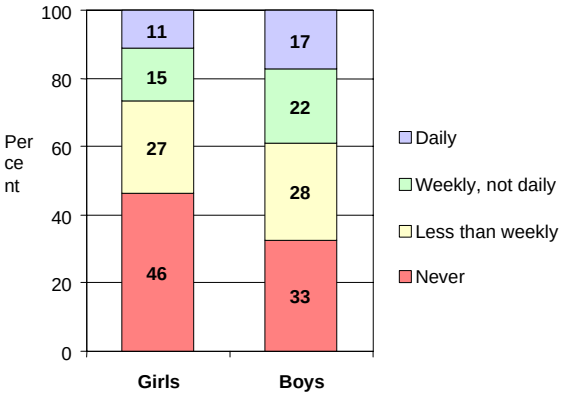
Specific training for sport, music, dance, theater



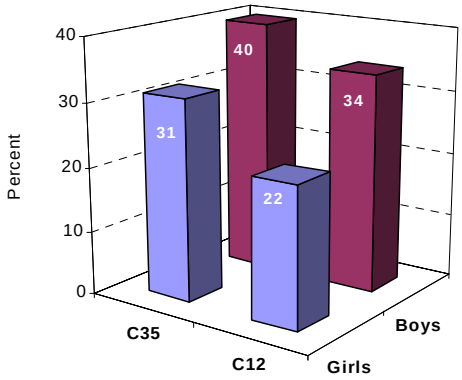
Training at least weekly for sport, music,



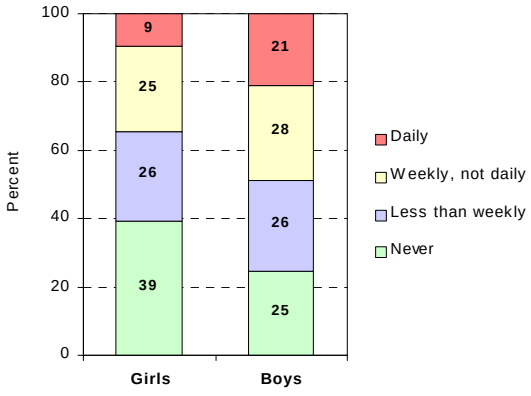
Spend free time at friends' places



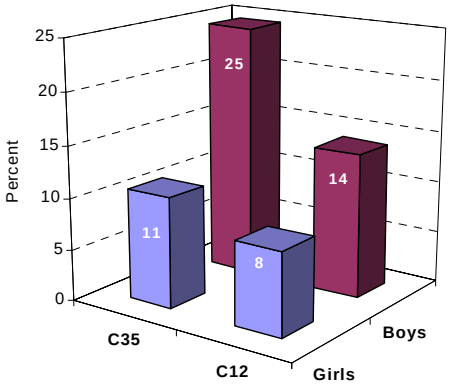
Spend free time at friends' places at least weekly



Hang out with friends (beach, street, etc)



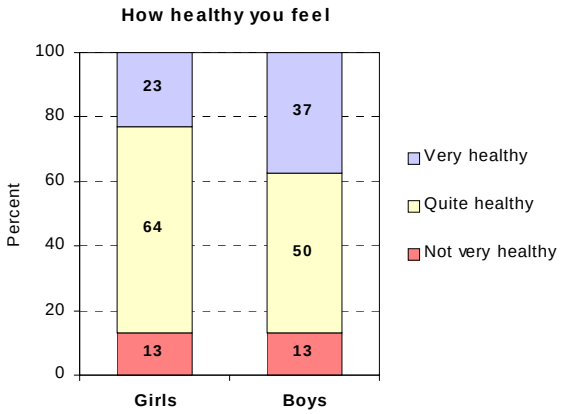
Hang out with friends every day

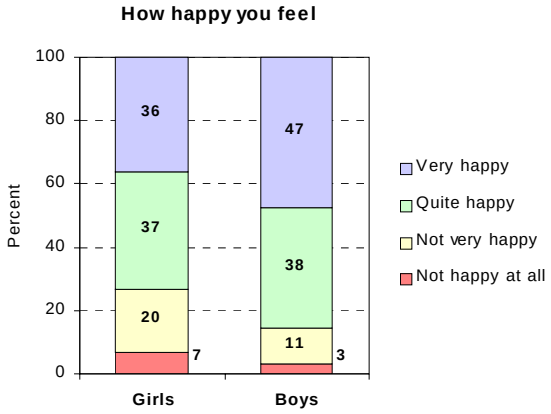


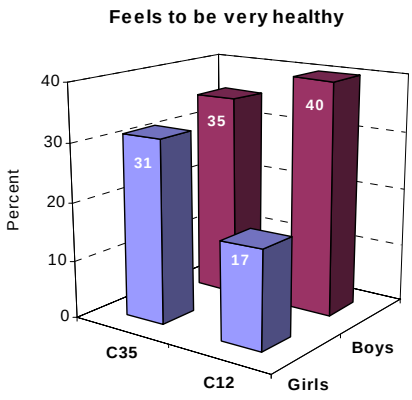
Comments

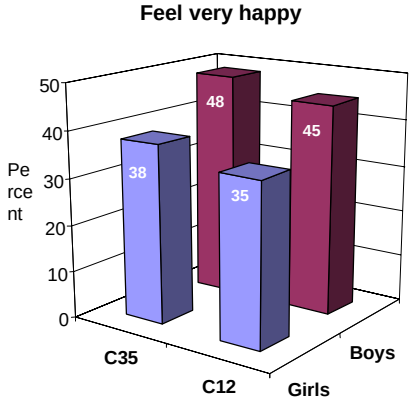
- Substantial proportions of boys and girls report to hang out with friends on a daily basis. These gatherings with peers and other persons are natural social behaviors but they can also provide opportunities for coming across cigarettes, alcohol or drugs and for experimenting risk behaviors.

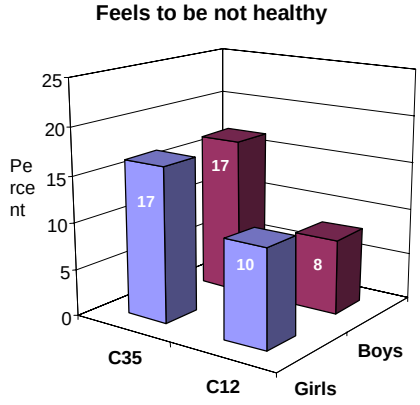
11 INDICATORS OF PERSONAL SKILLS AND FEELINGS

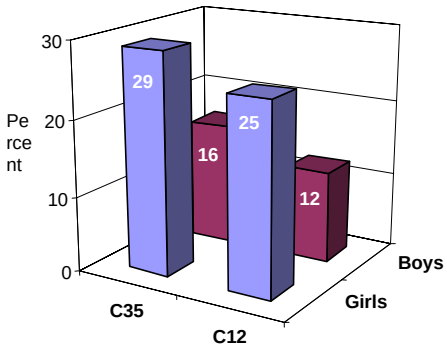






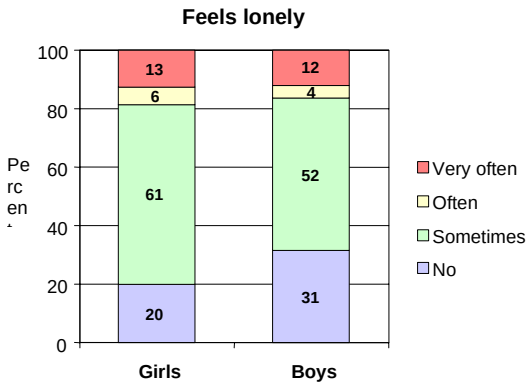


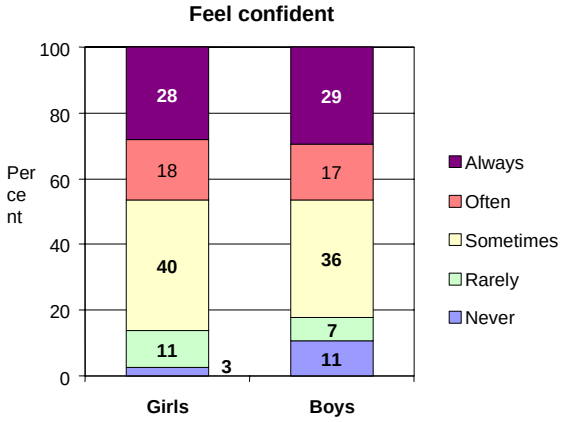


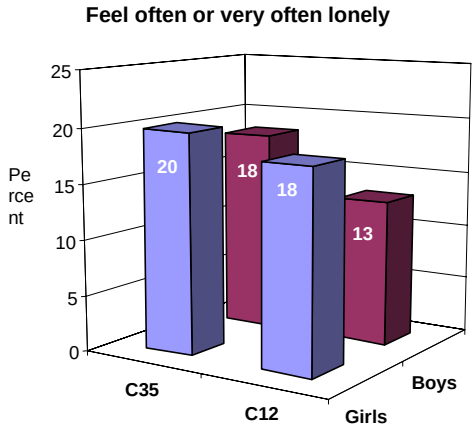


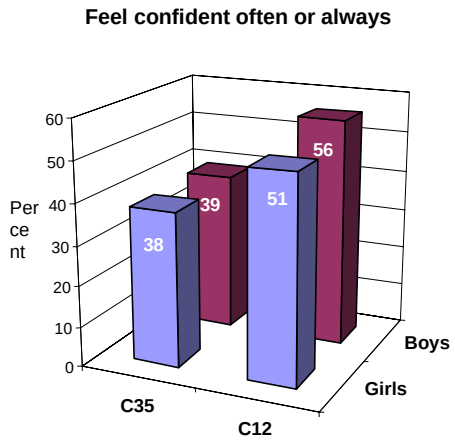
Comments

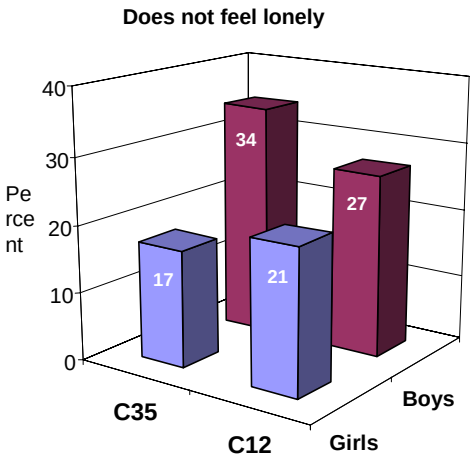
- Only a small minority of children report to feel unhealthy.
- Only a small minority of children report to feel unhappy (more girls than boys).

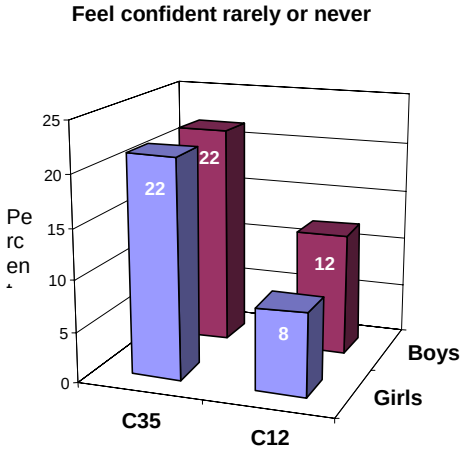






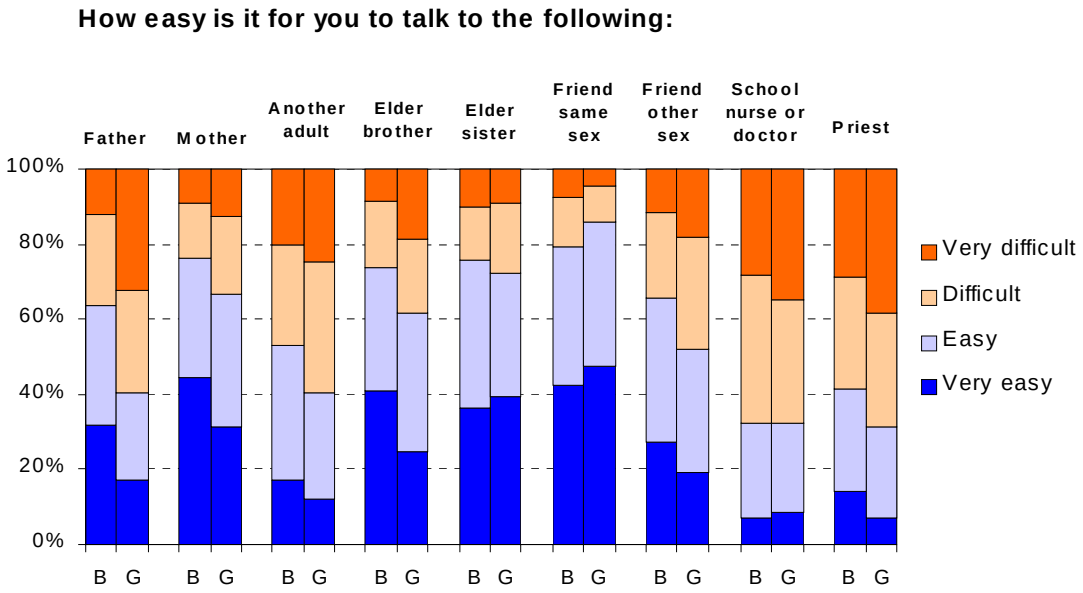






Comments

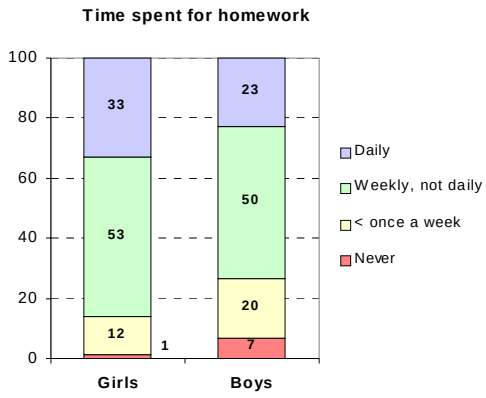
- Less than 20% of children feel lonely 'very often' or 'often'.
- Less than 20% of children feel 'rarely' or 'never' confident.
- Although we do not have data for comparison, this seems to indicate good mental and social health of a large majority of children.

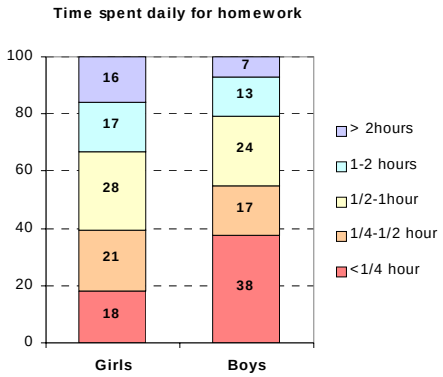


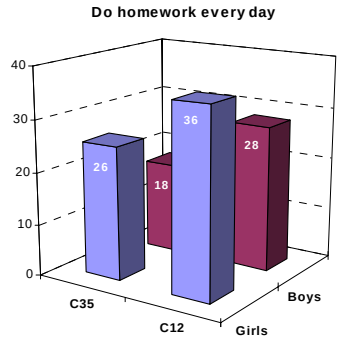
Comments

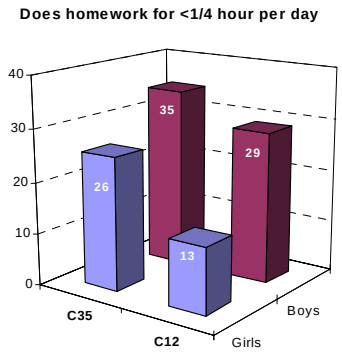
- Children aged 15 talk most easily with a friend of the same sex.
- Talking to one's mother, elder sister and elder brother came next.
- Less than 40% of children find it 'easy' or 'very easy' to talk to a school nurse, a doctor or a priest. This emphasizes that nurses and doctors working with children (e.g. school health nurses) must be selected carefully and trained appropriately to meet this communication challenge.

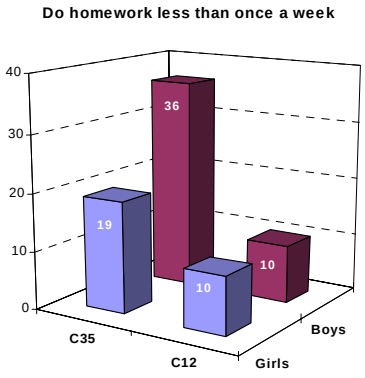
12 INDICATORS OF ATTITUDES, BEHAVIORS AND PERFORMANCE RELATED TO SCHOOL

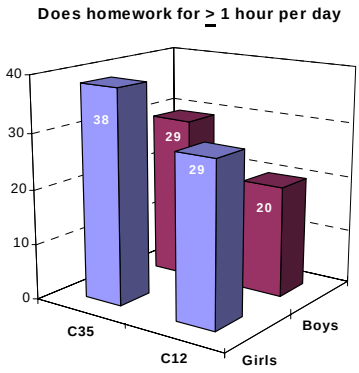






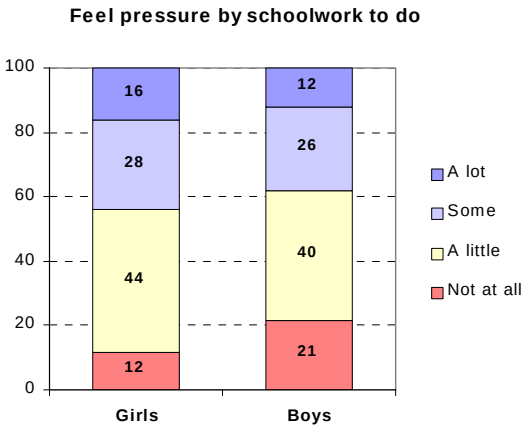


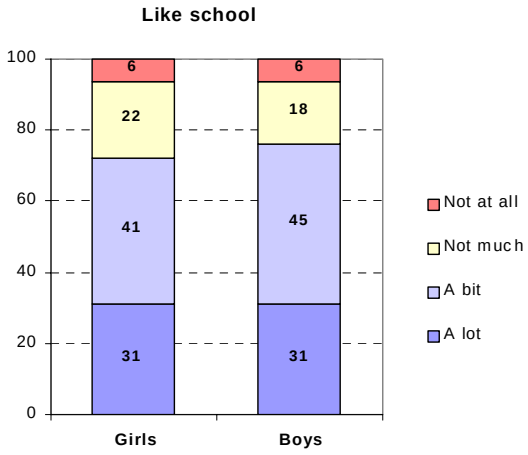


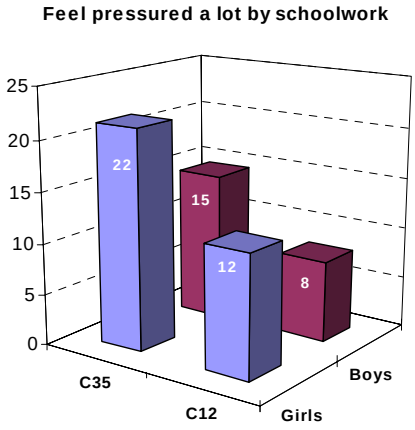


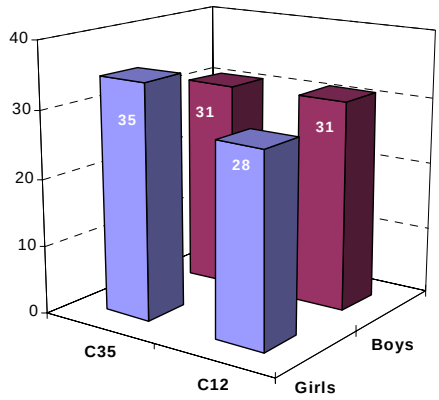
Comments

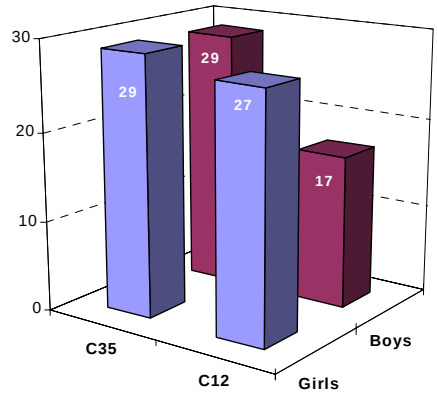
- Less than a third of children do homework on a daily basis.
- Girls do more often homework and spend more time on it than boys.





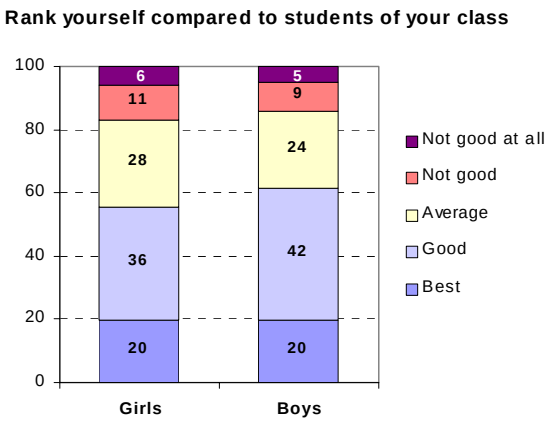


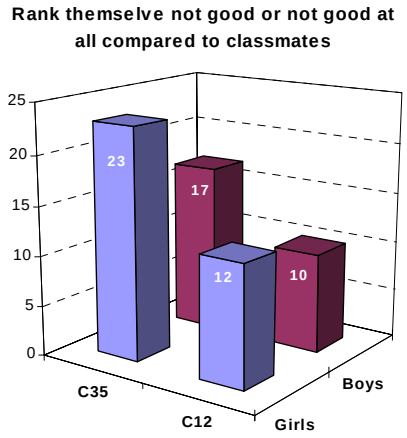


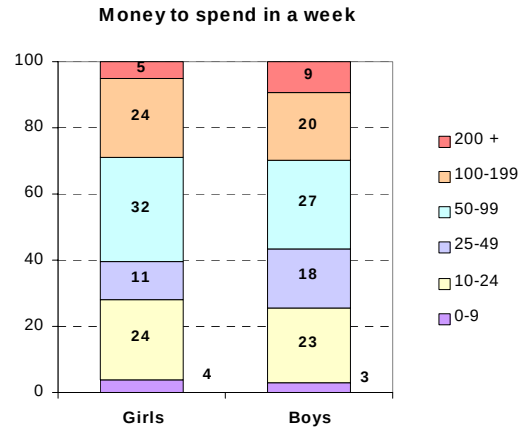


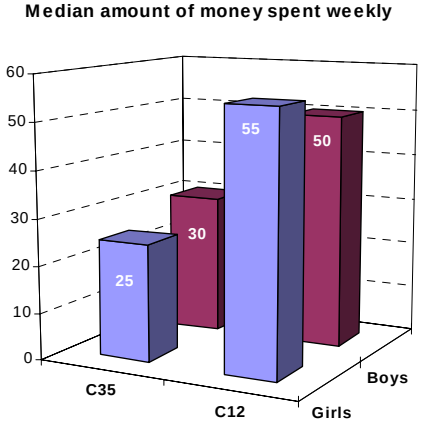
Comments

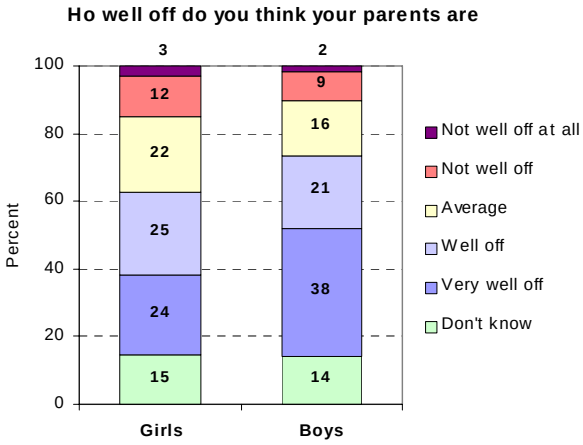
- As many as 80% of children report to like school ('a bit' or 'a lot').
- Less than 20% if children feel to be pressured a lot by school.











Comments

- More than 80% of children rank themselves as 'average', 'good' or 'very good' (this large proportion might be interpreted to indicate some over-confidence by some students and/or lenient scholar requirements).
- Around 70% of children spend less than 100 rupees per week.
- More than 80% of children believe that their parents are 'average', 'well off' or 'very well off'.

13 RELATIONSHIPS BETWEEN SMOKING, DRUG TAKING, DRINKING AND OVERWEIGHT AND SELECTED PERSONAL, EDUCATIONAL, EMOTIONAL AND OTHER CHARACTERISTICS

		Smoking (weekly or daily)		Ever took a joint		Drinking (weekly or daily)		Overweight*	
	Percent	13.1.1.1 R	13.1.1.1.	13.1.1.2 R	13.1.1.2.	13.1.1.3 R	13.1.1.3.	13.1.1.4 R	13.1.1.4
Smoke cigarettes at least weekly	13.4			**6.53**	**0.000**	**2.98**	**0.000**	0.70	0.393
Ever took a joint	11.2	**6.53**	**0.000**			**4.28**	**0.000**	0.49	0.333
Drink alcohol at least weekly	19.6	**2.98**	**0.000**	**4.19**	**0.000**			1.54	0.147
Boy vs. girl	45.2	**2.25**	**0.002**	**1.96**	**0.016**	**2.56**	**0.000**	**0.52**	**0.018**
Class 3-5 vs. class 1-2	49.2	**2.87**	**0.000**	**2.46**	**0.002**	**2.33**	**0.000**	0.67	0.132
Sport at least 2 hours per week	34.5	1.09	0.750	1.42	0.214	**2.43**	**0.000**	1.01	0.960
Watch TV at least 4 hrs per day	73.0	1.04	0.900	0.93	0.805	1.02	0.931	0.90	0.699
Watch video at least 4 hrs per week	31.6	1.26	0.383	1.51	0.142	1.36	0.179	0.73	0.283
Do homework every day (vs. less often)	27.2	0.67	0.195	0.38	0.013	0.81	0.412	1.29	0.354
Train for sport, music, theater at least weekly	45.4	1.02	0.942	1.32	0.305	1.63	0.025	0.91	0.715
Hang out with friends every day (vs. less often)	14.1	**1.74**	**0.084**	**2.80**	**0.001**	**2.01**	**0.012**	0.66	0.327
Feel very healthy (vs. less)	29.2	0.72	0.261	0.95	0.870	1.66	0.027	0.64	0.142
Feel 'not at all' or 'not very' happy (vs. more)	21.4	1.19	0.566	1.29	0.426	**1.68**	**0.036**	**1.64**	**0.087**
Feel 'often' lonely (vs. less)	17.5	1.42	0.259	1.07	0.858	1.43	0.187	1.36	0.327
Feel 'often' or 'always' confident (vs. less)	45.8	0.77	0.312	1.12	0.677	1.00	0.982	1.35	0.249
Feel 'good ' or 'very good' looking'	19.0	1.14	0.669	1.21	0.576	1.44	0.162	1.23	0.510
Do homework at least 1 hour per day	27.0	0.68	0.207	1.08	0.805	0.81	0.412	**1.77**	**0.035**
Do not like school much or not at all	30.9	1.20	0.521	**2.07**	**0.010**	1.24	0.369	1.09	0.774
Rank at school not well or not well at all	15.6	1.54	0.178	1.43	0.304	**2.02**	**0.009**	1.32	0.410
Have at least 100 rupees per week	26.8	1.06	0.843	1.09	0.778	1.25	0.346	1.54	0.114
Think parents are very well off (vs. average)	29.9	1.41	0.234	1.01	0.964	1.09	0.722	0.80	0.457
Think parents are not well off (vs. average)	12.9	**2.04**	**0.041**	1.63	0.196	**1.74**	**0.072**	0.95	0.889

* Weight and height were measured and written on the empty response sheets before students wrote down anonymously their responses to questions.

Interpretation of odds ratios. For example, smokers are 2.98 times more likely, as compared to non-smokers, to drink alcohol at least once per week (OR in 3rd column, 3rd row). There is no association if an OR is equal to 1.

Interpretation of *P* values. A *P* value less than 0.05 means that the association is statistically significant while *P* values between 0.05 and 0.09 indicate that the association is 'marginally' significant. *P* values larger than 0.100 indicate that the association can be due to chance only (hence there is no association).

Associations and causality. Associations in a survey (where we collect information on all variables at the same time) cannot distinguish between cause and consequence. For example, we found a strong association between smoking and drinking but we cannot distinguish, from the results of the survey, if

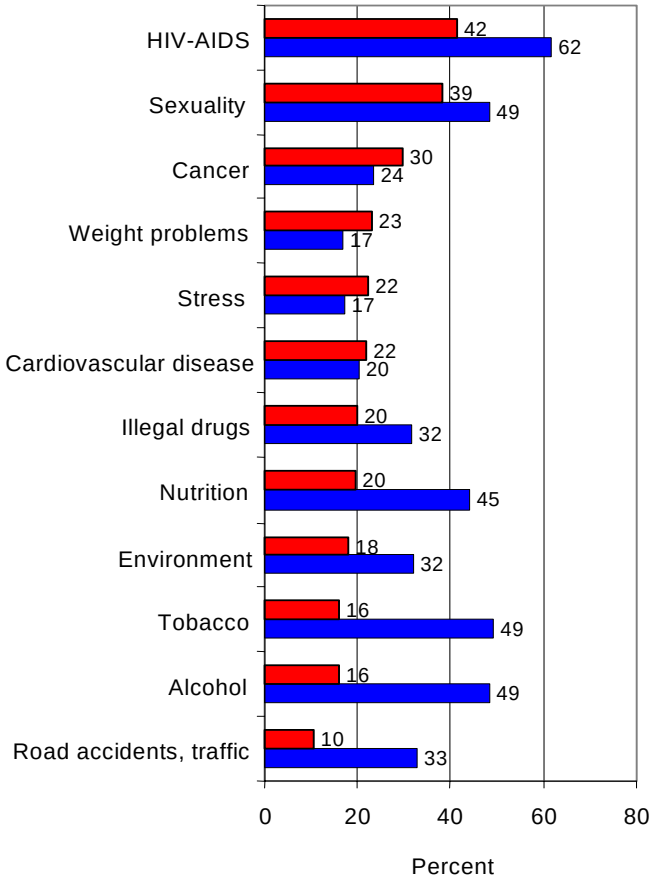
smoking results in drinking or if drinking results in smoking. Other types of studies are needed to address causality (e.g. cohort studies).

Comments

- Smoking, alcohol drinking and use of marijuana are strongly associated.
- These behaviors are associated more strongly with being a boy (than a girl) or being in C3-5 classes (than C1-2 classes).
- These risk behaviors are also associated with hanging out often with friends, practicing sports regularly (drinking), feeling unhappy (drinking), and in families less well off (as perceived by the students).
- Students feeling confident do not report less of these risk behaviors.
- There findings suggest that these behaviors relate more to 'trends' among youths than to personal problems (although some personal factors can facilitate risk behaviors). This emphasizes the importance of social approaches to these risk behaviors among children (in addition to individual measures such as those building adequate resistance skills).

14 INFORMATION THAT STUDENTS REPORT TO RECEIVE AND WISH TO RECEIVE AT SCHOOL

Have received information at school (in red)
Would like to receive more information at school (in blue)



Comments

- The proportions of children who report to have received information on tobacco (16%) and weight problems (23%) are very low in consideration of the actual importance of these major contemporary public health problems.
- This stresses the need to provide children with more information on these issues.
- Health education in schools should reflect the transition in health patterns and lifestyles that has occurred over the last decades in Seychelles. Larger emphasis should be put on tobacco consumption, unhealthy nutrition and lack of physical exercise and the links between these lifestyles and overweight, diabetes, high blood pressure, cancer and cardiovascular disease (which account now for more than 60-70% of all deaths in the country).
- It is important that health-related programs in schools reflect promptly this new epidemiologic situation and can contribute to curb the up-surging epidemics of non-communicable disease in time.
- Early intervention, particularly in school-going children, is a critical component of a comprehensive strategy for preventing these diseases and improving the health of the current and next generations.

raisons de santé

Dernières parutions

Disponibles sur www.hospvd.ch/iumsp/

N° 89 *Dubois-Arber F, Ackermann-Liebrich U, Cloetta B, Faisst K, Chamo E. et al. Bastard B, Bisegger C, Bringolf B, Cardia-Vonèche L, Chenou I, Dellenbach M, Farley C, Gervasoni J-P, Klaue K, Meystre-Agustoni G, Quinto C, Reiner C, Ricka-Heidelberger R, Seifert B, Specht R, Tanda I, Zeyen Bernasconi P.* Evaluation de la stratégie de lutte contre le cancer en Suisse, phase II - 2002 : document de synthèse. Lausanne : IUMSP, 2003.

N° 90a *Dubois-Arber F, Jeannin A, Meystre-Agustoni G, Spencer B, Moreau-Gruet F, Balthasar H, Benninghoff F, Klaue K, Paccaud* F. Evaluation de la stratégie de prévention du VIH/sida en Suisse: septième rapport de synthèse 1999-2003. Lausanne : IUMSP, 2003.

N° 90b *A paraître*

N° 91 *A paraître*

N° 92 *Bovet P, Gustafsson S, Ortegren J, Madeleine G, Viswanathan B.* Prevalence of self-reported risk behaviors related to non-communicable diseases among Seychellois aged 15 years and relationships with personal and other characteristics. Lausanne: IUMSP, 2003.

Service d'édition et de diffusion - SED
Hospices / CHUV
Département universitaire de médecine
et santé communautaires DUMSC
44, rue du Bugnon, CH - 1011 Lausanne
Téléphone ▪ ▪ 41 21 314 70 07
Téléfax ▪ ▪ 41 21 314 48 87
e-mail claude.muhlemann@hospvd.ch