

## Youth Health

# A possible contributor to the higher degree of girls reporting psychological symptoms compared with boys in grade nine?

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**Background:** It is a recurrent finding that adolescent girls report psychological symptoms in a higher degree compared with boys. The explanations for this difference vary, but the psychosocial school environment has never been a focus in these explanations. The aim of this study was to analyse whether psychosocial factors at school were associated with a high degree of psychological symptoms among boys and girls in grade nine, with a special focus on sexual harassment. **Methods:** The study was based on a cross-sectional study including 336 pupils (175 girls and 161 boys) in grade nine (about 15 years old), who answered an extensive questionnaire. The non-response rate was negligible (<1%). Logistic regression analysis was used to analyse whether school-related factors (teacher support, classmate support, sexual harassment), body image, and parental support were associated with a high degree of psychological symptoms. **Results:** Sexual harassment at school was associated with a high degree of psychological symptoms among girls. **Conclusions:** Sexual harassment must be acknowledged as a negative psychosocial school environmental factor of importance for the high degree of psychological ill-health symptoms among girls compared with boys.

**Keywords:** adolescents, psychological symptoms, psychosocial factors, school, sexual harassment

There are a convincing number of studies showing that adolescent girls and young women report more psychological ill-health such as nervous complaints<sup>1–3</sup> and depressive symptoms,<sup>3–7</sup> compared to boys and young men. However, the explanations for these persistent gender differences have not been sufficiently studied.

Longitudinal studies show that the gender gap in depressive symptoms starts among 13–14-year-old adolescents.<sup>4–7</sup> This gendered development is not yet understood. One explanatory model deals with biological sex differences regarding pubertal status<sup>8</sup> and hormonal changes.<sup>9</sup> However, a review by Hankin and Abramson<sup>10</sup> found little support for genetic or biological explanations for gender differences in depressive mood or disorders during adolescence. Instead cognitive factors (e.g. coping strategies), negative environmental factors (e.g. sexual abuse in the family) and gender role explanations (e.g. identifying themselves more strongly with the feminine stereotype, e.g. having a thin body, and therefore become more dissatisfied with their body shape) increase the risk for girls to become depressed. A Norwegian study found that a negative body image could partly explain the emergence of gender differences in depressed mood among 14-year-olds.<sup>6</sup>

The school environment has so far not attracted enough attention as a possible contributor to girls' higher prevalence of psychological symptoms compared with boys. There are studies showing that psychosocial factors at school are related to pupils' health. Bullying at school<sup>11</sup> and teacher support<sup>12</sup> have been shown to be associated with pupils' health status. A longitudinal analysis showed that classmate problems could partly explain increased psychological symptoms among both boys and girls.<sup>13</sup>

Among boys, high demands were partly able to explain an increase in psychological symptoms, while lack of control and an unemployed father were significant for increased psychological symptoms among girls.<sup>13</sup> However, the reasons for girls' higher prevalence of psychological symptoms need to be further explored.

In spite of studies showing that sexual harassment in the workplace has consequences for psychological ill-health among adult women,<sup>14,15</sup> there is little research on the consequences of sexual harassment at school as a possible reason for deterioration in health among girls at school. One of the few studies in the field shows that girls in grades 7–12 who reported being sexually assaulted or harassed 'often' were significantly more likely to report emotional disorders and suicidal behaviours compared with pupils who were harassed less frequently or not at all.<sup>16</sup> Sexual harassment at school is a reality for young adolescents, and girls are exposed more often than boys.<sup>17,18</sup>

A qualitative study of gendered strategies in the negotiation of power shows that boys can use strategies at school towards girls such as abuse (verbal, physical or sexual) and these strategies seemed to be an effective way to decrease the girls' control and power.<sup>19</sup> Lack of control is an important factor affecting health<sup>20,21</sup> and is defined as an important factor in health promotion.<sup>22</sup>

The aim of this study was to analyse whether psychosocial factors at school were associated with psychological symptoms among boys and girls in grade nine, with a particular focus on sexual harassment.

## Methods

This study was based on the final follow-up of a three-year prospective study, which started in 1994. At the baseline study, a cluster sampling technique was used in order to select 26 classes in six different schools in three medium-sized industrial towns in the north of Sweden, i.e. all classes in the chosen age group in the selected schools were included in the study. The schools were

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chosen to represent blue- and white-collar areas in order to be representative for medium-seized towns in Sweden. At follow up, the pupils who were in grade nine had moved to four secondary schools, and the 33 pupils who had moved to other schools during the follow up were also included in the study. The study population in this paper included 336 pupils (175 girls and 161 boys) in grade nine (about 15 years old). All pupils participating in the base-line study as well as new pupils in the classes were included, while four pupils who had moved abroad were excluded. One pupil refused to participate, i.e. the non-response rate was negligible.

As the questions regarding sexual harassment were not included at baseline, i.e. questions related to the aim of this study, the analysis is cross-sectional.

The researchers attended all the classes and distributed the questionnaires during school time. Although the questionnaire was extensive, the majority of students answered it within 40 minutes. Postal questionnaires were sent to the home addresses of the pupils who had moved to other schools.

The Ethics Committee of Umeå University approved the study as being in accordance with ethical standards.

### Concepts and measurements

Most of the questions in this study, including those on sexual harassment, were derived from questionnaires in validated studies.<sup>23–26</sup> Questions concerning classmate relations were constructed for the purpose of the study, in discussion with pupils and teachers. Several pilot studies were performed in order to increase the validity of the questions.<sup>13</sup> The questionnaires were tested in other classes in grade six in order to find questions the students found difficult to answer. Qualitative interview studies with pupils were performed in order to understand if the pupils comprehended the questions in the questionnaire.

The dependent variable was an index constructed from six psychological symptoms: three related to nervousness (nervous, anxious, worried) and three depressive symptoms (insomnia, depressed, sense of guilt). The psychological symptom index was dichotomised at the upper quartile (a high degree of psychological symptoms = 1, all other = 0). The cut-off point was 6.0 on a range between 1 and 9. The independent variables consisted of four indices regarding the psychosocial environment at school (teacher/staff support, demand, sexual harassment, and classmate problems). Other independent variables were body image, and parent support. The variables included in the indices are shown in table 1. The response alternatives for most variables had a nine-point ordinal scale (1 = always, 9 = never), with the exception of sexual harassment. As an introduction to the questions about sexual harassment, the meaning of sexual harassment was defined in the questionnaire as 'Sexual harassment means being exposed to comments on one's looks, denigrating words with sexual connotations, pinching etc. We would like to know if you ever have been exposed to anything of the following at school or on your way to school' (1 = got unwanted comments, e.g. about your body, 2 = been touched or pawed against your will). The answer alternatives had a three-point scale (1 = yes, several times, 2 = yes, on rare occasions, 3 = no, never). The two variables included were summarised and dichotomised (never been harassed = 0, ever been harassed = 1).

Socio-economic variables such as living with both parents and any parent unemployed were included in the first analysis, but they were excluded in the final analysis due to lack of significance.

A subsample of the population was included in a three-year longitudinal study (141 girls and 138 boys). The reliability of the questionnaires was tested at baseline. The questionnaires were repeated to a subsample of pupils in grade six ( $n = 39$ ) after one

week. The indices used at baseline in this study showed a satisfactory test–retest reliability<sup>27</sup> with intraclass correlations between 0.67 and 1.0. As the questions regarding sexual harassment were not included at baseline, it was not possible to perform a longitudinal analysis.

### Statistical analyses

All data were analysed using a standard statistical package (SPSS for Windows version 11.5). A  $P$  value  $< 0.05$  was considered statistically significant. An exploratory factor analysis (varimax rotation) was used to construct the different indices, from a factor loading of 0.50 or more (table 1). Gender differences were tested with chi-square tests.

Logistic regression analysis was used to find significant factors associated with a high degree of psychological symptoms. A confidence interval (CI) of 95% for odds ratio (OR) was used.

## RESULTS

The asymmetric distribution of psychological symptoms among boys and girls resulted in 36.8% of the girls and 15.5% of the boys in the upper quartile.

Table 2 shows the distribution of boys and girls who answered 'always' or 'often' to questions regarding psychological symptoms. Girls in grade nine reported significantly more frequent psychological symptoms than the boys. The largest gender difference was found in relation to feelings of depression and the smallest gender difference was found in relation to insomnia.

In most cases there were no significant differences between boys and girls regarding school related factors such as teacher/staff support, demand, and classmate problems, see table 3.

The only significant difference was that significantly more boys than girls thought that the teachers often or always would notice if they were not happy at school. Sexual harassment, such as unwanted comments about their body, was reported twice as commonly among girls and being pawed against their will by someone was reported eight times more frequently among girls. The girls were significantly more dissatisfied with their looks, weight and body compared with the boys. Family-related questions revealed that the girls talked significantly more often with their mothers about almost everything compared with the boys.

The results of the logistic regression analyses are shown in table 4. The bivariate analysis shows that all included variables were significantly associated with a high degree of psychological symptoms among girls. Among boys, classmate support and a negative body image were significantly associated with an increased risk of high psychological symptoms. When all indexes were included in the multivariate analysis, classmate problems were associated with high psychological symptoms among both boys and girls. For girls, sexual harassment also had a significant OR for reporting a high degree of psychological symptoms.

## Discussion

This study shows that sexual harassment at school was associated with an increased risk of high psychological symptoms among girls only, while lack of classmate support was associated with an increased risk of a high degree of psychological symptoms among both boys and girls.

### The quality of data

There are some limitations in this study that warrant comment. As the study was cross-sectional, the question of exposure or selection needs to be addressed. The results could be interpreted as indicating that sexual harassment leads to a high degree of

**Table 1** Factor solution, eigenvalues and individual item loadings

Item description	F1(3.86)	F2 (2.29)	F3 (2.06)	F4 (1.69)	F5 (1.38)	F6(1.15)
<i>Body image (F1)</i>						
Are you satisfied with your looks?	0.84					
Are you satisfied with your height?	0.62					
Are you satisfied with your weight?	0.82					
Are you satisfied with your body?	0.84					
<i>Demand (F2)</i>						
Too much homework?		0.68				
Is the pace of school work too fast?		0.77				
Are things you have to learn at school too difficult?		0.72				
Do your teachers demand too much?		0.76				
<i>Teacher/staff support (F3)</i>						
An adult to talk to at school if you have problems?			0.74			
Teachers' help and support you when needed?			0.78			
Would your teachers notice if you were not happy in school?			0.62			
Do your teachers treat you fairly?			0.73			
<i>Classmate problems (F4)</i>						
Do you sometimes feel left outside the group?				0.84		
Do you have as many friends as you want to?				-0.78		
Are you sometimes alone when you do not want to be?				0.82		
<i>Parental support (F5)</i>						
Do you usually talk about almost everything with your mother?					0.87	
Do you usually talk about almost everything with your father?					0.82	
<i>Sexual harassment (F6)</i>						
Have you received unwanted comments, e.g. about your body?						0.71
Have you been touched or pawed against your will?						0.80

psychological symptoms, or that pupils with high rates of psychological symptoms are more prone to report sexual harassment. Even if there is a selection so that pupils with most ill-health report more sexual harassment, both mechanisms are probably working in parallel. However, all pupils, regardless of health status, have the same right to a school environment free from behaviour related to sexual harassment.

Test–retest reliability was analysed at the baseline study, and the factor scales for a one-week test–retest reliability were satisfactory (between 0.67 and 1.0 in grade six). The reliability was not tested in the final follow-up, but there is no reason to believe that the test–retest coefficient would be lower among older pupils. The two questions regarding sexual harassment were not test–retested in the same way as the questions included at baseline. However, similar questions regarding sexual harassment have been used in studies among high school students<sup>26</sup> as well as in studies of pupils down to 11 years of age<sup>28</sup> with satisfactory reliability and validity. We know from qualitative analysis that the questions regarding sexual harassment in our study have a sufficiently high reliability.<sup>13</sup>

In order to increase the validity, the authors participated during the data collection so that the pupils could ask if they did not understand the questions. A low internal non-response rate was ensured as the authors could ask pupils who had forgotten to answer a page or a question to complete the questionnaire.

The factor analysis (table 1) ensured that only items with high loadings were included in the indices in this study.

The representativeness of the sample was ensured through selection of schools from different socio-economic areas. A design effect is possible from the cluster sample technique, which reduced the statistical independence of the subjects observed. This could have been limited if pupils from more schools had been included. However, the relatively homogeneous structures in Swedish society, especially outside the large cities, decrease that risk. An advantage of the cluster

**Table 2** Distribution of boys and girls (%) in grade nine who answered 'often' or 'always' to questions on psychological symptoms

	Girls	Boys	P value
Nervous	25.9	8.8	<0.001
Insomnia	26.7	16.1	0.019
Depressed	19.1	4.3	<0.001
Sense of guilt	20.2	6.3	<0.001
Anxious	14.5	4.4	0.002
Worried	9.8	3.8	0.030

P values from chi-square tests.

**Table 3** Distribution of boys and girls (%) in grade nine who answered 'often' or 'always' to questions on psychosocial factors at school, body image, and parental support

	Girls	Boys	P gender
<i>Teacher/staff support</i>			
An adult to talk to at school if you have problems?	33.3	31.6	0.741
Teachers' help and support you when needed?	45.3	41.7	0.502
Would your teachers notice if you were not happy in school?	37.4	50.9	0.013
Do your teachers treat you fairly?	59.8	53.4	0.241
<i>Demand</i>			
Too much homework?	40.2	38.5	0.747
Is the pace of school work too fast?	23.0	18.6	0.327
Are things you have to learn at school too difficult?	11.5	6.9	0.146
Do your teachers demand too much?	19.0	15.6	0.421
<i>Classmate problems</i>			
Do you sometimes feel left outside the group?	9.8	8.1	0.599
Do you have as many friends as you want to?	73.0	76.4	0.474
Are you sometimes alone when you do not want to be?	8.0	7.5	0.865
<i>Sexual harassment (few or several times)</i>			
Have you received unwanted comments, e.g. about your body?	25.6	14.1	0.010
Have you been touched or pawed against your will?	34.1	4.5	<0.001
<i>Body image</i>			
Are you satisfied with your looks?	44.2	64.4	<0.001
Are you satisfied with your height?	57.5	66.9	0.077
Are you satisfied with your weight?	33.3	60.0	<0.001
Are you satisfied with your body?	31.0	60.6	0.001
<i>Parental support</i>			
Do you usually talk about almost everything with your mother?	64.5	49.7	0.007
Do you usually talk about almost everything with your father?	35.2	43.9	0.113

P values from chi-square tests.

sampling technique was a high response rate, as the whole class answered the questionnaire at the same time. Ethical, economic and practical reasons made it preferable to include all pupils in the classes.

The strength of our study was the epidemiological design in combination with a high response rate and a carefully performed investigation, where the pupils themselves were used as respondents.

### On the results

In this study sexual harassment was associated to a high degree with psychological symptoms among girls but not among boys. However, we do not claim that sexual harassment does not have a negative impact on boys, but the relatively few boys in the high-symptom group, together with only a few boys reporting sexual harassment probably decreased the possibility of obtaining a significant result. It is also possible that many boys may not perceive sexual harassment as a threat to the same degree as girls due to girls' more subordinate position at school compared with boys.<sup>29</sup>

Our study shows that sexual harassment is a common experience among girls and that girls are more exposed than boys. This is in concordance with two American studies,<sup>17,30</sup> even though these studies show a higher prevalence of sexual harassment among the boys compared with the boys in our study. This could be due to the more diverse questions used in these studies, while the questions in our study were mainly related to the body. An American study shows that the most common forms of school-based peer sexual harassment are being the target of sexual comments, jokes, gestures, or looks, and being touched, grabbed or pinched in a sexual way,<sup>31</sup> i.e. similar to the variables used in the index in our study.

Our study also showed that classmate problems were related to psychological symptoms among both boys and girls. Similar results have been shown in a longitudinal study between grade six and grade nine.<sup>3</sup>

There are studies showing the importance of body image, especially weight concerns, for depressed mood among adolescent girls.<sup>6</sup> A review by Hankin and Abramson<sup>10</sup> concludes that a negative body image seems to mediate gender differences in depressed mood, but as this seems to be valid only among white girls and not among African-Americans, this needs to be put in a larger cultural context. In our study, the association between a negative body image and a high degree of psychological symptoms disappeared among both boys and girls in the multivariate analysis. It is likely that a negative body image can be partly explained by negative experiences connected to the body, e.g. sexual harassment.<sup>32</sup> The connection between sexual harassment and body image can be discussed in relation to theories about the gendered meaning of puberty and sexuality. During puberty adolescents are more focused on their body as well as their sexuality. As girls develop through puberty they learn that they are headed towards a female sexuality that is derogated in society.<sup>33</sup> An increased vulnerability due to bodily changes in puberty, together with negative actions such as sexual harassment could be a part of the explanation for a high degree of psychological symptoms among girls in grade nine compared with boys.

A finding in this study was that girls had more psychological symptoms than boys in grade nine. This is in accordance with other studies of boys and girls in this age.<sup>4,6</sup>

Because of a sample of normal adolescence our study assessed a continuum of psychological symptoms. Therefore the findings should not be generalised to clinical depression disorders or anxiety.

The approach of analysing the relationship between the school environment, including a gendered factor such as sexual harassment, and a high degree of psychological symptoms

**Table 4.** Odds ratios (OR) and 95% confidence interval (CI) for reporting a high degree of psychological symptoms among boys and girls in grade nine

	Girls				Boys			
	Bivariate		Multivariate		Bivariate		Multivariate	
	OR	CI	OR	CI	OR	CI	OR	CI
Sexual harassment	3.63	1.90–6.94	2.53	1.24–5.17	2.23	0.78–6.42	2.39	0.74–7.67
Classmate problems	1.55	1.23–1.97	1.46	1.15–1.86	1.47	1.10–1.97	1.58	1.17–2.13
Negative body image	1.25	1.04–1.51	1.13	0.91–1.43	1.27	1.01–1.61	1.05	0.77–1.42
Demand	1.40	1.11–1.77	1.10	0.87–1.41	1.21	0.90–1.63	1.30	0.93–1.80
Lack of teacher/staff support	1.21	1.00–1.47	1.07	0.85–1.34	1.18	0.90–1.54	1.10	0.79–1.54
Lack of parent support	1.20	1.01–1.44	1.08	0.88–1.32	1.08	0.85–1.36	1.10	0.83–1.45

among girls is, however, unusual, in spite of the amount of time spent at school during childhood and adolescence and in spite of the high degree of sexual harassment reported by girls at school.

Social background factors such as living with both parents and any parent unemployed were not significantly associated with a high degree of psychological symptoms in our study. West proclaims that there is an equalisation in youth during adolescence which can occur due to effects within school, the peer group and youth culture which cut across those of social background factors.<sup>34</sup> However, a review shows a reverse patterning with more psychological symptoms among 15-year-old girls from higher socio-economic backgrounds compared with other girls.<sup>35</sup> The authors assign this to higher academic demands in that group, but those results were not confirmed in our study.

#### Implications for school health promotion

As shown in our study, sexual harassment could be one of the explanations for the overrepresentation of psychological ill-health among girls compared with boys. Sexual harassment can affect the victims in several negative ways, e.g. truancy, impact on the victims' ability to achieve in school and less confidence about talking in class, but it is also an overlooked problem, which contributes to a generally hostile school environment.<sup>31</sup> If sexual harassment affects academic ability it can lead to decreased opportunities regarding higher education, job success and economic resources in the future,<sup>18</sup> and can thus have long-term consequences for women's health.

School health promotion needs to recognise sexual harassment at school as a work environment as well as a health problem and include a gender-based analysis in the efforts to prevent psychological symptoms among adolescents and particularly girls.

Equal opportunity projects often focus on girls, but there is a need to include boys in these projects and to develop methods to decrease boys' dominance at school.<sup>36</sup> Girls who are sexually harassed are at risk for being blamed for the harassment as they may be considered to have provoked the boys by their dress or behaviour, but instead of blaming the girls, boys need to take responsibility for and change their own behaviour.<sup>37</sup> We recommend that school health promotions aimed at equity in health develop methods to handle unequal power relations between pupils as well as organisational changes on a structural level to change discriminating gender practices.

## Conclusions

Sexual harassment is a negative psychosocial school environmental factor and is shown to have a significant association with psychological ill-health among girls. Future research needs to

include school-related factors in the analysis of psychological ill-health among pupils, particularly gender-related factors such as sexual harassment. Schools need to increase their awareness of sexual harassment as expressions of gendered structures at school and their impact on adolescent health.

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### Key points

- The psychosocial school environment should be included in analyses of why adolescent girls report psychological symptoms in a higher degree than boys.
- Sexual harassment at school was significantly associated with a high degree of psychological symptoms among girls only, even after adjusting for social background and other school-related factors
- School health promotion needs to recognise sexual harassment as a work environment problem as well as a health problem and include a gender-based analysis in prevention work.

## References

- 1 Hammarstrom A, Janlert U. Nervous and depressive symptoms in a longitudinal study of youth unemployment-selection or exposure? *J Adolesc* 1997;20:293–305.
- 2 Boyd CP, Kostanski M, Gullone E, Ollendick TH, Shek DT. Prevalence of anxiety and depression in Australian adolescents: comparisons with worldwide data. *J Genet Psychol* 2000;161:479–92.
- 3 Gillander Gadin K, Hammarstrom A. Do changes in the psychosocial school environment influence pupils' health development? Results from a three-year follow-up study. *Scand J Public Health* 2003;31:169–77.
- 4 Nolen-Hoeksema S, Girgus JS. The emergence of gender differences in depression during adolescence. *Psychol Bull* 1994;115:424–43.
- 5 Bebbington P. The origins of sex differences in depressive disorder: bridging the gap. *Int Rev Psychiatry* 1996;8:295–332.
- 6 Wichstrom L. The emergence of gender difference in depressed mood during adolescence: the role of intensified gender socialization. *Dev Psychol* 1999;35:232–45.
- 7 Facio A, Batistuta M. What makes Argentinian girls unhappy? A cross-cultural contribution to understanding gender differences in depressed mood during adolescence. *J Adolesc* 2001;24:671–80.
- 8 Angold A, Costello EJ, Worthman CM. Puberty and depression: the roles of age, pubertal status and pubertal timing. *Psychol Med* 1998;28:51–61.

- 9 Angold A, Costello EJ, Erkanli A, Worthman CM. Pubertal changes in hormone levels and depression in girls. *Psychol Med* 1999;29:1043–53.
- 10 Hankin BL, Abramson LY. Development of gender differences in depression: description and possible explanations. *Ann Med* 1999;31:372–9.
- 11 Forero R, McLellan L, Rissel C, Bauman A. Bullying behaviour and psychosocial health among school students in New South Wales Australia: cross sectional survey. *Br Med J* 1999;319:344–8.
- 12 Samdal O, Nutbeam D, Wold B, Kannas L. Achieving health and educational goals through schools—a study of the importance of the school climate and the students' satisfaction with school. *Health Education Res* 1998;13:383–97.
- 13 Gillander Gådin K. Does the psychosocial school environment matter for health? A study of pupils in Swedish compulsory school from a gender perspective [thesis]. Umeå, Sweden: Umeå University, 2002.
- 14 Schneider KT, Swan S, Fitzgerald LF. Job-related and psychological effects of sexual harassment in the workplace: empirical evidence from two organizations. *J Appl Psychol* 1997;82:401–15.
- 15 Fitzgerald LF. Sexual harassment/Violence against women in the workplace. *Am Psychol* 1993;48:1070–6.
- 16 Bagley C, Bolitho F, Bertrand L. Sexual assault in school, mental health and suicidal behaviors in adolescent women in Canada. *Adolescence* 1997;32: 361–6.
- 17 Roscoe B, Strouse JS, Goodwin MP. Sexual harassment: early adolescents' self-reports of experiences and acceptance. *Adolescence* 1994;29:515–23.
- 18 Fineran S, Bennett L. Teenage peer sexual harassment: implications for social work practice in education. *Soc Work* 1998;43:55–64.
- 19 Gillander Gådin K, Hammarström A. We won't let them keep us quiet ... » Gendered strategies in the negotiation of power - implications for pupils' health and school promotion. *Health Promotion Int* 2000;15:303–11.
- 20 Aronsson G. Dimensions of control as related to work organization, stress, and health. *Int J Health Serv* 1989;19:459–68.
- 21 Theorell T. Fighting for and losing or gaining control in life. *Acta Physiol Scand Suppl* 1997;640:107–11.
- 22 World Health Organisation (WHO). *The Ottawa Charter*. Geneva: WHO, 1986.
- 23 Marklund U, Strandell A. Europeiska skolbarns hälsovanor.[Health behavior among European school children. In Swedish]. *A WHO Cross National Survey*. Stockholm: National Board of Education, 1989;26, Report No. R:89:26.
- 24 Hagquist C, Starrin B, Sundh M. Ung i Värmland En Undersökning Av Fritidsvanor, Livsstil, Oro, Hälsa Och Skolmiljö. [Young in Värmland. A study of leisure time habits, lifestyle, anxiety, health and school environment. In Swedish]. Karlstad: Centre for Public Health Research, Värmland County Council, 1990.
- 25 Novo M. Young and unemployed—Does the trade cycle matter for health? A study of young men and women during times of prosperity and times of recession [thesis]. Umeå, Sweden: Umeå University, 2000.
- 26 Witkowska E, Menckel E. Perceptions of sexual harassment in Swedish high schools: Experiences and school-environment problems. *Eur J Public Health* 2005;15:78–85.
- 27 Shrout P, Fleiss J. Intraclass correlations- uses in assessing rater reliability. *Psychol Bull* 1979;86:420–8.
- 28 McMaster LE, Connolly J, Pepler D, Craig WM. Peer to peer sexual harassment in early adolescence: a developmental perspective. *Dev Psychopathol* 2002;14:91–105.
- 29 Paechter C. *Educating The Other: Gender, Power And Schooling*. London: The Falmer Press, 1998.
- 30 Fineran S, Bennett L. Gender and power issues of peer sexual harassment among teenagers. *J Interpersonal Violence* 1999;14:626–41.
- 31 Kopels S, Dupper DR. School-based peer sexual harassment. *Child Welfare* 1999;78:435–60.
- 32 Dahinten VS. Peer sexual harassment in adolescence: the function of gender. *Can J Nurs Res* 2003;35:56–73.
- 33 Martin K. Puberty, sexuality, and the self. *Boys And Girls At Adolescence*. New York: Routledge, 1996.
- 34 West P. Health inequalities in the early years: is there equalisation in youth? *Soc Sci Med* 1997;44:833–58.
- 35 West P, Sweeting H. Evidence on equalisation in health in youth from the West of Scotland. *Soc Sci Med* 2004;59:13–27.
- 36 Gilbert R, Gilbert P. *Masculinity Goes To School*. London: Routledge, 1999.
- 37 Mac an Ghaill M. Masculinities, sexualities and schooling. *The Making Of Men*. Buckingham: Open University Press, 1994.

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