

RESEARCH ARTICLE

## Minor delinquency and fighting among teenagers in fourteen European countries in 2007

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### Abstract

The European Schools Project on Alcohol and other Drugs (ESPAD) covered 35 countries in 2007. This study is based on 14 of those collecting data in an optional section on delinquent behaviour. The aim was to study inter-country differences in this. Two variables were derived labelled “minor delinquency” and “fighting”. On average 27% of pupils had scored on one or more minor delinquency items and 30.5% on at least one fighting item, but there were highly significant inter-country differences. At the individual level, these were partly accounted for by substance use, parental monitoring, lack of close relationships and a tendency to be less rule-bound. On the country level, the gross domestic product, position of women, wet versus dry drinking culture, and levels of urbanisation and poverty were relevant. Countries differed significantly in the extent to which girls and boys were similar in delinquent behaviour, with greater similarity in countries with high per capita alcohol consumption, high levels of substance use, high levels of depression and relationship difficulties and a high tendency to believe that life is uncertain. In general, higher levels of delinquent behaviour and greater similarity between boys and girls occurred in the more developed countries.

**Keywords:** *Antisocial behaviour, teenagers, Europe*

### Introduction

Starting in 1995 there have been, to date, four major surveys of substance use in Europe under European Schools Project on Alcohol and other Drugs (ESPAD) auspices (Hibell et al., 1997, 2001, 2004, 2009). Besides allowing direct comparisons between countries on consumption of alcohol, cigarettes and illicit substances these have generated a great deal of research, for example on family structure and drugs (e.g. Miller, 1997; Ledoux et al., 2002; Bjarnason et al., 2003, 2005), exercise and steroid use (Kokkevi et al., 2008), anomie (Bjarnason, 2009), perceived risks of substance use (Elekes et al., 2009), parental guidance about drinking (Miller & Plant, 2010) and truancy (Miller & Plant, 1999).

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Antisocial behaviour among schoolchildren seems to have received less attention in ESPAD studies. However, Legleve and Molinaro (2008) have compared alcohol-related fighting behaviour in France and Italy, their main findings being that social roles influenced alcohol-related fighting and that, although there were some differences, France and Italy were broadly similar. There is also a study by Nociar (2008) relating violence and asocial behaviour among pupils to the age, gender, substance use differences and type of school, which replicates some common facts (e.g. boys higher in violence and asocial behaviours than girls), and adds relatively new ones (e.g. pupils of the same age higher in violence and asocial behaviours at primary, than at secondary schools).

In this exploratory study attention is directed to an optional 10 question section of the 2007 ESPAD questionnaire (see below). This related to fighting and other delinquent behaviour and was available in 14 of 36 countries. There are four main aims:

- (1) to examine the differences in levels of antisocial behaviour among teenagers in 14 countries, these being Armenia ( $n = 4055$ ), Bulgaria ( $n = 2353$ ), Croatia ( $n = 3008$ ), Cyprus ( $n = 6340$ ), Faroe Islands ( $n = 552$ ), Greece ( $n = 3060$ ), Ireland ( $n = 2221$ ), Isle of Man ( $n = 740$ ), Latvia ( $n = 2275$ ), Romania ( $n = 2289$ ), Serbia ( $n = 6155$ ), Slovakia ( $n = 2468$ ), Slovenia ( $n = 3085$ ) and the United Kingdom ( $n = 2179$ );
- (2) to examine the extent to which these differences might be explained in terms of other individual level variables contained in the ESPAD questionnaire such as teenager substance use and the support of friends and parents;
- (3) to see whether the inter country differences in antisocial behaviour might be related to country level variables such as gross domestic product (GDP) or annual per capita alcohol consumption;
- (4) at the country level to describe and examine differences in antisocial behaviour between boys and girls.

Prior expectations about the findings were few. Two countries (Armenia and Serbia) were completely new to ESPAD. Several others (Bulgaria, Croatia, Latvia, Romania, Slovakia and Slovenia) had recently emerged from great upheavals. There were three island cultures (Isle of Man, Faroe Islands and Cyprus). This left the United Kingdom and Ireland. With this diversity it was difficult to make predictions, but, based on previous ESPAD studies, one expectation was that, where there were higher levels of teenage alcohol consumption and economic development, there would be higher levels of antisocial behaviour and also less of a gender difference in this.

## Method

### *Fieldwork and data processing*

This study was conducted as part of the 35 country European School Survey Project on Alcohol and other Drugs (ESPAD). This study has been conducted previously in 1995, 1999 and 2003 (Hibell et al., 1997, 2001, 2004). Even so, it is a cross-sectional investigation, not a prospective study of a single group of respondents. Field work for the survey that is now reported which covered school pupils born in 1991 took place from March to July 2007. In the United Kingdom the sample covered the United Kingdom as a whole, making no distinction between England, Scotland, Wales and Northern Ireland. Funds were sufficient for surveying approximately 120 schools covering two classes from each school. Lists were available for the whole United Kingdom detailing both the state and the independent schools and the total number of pupils in each. Schools were sampled

from this list with probability proportional to size making no other distinctions. Participating schools then supplied a list of all their classes containing pupils born in 1991, and two of these classes were randomly sampled from these lists. The field work on these two classes was carried out by a designated teacher during the period March to July 2007. First a consent form was sent to the parents of each child involved (a required procedure in the United Kingdom) requesting them to inform the school if they did not want their child to participate. Next, the standard ESPAD questionnaire was administered to each class under “examination” conditions. Instructions to the students emphasised that each student had been randomly chosen, that the answers were anonymous and totally confidential, that participation was voluntary and that answers need not be given to questions that the subject found objectionable. On completion of the questionnaire the respondent sealed it into a separate brown envelope. After the administration the local organiser completed a sheet detailing the numbers of pupils present, the numbers absent and the reasons for absence. The first step in processing the returned questionnaires was to remove and discard questionnaires from students not born in 1991. After coding one open-ended question, additional to the ESPAD ones, the questionnaire responses were keyed onto a database. Data cleaning was accomplished centrally with a standard cleaning program devised to streamline data cleaning in all the ESPAD countries taking part. This program identified and removed the output from a small number of students who probably had not taken the questionnaire seriously and, for a few questions, imputed missing responses where other data from the student indicated clearly what the answer was likely to have been. These manipulations were minimal and did not involve any weighting of imputed data.

The surveys in the other 13 countries included in this report were conducted in a similar manner, mostly during Spring 2007. Details for the individual countries are to be found in Hibell et al. (2009). It should be noted that the survey in Serbia was carried out 1 year later than the rest.

### Materials

The antisocial behaviour section of the questionnaire analysed here comprised the following questions all measured on a 7-point scale running from never to 40 times or more:

- (1) hit one of your teachers
- (2) got mixed into a fight at school or at work
- (3) taken part in a fight where a group of your friends were against another group
- (4) hurt somebody badly enough to need bandages or a doctor
- (5) used any kind of weapon to get something from a person
- (6) taken something not belonging to you, worth over £7
- (7) taken something from a shop without paying for it
- (8) set fire to somebody else’s property on purpose
- (9) damaged school property on purpose
- (10) got into trouble with the police for something you did

The questionnaire contained several other questions relevant to the issues in hand and these are detailed in the Appendix.

### Analyses

The 10 antisocial behaviour items were first dichotomised into “never” against “ever” before a principal components analysis was carried out. This yielded two components

with eigenvalues greater than 1 covering 45.8% of the variance. Items 2, 3 and 4 loaded strongly on one of the components and this component was labelled “fighting”. The other items loaded on a component labelled “minor delinquency”. Accordingly two variables were envisaged. Because the distributions of the items were extremely skewed they were first dichotomised into “never” and “ever”. The first scale was the sum of 2, 3 and 4, was called “fighting”, had a range from 0 to 3 and had a Cronbach’s Alpha coefficient of 0.70. The second scale, ranging from 0 to 7 consisting of the other items was called “minor delinquency”. The Cronbach’s Alpha was 0.75. Because these two scales were themselves highly skewed, they are mostly dichotomised into “none” or “any” and non-parametric statistics are used throughout. The first step in the analysis was to set out and test the country and gender differences on these two scales including the country–gender interaction and providing separate analyses for men and women.

That done, the next step was to use several other items culled from the questionnaire to try to account for the differences found. These other items are described in the Appendix. To reduce the volume of data a principal components analysis was first carried out on them with varimax rotation. The screen test suggested that seven components were appropriate yielding 59.2% of the variance. These components were labelled “own and friends drug use”, “parental monitoring”, “friends support”, “close relationships and depression”, “parental rules”, “uncertainty and social rules” and “intact family”. A measure of “binge drinking” was also derived from the questionnaire. This was based on the item:

Think back over the LAST 30 DAYS. How many times (if any) have you had five or more drinks in a row? (A “drink” is a glass of wine (~15 cl), a bottle or can of beer (~50 cl), a single pub measure of spirits (~5 cl) or a mixed drink.)

Response alternatives ranged from none to 10 or more times on a 6-point scale.

This item unfortunately could not be included in the principal components analysis of the other items because it was not collected in the Irish and the Armenian data. It was used in separate analyses for the other countries. The relationships were assessed between minor delinquency, fighting and the scores on the seven principal components. Then, to examine whether the seven components together with gender could account for the inter-country differences, these variables were controlled by entering them into linear regression predictions of minor delinquency and fighting before entering the country variable.

Following these individual level analyses the next step was to explore some relationships at the country level. Various data were available. Per capita GDP, urbanisation, percent of population below the poverty line were all culled from the CIA World Factbook, US census bureau (2010). This international database, now updated weekly, provides demographic historical and political information on 267 “entities” mostly countries throughout the world. Women’s empowerment came from the World Economic forum (2010). This is an index that ranks countries on women’s economic participation, educational attainment, health and survival. Per capita alcohol consumption came from Earth trends (2010), which is a comprehensive online database, maintained by the World Resources Institute, focussing on environmental, social, and economic trends that shape our world. Relationships were examined between these variables and the mean levels of minor delinquency and fighting for each country.

Finally an ad hoc analysis of the country by gender interactions in minor delinquency and fighting uncovered earlier was undertaken at the country level.

**Results**

*Inter-country differences in minor delinquency and fighting*

These are shown in Figures 1a and 1b. For both minor delinquency and fighting the differences in country, gender and the country by gender interaction are highly significant when tested using logistic regression on the dichotomised scales. For *minor delinquency* the Wald chi-square values are country 808.2 (df 13), gender 8.6 (df 1) and interaction 196.6 (df 13). When men are considered separately the country Wald chi-square value is 395.8 and for women this figure is 808.2. The country Wald chi-square for fighting is 819.5, gender 8.4 and interaction 734.3. For men separately country Wald chi-square is 1013.9 and for women it is 819.5. The values for country and for the interactions are significant beyond the 0.001 level and for gender beyond the 0.01 level. One surprise is that Armenian boys show the lowest average level of minor delinquency but the highest average level of fighting.

*Minor delinquency, fighting and the seven principal components*

Table I shows the Spearman’s rho correlations between minor delinquency, fighting and the seven derived principal components, first overall and then separately among boys and among girls.

The most significant associations occur for own and friends drug use, where, as expected, the higher the substance use the higher are minor delinquency and fighting. High values of parental monitoring mean *less* monitoring and, accordingly, these relationships are again in the expected direction. Although many of the other correlations are significant, this stems from the very large *N*s and the amounts of variance that would be explained are mostly negligible. Low support from friends is associated with higher minor delinquency and lower fighting except amongst the boys taken separately. Lack of close relationships

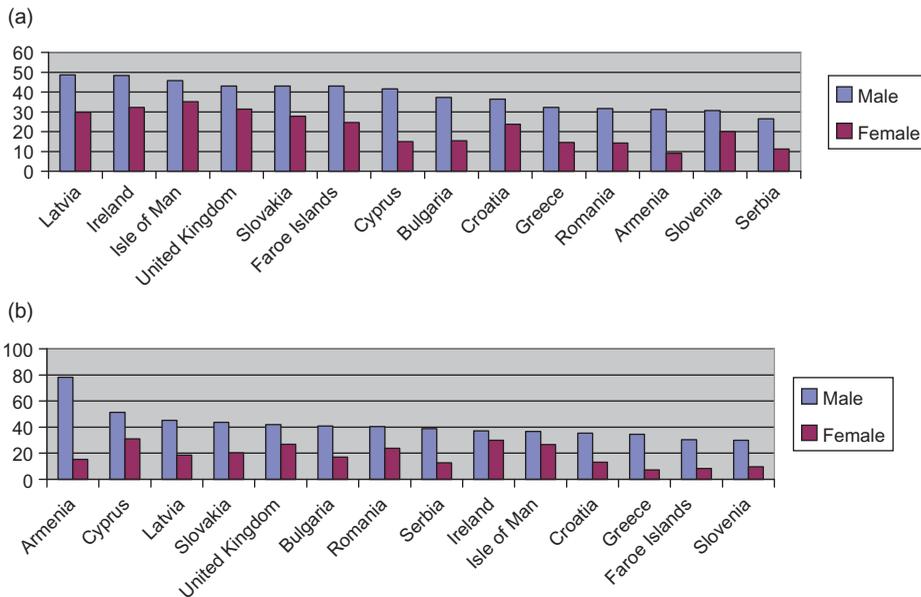


Figure 1. (a) Percentages showing any minor delinquency; (b) Percentages showing any fighting.

Table I. Relationships (Spearman's rho)

	Own and friends drug use	Parental monitoring	Friends support	Close relationships and depression	Parental rules	Uncertainty and social rules	Intact family
Between minor delinquency, fighting and the seven principal components							
Minor delinquency ( <i>n</i> = 33,402)	0.291**	0.205**	0.047**	0.059**	-0.008	-0.082**	-0.060**
Fighting ( <i>n</i> = 33,403)	0.179**	0.170**	0.027**	-0.025**	0.001	-0.129**	-0.049**
Between minor delinquency, fighting and the seven principal components among boys							
Minor delinquency ( <i>n</i> = 15,386)	0.305**	0.156**	0.009	0.092**	0.017**	-0.127**	-0.071**
Fighting ( <i>n</i> = 15,386)	0.184**	0.124**	-0.083**	0.017**	0.025**	-0.168**	-0.049**
Between minor delinquency, fighting and the seven principal components among girls							
Minor delinquency ( <i>n</i> = 18,016)	0.271**	0.174**	-0.032**	0.150**	-0.022**	-0.065**	-0.042**
Fighting ( <i>n</i> = 18,017)	0.160**	0.099**	-0.021**	0.096**	-0.008	-0.138**	-0.039**

Note: \**p* < 0.05, \*\**p* < 0.01.

The very large *N*s lead to rather low correlations being highly significant.

Table II. Relationships between wet/dry drinking culture, minor delinquency and fighting (N, percent with any, total N)

		Dry	Intermediate	Wet	Chi-square
Men	Minor delinquency	1649 (46.4%) 3552	3544 (32.6%) 10,873	1712 (38.6%) 4435	230.5***
	Fighting	1435 (40.3%) 3563	4770 (43.9%) 10,866	2042 (46.0%) 4438	26.8***
Women	Minor delinquency	1269 (31.0%) 4088	1916 (15.7%) 12,178	718 (14.9%) 4833	530.9***
	Fighting	985 (24.1%) 4091	1844 (15.1%) 12,180	1119 (23.1%) 4834	242.2***

Note: \*\*\* $p < 0.001$ .

Table III. Relationships between binge drinking, minor delinquency and fighting (N, percent with any, total N)

		Not at all	Once or twice	More than twice	Chi-square
Men	Minor delinquency	2075 (25.2%) 8219	1877 (41.1%) 4571	1930 (57.2%) 3374	1115.4***
	Fighting	2451 (29.8%) 8221	2061 (45.0%) 4575	2038 (60.4%) 3373	984.3***
Women	Minor delinquency	1363 (12.1%) 11,311	1060 (25.7%) 4120	879 (41.0%) 2144	1159.7***
	Fighting	1520 (13.4%) 11,311	953 (23.1%) 4123	756 (35.3%) 2143	653.9***

Note: \*\*\* $p < 0.001$ .

and greater depression seem to show greater effects among the girls than among the boys. Parental rules are non-significant overall. For uncertainty and social rules it appears that those who are less rule bound and more uncertain of things in life are more likely to indulge in antisocial behaviour. As expected, living in an intact family correlates with lower levels of minor delinquency and fighting. 190

*Drinking patterns: Minor delinquency, fighting, wet or dry culture and binge drinking* 195

Table II sets out the relationships between wet or dry culture, minor delinquency and fighting whereas Table III similarly shows the findings for binge drinking. In both the cases the results are highly significant but the patterns for wet versus dry cultures are inconsistent. In countries with a dry drinking culture there seem to be, on the whole, higher levels of minor delinquency in both sexes. For men there is a greater level of fighting in wet cultures, whereas for women, those countries which have been classed as intermediate show the least levels of fighting. For binge drinking however, the results are consistently and highly significant with higher levels of binge drinking being associated with higher levels of fighting and minor delinquency. 200

*Logistic regressions controlling for gender, the seven components and binge drinking* 205

When the countries are entered into logistic regression equations predicting minor delinquency and fighting the Cox and Snell  $R^2$  values are 0.021 ( $\chi^2 = 395.8, p < 0.001$ )

and 0.061 ( $\chi^2 = 1013.9$ ,  $p < 0.001$ ), respectively. When the seven principal components together with gender are controlled by entering them first into the regression equations, on entering the countries, the Cox and Snell  $R^2$  change values are 0.015 ( $\chi^2 = 592.7$ ,  $p < 0.001$ ) and 0.049 ( $\chi^2 = 1163.3$ ,  $p < 0.001$ ), respectively. Thus the between country differences are considerably reduced for both variables, but the effect for countries still remains significant when the seven principal components and gender are controlled.

Unfortunately binge-drinking data were not collected for Armenia and for Ireland. Therefore additional analyses also controlling for binge drinking had to be carried out separately in only 12 countries. Initially the Cox and Snell  $R^2$  were 0.021 ( $\chi^2 = 704.7$ ,  $p < 0.001$ ) for minor delinquency and 0.024 ( $\chi^2 = 804.8$ ,  $p < 0.001$ ) for fighting. The Cox and Snell  $R^2$  change values are 0.013 ( $\chi^2 = 416.2$ ,  $p < 0.001$ ) for minor delinquency and 0.036 ( $\chi^2 = 723.7$ ,  $p < 0.001$ ) for fighting. The country effect is reduced but still remains significant in both cases.

#### *Country level correlations between minor delinquency, fighting and other variables*

The only significant or borderline significant correlations are

For men:

Fighting with poverty,  $\rho = 0.717$  ( $n = 9$ ,  $p = 0.03$ ) 225

Fighting with urbanisation,  $\rho = 0.682$  ( $n = 14$ ,  $p = 0.007$ )

Minor delinquency with GDP,  $\rho = 0.559$  ( $n = 14$ ,  $p = 0.038$ )

Minor delinquency with women power,  $\rho = 0.731$  ( $n = 8$ ,  $p = 0.04$ )

Minor delinquency with wet/dry culture,  $\rho = -0.756$  ( $n = 14$ ,  $p = 0.002$ ).

For women:

Minor delinquency with GDP,  $\rho = 0.732$  ( $n = 14$ ,  $p = 0.003$ )

Minor delinquency with per capita alcohol consumption,  $\rho = 0.632$  ( $n = 13$ ,  $p = 0.021$ )

Minor delinquency with women power,  $\rho = 0.905$  ( $n = 8$ ,  $p = 0.002$ )

Minor delinquency with wet/dry culture,  $\rho = -0.836$  ( $n = 14$ ,  $p < 0.001$ ).

#### *The gender differences within countries on minor delinquency and fighting and other variables* 235

The gender differences in different countries in minor delinquency and fighting are set out in Figs 2a and 2b. For minor delinquency Slovenia shows the lowest difference and Cyprus the highest. For fighting Ireland is lowest and Armenia highest.

The average difference between boys and girls in minor delinquency is lowest in countries with a high annual alcohol consumption ( $\rho = -0.544$ ,  $n = 13$ ,  $p = 0.055$ ). It is also lowest in countries with high levels of drug use ( $\rho = 0.574$ ,  $n = 14$ ,  $p = 0.032$ ), high levels of depression and relationship difficulties ( $\rho = -0.542$ ,  $n = 14$ ,  $p = 0.045$ ) and a high tendency to believe that life is uncertain ( $\rho = -0.740$ ,  $n = 14$ ,  $p = 0.002$ ).

The difference between boys and girls in fighting was lowest in countries with a high GDP ( $\rho = -0.666$ ,  $n = 14$ ,  $p = 0.009$ ) and a high tendency to believe that life is uncertain ( $\rho = -0.667$ ,  $n = 14$ ,  $p = 0.009$ ).

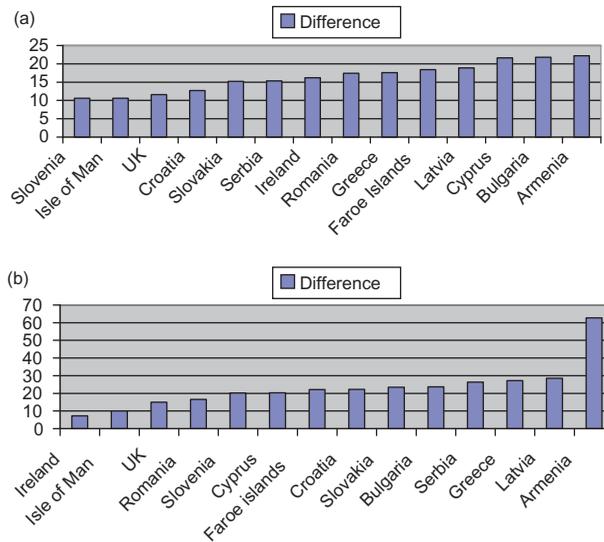


Figure 2. (a) Differences in percentage minor delinquency between boys and girls within each country; (b) Differences in percentage fighting between boys and girls within each country.

**Discussion**

Antisocial behaviour as described here as minor delinquency and fighting, was seen in only a minority of school students in the 14 countries covered in 2007. Overall the average proportion of students who scored positively on at least one item of the minor delinquency scale was 27.0%. This varied from 18.2% in Armenia to 40.4% in the Isle of Man. For fighting the figures are 30.5% overall varying from 18.6% in the Faroe Islands to 41.4% in Armenia. The figures for Armenia constitute one of the most striking findings. When boys and girls are combined that country is the lowest in minor delinquency but the highest in fighting. However, high level of fighting is seen virtually exclusively among the boys, with Armenian girls having a low level.

As would be expected there is a highly significant gender difference on both measures. The differences between the 14 countries are highly significant on both the antisocial measures and there are also significant country by gender interactions, that is the differences in levels of antisocial behaviour between boys and girls vary from country to country.

Included in the study were various measures, which it was hoped would be relevant to accounting for differences found. These were of two kinds: those culled from other data collected within the surveys and useful at the individual level and those extracted from outside sources, which therefore could only be applied at the country level. At the individual level the factors most associated with minor delinquency and fighting were substance use by the subject and his/her friends and parental monitoring, that is the extent to which parents knew where their children were and what they were doing. Lack of close relationships together with high levels of depression seemed to be more associated with antisocial behaviour in girls rather than in boys. Those who were less rule-bound and more likely to believe that life is uncertain were more likely to have engaged in antisocial behaviour and this seemed particularly true for boys. Excessive binge drinking (only measured in 12

of the 14 countries) was also significantly related to antisocial behaviour. This was one of the strongest and most consistent relationships found (Table III) with the proportions of respondents involved in minor delinquency and fighting more than doubling among the boys and approximately tripling among the girls when those with three or more binges in the past 30 days are compared to those with none. It seems inherently more probable that binge drinking leads to fighting rather than fighting leads to binge drinking and this relationship might well be a causal one.

Inter-country differences still remained after all these individual level factors were controlled. It is not easy to speculate about other factors that might be involved, but perhaps the different countries have different moral codes about acceptable behaviour. Other factors that might play a part are religion, parental guidance about alcohol, availability of alcohol and usual places of teenage drinking.

As there were only 14 countries the possible explanatory factors at the country level lacked power. This was perhaps particularly true for the wet/dry culture variable (Table II). Definitely wet cultures were represented only by Greece and Cyprus and there were only five definitely dry countries (the United Kingdom, Isle of Man, Ireland, Faroe Islands and Latvia). The rest were classed as intermediate. Nonetheless there was a clear result with minor delinquency being *less* common in wet cultures. The result for fighting was much more complex. For boys fighting appeared to be slightly *more* common in wet cultures, whereas for girls it was clearly more common in cultures classed as intermediate. The intermediate countries are Armenia, Bulgaria, Croatia, Romania, Serbia, Slovakia and Slovenia. These are all ex-communist countries. Also, the two wet countries, Greece and Cyprus, show very different levels of fighting among girls. More wet countries would clearly be needed in order to be sure of this result.

Also at the country level higher levels of minor delinquency were associated with higher GDP and, interestingly, with better levels of the position of women in society. For women only high minor delinquency was associated with high per capita alcohol consumption. The only significant findings for fighting were for the men only, where high levels of urbanisation and poverty were associated with high levels of fighting.

The significant interactions between gender and country emerged from the analyses. Differences between boys and girls in minor delinquency were lowest in countries with high per capita alcohol consumption, high levels of substance use, high levels of depression and relationship difficulties and where there was a high tendency to believe that life is uncertain.

As stated above the variables studied could not totally account for the inter country differences in minor delinquency and fighting behaviour. However, to sum up in a broad generalisation, it seems that in 2007, where a country was more developed, with higher GDP, more evidence of substance use and less parental control there was more minor delinquency and fighting among school children and a greater tendency for the girls to be similar to the boys in this respect.

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### Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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**APPENDIX**

365

**The Questionnaire Bases for the Principal Components Analysis***Component 1 own and friends drug use*

This component accounted for 12.8% of the variance (on rotation) and, when the items which comprise it were scaled Cronbach's Alpha was 0.75. The items were:

On 5-point scales ranging from none to all: 370

How many of your friends would you estimate:

Smoke cigarettes

Get drunk

Use cannabis

On 7-point scales ranging from never to 40 times or more and covering the last 12 months: 375

On how many occasions (if any) have you used cannabis (dope, pot, marihuana or spliff)?

On how many occasions (if any) have you been drunk from drinking alcoholic beverages, for example staggered when walking, not being able to speak properly, throwing up or not remembering what happened? 380

On a 7-point scale from not at all to more than 20 per day:

How frequently have you smoked cigarettes during the last 30 days?

*Component 2 parental monitoring*

This component accounted for 11.5% of the variance and when the items in it were scaled Cronbach's Alpha was 0.79. 385

On 5-point scales ranging from almost always to almost never:

My parent(s) know who I am with in the evenings

My parents know where I am in the evenings

I can easily get warmth and caring from my mother and father

On a 4-point scale ranging from always know to usually do not know: 390

Do your parents know where you spend Saturday nights?

*Component 3 friends support*

This component accounted for 9.5% of the variance and when the items in it were scaled Cronbach's Alpha was 0.76.

On 5-point scales ranging from almost always to almost never: 395

I can easily get warmth and caring from my best friend

I can easily get emotional support from my best friend

On a 5-point scale ranging from very satisfied to dissatisfied:

How satisfied are you usually with your relationship with your friends?

*Component 4 close relationships and depression* 400

This component accounted for 9.1% of the variance and when the items in it were scaled Cronbach's Alpha was 0.34.

On 5-point scales ranging from very satisfied to dissatisfied:

How satisfied are you usually with your relationship with your mother?

How satisfied are you usually with your relationship with your father? 405

A depression scale with items (all on 4-point scales from rarely or never to most of the time):

- How often have you lost your appetite, you did not want to eat? 410
- How often have you had difficulty in concentrating on what you want to do?
- How often have you felt depressed? 410
- How often have you felt that you had to put great effort and pressure to do the things you had to do?
- How often have you felt sad?
- How often you could not do your work (at home, at work, at school)?
- Responses to these 6 items were summed before inclusion in the analysis. 415
- On a 7-point scale ranging from very much better off to very much less well off:
- How well off is your family compared with other families in your community?

*Component 5 parental rules*

This component accounted for 7.3% of the variance and when the items in it were scaled Cronbach's Alpha was 0.75. 420

- On 5-point scales ranging from almost always to almost never:
- My parent(s) set definite rules about what I can do at home
- My parent(s) set definite rules about what I can do outside the home

*Component 6 uncertainty and social rules*

This component accounted for 6.6% of the variance and when the items in it were scaled Cronbach's Alpha was 0.57. 425

- Based on the Bjarnason scale.
- Responses range from totally agree to totally disagree.
- The first three items, summed into "rules", were:
- You can break most rules if they don't seem to apply 430
- I follow whatever rules I want to follow
- In fact there are very few rules absolute in life
- The second three items, summed into "uncertainty" were:
- It is difficult to trust anything, because everything changes
- In fact nobody knows what is expected of him/her in life 435
- You can never be certain of anything in life

*Component 7 intact family*

This single item component accounted for 4.9% of the variance.

- This consisted of just one item, that is whether the respondent lived with both natural parents. 440

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