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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

Smoking, alcohol, and drug use among adolescents in Greece – 2015 update and secular trends 1984–2015

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2016, 33(2):249–257

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Κάπνισμα, οινοπνευματώδη ποτά και χρήση ουσιών σε εφήβους στην Ελλάδα – Πρόσφατα στοιχεία (2015) και διαχρονικές τάσεις (1984–2015)

Περίληψη στο τέλος του άρθρου

OBJECTIVE **This study depicts the current situation (2015) and 30-year trends (1984–2015) in smoking, alcohol, and drug use among 16 year-old high school pupils in Greece.** METHOD **The data are derived from the "Greek Nationwide School Population Survey on Substance Use and other Addictive Behaviours", a cross-sectional survey conducted quadrennially on representative samples of high-school pupils. Logistic regression analysis was used to assess recent and long-term trends (linear and quadratic) over the 30-year period 1984–2015.** RESULTS **In 2015, 39.2% of 16 year-old high school pupils nationwide had smoked conventional cigarettes at least once in their lifetime. About 11.1% and 2.9% were regular and heavy smokers, respectively, with a higher proportion among males than females. In addition, 19.1% reported experimentation with e-cigarettes, mostly males and smokers of conventional cigarettes. About 66.2% had consumed alcohol in the past month, 7.6% 10 times or more, nearly twice as many boys as girls. Heavy episodic drinking in the past month was reported by 38.3% of the sample, in a higher proportion by males, and 27.6% reported drunkenness in the past 12 months. About 10.6% had tried an illicit drug, half (5.8%) at least 3 times. A higher proportion of males than females reported use of "any illicit drug". Cannabis was the most commonly used drug (9.1%), with almost half of "ever" cannabis users (4.1%) reporting use within the past month, and 2.5% reported use of "new psychoactive substances" (including synthetic cannabinoids). The lifetime prevalence of use of any of the other illicit drugs did not exceed 2.0%. Short-term trends suggest a decrease in smoking and in current and frequent alcohol consumption in 2015 compared with 2011 or 2007. A decrease was also observed in heavy episodic drinking, but only between 2011 and 2015 and only in males. No significant change was observed in lifetime use of "any illicit drug" or cannabis in the period 2007–2015. The 30-year trends (1984–2015) suggest a decrease in lifetime and current smoking, similar between genders, and a decrease in heavy smoking after 1999 in females and 2003 in males, and in regular smoking after 1999 in males. A linear decrease was also observed in alcohol use, with decreases in frequent alcohol use and heavy episodic drinking observed after 2011. Following linear increases between 1984 and 1999, the rates of illicit drug use levelled off from 2003 onwards.** CONCLUSIONS **Despite recent decreases in substance use among 16 year-olds in Greece, interventions need to be sustained and focus more towards preventing heavy episodic drinking and the use of novel substances, such as e-cigarettes and "new psychoactive drugs".**

Key words

Adolescents
Alcohol
Greece
Illicit drugs
Smoking

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Substance use is typically initiated during adolescence.[1–4] Monitoring the prevalence of the use of cigarettes, alcohol and other psychoactive substances among adolescents is important for public health. Substance use in adolescents is associated with negative health and psychosocial outcomes. Adolescent smokers are more likely to be less physically fit and to experience more respiratory symptoms and overall weakened physical health compared with non-smokers.[4,5] Experimentation with cigarettes can lead to addiction to tobacco in adolescence.[6] Adolescent

drinking and the use of other psychoactive substances are documented to be associated with impaired judgment, injuries, disruptive behaviour, motor vehicle accidents and high risk sexual practices.[7–9] Longitudinal studies suggest correlation between adolescent substance use and poor academic performance, psychological distress, suicidal ideation and behaviour, mood, anxiety and antisocial personality disorders, reproductive morbidity, hypertension and stroke, liver damage and disease and other medical and psychosocial complications later in adulthood.[4,10,11]

In Greece, national estimates and patterns of substance use in the school-age population are being documented by the "Greek Nationwide School Population Survey on Substance Use and other Addictive Behaviours", a series of 7 cross-sectional surveys of representative samples of high-school pupils conducted over 30 years. The study was initiated by the Department of Psychiatry of the Athens University Medical School in 1984[12] and subsequently –from 1993 onwards– has been carried out by the University Mental Health Research Institute (UMHRI). Since 1999, the survey has constituted the Greek arm of the European School Project on Alcohol and other Drugs (ESPAD).

This paper presents the most recent data elicited from 3,202 16 year-old pupils in 2015, and derives trends from the 30-year period 1984–2015 based on a total of 21,108 pupils of that age.

MATERIAL AND METHOD

The data collection protocols were similar for all the surveys (1984, 1993, 1999, 2003, 2007, 2011, and 2015), using a nationwide stratified clustered probability sampling design. Stratification took into account geographical regions (NUTS II), private/public school status, and comprehensive/vocational school type. Random samples of school classes were drawn with equal probabilities from the Ministry of Education list of public schools. The school-level response rate was usually above 90% (95% in 2015). All pupils in the selected classes were invited to complete the survey, but participation was voluntary.

The data presented here were collected in the period February–April of each survey year (with the exception of 1993 when data collection took place in October–December). Grade 10 high school pupils (mean age 15.7 years) completed an anonymous questionnaire, group-administered by trained research assistants during a regular class period. The questionnaire includes comparable questions designed to measure tobacco smoking, alcohol use (including heavy episodic drinking and drunkeness), use of licit and illicit substances (including "new psychoactive substances", which pose health risks comparable to those of other controlled substances), pathological internet use, gaming, gambling, psychosocial health and risks associated with delinquent behaviour. For further details of the survey design, and the questionnaire used in the international study, see www.espad.org.

Statistical analysis

For the purposes of this paper, the prevalence of tobacco smoking, alcohol, and other substance use in each survey was estimated overall and separately for males and females (see tables 1–3 for the indicators used in the analysis). Logistic regression was used to compare the prevalence rates between males and females in the 2015 survey, and to compare the prevalence rates in the total sample and in both genders between the most recent survey (2015) and previous surveys, with year as a categorical variable. To identify possible trends in the changes in the proportions across survey years, linear and quadratic orthogonal coding was used for year treated as a numerical variable. Linear trends indicate a statistically significant ($p<0.01$) steady increase or decrease. Significant quadratic terms indicate nonlinear trends in the data over time (such as a change in direction or levelling-off). If a significant quadratic trend was met, the time-point of change or levelling off was investigated using Joinpoint 4.2.0.2.[13,14] All analyses took into account case weights, stratified sampling and cluster effect for school classes via the Complex Samples add-on of the Statistical Package for Social Sciences (IBM SPSS), v. 20.0 (IBM Corporation, Armonk, NY).

RESULTS

Smoking

In 2015, 39.2% of 16 year-old high school pupils nationwide had tried smoking at least once (tab. 1), in a similar proportion for males and females ($p=0.074$). Roughly half of "ever" smokers (18.9%) had smoked in the past 30 days, males (20.9%) in a higher proportion than females (16.9%) ($p=0.020$). In 2015, 11.1% and 2.9% of 16 year-olds were regular and heavy smokers, respectively. Males were more likely than females to smoke regularly ($p<0.001$) and to smoke ≥11 cigarettes per day ($p=0.004$). In 2015, 19.1% of 16 year-old pupils reported experimentation with e-cigarettes, with the vast majority of the experimenters being males (26.3% *vs* 12.0% among females, $p<0.001$) and smokers of conventional cigarettes (not shown in table).

Short-term trends: Lower proportions of 16 year-olds reported smoking conventional cigarettes in 2015 than in 2011 or 2007. The decreases were significantly for lifetime, and heavy smoking (Table 1).

Long-term trends: A significant linear trend in lifetime and recent smoking indicates a decrease over time, similar between genders. Quadratic trends over the period 1984–2015 reflect the increased prevalence in regular and heavy smoking in the total sample and in males in 1999 and

Table 1. Trends in smoking behaviour among 16 year-old high school pupils in Greece, in the total sample and by gender. Proportions and 99% confidence intervals (CI), and results of logistic regression models (a) comparing 2015 with any other survey year, and (b) identifying linear and quadratic trends 1984–2015.

	1984		1993		1999		2003		2007		2011		2015		1984–2015[1]	
n	All: 2,629 Males: 1,277 Females: 1,352		All: 2,617 Males: 1,205 Females: 1,412		All: 2,205 Males: 924 Females: 1,281		All: 1,906 Males: 886 Females: 1,020		All: 2,637 Males: 1,240 Females: 1,397		All: 5,912 Males: 2,927 Females: 2,985		All: 3,202 Males: 1,576 Females: 1,626			
	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	Linear β	Quadratic β
All																
Lifetime smoking[2]	68.7***†	(65.6, 71.7)	47.3***	(43.5, 51.1)	59.1***	(55.6, 62.4)	50.3***	(46.4, 54.1)	45.7***	(42.3, 49.2)	45.2***	(42.7, 47.8)	39.2	(35.8, 42.7)	**-0.789**	0.112
Current smoking[3]	42.0***	(38.3, 45.9)	23.5***	(20.7, 26.5)	35.2***	(31.4, 39.1)	28.5***	(25.0, 32.4)	22.2*	(19.2, 25.6)	21.4	(19.2, 23.8)	18.9	(16.3, 21.8)	**-0.817**	0.074
Regular smoking[4]	14.6*	(12.2, 17.3)	8.6*	(6.8, 10.8)	23.4***	(20.1, 27.0)	19.2***	(16.3, 22.5)	13.4	(11.2, 16.0)	13.5	(11.6, 15.6)	11.1	(9.0, 13.7)	-0.165	**-0.487**
Heavy smoking[5]	3.1	(2.3, 4.3)	1.9	(1.2, 2.9)	10.5***	(8.4, 12.9)	9.3***	(7.4, 11.7)	6.5***	(5.1, 8.2)	4.0*	(3.3, 5.0)	2.9	(2.0, 4.1)	-0.060	**-1.422**
Males																
Lifetime smoking[2]	70.0***	(65.6, 74.1)	47.8**	(43.5, 52.2)	59.0***	(54.2, 63.7)	48.8**	(43.9, 53.6)	47.0*	(42.4, 51.6)	47.0*	(43.3, 50.7)	41.2	(36.6, 46.0)	**-0.744**	0.195
Current smoking[3]	42.5***	(37.6, 47.6)	22.7	(18.9, 27.1)	34.1***	(29.2, 39.3)	26.8*	(22.3, 31.8)	23.7	(19.7, 28.3)	22.2	(19.0, 25.8)	20.9	(17.3, 25.1)	**-0.707**	0.190
Regular smoking[4]	18.3*	(15.0, 22.1)	9.9*	(7.3, 13.4)	23.5***	(19.5, 28.0)	18.4*	(14.7, 22.8)	15.6	(12.4, 19.6)	14.5	(11.8, 17.6)	13.7	(10.5, 17.7)	-0.182	-0.207
Heavy smoking[5]	4.2	(2.8, 6.2)	2.7	(1.6, 4.6)	12.5***	(9.3, 16.5)	10.9***	(8.2, 14.3)	8.6***	(6.2, 11.9)	5.1	(3.9, 6.6)	3.9	(2.7, 5.5)	-0.043	**-1.263**
Females																
Lifetime smoking[2]	67.5***	(63.6, 71.1)	46.9***	(41.6, 52.2)	59.1***	(54.7, 63.3)	51.6***	(46.1, 57.0)	44.6**	(40.2, 49.2)	43.6**	(40.3, 46.9)	37.2	(32.9, 41.7)	**-0.835**	0.031
Current smoking[3]	41.6***	(37.3, 46.0)	24.2***	(20.4, 28.4)	35.9***	(31.3, 40.8)	30.1***	(25.1, 35.6)	20.9*	(17.4, 24.9)	20.6*	(17.9, 23.7)	16.9	(13.8, 20.5)	**-0.927**	-0.039
Regular smoking[4]	11.1	(8.8, 14.1)	7.4	(5.3, 10.3)	23.3***	(19.2, 27.9)	19.9***	(16.0, 24.5)	11.5*	(9.0, 14.5)	12.5**	(10.4, 15.0)	8.6	(6.5, 11.3)	-0.156	**-0.824**
Heavy smoking[5]	2.1	(1.2, 3.7)	1.2	(0.6, 2.3)	9.0***	(6.8, 11.8)	8.0***	(5.7, 11.1)	4.6***	(3.3, 6.4)	3.0	(2.1, 4.3)	1.9	(1.0, 3.5)	-0.141	**-1.737**

Notes: (1) Orthogonal contrasts. "Survey year" as continuous variable. (2) Smoked at least one cigarette in their lifetime. (3) Smoked at least one cigarette in the past 30 days. (4) Smoke at least one cigarette per day. (5) Smoke at least 11 cigarettes per day. Boldface indicate significant linear or quadratic trends ($p<0.01$) across all available years

†All p values for the variable "survey year", $p<0.001$, ***$p<0.001$, **$p<0.01$, *$p<0.1$ compared to 2015 ("survey year" as categorical variable)

Table 2. Trends in alcohol use among 16 year-old high school pupils in Greece, in the total sample and by gender. Proportions and 99% confidence intervals (CI), and results of logistic regression models (a) comparing 2015 with any other survey year and (b) identifying linear and quadratic trends 1984–2015.

	1984		1993		1999		2003		2007		2011		2015		1984–2015[1]	
n	All: 2,629 Males: 1,277 Females: 1,352		All: 2,617 Males: 1,205 Females: 1,412		All: 2,205 Males: 924 Females: 1,281		All: 1,906 Males: 886 Females: 1,020		All: 2,637 Males: 1,240 Females: 1,397		All: 5,912 Males: 2,927 Females: 2,985		All: 3,202 Males: 1,576 Females: 1,626			
	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	Linear β	Quadratic β
All																
Current alcohol use[2]	82.2***†	(80.0, 84.2)	74.1***	(71.4, 76.7)	76.8***	(73.9, 79.4)	74.8***	(71.6, 77.8)	70.7**	(67.5, 73.6)	71.7***	(69.2, 74.0)	66.2	(63.2, 69.1)	**-0.554**	0.025
Frequent alcohol use[3]	13.7***	(11.8, 15.9)	12.2***	(10.5, 14.2)	13.8***	(11.6, 16.3)	13.3***	(11.1, 15.8)	11.4***	(9.5, 13.6)	12.1***	(10.6, 13.9)	7.6	(6.1, 9.4)	**-0.349**	**-0.263**
Heavy episodic drinking[4]	34.6*	(31.7, 37.6)	33.3**	(30.4, 36.2)	30.9***	(27.5, 34.5)	38.9	(35.4, 42.5)	40.6	(37.3, 44.1)	44.6***	(41.9, 47.3)	38.3	(34.9, 41.9)	**0.391**	-0.065
Recent drunkenness[5]	NA	NA	33.5***	(30.4, 36.8)	41.5***	(37.7, 45.4)	35.6***	(32.2, 39.2)	26.2	(23.5, 29.1)	29.8	(27.8, 32.0)	27.6	(24.9, 30.6)	**-0.378**	-0.051
Males																
Current alcohol use[2]	84.8***	(81.8, 87.5)	79.5***	(76.2, 82.5)	82.0***	(77.9, 85.6)	78.1***	(73.8, 81.8)	75.7***	(71.8, 79.2)	75.7***	(72.8, 78.5)	67.6	(64.0, 71.1)	**-0.674**	-0.127
Frequent alcohol use[3]	17.4***	(14.3, 20.9)	16.8***	(14.1, 20.1)	18.9***	(15.5, 23.0)	17.7***	(14.0, 22.0)	15.6***	(12.7, 19.0)	17.1***	(14.6, 19.9)	9.6	(7.4, 12.3)	**-0.332**	**-0.365**
Heavy episodic drinking[4]	40.3	(36.2, 44.5)	39.1	(35.3, 43.1)	40.9	(36.0, 45.9)	45.2	(40.4, 50.1)	50.2**	(45.7, 54.8)	52.1***	(48.5, 55.6)	43.3	(38.7, 47.9)	**0.374**	**-0.216**
Recent drunkenness[5]	NA	NA	33.8**	(30.1, 37.7)	44.5***	(39.4, 49.8)	36.0***	(31.3, 41.1)	27.5	(23.7, 31.5)	31.8*	(28.9, 34.9)	27.7	(24.1, 31.5)	**-0.370**	-0.108
Females																
Current alcohol use[2]	79.7***	(76.7, 82.5)	69.5*	(65.8, 73.0)	72.9***	(69.2, 76.4)	71.9**	(67.3, 76.1)	66.2	(62.2, 70.1)	67.7	(64.1, 71.1)	64.9	(60.9, 68.6)	**-0.487**	0.120
Frequent alcohol use[3]	10.2***	(8.4, 12.3)	8.3*	(6.6, 10.4)	10.1***	(7.7, 13.1)	9.5**	(7.0, 12.6)	7.7	(5.8, 10.2)	7.3	(5.9, 9.1)	5.6	(4.1, 7.7)	**-0.455**	-0.194
Heavy episodic drinking[4]	29.1*	(25.9, 32.7)	28.3*	(24.9, 31.9)	23.7***	(20.1, 27.8)	33.4	(29.1, 38.0)	32.1	(28.1, 36.5)	37.2	(33.8, 40.8)	33.5	(29.4, 37.9)	**0.386**	0.042
Recent drunkenness[5]	NA	NA	33.3*	(29.1, 37.8)	39.3***	(34.9, 43.9)	35.2***	(31.0, 39.8)	25.1	(21.9, 28.6)	28.0	(25.0, 31.1)	27.6	(23.9, 31.7)	**-0.393**	-0.002

Notes: (1) Orthogonal contrasts. "Survey year" as continuous variable. (2) Consumed alcohol in the past 30 days. (3) Consumed alcohol at least 10 times in the past 30 days. (4) Consumed at least 5 drinks in a row on a single occasion in the past 30 days. (5) Drunkenness at least once in the past 12 months. Boldface indicate significant linear or quadratic trends ($p<0.01$) across all available years

†All p values for the variable "survey year", $p<0.001$, *** $p<0.001$, ** $p<0.01$, * $p<0.1$ compared to 2015 ("survey year" as categorical variable)

NA: Indicator not measured

Table 3. Trends in the use of illicit drugs among 16 year-old high school pupils in Greece, in the total sample and by gender. Proportions and 99% confidence intervals (CI), and results of logistic regression models (a) comparing 2015 with any other survey year and (b) identifying linear and quadratic trends 1984–2015.

	n	1984		1993		1999		2003		2007		2011		2015		1984–2015[1]	
		All: 2,629 Males: 1,277 Females: 1,352		All: 2,617 Males: 1,205 Females: 1,412		All: 2,205 Males: 924 Females: 1,281		All: 1,906 Males: 886 Females: 1,020		All: 2,637 Males: 1,240 Females: 1,397		All: 5,912 Males: 2,927 Females: 2,985		All: 3,202 Males: 1,576 Females: 1,626			
		%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	%	99% CI	Linear β	Quadratic β
All																	
Any illicit (lifetime)[2]		6.9***†	(5.6, 8.4)	6.2***	(5.0, 7.6)	9.6	(7.7, 11.9)	6.4***	(5.0, 8.3)	9.5	(7.7, 11.8)	10.8	(9.3, 12.6)	10.6	(8.7, 12.9)	**0.530**	-0.013
Any illicit (≥3 times)[3]		3.1***	(2.4, 3.9)	2.6***	(1.9, 3.6)	6.3	(4.8, 8.2)	4.1*	(3.0, 5.6)	5.2	(4.0, 6.8)	5.9	(4.8, 7.3)	5.8	(4.3, 7.9)	**0.660**	-0.229
Cannabis (lifetime)[4]		2.4***	(1.7, 3.2)	2.5***	(1.8, 3.5)	8.5	(6.8, 10.4)	5.7***	(4.3, 7.5)	7.1	(5.5, 9.1)	8.3	(6.9, 10.0)	9.1	(7.2, 11.4)	**1.160**	**-0.403**
Cannabis (≥3 times)[5]		0.8***	(0.4, 1.3)	0.7***	(0.4, 1.3)	5.4	(4.0, 7.2)	3.3	(2.3, 4.6)	3.2	(2.3, 4.5)	3.9	(2.9, 5.2)	4.6	(3.1, 6.6)	**1.253**	**-0.634**
Cannabis (recent)[6]		1.6***	(1.1, 2.4)	1.9***	(1.4, 2.7)	7.0	(5.5, 9.0)	4.5**	(3.3, 6.1)	5.8	(4.3, 7.7)	6.7	(5.5, 8.2)	7.4	(5.7, 9.6)	**1.230**	**-0.450**
Cannabis (current)[7]		0.8***	(0.4, 1.3)	0.9***	(0.5, 1.4)	4.3	(3.1, 5.8)	2.4*	(1.7, 3.6)	3.3	(2.3, 4.7)	3.9	(2.9, 5.2)	4.1	(2.8, 6.0)	**1.348**	**-0.568**
Males																	
Any illicit (lifetime)[2]		7.0***	(5.2, 9.2)	7.1***	(5.5, 9.3)	13.0	(10.0, 16.8)	7.9***	(5.7, 10.8)	15.2	(12.4, 18.5)	14.9	(12.3, 18.0)	14.8	(11.8, 18.3)	**0.834**	-0.204
Any illicit (≥3 times)[3]		3.0***	(2.0, 4.4)	3.0***	(1.9, 4.8)	9.2	(6.7, 12.6)	5.4*	(3.7, 7.8)	8.6	(6.5, 11.3)	8.4	(6.6, 10.7)	8.3	(6.0, 11.5)	**0.964**	**-0.457**
Cannabis (lifetime)[4]		2.4***	(1.5, 3.7)	2.8***	(1.8, 4.3)	11.1	(8.4, 14.6)	6.8***	(4.8, 9.6)	11.4	(8.9, 14.4)	11.6	(9.1, 14.6)	12.4	(9.5, 16.1)	**1.490**	**-0.575**
Cannabis (≥3 times)[5]		0.7***	(0.3, 1.8)	0.7***	(0.3, 1.6)	7.8	(5.5, 11.0)	4.2	(2.7, 6.5)	5.3	(3.7, 7.7)	5.7	(4.0, 8.0)	6.4	(4.2, 9.6)	**1.572**	**-0.827**
Cannabis (recent)[6]		1.7***	(0.9, 3.0)	2.2***	(1.3, 3.6)	9.5	(6.9, 13.0)	5.6**	(3.8, 8.2)	9.3	(7.1, 12.2)	9.3	(7.2, 11.8)	10.2	(7.6, 13.6)	**1.510**	**-0.623**
Cannabis (current)[7]		0.9***	(0.4, 1.9)	0.9***	(0.4, 1.9)	7.0	(4.8, 10.1)	2.5**	(1.4, 4.5)	5.7	(4.0, 8.0)	5.6	(4.1, 7.6)	5.9	(3.9, 8.8)	**1.515**	**-0.710**
Females																	
Any illicit (lifetime)[2]		6.7	(5.1, 8.8)	5.3	(3.9, 7.2)	7.1	(5.3, 9.5)	5.3	(3.6, 7.6)	4.5	(3.1, 6.6)	6.9	(5.4, 8.9)	6.6	(4.7, 9.0)	0.052	0.185
Any illicit (≥3 times)[3]		3.1	(2.2, 4.4)	2.2	(1.5, 3.4)	4.1	(2.7, 6.2)	3.1	(1.8, 5.0)	2.3	(1.4, 3.7)	3.5	(2.5, 5.0)	3.4	(2.1, 5.5)	0.140	0.039
Cannabis (lifetime)[4]		2.4***	(1.5, 3.8)	2.3***	(1.5, 3.6)	6.6	(4.9, 8.8)	4.8	(3.3, 7.0)	3.3*	(2.1, 5.2)	5.1	(3.8, 6.9)	5.8	(4.1, 8.3)	**0.648**	-0.235
Cannabis (≥3 times)[5]		0.8***	(0.4, 1.7)	0.8***	(0.4, 1.7)	3.7	(2.4, 5.6)	2.5	(1.4, 4.3)	1.4*	(0.7, 2.6)	2.1	(1.3, 3.4)	2.8	(1.6, 4.7)	**0.688**	-0.416
Cannabis (recent)[6]		1.6***	(1.0, 2.8)	1.7***	(1.0, 2.8)	5.3	(3.7, 7.5)	3.5	(2.2, 5.5)	2.7*	(1.5, 4.5)	4.3	(3.1, 5.9)	4.7	(3.2, 6.9)	**0.772**	-0.259
Cannabis (current)[7]		0.7***	(0.3, 1.5)	0.8**	(0.4, 1.6)	2.3	(1.4, 3.8)	2.4	(1.4, 4.0)	1.2*	(0.6, 2.4)	2.3	(1.5, 3.6)	2.4	(1.4, 4.1)	**0.977**	-0.379

Notes: (1) Orthogonal contrasts. "Survey year" as continuous variable. (2) Used any of the following drugs at least once in lifetime (cannabis, amphetamines, methamphetamines, cocaine, crack, Ecstasy, LSD, heroin, ketamine, GHB or "magic mushrooms"). (3) Used any of the abovementioned drugs at least three times in lifetime. (4) Used cannabis at least once in lifetime. (5) Used cannabis at least three times in lifetime. (6) Used cannabis at least once in the past 12 months. (7) Used cannabis at least once in the past 30 days. Boldface indicate significant linear or quadratic trends ($p<0.01$) across all available years

†All p values for the variable "survey year", $p<0.001$, except for "any illicit (lifetime and ≥3 times)" in females ($p=0.136$ and $p=0.90$, respectively), ***$p<0.001$, ** $p<0.01$, * $p<0.1$ compared to 2015 ("survey year" as categorical variable)

2003, and in heavy smoking in females in 1999, followed by decreases in both categories (tab. 1).

Alcohol

In 2015, 66.2% of 16 year-old pupils nationwide had consumed alcohol at least once in the past 30 days (tab. 2), males and females in similar proportions (p=0.12). Almost twice as many boys as girls reported consuming alcohol 10 times or more in the past 30 days (p=0.001). Most 16 year-olds had drunk beer the last time they consumed alcohol (49.1%), boys (58.0%) in a significantly higher proportion than girls (40.4%, p<0.001), followed by wine (43.8%) and spirits such as whisky, vodka, tequila, rum, etc. (40.0%, not shown in table). About 28.1% reported consumption of alcopops, boys and girls in similar proportions. At least one occasion of heavy episodic (binge) drinking (i.e., at least 5 drinks in a row on a single occasion in the past 30 days) was reported by 38.3% of the sample, in a higher proportion by males than females (p<0.001). At least one recent (i.e. in the past 12 months) episode of drunkenness was reported by 27.6% of the 16 year-olds, in a similar proportion in both genders (p=0.52).

Short-term trends: Significantly lower proportions of 16 year-olds reported recent and frequent alcohol consumption in 2015 compared with 2011 or 2007 (especially in boys; all p<0.01). A decrease in heavy episodic drinking was observed only from 2011 to 2015, and only in males.

Long-term trends: Apart from heavy episodic drinking, which increased overall in the period 1984–2015, significant linear trends were observed in all the other alcohol indicators, suggesting a decrease in alcohol consumption in both genders. In addition, significant quadratic trends were observed in frequent alcohol use and heavy episodic drinking in males only, suggesting levelling off and an increase, respectively, up until 2011, followed by a decrease (tab. 2).

Illicit drugs

In 2015, 10.6% of 16 year-olds nationwide had tried an illicit drug at least once in their lifetime, half of whom had repeated their use at least 3 times (5.8%) (tab. 3). Cannabis was the most commonly used illicit drug (9.1%), with almost half of "ever" cannabis users reporting current use of the drug (i.e., within the past 30 days). About 2.5% reported lifetime use of "new psychoactive substances", mostly synthetic cannabinoids. The lifetime prevalence of any one of the other illicit drugs examined in the survey did not exceed 2% (fig. 1). Where differences were significant (p<0.05), higher proportions of males than females

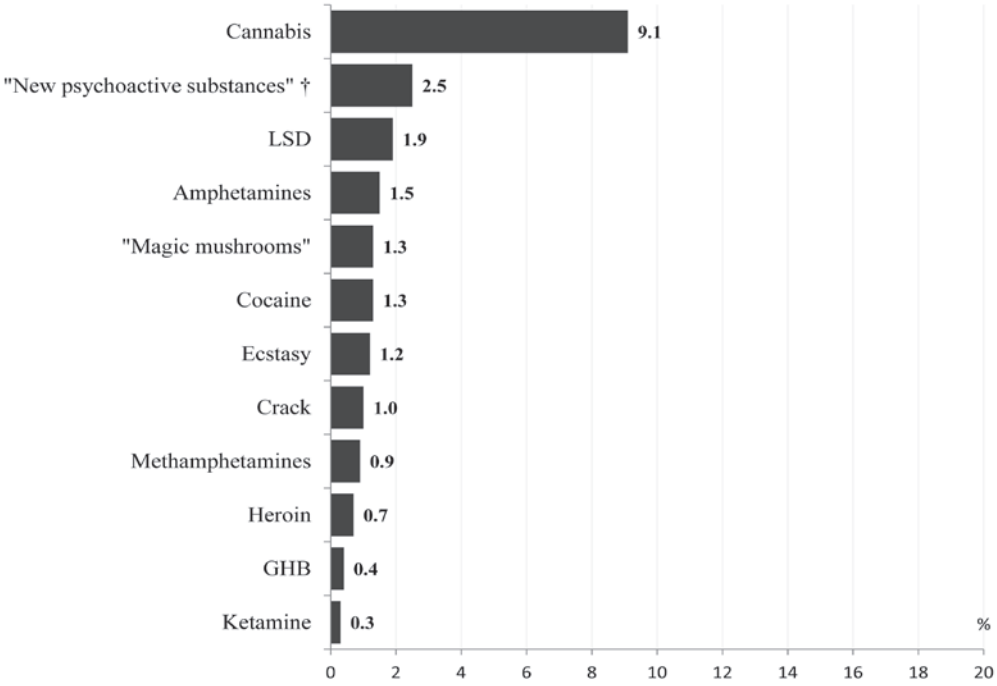

Figure 1. Proportion of 16 year-old high school pupils in Greece who reported lifetime use of illicit drugs in the 2015 "Greek Nationwide School Population Survey on Substance Use and other Addictive Behaviours", by drug. (*Note:* †The drug category "new psychoactive substances" refers mainly to synthetic cannabinoids (e.g., "Head Trip", "Lemon Haze", "Pot Pourri", and "Spice") and cathinones (examples: Mephedrone, methylone, butylone, methylenedioxypyrovalerone [MDPV], and 4-methylethcathinone [4-MEC]).

reported lifetime use of Ecstasy, amphetamines, cocaine, crack, LSD, and magic mushrooms.

Short-term trends: No significant changes were observed in the proportion of 16 year-olds reporting lifetime use of "any illicit drug" or of cannabis alone from 2007 or 2011 to 2015.

Long-term trends: Significant linear trends were observed in all drug use behaviours examined here, in both genders (although, in the case of girls only in cannabis), with increases over the period 1984–2015. Significant quadratic trends in most drug use behaviours (especially in boys) suggest increases up until 1999, followed by levelling-off (tab. 3).

DISCUSSION

Conducted by UMHRI almost quadrennially since 1984, the "Greek Nationwide School Population Survey on Substance Use and other Addictive Behaviours" is among the few studies in Europe monitoring substance use behaviour in adolescents. The study uses consistent methodology and large-scale nationally representative samples which ensure accurate measurement of relatively infrequent behaviours such as heavy episodic drinking, heavy smoking and the use of illicit drugs, and reliable assessment of changes over time.

Based on the data from this survey, Greece appears to have undergone an overall decline in smoking and, especially among males, in alcohol consumption among 16 year-olds in recent years, while the rate of use of the most popular illicit drug, cannabis, has plateaued since 1999.

The trends in smoking, alcohol, and illicit drug use observed in Greece match the trends noted in many other countries during the past decade.[15–17] The international ESPAD report with the 2015 data had not been published at the time of writing of this report (end 2015). Based on the 2011 data,[15] the rates of smoking and of illicit drug use among 16 year-olds in Greece were below the European average, while those of alcohol use –with the exception of drunkenness– were higher than in most European countries.

Changes in trends and emerging patterns of substance use are affected by multiple factors.[4,18] In the case of adolescent smoking in particular, the decrease observed in Greece coincided with a decrease in smoking in the adult population, an increase in tobacco prices, a general lowering of income, restrictions in tobacco-related advertising and intensification of health promotion, targeting both the schools and the general population.[19,20]

Special attention should be given to the fact that almost 3% of adolescents reported use of "new psychoactive substances" (mostly synthetic cannabinoids) – a pattern of drug use that concerns an increasing number of countries worldwide.[21] Novel practices also characterise smoking behaviour in adolescents in Greece, as both the present and previous studies[22] revealed that a substantial proportion of adolescent smokers experiment with e-cigarettes. This pattern of nicotine consumption poses additional health risks for adolescent users.[23]

The data presented here should be viewed in the light of at least two limitations. First, the data are representative of 16 year-olds attending school, but not of all adolescents of this age. School drop-outs and retainers –a population which is more likely to smoke, drink, and use drugs[24]– were excluded from all the surveys. According to the 2014 Hellenic Statistical Authority data, school drop-outs and retainers in Greece account for about 9% of the 16 year-old age cohort.[25] Second, although the surveys rely on best practice available for eliciting honest reporting,[15] possible misreporting of substance use behaviour cannot be ruled out.[26]

Despite these limitations, these data highlight the importance of continued monitoring of the trends of substance use in adolescents. Furthermore, they indicate the necessity of maintaining and further expanding control measures and health promotion interventions to curb the use of traditional substances while also planning interventions aimed at discouraging experimentation with novel tobacco products, such as e-cigarettes, and emerging uncontrolled psychoactive substances.

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ΠΕΡΙΛΗΨΗ

Κάπνισμα, οινοπνευματώδη ποτά και χρήση παράνομων ουσιών σε εφήβους στην Ελλάδα – Πρόσφατα στοιχεία (2015) και διαχρονικές τάσεις (1984–2015)

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ΣΚΟΠΟΣ Η παρούσα μελέτη περιγράφει την τρέχουσα κατάσταση (2015) και τις διαχρονικές τάσεις 30 ετών (1984–2015) σχετικά με το κάπνισμα, την κατανάλωση οινοπνευματωδών και τη χρήση παράνομων ουσιών ("ναρκωτικών") από 16χρονους μαθητές στην Ελλάδα. **ΥΛΙΚΟ ΚΑΙ ΜΕΘΟΔΟΣ** Τα στοιχεία προήλθαν από την «Πανελλήνια Έρευνα για τη Χρήση Εξαρτησιογόνων Ουσιών και άλλες Εξαρτητικές Συμπεριφορές», μια συγχρονική έρευνα που διεξάγεται από το Ερευνητικό Πανεπιστημιακό Ινστιτούτο Ψυχικής Υγιεινής ανά τετραετία σε αντιπροσωπευτικό δείγμα μαθητών Λυκείου. Αναλύσεις λογιστικής παλινδρόμησης εφαρμόστηκαν για την αξιολόγηση πρόσφατων και διαχρονικών τάσεων (γραμμικές και τετραγωνικές) κατά τη διάρκεια μιας περιόδου 30 ετών (1984–2015). **ΑΠΟΤΕΛΕΣΜΑΤΑ** Το 2015, ποσοστό 39,2% των 16χρονων μαθητών στη χώρα είχαν καπνίσει τσιγάρο τουλάχιστον μία φορά σε όλη τους τη ζωή. Ποσοστό 11,1% και 2,9% κάπνιζαν καθημερινά και ήταν «βαρείς» καπνιστές, αντίστοιχα, σε υψηλότερο ποσοστό τα αγόρια απ' ό,τι τα κορίτσια. Το 19,1% ανέφερε πειραματισμό με το ηλεκτρονικό τσιγάρο, κυρίως τα αγόρια και οι 16χρονοι που κάπνιζαν τα κλασικά τσιγάρα. Τις 30 ημέρες πριν από τη διεξαγωγή της έρευνας, είχε καταναλώσει οινοπνευματώδη ποτά έστω και μία φορά ποσοστό 66,2% και δέκα ή περισσότερες φορές το 7,6%, σε σχεδόν διπλάσιο ποσοστό τα αγόρια συγκριτικά με τα κορίτσια. Τουλάχιστον ένα περιστατικό πολύ πρόσφατης υπερβολικής κατανάλωσης οινοπνευματωδών ποτών (τουλάχιστον 5 ποτά στη σειρά σε μία περίσταση) ανέφερε το 38,2% του δείγματος, σε υψηλότερο ποσοστό τα αγόρια απ' ό,τι τα κορίτσια. Το 27,6% ανέφερε τουλάχιστον ένα περιστατικό μέθης το τελευταίο έτος. Περίπου 10,6% είχαν δοκιμάσει στη ζωή τους κάποια παράνομη ουσία, οι μισοί από τους οποίους (5,8%) τουλάχιστον 3 φορές. Υψηλότερο ποσοστό αγοριών απ' ό,τι κοριτσιών ανέφεραν χρήση «οποιασδήποτε παράνομης ουσίας». Η κάνναβη ήταν η πιο συχνά αναφερόμενη ουσία (9,1%), με σχεδόν τους μισούς από όσους είχαν χρησιμοποιήσει κάνναβη (4,1%) να καταγράφουν χρήση της ουσίας κατά τον τελευταίο μήνα. Ποσοστό 2,5% ανέφερε χρήση «νέων ψυχοδραστικών ουσιών», κυρίως συνθετικών κανναβινοειδών. Η επικράτηση της χρήσης άλλων παράνομων ουσιών –εκτός κάνναβης και «νέων ψυχοδραστικών ουσιών»– δεν υπερέβαινε το 2% (χρήση έστω και μία φορά σε ολόκληρη τη ζωή). Διαχρονικές τάσεις καταδεικνύουν μείωση στο κάπνισμα (σε όλους τους σχετικούς δείκτες) και στην πρόσφατη κατανάλωση (τον τελευταίο μήνα) οινοπνευματωδών ποτών το 2015 σε σύγκριση με το 2011 και το 2007. Μειώσεις παρατηρήθηκαν και στην υπερβολική κατανάλωση οινοπνευματωδών ποτών αλλά μόνο το 2015 σε σχέση με το 2011, και μόνο στα αγόρια. Την τελευταία 8ετία, δεν καταγράφηκαν σημαντικές μεταβολές στη χρήση «οποιασδήποτε παράνομης ουσίας» ή κάνναβης. Διαχρονικές τάσεις 30 ετών (1984–2015) καταδεικνύουν γραμμικές μειώσεις στο κάπνισμα σε ολόκληρη τη ζωή και στο πρόσφατο κάπνισμα, παρόμοιες και στα δύο φύλα, και μειώσεις στο «βαρύ» κάπνισμα μετά το 1999 στα κορίτσια και το 2003 στα αγόρια, καθώς και στο καθημερινό κάπνισμα μετά το 1999 στα αγόρια. Μειώσεις καταγράφηκαν επίσης στην κατανάλωση οινοπνευματωδών ποτών, με τη μείωση στη συχνή και τη βαριά κατανάλωση να παρατηρείται από το 2011 και μετά. Από το 2003 και ύστερα, τα ποσοστά στη χρήση παράνομων ουσιών σταθεροποιήθηκαν, ακολουθώντας αυξήσεις έως και το 1999. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Παρά τις μειώσεις στη χρήση εξαρτησιογόνων ουσιών από τους 16χρονους στην Ελλάδα τα τελευταία χρόνια, οι παρεμβάσεις οφείλουν να συνεχιστούν. Ιδιαίτερη προσοχή πρέπει να δοθεί στην πρόληψη της υπερβολικής κατανάλωσης οινοπνευματωδών ποτών και των νέων προτύπων χρήσης, που περιλαμβάνουν το ηλεκτρονικό τσιγάρο και τις «νέες ψυχοδραστικές ουσίες».

Λέξεις ευρετηρίου: Ελλάδα, Έφηβοι μαθητές, Κάπνισμα, Οινοπνευματώδη ποτά, Παράνομες ουσίες

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