

Increased Smoking and E-Cigarette Use Among Irish Teenagers

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Background

In Ireland, as in many European countries, teenage smoking declined from the very high prevalence of the 1990s.

However, in 2019, this decline halted, and teenage boys' smoking increased.

This study examined the contributions of several variables to the rising prevalence of teenage current smoking (past 30 days).

Geography, gender and smoking in Europe

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Introduction

Over the last 25 years, teenage smoking has been decreasing across Europe, particularly in wealthier countries and those with strong tobacco control legislation and regulation. We examine trends in 30-day smoking among adolescents in Ireland and Europe from 1995-2020.

Methods

Ireland has participated in 7 data collection waves of ESPAD (European School Survey Project for Alcohol and Other Drugs) between 1995 and 2019, during which time more than 500,000 students completed questionnaires on substance use, including cigarette smoking. In 2019, some 100,000 students participated in ESPAD and, in Ireland, 1,967 students, born in 2003, were surveyed from a stratified random sample of 50 Irish schools. We compare prevalence and gender differences in the Irish and European samples at different time points from 1995 to 2019.

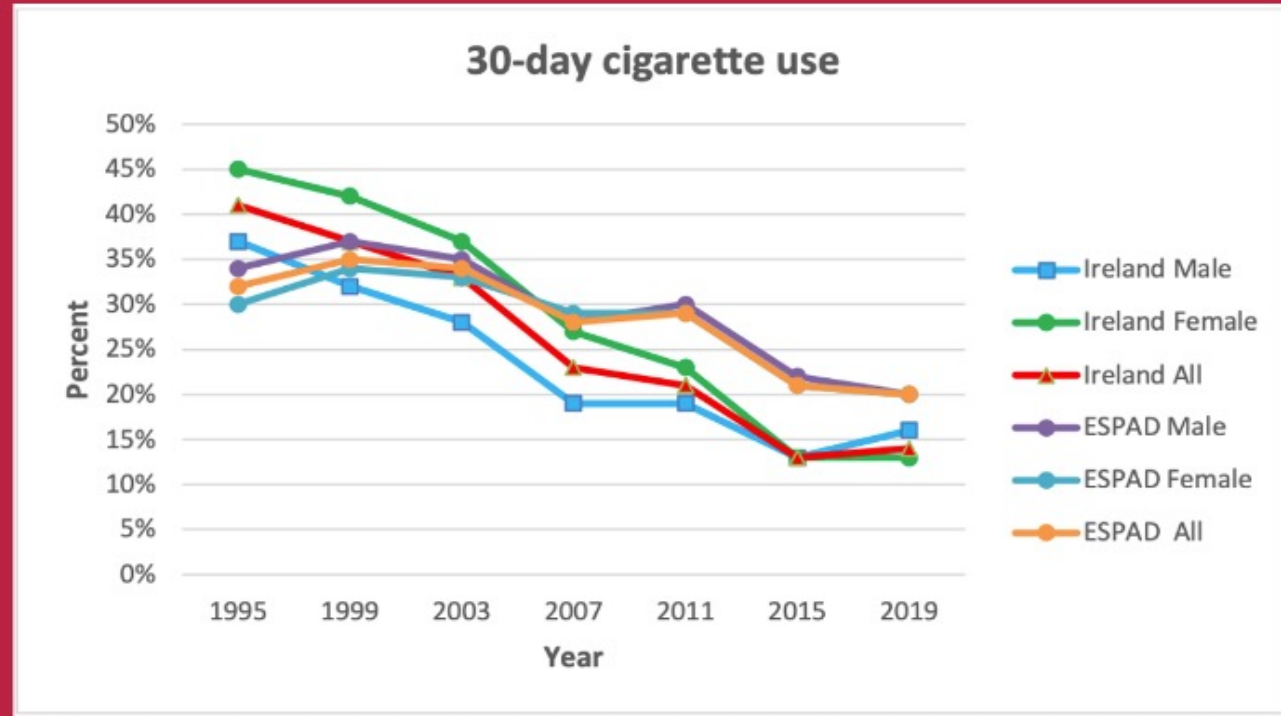
Results

In Ireland and across Europe, total prevalence of 30-day smoking decreased significantly between 1995 and 2019. Ireland's decrease (from 41% to 14%) was more dramatic than the European average (32% to 20%). In Ireland, prevalence in boys decreased from 37% to 16% and in girls from 45% to 13%. During the same period, prevalence in all ESPAD countries decreased in boys from 34% to 20% and in girls from 30% to 20%. Ireland's current prevalence is lower than the European average. However, while there was a decline of 5% in the European average between 2015 and 2019, Ireland's decreasing trend reversed, accounted for by an increase in male smoking, from 13% to 14%.

Conclusion

Trend analyses of current smoking prevalence between 1995-2019 show that decreases in teenage smoking in Europe during this time were neither homogenous nor uni-directional. In Ireland, after two decades of consistent decreases, smoking increased in 15-16-year-olds in 2019 for the first time in 25 years. Further focused action is urgently needed to achieve Ireland's targeted prevalence of 5% by 2025 and to address geographical and gender disparities in teenage smoking prevalence in Europe.

Figure 1: 30-day cigarette use since 1995 by gender in Ireland and all ESPAD countries



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S Sunday, S Keogan, J Hanafin, L Clancy. 2019 Ireland: Results from the European Schools Project on Alcohol and Other Drugs in Ireland. Dublin: TFRI. 2020. ISBN: 978-0-9557528-4-1

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Contact:

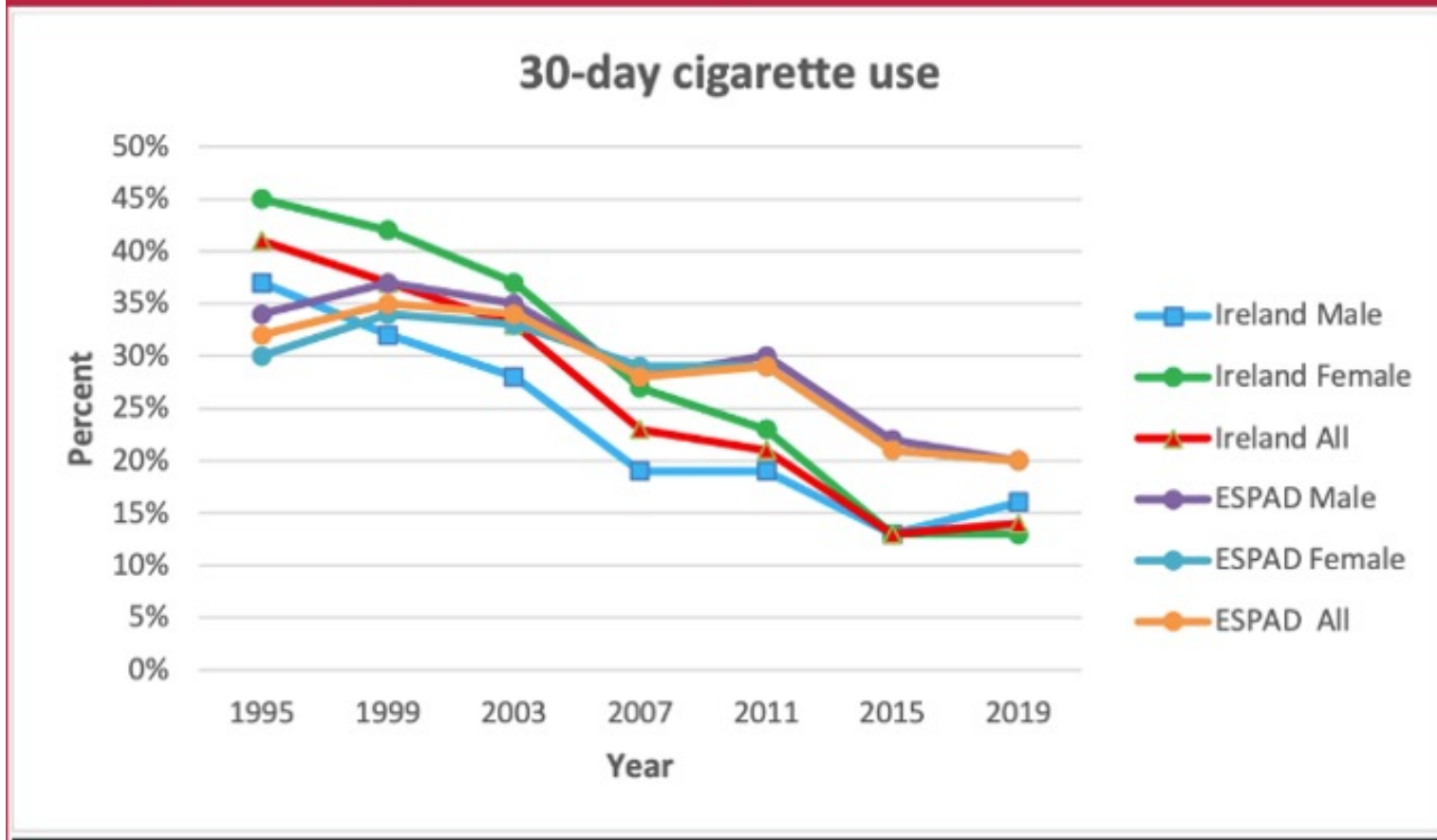
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Figure 1: 30-day cigarette use since 1995 by gender in Ireland and all ESPAD countries



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E-cigarettes in Ireland – prevalence, motivations, and relationship with tobacco

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Barcelona, Spain
4-6 September 2022

Introduction

Teenage e-cigarette use is increasing worldwide amid concerns about: identified and as yet unknown harms; nicotine addiction; being a “gateway” drug; and renormalisation of smoking. This study aimed to establish, from available data, the changing prevalence of Irish teenagers’ e-cigarette use, reasons for use, and relationship with tobacco at first use.

Methods

We analyzed five Irish health datasets with questions on e-cigarette use among 16- and 17-year-olds: ECIGS-TFRI (2014, N=817); SILNE-R (2016, N=2051); ESPAD (European Schools Project on Alcohol and Drugs) 2015 (N=1918), 2019 (3556); GUI (Growing Up in Ireland), Ireland’s national longitudinal study (N=6216).

All datasets comprised stratified random samples in school-based settings. Secondary analysis was carried out, using descriptive statistical techniques.

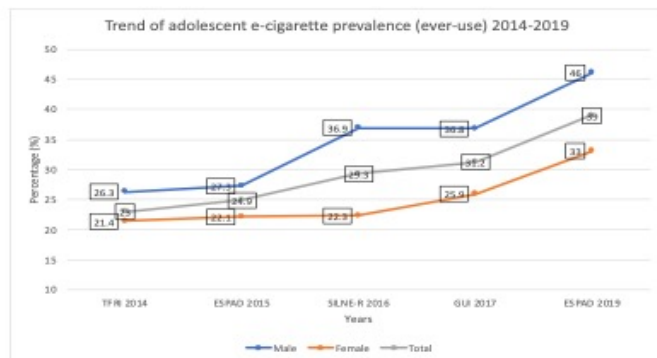


Figure 1: Trend of e-cigarette prevalence between 2014 and 2019

Table 1. Changes among Irish 16 and 17 year olds between 2014 and 2019 in prevalence of e-cigarette ever-use, reasons for trying e-cigarettes, and relationship with tobacco when first trying e-cigarettes

Changes in	16 year olds n (%)	17 year olds n (%)
Prevalence of e-cigarette ever-use		
ESPAD-TFRI 2019	754 (38.8)	279 (37.5)
GUI 2017	1564 (31.3)	
SILNE-R-TFRI 2016	148 (31.8)	85 (50.0)
ESPAD-TFRI 2015	326 (23.1)	92 (27.2)
ECIGS-TFRI 2014	101 (23.0)	10 (23.8)
Prevalence of Ever-Smoking (ESPAD-TFRI 2019)	614 (31.6)	267 (35.6)
Reasons for trying e-cigarettes		
ESPAD-TFRI 2019		
To quit smoking	16 (3.4)	14 (5.0)
Because friends were using it	137 (28.8)	83 (29.8)
Out of curiosity	315 (66.3)	187 (67.0)
ESPAD-TFRI 2015		
To quit smoking	48 (19.2)	15 (15.5)
As an alternative to tobacco smoking	27 (10.8)	9 (9.3)
Because friends were using it	57 (22.8)	25 (25.8)
Out of curiosity	151 (60.4)	64 (66.0)
Relationship with Tobacco when first tried e-cigarettes		
ESPAD-TFRI 2019		
I have never smoked tobacco	461 (66.7)	149 (58.7)
I smoked tobacco occasionally	168 (24.3)	83 (32.7)
I smoke tobacco regularly	57 (8.9)	22 (8.7)
SILNE-R-TFRI 2016		
I have never smoked tobacco	10 (19.6)	0 (0.0)
I have tried tobacco but don't use it regularly	0 (0.0)	0 (0.0)
I smoked tobacco occasionally/regularly	-	-
ESPAD-TFRI 2015		
I have never smoked tobacco	76 (32.2)	31 (34.1)
I smoked tobacco occasionally	123 (52.1)	42 (46.1)
I smoke tobacco regularly	37 (15.7)	18 (19.8)



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Results

Prevalence of e-cigarette ever-use increased from 23% in 2014 to 39% in 2019, and was very high among boys (46% by 2019). By 2019, more teenagers tried e-cigarettes (39%) than smoking (32%).

By 2019, curiosity (66%) and friends (29%) were the two main reasons teenagers said they first used e-cigarettes, with only 3% saying it was to quit smoking

Those saying they had never used tobacco when they first tried e-cigarettes increased from 32% in 2015 to 68% in 2019.

Conclusion

Teenage e-cigarette use has risen rapidly in Ireland, with boys more at risk. The majority were not smokers when they started using e-cigarettes, pointing to new routes into nicotine addiction. They were not used by teenagers for smoking cessation. In addition to new regulation and legislation for e-cigarettes, current tobacco control regulations for young people should be extended to include e-cigarettes.

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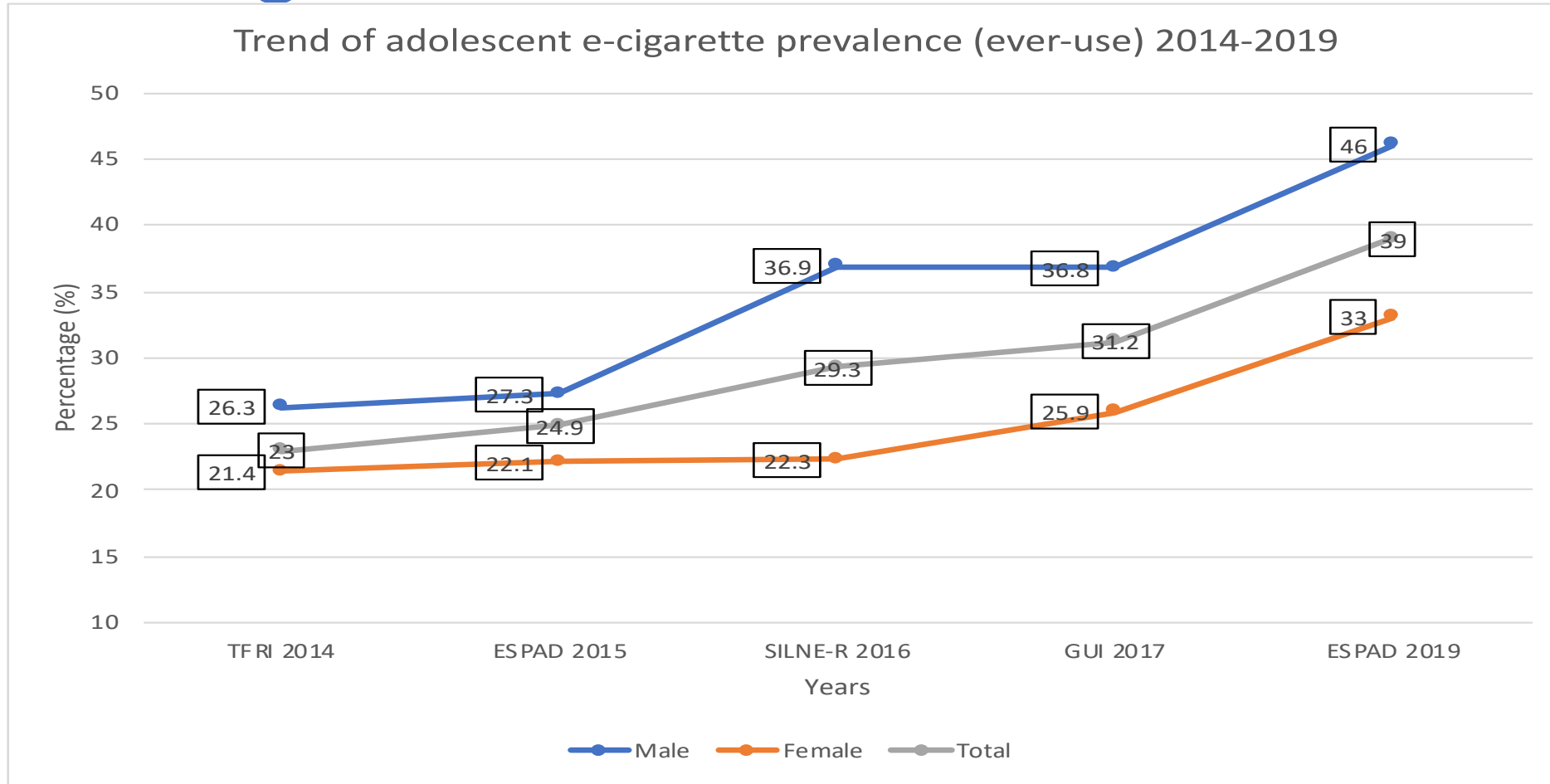
Disclosure Statement: The authors declare no conflict of interest.

Acknowledgements: RCDHT Grant No 184; Department of Health Ireland; European School Survey on Alcohol and Other Drugs (www.espad.org);

SILNE-R: <https://www.tri.ie/silne-r-horizon2020.html>

Growing Up in Ireland: Accessed via the Irish Social Science Data Archive - www.ucd.ie/issda

Background



Methods

ESPAD Ireland (European School Survey Project on Alcohol and other Drugs)

Sample: n=3442 (2 waves: 2015 n=1472; 2019 n=1949)

Dependent variable: current smoking (smoked in the past 30 days)

Descriptive and Multivariable logistic regression analyses were performed using Stata version 16.

***Note:** ESPAD is a nationally representative, cross-sectional survey conducted every four years in 35 European countries with the aim of collecting comparable data on substance use among students aged 15–16 years in Europe to monitor trends within and between countries.*



The decline in teenage smoking has reversed in Ireland - how can we intervene?

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Introduction

In Ireland, as in many European countries, teenage smoking declined from the very high prevalence of the 1990s. However, in 2019, this decline halted, and teenage boys' smoking increased. This study examines the contributions of several variables to the rising prevalence of teenage current smoking (past 30 days).

Methods and Materials

We use data from the nationally representative 2015 (n=1472) and 2019 (n=1949) waves of the Irish ESPAD (European School Survey Project on Alcohol and other Drugs). ESPAD is a cross-sectional survey conducted every four years in 35 European countries with the aim of collecting comparable data on substance use among students aged 15–16 years in Europe to monitor trends within and between countries. Multivariable logistic regression analyses were performed using Stata version 16.

Results

The odds of being a current smoker significantly increased between 2015 and 2019 for the entire sample (AOR 1.33, CI:1.03,1.73), and particularly for boys (AOR 1.64, CI:1.13,2.39). Truancy was strongly associated with current smoking, for boys (AOR 8.83, CI:4.28,18.21) and for girls (AOR 3.82, CI:1.75,8.43). Perceiving easier access to cigarettes was more strongly associated for boys (AOR 7.28, CI:3.83,13.83) than for girls (AOR 5.99, CI:3.27,10.97). Being an e-cigarette user had a stronger effect for girls (AOR 2.18, CI:1.37,3.47) than for boys (AOR 1.99, CI:1.27,3.14). Peer smoking similarly had a stronger effect on current smoking for girls (AOR 2.80, CI:1.51,5.20) than for boys (AOR 1.89, CI:1.01,3.55).

Conclusions

Findings suggest that, in order to re-establish the decline in teenage smoking, stronger regulation of access to tobacco and to e-cigarettes (e.g., extending current regulations to age 21 years) is needed. Interventions that moderate personal and peer behaviours are also likely to be effective, and need to be gender sensitive.

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Disclosure Statement: The authors declare no conflict of interest.

Contact: Salome Sunday | Salome@tri.ie, Prof Luke Clancy | lclancy@tri.ie | Phone: +353 12601966 | <https://www.tri.ie>

	ESPAD Year		p-value
	2015 (n=1472) N (%)	2019 (n=1949) N (%)	
Gender			
Male	752 (51.1)	946 (48.5)	
Female	720 (48.9)	1003 (51.5)	.140
Ever-smoked			
Never	992 (67.7)	1328 (68.4)	
Ever	473 (32.3)	614 (31.6)	.678
Current smoking			
No	1275 (87.0)	1664 (85.6)	
Yes	191 (13.0)	281 (14.4)	.235
Father's education			
Some secondary school or completed primary school	388 (27.0)	407 (21.5)	
Completed secondary school	273 (18.0)	345 (18.2)	
College or university	600 (41.7)	897 (47.4)	
Don't know/does not apply	177 (12.3)	244 (12.9)	.001
Mother's education			
Some secondary school or completed primary school	212 (14.7)	212 (11.2)	
Completed secondary school	375 (26.1)	375 (19.8)	
College or university	719 (50.0)	1140 (60.1)	
Don't know/does not apply	132 (9.2)	169 (8.9)	<.001
E-cigarette ever-use			
Never	1088 (77.0)	1219 (62.7)	
Ever	325 (23)	754 (39.0)	<.001
E-cigarette current use			
No	1270 (89.9)	1592 (81.9)	
Yes	143 (10.1)	351 (18.1)	<.001
Household composition			
Single parent	262 (17.8)	371 (19.0)	
Two parents	1109 (75.3)	1490 (76.4)	
Blended families	101 (6.9)	88 (4.5)	.010
Family Regulation*			
Know always	906 (62.7)	1194 (63.2)	
Know quite often	337 (23.3)	455 (24.1)	
Know sometimes	128 (8.9)	166 (8.8)	
Usually don't know	73 (5.1)	74 (3.9)	.452
Truancy			
None	984 (80.1)	1309 (79.6)	
1-4 days	198 (16.1)	286 (17.4)	
5 days+	47 (3.8)	50 (3.0)	.371
Perceived wealth			
About the same	696 (48.7)	815 (43.3)	
Much better off	223 (15.6)	308 (16.4)	
Better off	370 (25.9)	580 (30.8)	
Less well off	141 (9.9)	179 (9.5)	.006
Access to cigarettes			
Difficult	348 (24.1)	551 (28.4)	
Easy	893 (61.8)	1188 (61.3)	
Do not know	205 (14.2)	200 (10.3)	<.001
Perceived risk of smoking cigarettes occasionally			
Moderate/great risk	814 (56.0)	1097 (56.7)	
No/slight risk	602 (41.4)	777 (40.2)	
Do not know	37 (2.5)	61 (3.1)	.484
Perceived risk of smoking one or more packs of cigarettes			
Moderate/great risk	1248 (85.8)	1655 (85.6)	
No/slight risk	169 (11.6)	223 (11.5)	
Do not know	37 (2.5)	56 (2.9)	.825
Peer smoking			
None	478 (33.4)	558 (29.8)	
A few/some	802 (56.1)	1125 (60.1)	
Most/all	150 (10.5)	188 (10.1)	.056
Relationship with mother			
Satisfied	1251 (87.5)	1621 (86.4)	
Neither nor	74 (5.2)	106 (5.6)	
Not satisfied	105 (7.3)	150 (8.0)	.640

Table 1: Sample Characteristics - Changes from 2015 to 2019 (ESPAD Ireland)

*Bold numbers indicate statistical significance at p<.05

** Parent knows child's whereabouts

	Current smoking (16-year-olds)		
	Total AOR (95% CI)	Male AOR (95% CI)	Female AOR (95% CI)
Gender			
Male	1		
Female	0.83 (0.65, 1.06)	N/A	N/A
ESPAD Year			
2015	1	1	1
2019	1.33 (1.03, 1.73)	1.64 (1.13, 2.39)	1.09 (0.75, 1.59)
Ever used e-cigarettes			
Never	1	1	1
Ever	2.06 (1.56, 2.83)	1.99 (1.27, 3.14)	2.18 (1.37, 3.47)
Current e-cigarette use			
No	1	1	1
Yes	1.23 (0.85, 1.78)	1.67 (0.99, 2.80)	0.91 (0.52, 1.58)
Father's education			
Some secondary school or completed primary school	1	1	1
Completed secondary school	0.87 (0.60, 1.32)	0.87 (0.49, 1.55)	0.86 (0.49, 1.51)
College or university	1.11 (0.79, 1.57)	1.08 (0.66, 1.79)	1.10 (0.68, 1.80)
Don't know/does not apply	0.77 (0.45, 1.32)	0.68 (0.31, 1.52)	0.87 (0.40, 1.90)
Mother's education			
Some secondary school or completed primary school	1	1	1
Completed secondary school	0.97 (0.61, 1.52)	1.59 (0.75, 3.36)	0.68 (0.37, 1.22)
College or university	1.10 (0.73, 1.68)	2.30 (1.14, 4.65)	0.59 (0.34, 1.03)
Don't know/does not apply	1.04 (0.53, 2.05)	2.89 (1.07, 7.79)	0.42 (0.14, 1.21)
Household composition			
Single parent	1	1	1
Two parents	0.91 (0.64, 1.28)	0.77 (0.48, 1.25)	1.03 (0.61, 1.72)
Blended families	0.73 (0.40, 1.31)	0.91 (0.50, 2.03)	0.52 (0.21, 1.29)
Family Regulation*			
Know always	1	1	1
Know quite often	0.85 (0.63, 1.15)	0.87 (0.56, 1.34)	0.77 (0.49, 1.20)
Know sometimes	1.09 (0.73, 1.63)	1.01 (0.57, 1.79)	1.15 (0.64, 2.07)
Usually don't know	0.91 (0.51, 1.61)	0.87 (0.40, 1.87)	0.97 (0.39, 2.41)
Truancy			
None	1	1	1
1-4 days	2.87 (2.17, 3.78)	3.28 (2.18, 4.94)	2.72 (1.84, 4.04)
5 days+	5.31 (3.21, 8.78)	8.83 (4.28, 18.21)	3.82 (1.75, 8.34)
Perceived wealth			
About the same	1	1	1
Much better off	1.35 (0.95, 1.93)	1.89 (1.16, 3.09)	1.02 (0.57, 1.80)
Better off	1.10 (0.81, 1.48)	0.94 (0.62, 1.45)	1.49 (0.96, 2.30)
Less well off	1.12 (0.72, 1.72)	1.27 (0.69, 2.37)	1.10 (0.58, 2.06)
Access to cigarettes			
Difficult	1	1	1
Easy	6.40 (4.16, 9.86)	7.28 (3.83, 13.83)	5.99 (3.27, 10.97)
Do not know	0.74 (0.31, 1.76)	0.64 (0.17, 2.58)	0.75 (0.24, 2.40)
Perceived risk of smoking cigarettes occasionally			
No/slight risk	1	1	1
Moderate/great risk	1.15 (0.88, 1.50)	1.02 (0.70, 1.50)	1.28 (0.87, 1.88)
Do not know	2.11 (0.67, 6.63)	1.27 (0.24, 6.65)	4.30 (0.74, 24.85)
Perceived risk of smoking one or more packs of cigarettes			
Moderate/great risk	1	1	1
No/slight risk	0.80 (0.53, 1.22)	0.55 (0.27, 0.97)	1.34 (0.74, 2.42)
Do not know	1.45 (0.45, 4.61)	2.27 (0.50, 10.37)	0.71 (0.10, 4.96)
Peer smoking			
None	1	1	1
A few/some	1.14 (0.84, 1.56)	1.10 (0.71, 1.71)	1.14 (0.73, 1.79)
Most/all	2.37 (1.54, 2.63)	1.89 (1.01, 3.55)	2.80 (1.51, 5.20)
Relationship with mother			
Satisfied	1	1	1
Neither nor	1.45 (0.89, 2.37)	1.23 (0.56, 2.69)	1.69 (0.88, 3.23)
Not satisfied	2.37 (0.79, 1.88)	0.97 (0.49, 1.91)	1.56 (0.87, 2.79)

Table 2: Multivariable logistic regression results of factors associated with current smoking in the 2015 & 2019 ESPAD Surveys



Results – Current Smoking

- In 2019, current smoking increased overall from
 - 13.1% in 2015 to 14.4% in 2019,
 - increase greater in boys than girls (16.2%) vs (12.8%)
- Significant increase between 2015 and 2019 in the odds of being a current smoker (AOR 1.33, CI:1.03,1.73):
 - boys AOR 1.64 (CI:1.13,2.39)
 - girls AOR 1.09 (0.75, 1.59)

Results – Current Smoking

Section of Multivariable logistic regression results of factors associated with current smoking in the 2015 & 2019 ESPAD Surveys

	Current smoking (16-year-olds)		
	Total AOR (95% CI)	Male AOR (95% CI)	Female AOR (95% CI)
Gender			
Male	1		
Female	0.83 (0.65, 1.06)	N/A	N/A
ESPAD Year			
2015	1	1	1
2019	1.33 (1.03, 1.73)	1.64 (1.13, 2.39)	1.09 (0.75, 1.59)
Ever used e-cigarettes			
Never	1	1	1
Ever	2.06 (1.50, 2.83)	1.99 (1.27, 3.14)	2.18 (1.37, 3.47)

Results – Variables associated with Current Smoking

- **Truancy**: boys AOR 8.83 (CI:4.28,18.21), girls AOR 3.82 (CI:1.75,8.43)
- **Perceiving easier access to cigarettes**: boys AOR 7.28 (CI:3.83,13.83), girls AOR 5.99 (CI:3.27,10.97)
- **Peer smoking**: girls AOR 2.80 (CI:1.51,5.20), boys AOR 1.89 (CI:1.01,3.55)
- **Being an e-cigarette user**: girls AOR (2.18, CI:1.37,3.47), boys AOR 1.99 (CI:1.27,3.14)

Conclusions

Findings suggest that, in order to re-establish the decline in teenage smoking, stronger regulation of access to tobacco and to e-cigarettes (e.g., extending current regulations to age 21 years) is needed.

Interventions that moderate personal and peer behaviours are also likely to be effective, and need to be gender sensitive.

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