ADD-freeTraining project

PREVENTING SMOKING, ALCOHOL AND INTERNET ADDICTIONS AMONG CHILDREN AND ADOLESCENTS: A FAMILY ORIENTED TRAINING APPROACH FOR ADULT LEARNERS AND EDUCATORS.

ADDfreeTraining

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THIS REPORT PRESENTS THE RESULTS FROM AN EXTENDED LITERATURE REVIEW WHICH AIMED AT OBTAINING AN IN DEPTH UNDERSTANDING OF ADDICTIONS IN CHILDHOOD AND ADOLESCENCE AT NATIONAL AND EUROPEAN LEVELS. THE REVIEW ALSO LOOKED FOR INFORMATION REGARDING EFFECTIVE TRAINING PROGRAMS TO TACKLE ADDICTIONS AND SPECIFICALLY LOOKED FOR RISK AND PROTECTIVE FACTORS, APPROPRIATE TARGET GROUPS FOR EACH COUNTRY AND THE ISSUES THAT SHOULD BE ADDRESSED BASED ON THE IDENTIFIED KNOWLEDGE GAPS AND NEEDS OF THE PROJECT TARGET GROUPS.

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Abbreviations

APA	American Psychiatric Association
APC	Alcohol consumption per capita
AUD	Alcohol use disorder
DSM	Diagnostic and Statistical Manual of Mental Disorders
ESPAD	European School Survey Project on Alcohol and Other Drugs
GPS	General Population Surveys
HBSC	Health Behaviour in School-aged Children
ICD	International Statistical Classification of Diseases and Related Health Problems
NCD	Non-communicable disease
PIU	Problematic use of Internet
WHO	World Health Organization
YLL	Years of Life Lost

Figure legends

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1 Introduction

1.1 Addiction and problematic use: definitions that are used at a European level

1.1.1 General approaches to define addictions

Approaches to and definitions of addiction differ between scientific fields. According to Goodman (1990), the terms addiction and dependence can be defined as "*a process whereby a behavior, that can function both to produce pleasure and to provide escape from internal discomfort, is employed in a pattern characterized by* ***a.*** *recurrent failure to control the behaviour (powerlessness) and* ***b.*** *continuation of the behaviour despite significant negative consequences (unmanageability)*" (Goodman, 1990, p. 1). According to Olievenstein (1982), addiction is when substance(s) and a vulnerable personality converge in a specific social and cultural condition.

Addiction could be also understood as the loss of an individual's freedom caused by their source of addiction, be it a substance, gambling, or Internet (Matsa, 2001). Most approaches include four stages in the process of addiction: **a.** experimental use, **b.** active seek for a substance and use, **c.** intense seek for a substance and use, and **d.** addiction (Estroff, 2001).

Both the World Health Organization and the American Psychology Association define addiction as the repetitive and compulsive use of a drug which produces dependence and withdrawal (WHO, 2010). Tolerance and withdrawal are included in many definitions of different types of addictions.

In recent decades, the term "addiction" has expanded beyond the field of substance abuse to also refer to addictions to the Internet, work, online gaming, gambling, eating disorders, and numerous other behaviors (WHO, 2010).

1.1.2 Definitions related with alcohol use

1.1.2.1 Alcohol dependence

The International Statistical Classification of Diseases and Related Health Problems (11th ed,; ICD-11; WHO, 2018a)defines alcohol dependence as a "*disorder of regulation of alcohol use arising from repeated or continuous use of alcohol*". The characteristic feature is a strong

internal drive to use alcohol manifested by an impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a subjective sensation of urge or craving to use alcohol. Physiological features of dependence may also be present, including tolerance to the effects of alcohol, withdrawal symptoms following cessation or reduction in use of alcohol, or repeated use of alcohol or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months but the diagnosis may be made if alcohol use is continuous (daily or almost daily) for at least 1 month (ICD-11, 2019, 6C40.2 Alcohol dependence).

1.1.2.2 Alcohol use disorder (AUD) and alcoholism

The Diagnostic and statistical manual of mental disorders 5th edition (DSM-V) also includes definitions for alcohol use disorder and the problematic use of alcohol, though DSM-V definitions may be slightly more tailored towards the North American context (APA, 2013).

AUD or alcoholism includes mainly lack of control over drinking, obsession with alcohol, inability to stop alcohol use despite consequences, tolerance, or withdrawal (Mayo Clinic, 2018). The latest version of DSM includes the following criteria for AUD. If someone meets two of the eleven criteria during the same 12-month period, they receive a diagnosis of AUD (APA, 2013):

1. Alcohol is often taken in larger amounts or over a longer period than was intended.	**2.** There is a persistent desire or unsuccessful efforts to cut down or control alcohol use.	**3.** A great deal of time is spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects.	**4.** Craving, or a strong desire or urge to use alcohol.
5. Recurrent alcohol use resulting in a failure to fulfill major role obligations at	**6.** Continued alcohol use despite having persistent or recurrent social or interpersonal	**7.** Important social, occupational, or recreational activities are given up or reduced because	**8.** Recurrent alcohol use in situations in which it is physically hazardous.

work, school, or home.	problems caused or exacerbated by the effects of alcohol.	of alcohol use.	

9. Alcohol use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol.
10. Tolerance, as defined by either of the following: a) A need for markedly increased amounts of alcohol to achieve intoxication or desired effect; b) A markedly diminished effect with continued use of the same amount of alcohol.
11. Withdrawal, as manifested by either of the following: a) The characteristic withdrawal syndrome for alcohol (refer to criteria A and B of the criteria set for alcohol withdrawal); b) Alcohol (or a closely related substance, such as a benzodiazepine) is taken to relieve or avoid withdrawal symptoms.

1.1.2.3 Alcohol harmful pattern

A harmful pattern of using alcohol is defined as a "*pattern of alcohol use that has caused damage to a person's physical or mental health or has resulted in behaviour leading to harm to the health of others*". The pattern of alcohol use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous. Harm to the health of an individual occurs due to one or more of the following: **a.** behaviour related to intoxication; **b.** direct or secondary toxic effects on body organs and systems; **c.** a harmful route of administration. Harm to health of others includes any form of physical harm, including trauma, or mental disorder that is directly attributable to behaviour related to alcohol intoxication on the part of the person to whom the diagnosis of "*harmful pattern of use of alcohol*" applies (ICD-11, 2019, 6C40.1 Harmful pattern of use of alcohol).

1.1.2.4 Alcohol problematic use

Even if some people do not match the criteria of AUD, they may still be at risk of experiencing negative health impacts or problems because of alcohol. Problematic use of alcohol ranges from moderate drinkers, to heavy and binge drinkers. The definition of these types of drinkers depends on the quantity of alcohol someone drinks and to the frequency of drinking (ICD-11, 2019, 6C40.1 Harmful pattern of use of alcohol).

→ Moderate drinkers

Healthy people who drink moderately have a relatively low risk of developing an alcohol problem. The suggested amount of alcohol for women is no more than one drink per day and for men no more than two drinks per day (ICD-11, 2019, 6C40.1 Harmful pattern of use of alcohol).

→ Heavy drinkers

People who drink heavily have a significantly increased risk of developing alcohol problems. Heavy drinking is defined as more than seven drinks per week or three drinks per occasion for women, and more than fourteen drinks per week or four drinks per occasion for men (ICD-11, 2019, 6C40.1 Harmful pattern of use of alcohol).

→ Binge drinkers

Binge drinking is a pattern of heavy drinking which is observed all over Europe. The term binge drinking implies a lot of different meanings to different people. The most popular definition used for this term is "*five or more 'standard drinks' in a single occasion*". Binge drinking is different from intoxication, although this kind of heavy alcohol consumption can lead to intoxication. This condition is manifested by different signs, for example slurred speech. Binge drinking is very common among the European population (Farke & Anderson, 2007) (ICD-11, 2019, 6C40.1 Harmful pattern of use of alcohol).

1.1.3 Definitions related with tobacco use

Several products that contain nicotine are included under the umbrella of tobacco use, (CDC, 2017):

- traditional cigarettes
- electronic cigarettes
- tobacco products that are smoked:
  - cigars
  - hookahs
  - pipe
- smokeless tobacco products
  - Chewing tobacco
  - Dip
  - Dissolvables
  - Snuff
  - Snus

Other useful terms related with tobacco use are summarized below (CDC, 2017):

Amount smoked	The average number of cigarettes smoked per day, on days when cigarettes were smoked.
Current smoker	An adult who has smoked 100 cigarettes in his or her lifetime and who currently smokes cigarettes. Beginning in 1991 this group was divided into "everyday" smokers or "somedays" smokers.
Environmental Tobacco Smoke	Also called second-hand smoke. Inhaling ETS is called passive smoking. Usually refers to cigarette smoke in the environment of a nonsmoker.
Every day smoker	An adult who has smoked at least 100 cigarettes in his or her lifetime, and who now smokes every day. Previously called a "regular smoker".
Former smoker	An adult who has smoked at least 100 cigarettes in his or her lifetime but who had quit smoking at the time of interview.
Never smoker	An adult who has never smoked, or who has smoked less than 100 cigarettes in his or her lifetime.
Quit attempt	From 1991 on, a quit attempt was more quantitatively defined as having stopped smoking for one day or longer with the intention of quitting.
Someday smoker	An adult who has smoked at least 100 cigarettes in his or her lifetime, who smokes now, but does not smoke every day. Previously called an "occasional smoker".
Smoking status	A recoded variable based on several questions about cigarette smoking. It includes the categories of current smoker, former smoker, never smoked, and smoking status unknown.

1.1.3.1 Nicotine dependence

Similarly to alcohol dependence, the ICD-11 defines nicotine dependence as a "*disorder of regulation of nicotine use arising from repeated or continuous use of nicotine*". The characteristic feature is a strong internal drive to use nicotine, manifested by an impaired ability to control use, increasing priority given to use over other activities and persistence of use despite harm or negative consequences. These experiences are often accompanied by a

subjective sensation of urge or craving to use nicotine. Physiological features of dependence may also be present, including tolerance to the effects of nicotine, withdrawal symptoms following cessation or reduction in use of nicotine, or repeated use of nicotine or pharmacologically similar substances to prevent or alleviate withdrawal symptoms. The features of dependence are usually evident over a period of at least 12 months (ICD-11, 2019, 6C4A.2).

1.1.3.2 Harmful pattern of use of nicotine

A harmful pattern of nicotine use is defined as a "*pattern of nicotine use that has caused damage to a person's physical or mental health*". The pattern of nicotine use is evident over a period of at least 12 months if substance use is episodic or at least one month if use is continuous (i.e., daily or almost daily). Harm to health of the individual occurs due to one or more of the following: **a.** direct or secondary toxic effects on body organs and systems; **b.** a harmful route of administration (ICD-11, 2019, 6C4A.1 Harmful pattern of use of nicotine).

The DSM-V also includes definitions for nicotine addiction, though DSM-V definitions may be slightly more tailored towards the North American context (APA, 2013).

1.1.4 Definitions related with Internet use

Currently, no recognition of Internet addiction exists within the spectrum of addictive disorders and, therefore, no coherent definition. Nevertheless, it has been proposed for inclusion in the next version of the Diagnostic and Statistical Manual of Mental Disorder (DSM) (Weinstein, A., & Lejoyeux, M, 2010).

1.1.4.1 Internet addiction

The diagnosis of Internet addiction (dependence) remains problematic. No widely accepted diagnostic criteria exist. Four components have been suggested as essential to the diagnosis (Block, 2008):

- excessive Internet use, often associated with a loss of sense of time or a neglect of basic drives,
- withdrawal, including feelings of anger, tension, and/or depression when the computer is inaccessible,
- tolerance, including the need for better computer equipment, more software, or more hours of use,
- adverse consequences, including arguments, lying, poor school or vocational achievement, social isolation, and fatigue.

The European Parliament's standard definition of Internet addiction uses Billieux et al. (2019) definition for behavioral addiction, as follows: "*repeated behaviour leading to significant harm or distress, which is not reduced by the person and persists over a significant period of time (e.g. at least 12 months), producing functional impairment*". Thus, behaviour should not be conceptualized as behavioral addiction if it meets at least one of the following exclusion criteria:

- the behaviour is better explained by an underlying disorder (e.g. a depressive disorder or impulse-control disorder);
- the functional impairment results from an activity is the consequence of a wilful choice (e.g. high-level sports);
- the behaviour can be characterized as a period of prolonged intensive involvement that detracts time and focus from other aspects of life, but does not lead to significant functional impairment or distress;
- the behaviour is the result of a temporary coping strategy as an expected response to common stressors or losses" (Lopez-Fernandez & Kuss, 2019, p. 12).

Additional, research-based exclusion criteria include:

- conflict at intrapersonal and interpersonal levels (e.g. lack of control over online behaviours, or the difficulty of preserving regular healthy social relationships in everyday life);
- salience (e.g. preoccupation with generalized Internet use);
- tolerance (e.g. need for increasing use to be satisfied); and
- functional impairment (e.g. when an aspect of life is detrimentally impacted because of Internet use)" (Lopez-Fernandez & Kuss, 2019, p. 7).

1.1.4.2 Problematic Internet Use (PIU)

Various terms are used in studies regarding Internet use in adolescence including among others the following terms (Anderson, Steel & Stavropoulos, 2016; King et al, 2020):

1. Compulsive Internet use	**2.** Internet Addiction (IA)	**3.** Problematic Internet Use (PIU)
4. Online game addiction	**5.** Internet use (high/low)	**6.** Pathological video use

7. Gaming disorder	8. Online video game play	9. Gaming disorder

In the meanwhile, problematic Internet use (PIU) is the most used term. This definition includes a broad range of unhealthy and problematic conditions related with Internet use. In particular, the European Problematic Use of the Internet (EU-PIU) Research Network's manifesto includes a number of Internet-related behaviours listed under problematic use of the Internet (PIU), such as "*gaming, gambling, buying, pornography viewing, social networking, cyber-bullying, cyberchondria*" (Fineberg et al., 2018,). Such behaviours may already be included under other definitions and diagnoses, and can be viewed under a number of lenses, e.g. behavioral addiction, obsessive-compulsive related disorders, social anxiety disorders, and impulse control or sexual disorders.

Other definitions which are commonly used to define problematic behaviours related with Internet use by children and adolescents are the ones for gaming.

→ Gaming disorder

The ICD-11 defines gaming disorder as *"characterized by a pattern of persistent or recurrent gaming behaviour ('digital gaming' or 'video-gaming'), which may be online (i.e., over the Internet) or offline, manifested by* ***a.*** *impaired control over gaming (e.g., onset, frequency, intensity, duration, termination, context),* ***b.*** *increasing priority given to gaming to the extent that gaming takes precedence over other life interests and daily activities and* ***c.*** *continuation or escalation of gaming despite the occurrence of negative consequences. The behavioral pattern is of sufficient severity to result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning".*

The pattern of gaming behaviour may be continuous or episodic and recurrent. The gaming behaviour and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe" (ICD-11, 2019, 6C51 Gaming Disorder). Gaming disorder has the largest evidence base for Internet-use-related addictions, and is also included in the Appendix of the DSM-5 (Nuyens, Kuss Lopez-Fernandez & Griffiths, 2019).

→ Hazardous gaming

Hazardous gaming is defined as "*a pattern of gaming, either online or offline that appreciably increases the risk of harmful physical or mental health consequences to the individual or to others around this individual*". The increased risk may be from the frequency of gaming, from the amount of time spent on these activities, from the neglect of other

activities and priorities, from risky behaviours associated with gaming or its context, from the adverse consequences of gaming, or from the combination of these. The pattern of gaming is often persists [*sic*] in spite of awareness of increased risk of harm to the individual or to others" (ICD-11, 2019, QE22 Hazardous Gaming).

1.1.4.3 Internet use scales

There are various scales to evaluate Internet use. The most widely used are presented as follows (Anderson et al., 2016):

1. Internet Addiction Test	**2.** Problematic Video Game Playing Test	**3.** Compulsive Internet Use Scale
4. Frequency Computer Game Use	**5.** Generalized Problematic Internet Use Scale 2	**6.** Davis Scale for Problematic Internet Use
7. Frequency Internet Use	**8.** Pathological Video Game Use	**9.** Gaming disorder (e.g., AICA-Sgaming, GAS-7, IGDT-10, IGDS9-SF, and Lemmens IGD-9 scales)
10. Chen Internet Addiction Scale		

1.2 Country-specific approaches to define addictions

In the ADD-freeTraining consortium countries the accepted definitions of addiction and/or problematic use are those used by WHO. There are some exceptions.

1.2.1 Bulgaria

In the Republic of Bulgaria, experts working in the public health field and social activities use the following definitions from WHO for substance abuse, dependence, and addiction.

→ Substance abuse

Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome – a cluster of behavioral, cognitive, and physiological phenomena – developed after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher

priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

→ Alcohol addiction

Alcohol addiction is a combination of bodily, behavioral, and mental disorders in which an individual prioritizes the use of alcoholic beverages over other behaviours previously of greater value to the individual. Alcohol has a place in the Bulgarian way of life and culture: the presence and use of alcohol is “mandatory” when celebrating personal and religious holidays, and when we welcome guests. Increasingly, alcohol consumption is becoming a problem, mainly at the level of harmful use and addictive substance abuse. To define one person as an alcohol-dependent, there must be several prerequisites, including a mental dependence on alcohol, increased tolerance of alcohol, abstinence syndrome in the absence of use, bodily injury as a result of the use, and disturbances in the person’s social life.

→ Smoking

Smoking is a behavioral stereotype with extremely adverse health effects. Cigarettes and other tobacco-containing products are high-tech products designed to create and maintain dependence.

→ Internet addiction

Internet addiction, according to the most common definition, is a compulsive and pathological urge to use the Internet and an inability to control and stop use. According to the National Safe Internet Center, Internet addiction is more of a sign of a real problem in a person's life than a source of it.

1.2.2 Croatia

Literature in the Croatian language primarily utilizes widely used definitions of addiction and problematic use (e.g. WHO 1994; DSM-V, 2013). For example, the Terminological Descriptive Addiction Dictionary (Brlas, 2011) defines addiction as a chronic, recurrent brain disease. The Croatian Encyclopedia (Miroslav Krleža Institute of Lexicography, n.d.) defines addiction as a psychological and sometimes physical condition that results from the effects of psychoactive substances. Addiction is characterized by behavioral changes and other processes that involve the compulsion to use psychoactive substances for their effects or to eliminate withdrawal symptoms.

1.2.3 Cyprus

According to the Cypriot Law 2017 (164(I)/2017) ('Prevention of the use and dissemination of drugs and other addictive substances') (Cyprus Bar Association, 2017a), addiction is defined as any persistent and repeated maladaptive behaviour involving the use of legal and illegal addictive substances. Addiction involves a pathological and almost automatic habit that the individual is unable to control and terminate due to strong physiological, psychological, and social factors, despite the individual recognizing the harmful consequences of the habit (such as abandoning or reducing social, professional, or recreational activities).

Problematic use, as defined by the European Centre, is "*the intravenous drug use and/or the long-term systematic use of opiates, cocaine and/or amphetamines*" (National Centre for the Documentation and Information about Drugs, 2005) (Cyprus Addiction Treatment Authority, 2020a). There appears to be no definitions specific to Cypriot literature for the problematic use of alcohol, tobacco, and the Internet.

1.2.4 Greece

There is no official Greek definition for addiction, while Greece seems to adopt WHO's definition and DSM-V criteria for addiction. According to the Therapy Center for Addictive Individuals (2018), obsession with something or someone plays a significant role in addiction. More specifically, "*substance addiction is a condition of absolute dependence for the addict, whose actions are governed by their intense need for the substance".*

There are two kinds of addiction, physical and psychological. Physical addiction or dependence applies when the body is adapted to the substance. In case of substance absence, the body shows withdrawal symptoms. On the other side, psychological addiction or dependence refers to one person's need to use a substance, in order to relax, avoid stress or pressure, feel better or even "normal", or escape from the reality. Psychological dependence is more serious than the physical and needs more time in terms of therapy.

1.2.5 Serbia

Serbia uses the WHO's definition of substance abuse: "*Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs*". Psychoactive substance use can lead to dependence syndrome – "*a cluster of behavioral, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting*

in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state".

The following WHO definitions are also applied:

→ Abuse (drug, alcohol, chemical, substance, or psychoactive substance)

Abuse includes a group of terms in wide use but of varying meaning. In DSM-IIIR*, psychoactive substance abuse is defined as "*a maladaptive pattern of use indicated by continued use despite knowledge of having a persistent or recurrent social, occupational, psychological or physical problem that is caused or exacerbated by the use [or by] recurrent use in situations in which it is physically hazardous*".

→ Addiction to drugs or alcohol

Addiction to drugs or alcohol refers to the repeated use of a psychoactive substance or substances, to the extent that the user (referred to as an addict) is periodically or chronically intoxicated, shows a compulsion to take the preferred substance (or substances), has great difficulty in voluntarily ceasing or modifying substance use, and exhibits determination to obtain psychoactive substances by almost any means. Typically, tolerance is prominent and a withdrawal syndrome frequently occurs when substance use is interrupted. The life of the addict may be dominated by substance use to the virtual exclusion of all other activities and responsibilities. The term addiction also conveys the sense that such substance use has a detrimental effect on society, as well as on the individual; when applied to the use of alcohol, it is equivalent to alcoholism. Addiction is a term of long-standing and variable usage. It is regarded by many as a discrete disease entity, a debilitating disorder rooted in the pharmacological effects of the drug, which is remorselessly progressive.

→ Dependence

Dependence, as a general term, includes the state of needing or depending on something or someone for support or to function or survive. As applied to alcohol and other drugs, the term implies a need for repeated doses of the drug to feel good or to avoid feeling bad. In DSM-IIIR, dependence is defined as "a cluster of cognitive, behavioural and physiologic symptoms that indicate a person has impaired control of psychoactive substance use and continues use of the substance despite adverse consequences". It is roughly equivalent to the dependence syndrome of ICD-10. In the ICD-I0 context, the term dependence could refer generally to any of the elements in the syndrome. The term is often used interchangeably with addiction and alcoholism. While the ICD-I0 describes dependence in terms applicable across drug classes, there are differences in the characteristic dependence symptoms for different drugs. In unqualified form, dependence refers to both physical and psychological

elements. Psychological or psychic dependence refers to the experience of impaired control over drinking or drug use (see craving, compulsion), while physiological or physical dependence refers to tolerance and withdrawal symptoms (see also neuroadaptation). In biologically- oriented discussion, dependence is often used to refer only to physical dependence. Dependence or physical dependence is also used in the psychopharmacological context in a further narrower sense, referring solely to the development of withdrawal symptoms on cessation of drug use. In this restricted sense, cross- dependence is seen as complementary to cross-tolerance, with both referring only to physical symptomatology (neuroadaptation).

→ Excessive Internet use

Excessive Internet use is related with a decreased capability for control of Internet use and the consequential problems in communication with others. It does not imply psychopathology and addiction, but implies unsuccessful behaviour al self-regulation which only in rare and extreme cases can mean that there is psychopathology. In the studies conducted so far in Serbia, excessive Internet use was defined initially as more than 20 hours per week spent on Internet use. In the most recent research, it is defined as spending six or more hours per day on the Internet.

2 Epidemiological evidence on addictions: international, European and country-specific data

2.1 Epidemiological evidence on alcohol addiction and problematic use of alcohol at international and European levels: focus on adolescence and young individuals

The total APC in the world's population over 15 years old rose from 5.5 L Liters) of pure alcohol in 2005 to 6.4 L in 2010 and was still at the level of 6.4 L in 2016. WHO reports that the WHO European Region has the highest APC in the world. Adult APC was 11.3 L of pure alcohol, while male APC (18.3 L) was nearly four times the female APC (4.7 L). 72% of people reported drinking alcohol in the past year (women: 61.4%, men: 83.3%), and 30.4% reported heavy episodic drinking in the past month (women: 14.4%, men: 47.4%) (WHO, 2019b). Worldwide in 2016, more than half (57%, or 3.1 billion people) of the global population aged 15 years and over had abstained from drinking alcohol in the previous 12 months. About 2.3

billion people are current drinkers. Alcohol is consumed by more than half of the population in only three WHO regions – the Americas, Europe and Western Pacific (**Figure 1**) (Global status report on alcohol and health, 2018).

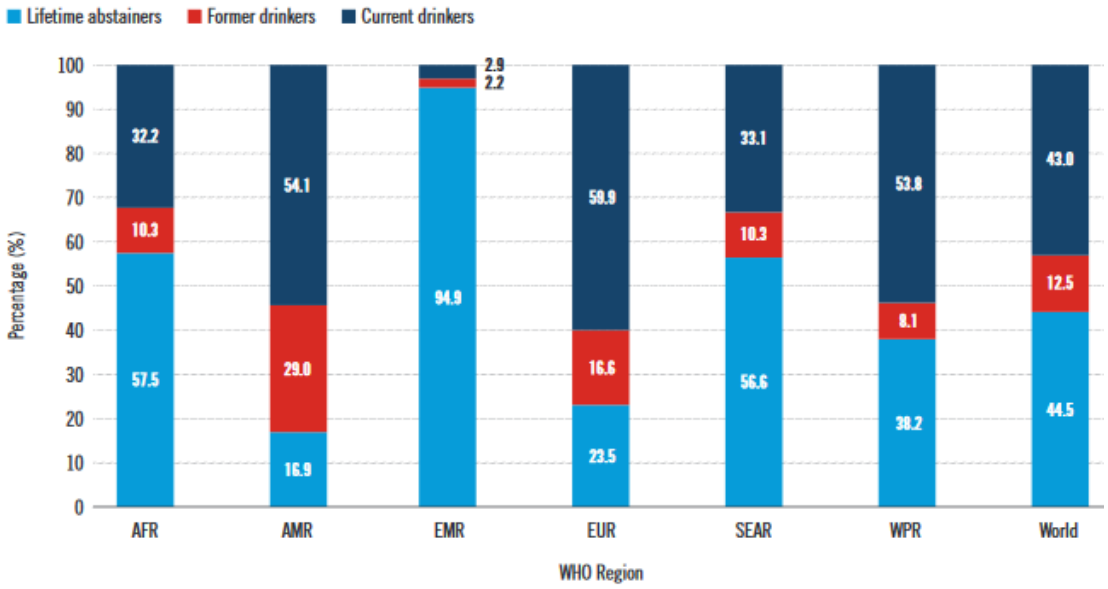
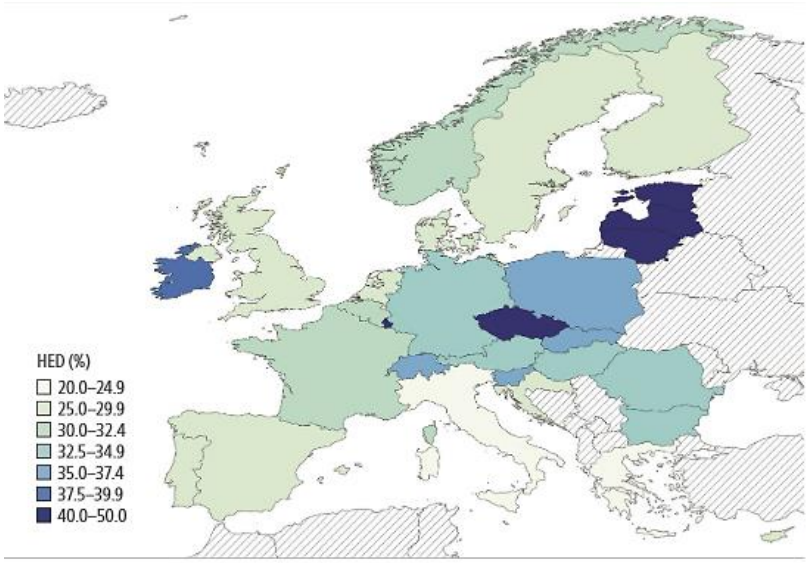


Figure 1 Percentage of current drinkers, former drinkers and lifetime abstainers (in %) among the total population (15+ years) by WHO region and the world, 2016. ***Source:*** *Global status report on alcohol and health 2018. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO.*

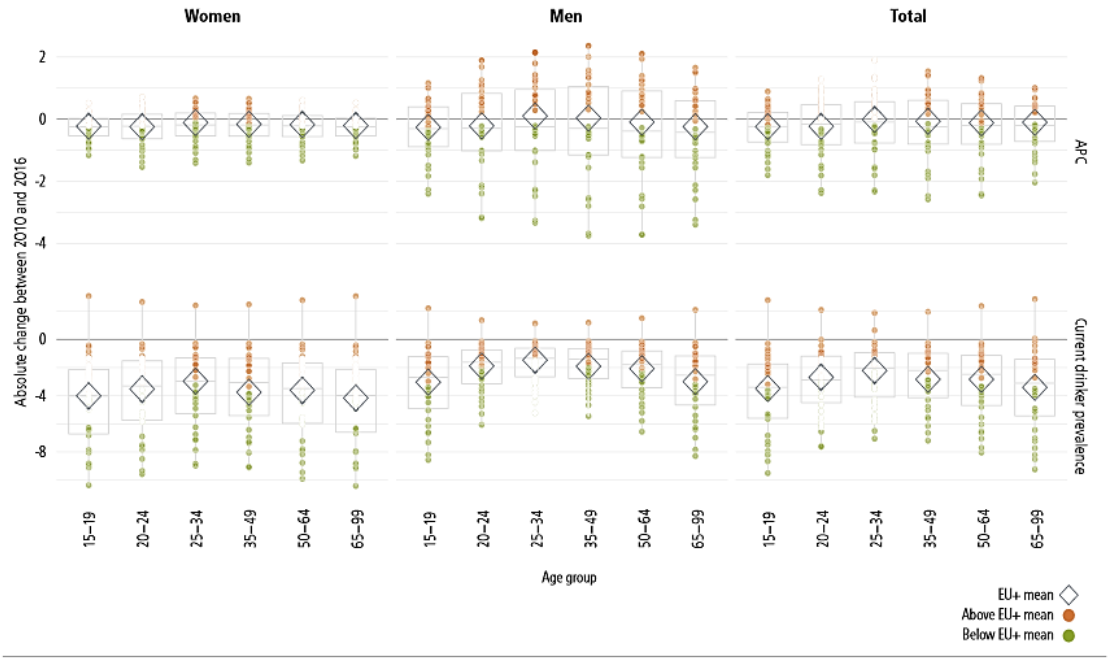


The prevalence of heavy episodic drinking (*defined as 60 or more grams of pure alcohol on at least one occasion at least once per month*) has decreased globally from 22.6% in 2000 to 18.2% in 2016 among the total population, but remains high among drinkers, particularly in parts of Eastern Europe (over 60% among current drinkers) (**Figure 2**) (WHO, 2019b).

Worldwide, more than a quarter (26.5%) of all 15–19-year-olds are current drinkers, amounting to 155 million adolescents. Across the lifespan, alcohol use peaks among 35–49-year-olds (per capita consumption 13.4 L) but is lowest among the youngest (15–19-year-

Figure 2 Prevalence of heavy episodic drinking in EU+ countries, 2016. ***Source:*** *Status report on alcohol consumption, harm and policy responses in 30 European countries. World Health Organization 2019. Geneva, WHO.*

olds: per capita consumption 7.0 L) and oldest age groups (65 years and older: per capita consumption 8.5 L) (**Figure 3**) (WHO, 2019b). However, it should be noticed that the prevalence rates of current drinking are highest among 15–19-year-olds in the WHO European Region (43.8%), followed by the Region of the Americas (38.2%) and the Western Pacific Region (37.9%). Results of school surveys indicate that in many countries of the Americas, Europe and Western Pacific alcohol use starts before the age of 15 years and the prevalence of alcohol use among 15-year-old students is in the range of 50–70% with remarkably small differences between boys and girls. The prevalence of heavy episodic drinking is lower among adolescents (15–19 years) than in the total population but it peaks at the age of 20–24 years when it becomes higher than in the total population. Except for the Eastern Mediterranean Region, all HED prevalence rates among drinkers of 15–24 years are higher than in the total population. Young people of 15–24 years, who are current drinkers, often drink in heavy drinking sessions. Prevalence of HED is particularly high among men.



*Within the boxplots, horizontal lines refer to the EU+ median. The rhomboids represent the EU+ mean and each dot along the vertical line denotes one country estimate.

Figure 3 Changes in APC among adults (15+) and prevalence of current drinkers between 2010 and 2016 by age and sex displayed asboxplotsa (covering 50% of the estimates). *Source:* Status report on alcohol consumption, harm and policy responses in 30 European countries. World Health Organization 2019. Geneva, WHO.

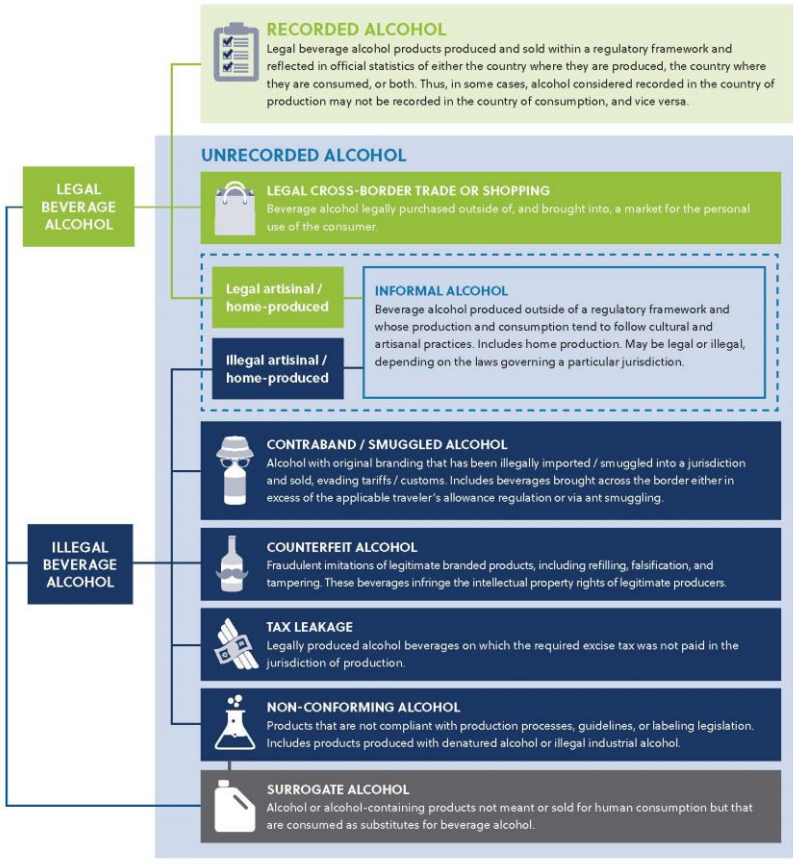
In the European health interview survey (EHIS), conducted in the EU-28, 9.2% of people older than 15 years of age reported daily drinking, 29.6% reported weekly drinking, and 23.1% reported monthly drinking. 23.9% had not consumed alcohol in the year

preceding the survey. 1 in 5 who drank alcohol had an episode of heavy drinking at least monthly in the year of the survey, with men (28.3%) reporting a higher prevalence than women (12.3%). Countries in the EU-28 tended to report a higher prevalence of heavy drinking among those in the highest income quintile group (Eurostat, 2018).

A Eurobarometer (2010) report covering 27 EU countries corroborates a number of statistics, such as drinking in the past 12 months, and male and female alcohol consumption. Additionally, it was found that daily drinking is more prevalent for those of >55 years of age (25%) compared to 15- to 24-year-olds (3%), but binge drinking shows the opposite pattern (>55 years: 11%, 15-24 years: 25%).

In the 2015 European School Survey Project on Alcohol and Other Drugs (ESPAD, 2016), 78% of students reported easy access to alcohol. 47% reported alcohol use at the age of 13 or younger with significant variability across countries and boys tending to report higher rates. On average, 80% of students reported previously drinking alcohol at least once. 48% reported drinking in the month prior to the survey, 35% reported heavy episodic drinking, and 13% reported being intoxicated. In other countries in this report, Cyprus had among the highest statistics across multiple metrics (e.g. alcohol use at <13 years, drinking in the past month, heavy episodic drinking) in Europe. From 2003 to 2015, lifetime and current prevalence of alcohol use decreased.

Due to the elevated APC, Europe suffers from a correspondingly higher alcohol-attributable burden of disease. However, alcohol-attributable rates of mortality and burden of disease are still lower than the global average.



Source: This taxonomy was developed as part of a collaborative effort among the following organizations: Anheuser-Busch InBev (ABI), Associação Brasileira de Bebidas (ABRABE), Brown-Forman, Câmara Nacional de la Industria Tequilera, The Commission of the Wine and Spirit Industry (CIVYL), Diageo, Euromonitor International, Heineken, The International Alliance for Responsible Drinking (IARD), Pernod Ricard, SABMiller, and spiritsEUROPE.

Figure 4 Recorded vs. unrecorded alcohol consumption. *Source: International Alliance for responsible drinking. Toolkit for assessing the unrecorded alcohol market.*

In 2016, 5.5% of deaths in the EU+ (291,000) were due to alcohol, primarily due to cancer (29%), liver cirrhosis (20%), cardiovascular disease (19%), and injury (18%). In 2016, alcohol use was responsible for 10.3 million DALYs in the EU+, lower than the 11.4 million DALYs reported in 2010. Men suffer a higher alcohol-attributable disease burden than women (3.5: 1), as well as a higher age-standardized number of deaths (4 : 1). Eastern European countries bear a larger proportion of the alcohol-attributable mortality, and DALYs (WHO, 2019a).

Importantly, 19.0% of deaths of 15 to 19-year-olds and 23.3% of 20 to 24-year-olds were alcohol-attributable. In younger age groups, the most significant causes of death are injuries, with traffic fatalities accounting for 40.7% of alcohol-attributable mortality for 15 to 24 year-olds (WHO, 2019a).

Between 2010 and 2016, there was no statistically significant decrease in total APC, athough the percentage of current drinkers slightly declined from 75.3% to 72.0%. APC and the percentage of current drinkers for 15 to 19-year-olds decreased slightly, from 7.2 L to 7.0 L and 64.9% to 61.4% respectively. From 2010 to 2016, the gender gap in alcohol consumption increased. Age-standardized death rates for alcohol-related causes of death fell 14.1% between 2010 and 2016, though this is largely attributable to the 9% decline in general age-standardized death rates (WHO, 2019a).

Determinants of alcohol use include tobacco use, diet and nutrition, socioeconomic factors, and the health care system. Individuals with lower socioeconomic status (compared to those with high socioeconomic status) have triple the mortality risk for causes of death fully attributable to alcohol use (WHO, 2019a).

2.2 Epidemiological evidence on alcohol addiction and problematic use – country-specific evidence: focus on adolescence and young individuals

Substantial variations in changes in per capita consumption of pure alcohol between 2010 and 2016 were observed across EU+ countries, with 17 reporting an overall decrease and 13 an overall increase. The largest absolute decline in per capita consumption were observed in Romania (–2.4 L), Croatia (–2.3 L) and Finland (–1.9 L). Countries with the largest growth in per capita consumption were Latvia (+1.3 L), Slovenia (+1.2 L) and Malta (+1.1 L). Disaggregating per capita consumption to its constituent parts recorded, unrecorded (**Figure 4**) and tourist consumption shows that for most countries, total alcohol consumption was mainly impacted by recorded and unrecorded consumption, while the level of tourist consumption was negligible. Changes in both recorded and unrecorded

consumption followed the same direction as changes in total consumption in most EU+ countries. Notable exceptions were among others in Cyprus and Greece, where reductions in recorded alcohol consumption were substantially counterbalanced by increases in unrecorded alcohol consumption. There were no substantial changes in tourist consumption in most of the countries except Croatia, where it increased by 0.6 L (Figure 5).

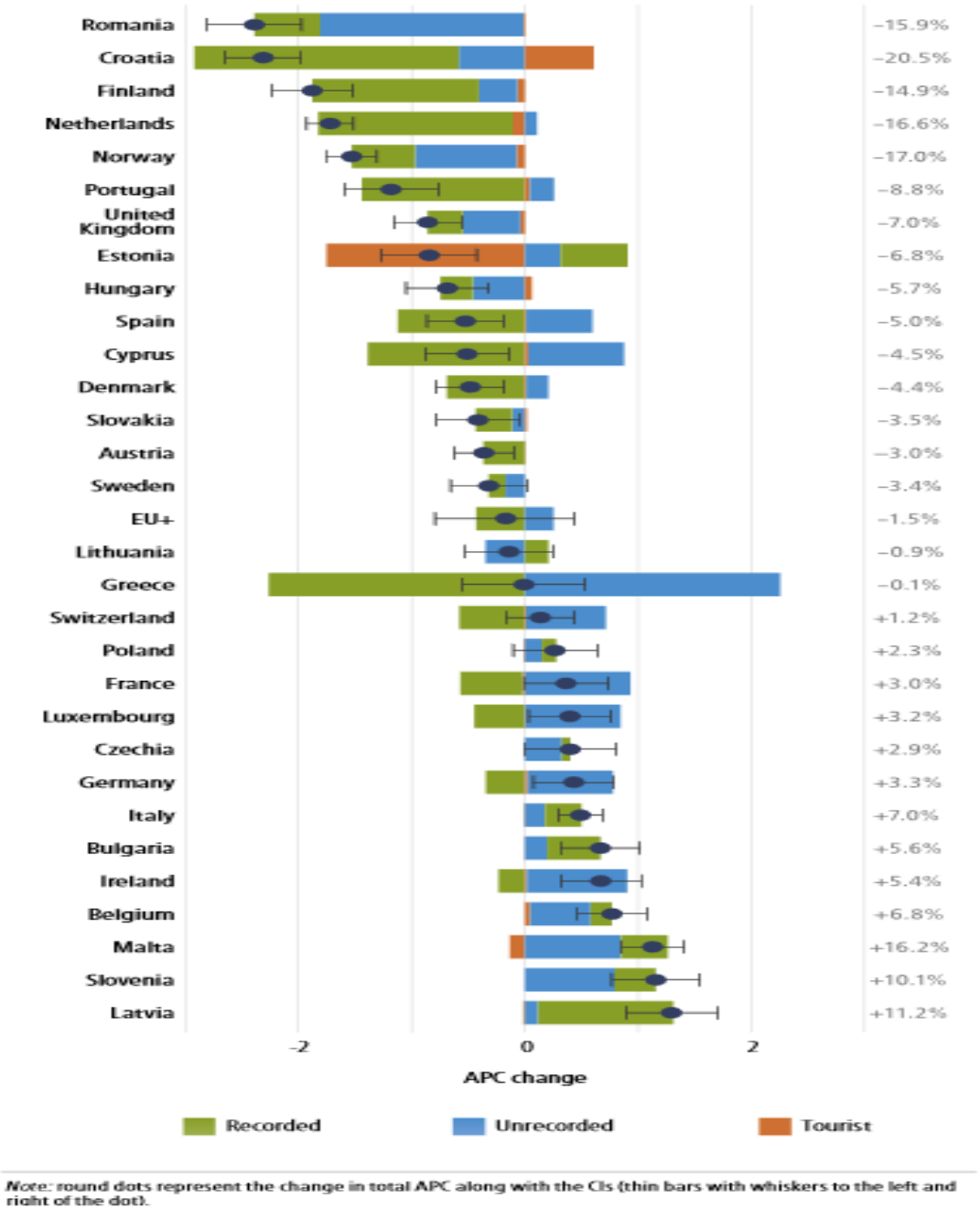


Figure 5 Adult APC between 2010 and 2016 by country and across all EU+ countries. *Source:* Status report on alcohol consumption, harm and policy responses in 30 European countries. World Health Organization 2019. Geneva, WHO.

According to the European School Survey Project on Alcohol and other Drugs the prevalence of lifetime alcohol use showed reductions between 1995 and 2015 in most countries. However, lifetime prevalence remained almost unchanged, among others, in Bulgaria, Cyprus, Greece and Serbia. The only country where alcohol use increased was Croatia, with the prevalence rising by 10 percentage points (**Figure 6**).

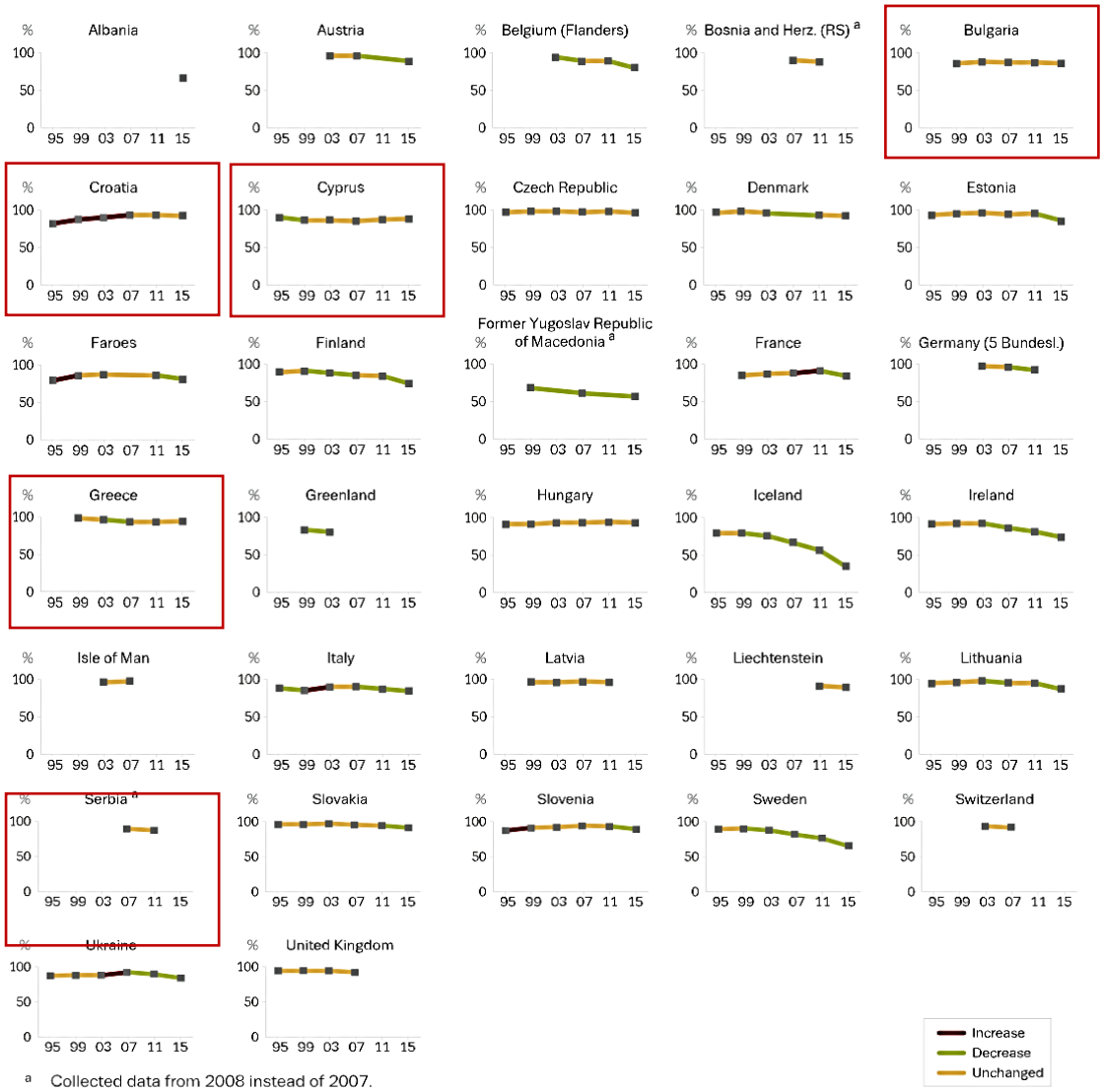


Figure 6 Lifetime alcohol use of alcohol by country: 1995-2015. Results from European School Survey Project on Alcohol and other Drugs. *Source:* http://www.espad.org/report/trends-1995-2015/country-specific-trends.

2.2.1 Bulgaria

According to WHO statistics, alcoholism and smoking are responsible for the death of between 3.5 and 5 million people, a number comparable to the victims of car accidents and some forms of cancer. According to the European School Research Project on Alcohol and other Drugs (ESPAD), every third student in Bulgaria had consumed alcohol as a minor and

almost 80% of high school children had already consumed alcohol and 45% of the students had abused alcohol. Research shows that children are reaching out to alcohol more often: for example, children consider it fashionable to carry alcohol on holidays. Toxicology statistics show that the number of children experiencing alcohol poisoning is increasing, with no major differences between male and female cases. Children drink mainly during vacations and weekends, but drinking during recess intervals is also common.

2.2.2 Croatia

Three General Population Surveys (GPS) on substance use were conducted in Croatia in 2011, 2015 and 2019. Last available data are from 2015.

The majority (86.3%) of all adults reported having consumed alcohol in their lifetime, 73.2% reported alcohol consumption during the past year, and 57.4% during the past month. Amongst all adults, 40.2% reported having consumed alcohol once a month or less. Alcohol was consumed 2 to 4 times a month by 24.3% of all adults, 2 to 3 times a week by 13.3% of all adults, and 4 times a week or more by 8.2% of all adults. Five times more males than females reported having consumed alcohol 4 times a week or more (13.1% and 3.2%, respectively). 11.4% of adults reported drinking six or more glasses of an alcoholic drink on the same occasion (heavy drinking) once a month, whereas 7.2% reported heavy drinking once a week and 0.9% reported daily or almost daily heavy drinking. One-fifth of all adults (20.2%) reported drinking heavily. The majority of 15-24 year olds reported having consumed alcohol in their lifetime (84.1%), 78.3% reported alcohol consumption during the past year, and 63.4% during the past month. Amongst 15-24 year olds, 35.1% reported having consumed alcohol once a month or less. Alcohol was consumed 2 to 4 times a month by 32.5%, 2 to 3 times a week by 14.3%, and 4 times a week or more by 2.7% of 15-24 year olds. 1.4% of 15 to 24-year-old females and 7.4% of 15 to 24-year-old males reported having consumed alcohol 4 or more times a week. 19.2% of 15 to 24-year olds reported heavy drinking once a month, 13.4% reported heavy drinking once a week, and 0.6% reported heavy drinking daily or almost daily. One-fourth of 15-24 year olds (24.7%) reported drinking heavily less than once a month.

Analyses of the trends in alcohol consumption in the WHO European Region has shown that Croatia has had stable alcohol consumption between 1990 and 2014, as the total alcohol per capita (APC) consumption in 2014 was 12.2 L, compared to 15.7 L in 1990. The APC for Croatian adults was 15.1 L (WHO European Region average of 16.8 L). Men consume

approximately twice the amount that women do (19.3 L and 10.1 L of pure alcohol, respectively, among drinkers only) (Pejnović Franelić, 2017).

Lifetime use of alcohol among Croatian students was 92%, last-30-day alcohol use 55%, and last-30-day intoxication 16%, all above the ESPAD average (80%, 48% and 13%, respectively). Lifetime alcohol use among boys and girls was about the same (94% vs 91% respectively), while last 30-day alcohol use was higher among boys than girls (60% vs 49% respectively). Last-30-day intoxication was 17% among boys and 14% among girls. 87% of students reported that they would find it fairly or very easy to get hold of alcohol (ESPAD average was 78%) (ESPAD, 2016). According to the HBSC data from 2013/2014, 32% of 15-year-old Croatian students had been drunk twice or more in their life (40% of boys and 24% of girls) (Pavić Šimetin et al., 2016).

2.2.3 Cyprus

It is estimated that about 3% of the Cypriot population is dependent on alcohol. In 2011, 213 people applied for alcohol abuse treatment, of whom 7 out of 10 were Cypriot men, with an average age of 46 years (middle-age and elderly senior users). Primary education was the highest level of education for half of the applicants. Only 1 in 4 reported stable employment. According to the ESPAD survey, excessive alcohol consumption has increased among pupils in Cyprus. Cypriot pupils also have easier access to alcohol than pupils from other countries. An estimated 10% of the youth population in Cyprus has drunk alcohol in the last 12 months. Adolescents more frequently experience their first intoxication at the ages of 15-22. Still, there is a decrease of about 10% in the rate of intoxication compared to previous years.

For 2009-2011, an average of 18% drivers were fined for exceeding the alcohol limit. Concerning perceptions of alcohol, it has been found that Cypriots support policies involving stricter traffic measures regarding alcohol. At the same time, Cypriots are more liberal in what concerns the sale and the alcohol advertising, while they advocate a light tax policy on alcohol (Cyprus National Addictions Authority, 2020e).

2.2.4 Greece

In the general EU population, one in eleven people consumed alcohol on a daily basis, while one in five reported a heavy episode drinking at least once a month. In Greece, 6.9% reported drinking everyday and 23.7% drinking on a weekly basis (Eurostat, 2018).

In 2014, Greece was among the European countries with the highest prevalence of adolescents drinking alcohol on a weekly basis i.e. 17% (WHO/Europe, 2018). Gender differences are apparent in weekly alcohol consumption rates, where prevalence for boys aged 15 years old is approximately 30%, while prevalence for girls is 20% (WHO/Europe, 2018).

Across 36 European countries, Greece ranked third in alcohol use at the age of 13 or before (early alcohol initiation) for girls (38%) and the second for boys (47%) (WHO/Europe, 2016a). Approximately 20% of adolescents reported having been drunk at least twice in their lifetime, without large differences between girls and boys (WHO/Europe, 2016a). 27.6% of students reported having had heavy episodic drinking the last 30 days, which is higher than the European average (WHO/Europe, 2016b).

In a national cross-sectional survey, i.e. Greek Nationwide School Population Survey on Substance Use and other Addictive Behaviours, it was revealed that in 2016, close to three quarters of Greek students reported consumption of alcohol within the last 30 days, which was well above the average for all other European countries (Kokkevi et al., 2016). In the same survey, one out of ten students reported excessive alcohol consumption (defined as five or more drinks in a row for more than three times per month the last 30 days before the survey), with boys reporting nearly twice the prevalence of girls (12,2% vs 7,7%) (Kokkevi et al., 2016).

Alcohol consumption among teenagers in Greece is widespread. According to a study by the University Mental Health Research Institute (UMHRI) in Athens, conducted as part of the European School Survey Project (ESPAD, 2016) with students aged up to 16 years old, in 2015 94.1%of respondents had consumed alcohol at some point and 66.2 percent in the month preceding the survey. Moreover, 90.8% of participants said they found it easy to obtain alcohol and 60.9% had consumed it at a bar, club, cafe or restaurant at least once in the previous month. Regarding the amounts consumed and frequency, 38.3% reported more than five drinks on one occasion in the past month and 12.5% got drunk at least once in the same period. Overall, 36.3% said they had been drunk at least once in their lifetime and 28.2% had in the last year. Overconsumption affected 1 out of 10 teenagers, according to the survey, which 9.9% of participants <16 years old had consumed five or more drinks on at least three occasions in the month prior to the study (ESPAD 2015).

Finally, the main alcoholic beverage Greek adolescents prefer to consume is beer (49,1%), followed by wine (43.8%), and “heavy” alcohol drinks (40.0%). Beer is the most commonly consumed alcoholic drink in the EU, especially among boys (Kokkevi et al., 2016;

WHO/Europe, 2016a). Among girls in the EU, Greece reported the highest prevalence (10%) of weekly beer consumption (WHO/Europe, 2016b).

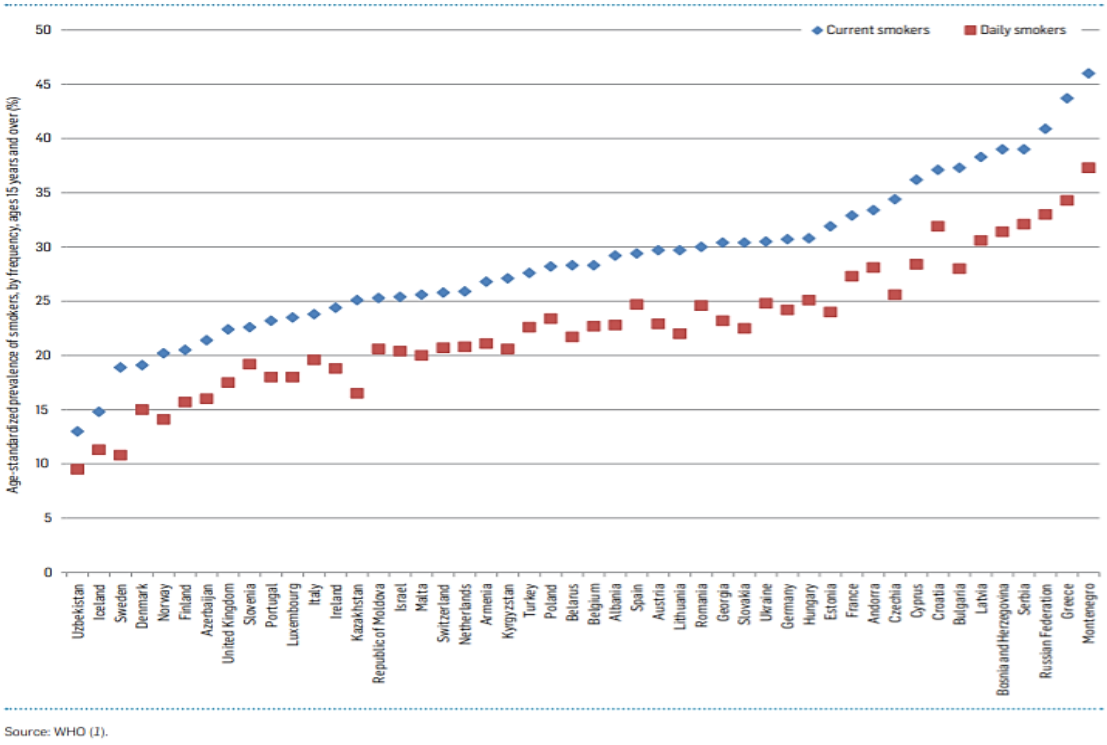
2.2.5 Serbia

Less than one half of 11-, 13-, and 15-year-old students surveyed in Serbia (45.4%) reported alcohol consumption in their lifetime, while one third (31.3%) reported consuming alcohol in the past 30 days. Almost 70% of 15-year-olds reported consuming alcohol at least once (71% of males and 67.6% of females) (Institut za javno zdravlje Republike Srbije, 2019). More than half of 15-year-olds reported alcohol consumption in the past month (53.9%; 51.3% females and 56.6% males) (Institut za javno zdravlje Republike Srbije, 2019). One out of twenty students who reported alcohol consumption in the past month also reported drinking more than 20 days per month. Almost one quarter of students reported being drunk at least once in their lifetime, and 12.2% reported being drunk at least once in the past month. This percentage is the highest among the 15-year-olds (40.7% being drunk at least once in a lifetime and 23.4% being drunk in the past month) (Institut za javno zdravlje Republike Srbije, 2019).

2.3 Epidemiological evidence on tobacco use on international and European basis: focus on adolescence and young individuals

In 2015, over 1.1 billion people smoked tobacco. Far more males than females smoked tobacco. Although it is declining worldwide and in many countries, the prevalence of tobacco smoking appears to be increasing in the WHO Eastern Mediterranean Region and the African Region. The WHO European region reports the highest prevalence of tobacco use in the world (>29%, or about 209 million people) (WHO, 2019a).

In the EHIS, 5.9% of those over 15 years of age reported smoking ≥20 cigarettes daily, and 12.6% reported smoking <20 cigarettes daily. Notably, over 1 in 5 men in Greece and Cyprus reported smoking ≥20 cigarettes daily (Eurostat, 2014). On average, daily smokers in a Eurobarometer (2017) survey reported smoking 14.1 cigarettes per day. From 2000 to 2015, tobacco use in European men generally decreased. Female use of tobacco, in contrast to male tobacco use patterns, is declining slower or increasing in the Russian Federation, Georgia, Croatia, Czechia, France, and Greece. This may be due to access, affordability, cultural and religious practices, and female participation in traditionally male activities (WHO, 2019b). In a Eurobarometer (2010) survey, 54% of current smokers reported attempts to quit smoking.



Source: WHO (1).

Figure 7 Age-standardized estimated current and daily tobacco smoking by European countries in 2016. Only people over 15 years of age were included. **Source:** WHO, 2019b, p.27.

Smoking prevalence data from the WHO collaborative cross-national survey, HBSC, conducted in 2001/2002, 2005/2006, 2009/2010 and 2013/2014, have been used in this report to assess children's tobacco-use behaviours (HBSC, 2018) (**Figure 8**). Results on prevalence trends of tobacco smoking among boys and girls aged 11, 13 and 15 years showed a similarly increasing smoking pattern with age for both sexes: the older a boy or a girl, the higher the prevalence of tobacco smoking. More boys than girls at age 11 across Europe reported smoking, but prevalence levels out around age 15. For both genders, youth smoking at age 15 has fallen about 50% from 2001/2002 to 2013/2014 (WHO, 2019b). 60% of students in the ESPAD (2015) survey reported easy access to cigarettes. 23% had smoked cigarettes at the age of 13 or younger, with high variability across countries. Only 4% started smoking cigarettes daily at the age of 13 or younger. 54% had never smoked and 79% did not report smoking in the month before the survey. 21% reported using cigarettes in the month before the survey (current smokers), and 12% reported smoking daily in the past month. From 1995 to 2015, daily smoking at age of 13 or younger decreased by over half, while lifetime and current cigarette use decreased. Of current smokers, however, 52% reported developing a regular smoking habit before the age of 18 years (Eurobarometer, 2017).

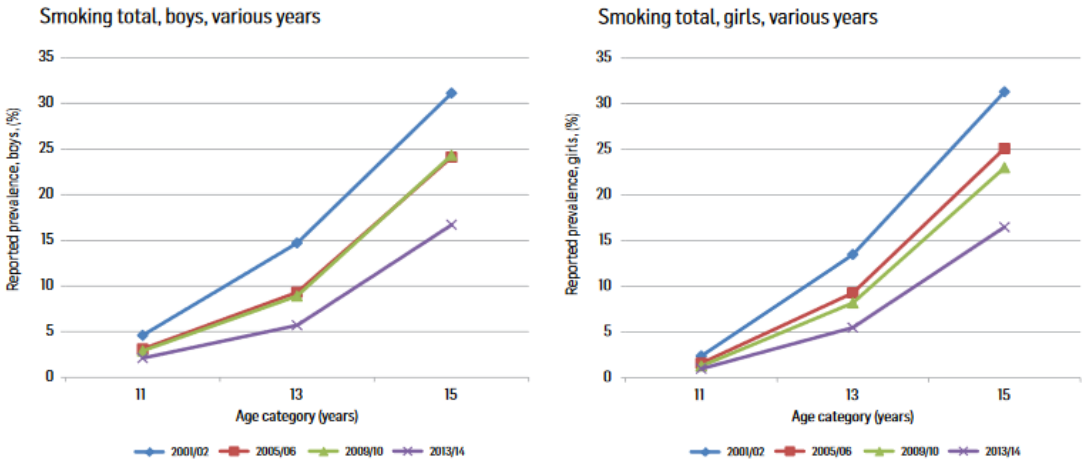


Figure 8 Reported tobacco smoking prevalence trends from HBSC surveys in European countries, ages 11-15 years, by sex, 2001-2014. **Source:** HBSC International Coordinating Centre

European countries in the Commonwealth of Independent States (CIS) such Russia, Armenia etc reported the highest smoking prevalence and the EU15 reported the lowest. CIS countries also reported the largest divergences between male and female tobacco use. For countries which reported <50% prevalence in 2000, Denmark, Iceland, and Norway reported the largest declines by 2015. For countries which reported >50% prevalence, Austria and Belarus reported the largest declines. Kyrgyzstan and the Republic of Moldova have reported increased prevalence (WHO, 2019b).

The WHO considers tobacco use to be the most preventable cause of morbidity and mortality (WHO, n.d.). Tobacco use is related to four main NCDs groups—cardiovascular disease, cancers, diabetes, and respiratory diseases—which are leading causes of death and disability in Europe. The WHO estimates that 18% of NCD deaths are attributable to tobacco use (men: 28%, women: 7%). 85% of lung cancers are attributable to tobacco use. As a proxy for tobacco-related mortality, deaths from the four main NCDs have decreased from 21% in 2005 to 15% in 2015. In 2015, men tended to be much more vulnerable to NCDs (22%) than women (12%) (WHO, 2019b). Age-standardized YLL estimated rates by tobacco-related NCD cause are pictured in **Figure 9**. Sharp subregional disparities exist: 35% of men died from NCDs in countries in the CIS, whereas this was only true for 25% of men in the EU13 countries and 3% of men in EU15 countries (WHO, 2019b). In general, the WHO estimates that 16% of deaths in adults over 30 years of age are tobacco-related (WHO, n.d.) (**Figure 9**).

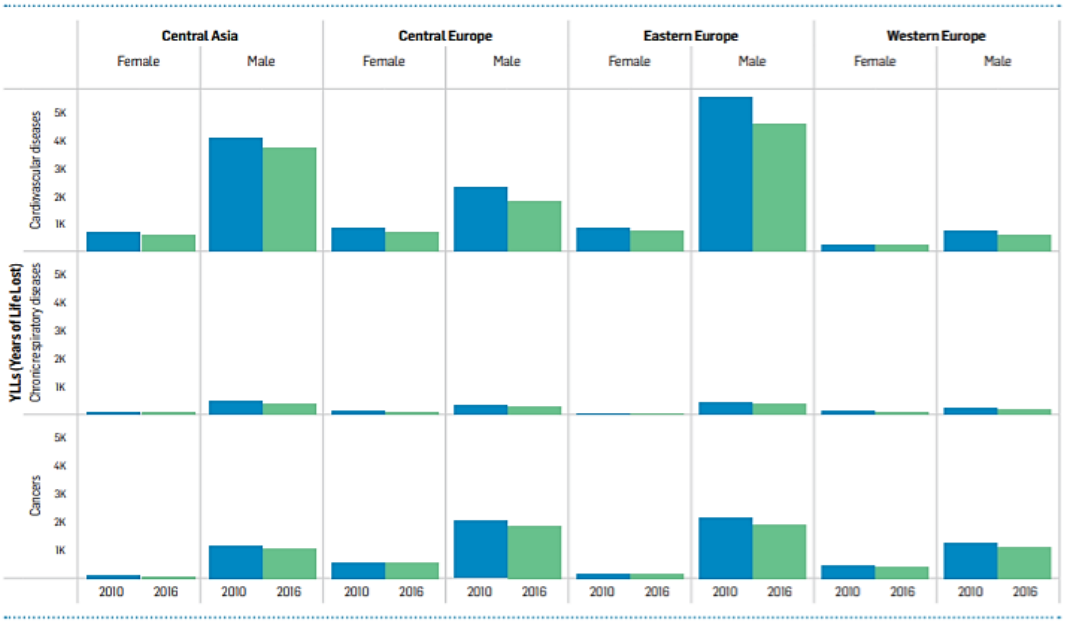


Figure 9 Age-standardized YLL attributable to tobacco use in European subregions, 2010-2016, rate per 100.000 persons. **Source:** WHO, 2019b, p. 20.

Secondhand smoke exposure at home and enclosed public spaces is an important mode of exposure, which not only results in direct detrimental health effects but also increases the likelihood that secondhand smokers use tobacco earlier and more often (WHO, 2019b). Of Eurobarometer respondents who had visited a bar in the 6 months preceding the survey, 20% reported indoor smoking in the last bar they visited. 9% of respondents reported indoor smoking in the last restaurant they visited, though Greek respondents (78%) and Cypriot respondents (51%) reported particularly high figures (Eurobarometer, 2017).

The increasing popularity of electronic cigarettes in past decades has aroused public health concern (Kapan, Stefanac, Sandner, Haider, Grabovac, & Dorner, 2020). Electronic nicotine delivery systems are marketed under a variety of names, most commonly-referred to as “electronic cigarettes (e-cigarettes),” but also as “e-cigs”, “vapes”, “vape pens”, and “mods”. These different types of electronic nicotine delivery systems are designed to be either less harmful than regular cigarettes or used as nicotine replacement therapy. European regions showed a varying picture; southern regions showed similarities, with the reported prevalence of ever-use in Italy and Spain ranging from 5.6% to 6.5%. In northern regions, however, the prevalence ranged from 12% to 17.4% in Finland, to up to 26% in Sweden. Differences are also observed between western and eastern European regions. Low prevalence was mostly found in western European countries, with the following prevalence rates: France (17.9% to 54%) Netherlands (29.4%), Ireland (24%), Germany (11.8%), England

(7.4%), Wales (5.8%), and the lowest prevalence in Switzerland (4.9%). In contrast, highest prevalence was reported among eastern European countries, with highest being in Lithuania (56.65%), followed by Poland (20.9% to 45%), Belarus (42.7%), Slovakia (34.4%), Russia (33.4%), and with considerably lower prevalence of ever-use being reported in Serbia (<10%). Thus in general, the results indicate higher prevalence among eastern WHO European region countries.

The concern that young people who use e-cigarettes may be more likely to smoke cigarettes in the future can be partly confirmed by the study of Treur et al. (2018) (Treur, 2018). Adolescents who ever used an e-cigarette with nicotine were about twelve times more likely to smoke a conventional cigarette 6 months later than those who never used an e-cigarette with nicotine. An additional study shows that the percentage of e-cigarette ever-users and reported current smokers increased from 6.9% among 10–11-year-olds to 39.2% among 15–16-year-olds (Treur, 2018). Current use of e-cigarettes was more likely among those who had previously smoked tobacco. 80% of current e-cigarette users reported having also smoked cigarettes, compared to 72.1% of young people who had used an e-cigarette a few times.

2.4 Epidemiological evidence on tobacco use – country-specific evidence: focus on adolescence and young individuals

The subregional scenario of continuing high prevalence among men and a changing pattern among women begs the question of whether European countries will be able to reach the global target of 30% tobacco-use prevalence reduction between 2010 and 2025. Using the sex-specific 2010 prevalence baseline to estimate 2025 projections, and calculating a 30% reduction from baseline, results show that some high- or low-prevalence countries were decreasing faster by 2015 (**Figure 10**). Eleven countries, mostly from the EU15, would reach the target by 2025, and another 16 would be near to achieving it. While positive, this level of progress means that half of the countries of the WHO European Region will not reach the target for tobacco-use prevalence reduction (WHO, 2019b).

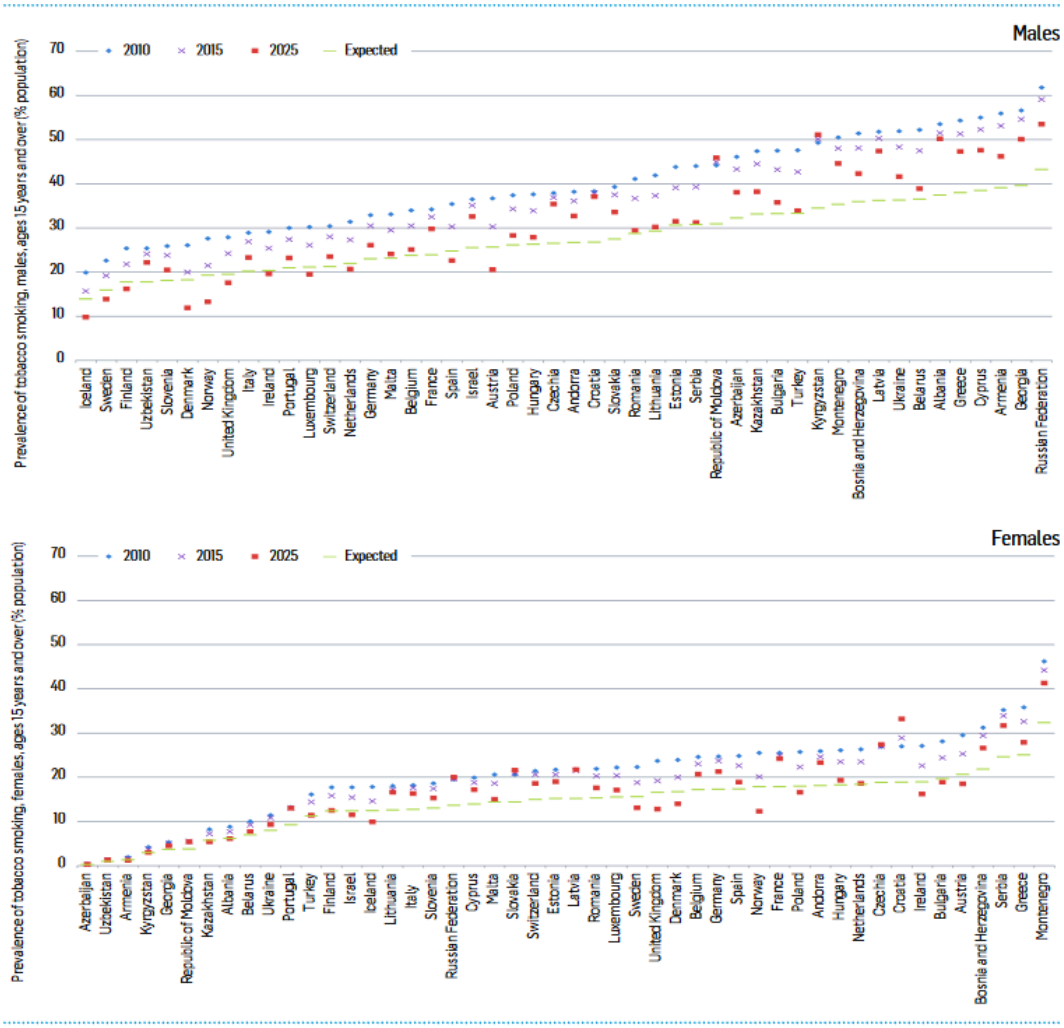


Figure 10 Sex-specific tobacco smoking prevalence trends in European countries, ages 15 years and over, 2010, 2015, and 2025, and expected range. **Source:** WHO, 2019b, p. 32.

2.4.1 Bulgaria

Data from major cities in Bulgaria, collected by the National Focal Point on Drugs and Drug Addictions, indicate that 12.3% of children aged 12-14 years have tried tobacco products. Among children aged 15 – 19 years, 52.5% have not tried tobacco products, but about 22% of the rest are regular smokers (WHO, 2015; National Focal Point on Drug and Drug Addiction, Bulgaria, 2019). Moreover, based on the Global Youth Survey, current tobacco use reached 26.4% and 28.6% in 2002 and 2008 respectively, in case of boys, while in case of girls the respective rates were 31.8% and 39.2%. What is more, according to ESPAD, in 2011 current cigarette smoking was 33.0% in boys and 46.0% in girls.

Age (years)	2000			2010			2025		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
15 - 24	56.6	52.0	54.4	45.4	39.6	42.6	33.3	27.4	30.4
25 - 39	68.0	55.2	61.7	54.7	42.0	48.5	40.6	29.0	35.0
40 - 54	67.2	40.2	53.5	53.9	30.6	42.3	39.7	21.1	30.6
55 - 69	43.8	17.7	29.8	35.6	13.7	23.8	26.0	9.3	17.2
70+	26.8	8.1	15.7	21.0	5.8	11.8	15.5	4.0	8.3

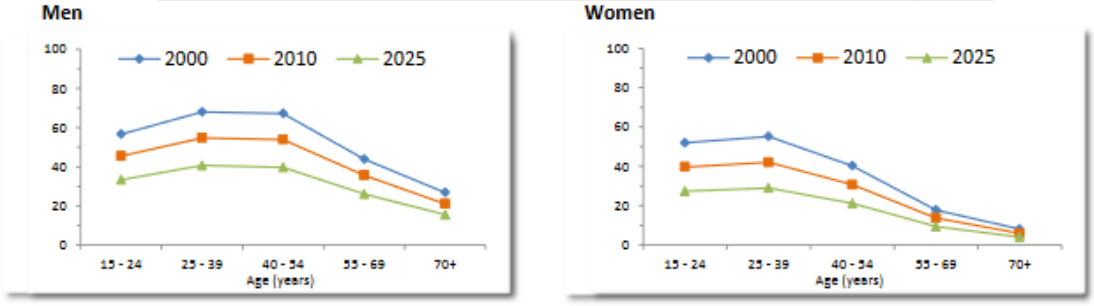


Figure 11 Fitted age-specific rates of current tobacco smoking, 2000, 2010 and 2025 for Bulgaria. **Source:**

2.4.2 Croatia

The GPS study in 2015 was conducted on a representative sample of Croatian citizens (N = 4992), aged between 15 and 64 years (hereinafter in the text referred to as adults). Regarding smoking, it was found that 35.4% of adults reported being active smokers, and more than half reported having smoked tobacco in their lifetime (55%). The proportion of male active smokers (37.7%) was relatively higher than the proportion of female active smokers (33%). Among the youngest population group, 15-24 year olds, 34.9% reported being active smokers, and 52.8% reported having smoked tobacco in their lifetime. The proportion of male and female active smokers was relatively similar (35.3% vs 34.3%, respectively).

On the other side, data from the ESPAD showed that, among Croatian students, lifetime use of cigarettes was 62% and use in the last 30 days was 33%, both notably higher than the ESPAD average (46% and 21%, respectively). Lifetime and last-30 day cigarette consumption was almost the same among boys and girls (61% vs 63% for lifetime use and 32% vs 34% for last-30 days). 72% of students reported that they would find it fairly or very easy to get hold of cigarettes if they wanted to (ESPAD average was 61%) (ESPAD Group, 2016). According to the HBSC data from 2013/2014, 25% of 15-year-old boys and 22% of 15-year-old girls reported smoking at least once a week (Pavić Šimetin et al., 2016). Moreover, based on the Global Youth Survey, current tobacco use reached 23.3% and 28.6% in 2007 and 2011 respectively, in case of boys, while in case of girls the respective rates were 25.6% and 27.9%. What is more, according to HBSC, in 2011 current cigarette smoking was 27.4% in boys and 25.3% in girls while the respective rates for daily use were 21.0% and 19.0%.

Age (years)	2000			2010			2025		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
15 - 24	44.6	34.7	39.7	43.5	39.2	41.4	43.4	47.6	45.4
25 - 39	45.1	32.9	39.0	44.1	37.2	40.7	43.9	45.3	44.6
40 - 54	39.7	27.4	33.6	38.6	30.7	34.6	38.7	37.7	38.2
55 - 69	31.5	16.3	23.2	31.3	19.2	24.9	30.8	22.7	26.6
70+	26.5	10.3	15.9	25.8	11.5	16.8	25.8	13.9	18.5

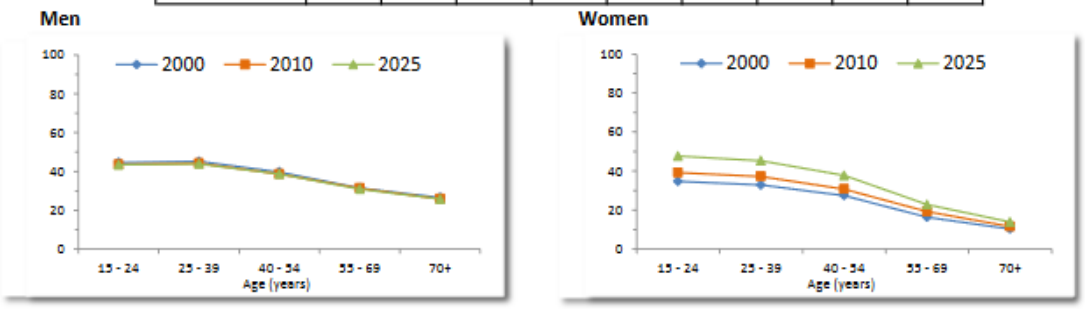


Figure 12 Fitted age-specific rates of current tobacco smoking, 2000, 2010 and 2025 for Croatia. **Source:**

2.4.3 Cyprus

All surveys show that in Cyprus the rates of smoking among men and women are quite high - the number of cigarettes smoked per capita annually is 1,500-2,000 (Cyprus Addiction Treatment Authority, 2020b). For women, smoking has been an upward trend in the last decade. In adolescents, active and passive smoking is high. ESPAD research in 2015 notes that across Europe, the proportion of adolescents who started smoking daily at an early age (before 13 years) has decreased over the last 20 years. However, in Cyprus, the proportion of adolescents smoking daily at an early age remains stable (Cyprus Addiction Treatment Authority, 2020c).

Concerning the student population (15-16 years), the results of the ESPAD survey show that two out of ten students in Cyprus reported having smoked in the last month. In Cyprus, there has been a steady decline in cigarette use since 1995.

In Cyprus, 12%-13% of deaths annually at the age of 35 and over are due to smoking. Six to seven hundred Cypriot smokers die each year due to smoking-related illnesses. The Mental Health Services in Cyprus offer free smoking cessation programs all year along (call 1431) (Cyprus Addiction Treatment Authority, 2020d).

2.4.4 Greece

Even though the percentage of Greek adults who smoke daily has decreased, Greece still has the second highest smoking rate in Europe, after Bulgaria (OECD, 2019; Eurostat, 2014) (**Figure 13**).

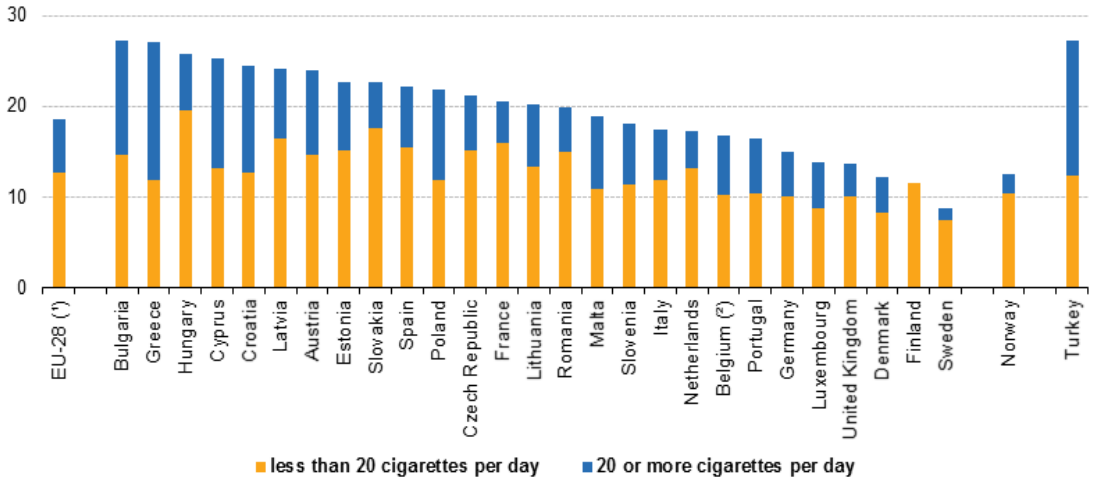


Figure 13 Proportion of daily smokers of cigarettes by level of consumption, 2014 (% persons aged 15 and over). **Source:** EUROSTAT, 2014. Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php/Tobacco_consumption_statistics

40% of Greek adolescents reported having smoked at least once in their lifetime (Kokkevi et al., 2016; Spyratos, Pelagidou, Floros et al., 2012). 18.9% of Greek adolescents reported smoking at least once in the month before the survey, while approximately 11% reported smoking at least one cigarette on a daily basis (ESPAD, 2016). Furthermore, 14% of adolescents report smoking regularly, rates that increase in the 16-18 years age group (Spyratos, Pelagidou, Floros et al., 2012). Boys tend to smoke more and report having also tried also e-cigarettes (Kokkevi et al., 2016). More specifically, at the age of 15, 16% of boys and 13% of girls report smoking at least once a week (WHO/Europe, 2016a). Students and adolescents who live in urban areas smoke more than those in rural areas. Students in technical schools smoke more frequently than those in general education.

Moreover, based on the Global Youth Survey, current tobacco use reached 17.1% and 16.9% in 2005 and 2013 respectively, in case of boys, while in case of girls the respective rates were 14.4% and 12.9%. What is more, according to HBSC, in 2011 current cigarette smoking was 17.5% in boys and 13.2% in girls while the respective rates for daily use were 13.0% and 8.0%.

Age (years)	2000			2010			2025		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
15 - 24	58.9	45.7	52.6	52.0	37.9	45.2	44.4	30.3	37.6
25 - 39	64.8	46.0	55.5	57.3	38.2	48.1	49.1	30.6	40.1
40 - 54	66.2	41.7	53.8	58.5	34.6	46.5	50.2	27.7	39.3
55 - 69	62.3	35.8	48.3	55.2	30.0	42.1	47.3	24.1	35.4
70+	58.7	32.4	43.7	51.8	27.0	37.5	44.4	21.7	31.6

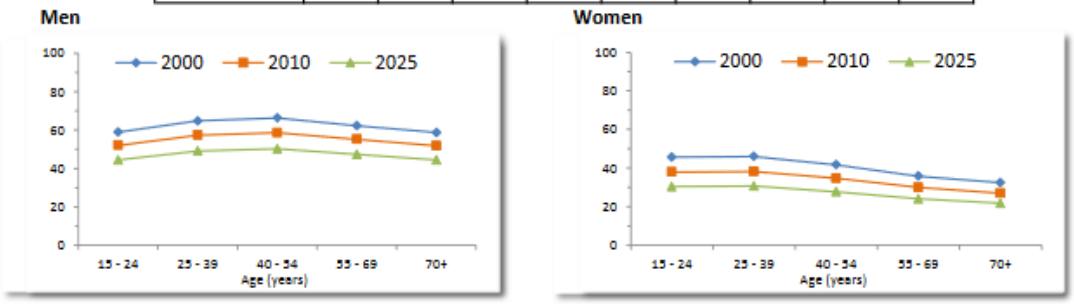


Figure 14 Fitted age-specific rates of current tobacco smoking, 2000, 2010 and 2025 for Greece. **Source:**

2.4.5 Serbia

According to the data from the research of Health behaviours of school-aged children in Serbia, 14.5% of students in the fifth, seventh grade of primary schools (11-year-olds and 13-year-olds) and first-grade in secondary schools (15-year-olds) reported smoking at least once in their lifetime. The prevalence of lifetime smoking increases with age, and total of 28% of 15-year-olds in Serbia reported smoking at least once in their lifetime (Institut za javno zdravlje Republike Srbije , 2019). Majority of students do not continue to smoke, but one tenth of them reported smoking in the past 30 days (which puts them in the active smokers' category). The highest prevalence of active smokers was among the 15-year-old females, and was up to 22.5% (Institut za javno zdravlje Republike Srbije , 2019). One third of the students in Serbia reported smoking shisha at least once in their lifetime (29.3%) and one sixth reported smoking in the past month (16.6%). Back in 2003, total of 97.7% of adolescents reported being exposed to tobacco smoking at their homes (World Bank Group Global Tobacco Control Program, 2019).

2.5 Epidemiological evidence on Internet use at international and European level : focus on adolescence and young people individuals

Eurostat (2018) reports that 89% of EU-28 households had Internet access in 2018. From 2010 to 2018, Bulgaria, Cyprus, Greece, and Croatia were among the EU countries which experienced the fastest expansion concerning internet access in households. . 85% of respondents between the ages of 16 and 74 reported recently using the Internet, and 76% used the Internet daily. 56% used the Internet for social media.

Eurostat (2016) reports young people use computers on a daily basis (79%) more often than the rest of the population (63%). 85% of 16- to 29-year-olds reported using a mobile device to connect to the Internet away from home or work, with most young people using mobile phones (83% of the 16- to 29-year-old population) than portable computers (38%). Young people were generally more likely than the general population to use social media on the Internet or engage in online gaming. ESPAD students reported an average of 5.8 days of using internet in the week (before the survey took place), gender differences were observed with internet use being higher in case of boys (ESPAD, 2016). Social media was the leading use of Internet activity, with 79% of students reporting >4 days of social media use in the week preceding the survey. Other common Internet activities include streaming/downloading (48%) and information seeking/surfing (43%). 39% of male students and 7% of female students (average: 23%) reported gaming online for >4 days of the week. 23% of male students and 5% of female students (average: 14%) reported gambling online at least once in the year before the survey, with 12% of male students and 2% of female students (average: 7%) gambling >2 times a month. Rates of gambling were particularly high in Greece and Cyprus (ESPAD, 2016). In addition to this, in 2019, 94 % of young people in the EU-27 made daily use of the internet, compared with 77% for the whole population while 92% of young people used mobile phones to access the internet away from home or work, compared with 52% who used a portable computer in this way (Eurostat, 2020). Such numbers indicate a substantial increase regarding the Internet use principally among young people within the last decade (**Figure 15**).

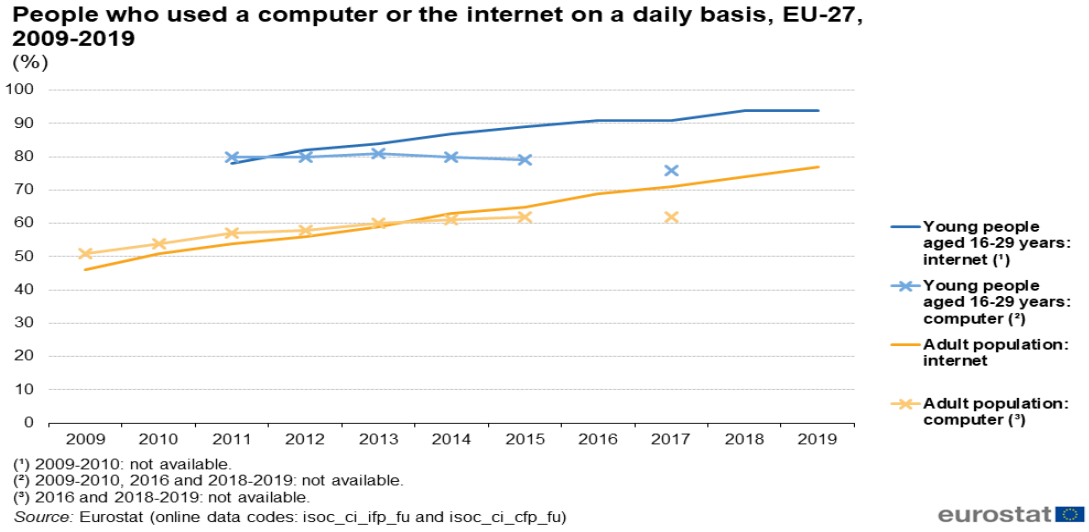


Figure 15 People who used a computer or the Internet on a daily basis, EU-27, 2009-2019. **Source:** https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Being_young_in_Europe_today_-_digital_world

As previously mentioned, considering the fact that no coherent definition exists on Internet addiction and PIU the available epidemiological studies provide evidence on the Internet use based on various definitions. A review by Cash et al. (2012) indicates that surveys in the U.S. and Europe estimate that Internet addiction prevalence ranges from 1.5% to 8.2%. Cash et al. argue that the lack of a standardized diagnostic criteria and assessment questionnaires, as well as differences in methodologies and culture, may be responsible for this incredibly wide range of prevalence rates observed. A systematic review by Vondráčková & Gabrhelík (2016) indicates that prevalence ranges from 1% to 3.4% in the general population (not Europe-specific). The lack of a clear definition of what constitutes PUI as well as the different terms used (PUI, problematic users of the internet, internet addiction) further complicates this issue.

→ Problematic Internet use (PIU)

In a study on 13,824 adolescents from seven European countries, Tsitsika et al. (2012) found that 1.2% of their sample showed related Internet addictive behaviours, while 12.7% were at riskvof such behaviours. In a study among approximately 12,000 adolescents across eleven European countries, Durkee et al. (2012) found that PIU prevalence in Europe was 4.4%.

→ Gaming

In a study of seven European countries, Muller et al. (2014) report that 1.6% of adolescents meet the full criteria for an Internet gaming disorder, and a further 5.1% were at risk of such a disorder. In a study by Flora (2016) evidence was found that Greece has high rates of Internet gaming disorders as 3.7% of adolescent respondents could be considered as problematic users of online games.

A report on harmful Internet use by the European Parliament indicates that Internet usage patterns, such as young users who often use the Internet for leisure or people who use a number of devices, may be associated with addiction risk (Lopez-Fernandez & Kuss, 2019). In regards to online gaming addiction, the European Parliament Research Service notes a number of findings, including:

1. Demographics: males and high-school students are particularly affected.
2. Risk factors: gaming addiction is associated with spending time at home alone and issues with social relationships.
3. Family: addicted individuals often look for treatment via parents, and prognoses can improve with family support.

4. Clinical: addiction symptoms vary, and patients often present psychological comorbidities (e..g mood and anxiety disorders, phobias, personality disorders). Cognitive-behavioural therapy appears to be successful in treating patients addicted to the Internet or online gaming.

The literature reviewed also points out that individuals engaging in online gaming have unique motivations and behaviours when compared to general Internet users. In a review, De-Sola Gutiérrez, Rodríguez de Fonseca, & Rubio (2016) classify cell-phone addiction as a phenomena unique from Internet addiction and computer use, due to its unique user profiles. Cell phones appear to be most abused by young people and females. Addiction is associated with a number of personality traits, such as neuroticism and extraversion, as well as psychological measures such as sleep disturbance, anxiety, and stress. Prevalence estimates of cell-phone addiction range from 2.9% to 64.5% across studies of adolescents and young adults. The wide range of estimates can be partially accounted for by the non-standardization of terms, criteria, classification, and constructs (De-Sola Gutiérrez, Rodríguez de Fonseca, & Rubio, 2016).

2.6 Epidemiological evidence on Internet use – country-specific evidence: focus on adolescence and young individuals

2.6.1 Bulgaria

There is currently a dearth of clear data on the spread of Internet addiction in Bulgaria. According to a survey by the National Center Opinion Research Center, 91% of students use the Internet between 3 to 6 hours a day. During vacations, 11% of students spend the most time in front of monitors after midnight. 28.5% of students surveyed fall into the risk group for Internet addiction, as they often or always stay online longer than they intended. 17% of students (aged 9-14) reported that their parents ban them from using social media. 16.3% of respondents said that they often neglect their homework to spend more time in front of the computer. Extended computer usage can reduce time spent preparing for lessons, which leads to a decrease in class performance (9.3%). 25% of students aged 12 -15 years reported that their parents do not allow them to use web-cams.

2.6.2 Croatia

According to the most recent GPS results, Croatian students reported use of the Internet on 5.8 days out of the last 7 days prior to the survey. 83% of students had used the Internet for social media activities regularly, i.e. on 4 or more days during the last 7 days (ESPAD average was 78%). 46% of students were regularly (at least four times for each of these activities in the last 7 days) using the Internet for information seeking/surfing (ESPAD average was 43%) and 38% were streaming/downloading music, films etc. (ESPAD average was 48%). More girls than boys used the Internet for social media activities (89% vs 77%) and information seeking/surfing (49% vs 43%) while more boys than girls used it for streaming/downloading (41% vs 33%). 23% of students used the Internet for online gaming regularly, at least four times in the last 7 days (ESPAD average was 23%), 6% for online money gambling (ESPAD average was 3%), and 9% for buying/selling (ESPAD average was 9%) (ESPAD Group, 2016). According to the HBSC data from 2013/2014, 41% of 15-year-old girls and 35% of 15-year-old boys used electronic media to communicate with their friends (Pavić Šimetin et al., 2016). On the other side, there is no available data among the general population or young people on Internet addiction or problematic Internet use. The data were collected in the 2019 GPS, but the results are still not available.

2.6.3 Cyprus

According to the President of the Addiction Treatment Authority of Cyprus, 21 indirect deaths were recorded in Cyprus in 2018 due to Internet addiction and abuse (Cyprus Times, 2020). The Parliamentary Health Committee examined the budget of the Addiction Treatment Authority of Cyprus for 2020, with the Chairman of the Authority declaring that research on Internet addiction is underway.

2.6.4 Greece

→ Internet use

In Greece, 76% of adults use the Internet, while 65% report using the Internet on a daily basis (Eurostat, 2019). Focusing on children and adolescents, results from a recent national survey revealed that the majority of children start using the Internet at the age of 8 years old (Kokkevi et al., 2016), with 20% starting to use the Internet between 4 and 6 years old (Greek Center for Internet Safety, 2019). Most children and adolescents first access the Internet through a parent's tablet or PC, but a significant percentage (20%) reported using their own mobile phone. Almost 90% of children over the age of 8 have their own mobile phone, which is the main way 73% of children and adolescents access the Internet (Greek

Center for Internet Safety, 2019; Kokkevi et al., 2016). Greek children and adolescents seem to use the Internet, on average, 6 days per week (Kokkevi et al., 2016). More than two thirds (69%) report using the Internet daily, and 17% report using the Internet three to four days per week. More specifically, 39% of primary school students use the Internet every day, 25% three to four days and 23% only on the weekends. 74% to 89% of adolescents report using the Internet on a daily basis, and only 2% to 5% use the Internet only during the weekends (Greek Center for Internet Safety, 2019). Children reported primarily using the Internet to play electronic/online games (31%), while adolescents use the Internet mainly for communicating with friends via social media (43%). Regarding parental control, 83% report using the Internet without any supervision, while almost half of the parents of Greek students do not set limits and rules on Internet usage for their children.

Based on hours spent on the Internet, almost 16% of Greek teenagers surveyed by Kokkevi et al. (2016) appear to have problematic or pathological use of the Internet. The prevalence of Internet addiction among Greek adolescents is estimated at 8.2% (Siomos et al., 2008). 43% of Greek teenagers, and in particular, 58% of high school students, report neglecting their obligations or other activities because of the Internet. 40% confess either feeling addicted to the Internet or being potentially addicted, without any significant difference between boys and girls (Greek Center for Internet Safety, 2019). The activities most associated with Internet addiction are online gambling, online gaming, and watching online pornography (Siomos, Floros et al., 2012). There is high comorbidity between Internet addiction and personality, emotional, and anxiety disorders. Emotional disorders can also develop following Internet addiction (Floros, Siomos, Stogiannidou, Giouzepas, & Garyfallos, 2014).

→ Social media

A main facet of Internet addiction is “attachment” to social media. 86% of children/adolescents have a social media account, mainly children over the age of 13 (Greek Center for Internet Safety, 2019). Almost half of the Greek students report that they spend excessive time on their social media accounts, and 22% tend to feel displaced when they cannot use the Internet (Kokkevi et al., 2016). Students report using the Internet for an average of approximately 2 hours per day. 15% of Greek students spend more than 4 hours on social media, mainly during the weekend. The most popular social media platforms among Greek students are Instagram (33%), YouTube (27%) and Facebook Messenger (11%)

(Greek Center for Internet Safety, 2019). A larger proportion of girls report attachment to social media (60%), compared to 40% of boys.

→ Gaming

57% of students play online or electronic games for two hours daily, with 7% playing for more than four hours per day. During weekends, 15% of students participate in online gaming for more than 4 hours. 70% of boys but 30% of girls reported using the Internet for online or electronic gaming (Greek Internet for Online Safety, 2019). 1 of 5 students report that they spend excessive time on online/electronic gaming, and 1 of 8 students reports feeling disappointment when not being able to play. 17% meet the criteria for problematic use or addiction to online games (Kokkevi et al., 2016). Boys tend to report higher rates of attachment or engagement with electronic games (27.6%).

2.6.5 Serbia

The prevalence of excessive Internet use was 2.5% in children aged 9-10 years, 7.0% in children aged 11-12 years, 16% in children 13-14 years, and 26% in children aged 15-16 years (Kuzmanović, Pavlović, & Popadić, 2019). Among 14 to 17-year olds, the prevalence of excessive Internet use was 18.7% (Ač-Nikolić, Zarić, & Nićiforović-Surković, 2015). Students report that their parents often or very often explain safe Internet use (44%) (Kuzmanović et al., 2019). Only 8% of students aged 9-17 reported that their parents do not allow them to use social media. 8% of students also reported that their parents do not allow them to use web-cams. 17% of students aged 9-17 reported parental control over Internet use (Kuzmanović et al., 2019).

3 Prevention and management of addictions in childhood and adolescence: policies and practices

3.1 Policies and practices in Europe

3.1.1 Alcohol use

WHO reports that European countries vary considerably in alcohol policies, and score relatively very low in pricing policies and reducing the negative consequences of drinking and alcohol intoxication (e.g. lacking legal requirements for warning labels on bottles or

containers) (WHO, 2019a). In contrast, European countries score relatively high in leadership, awareness, and commitment, drunk driving policies, and monitoring and surveillance. Scores for community and workplace action are fairly low (WHO, 2019a).

Of the n=28 member states evaluated:

- N=22 had a written national policy to reduce alcohol burden, and n=4 were developing a policy.
- N=22 incorporate alcohol prevention in school curriculums as stipulated by the law, and n=13 have national guidelines addressing alcohol-related harm in schools.
- N=16 have guidelines for alcohol prevention and counseling in workplaces.
- N=12 reported community-based programs for substance use which cover >31% of the target population.
- N=22 have a minimum age of 18 for purchasing alcoholic beverages. N=12 have restrictions on time of sale for both on- and off-premise sales, while n=5 have restrictions on time of sale for either on- or off-premise sales.
- For national television, n=13 ban advertising for spirits, n=7 for wine, and n=5 for beer. Many countries have partial or voluntary restrictions of alcohol advertising across various other media forms (social media, the Internet, point of sale, and print media). N=7 ban sponsorship from the spirit industry for sporting, and n=7 also ban sponsorship for youth events.
- The majority of member states do not adjust the price of alcoholic beverages for inflation. N=16 lack minimum prices, among other pricing policies.
- Most member states lack alcohol server training, legal requirements for health warnings on alcohol requirements, and warning labels for alcohol containers/bottles.

An example of a large initiative to address alcohol use is the “European action plan to reduce the harmful use of alcohol 2012-2020 (EAPA)”, launched by the WHO European Region and endorsed by all 53 member states. The EAPA focuses on evidence-based policies to reduce harmful alcohol use. Additionally, 24 of the 30 member states surveyed by the WHO report having monitoring systems which collect data on alcohol use, and 20 have national surveys which include questions about alcohol. N=28 have regular reports (WHO, 2019a). The WHO’s Global Information System on Alcohol and Health (GISAH) is a database which tracks a number of alcohol-related health, economic, and policy metrics (WHO, 2020a).

3.1.2 Tobacco use

Member states of the WHO European Region have agreed on a number of policy frameworks which address tobacco use and regulation, including among others (WHO, 2019b):

→ WHO Framework Convention on Tobacco Control (WHO FCTC)

The WHO FCTC (adopted in 2003, ratified by 50 of 53 Member States) recommends "monitoring and surveillance programmes, reporting, exchange of information, and scientific and technical cooperation on different aspects of tobacco use and associated determinants and indicators (Articles 20, 21 and 22), including social (such as the identification of vulnerable population groups and their location), economic (marketing, and direct and indirect health costs of smoking) and health (epidemiologic impacts, disease management and efforts to cease smoking) issues" (WHO, 2019b, p. 4).

→ United Nations Sustainable Development Goals and United Nations Political Declaration on the Prevention and Control of Noncommunicable Diseases

The UN Sustainable Development Goals includes a target supporting the implementation of the WHO FCTC.

→ WHO European Health 2020 policy framework

The European Health 2020 policy framework (approved in 2012) supported targets relating to tobacco, such as decreasing premature mortality from non-communicable diseases (the groups of which are all related to tobacco use), diminishing tobacco use, and addressing health inequalities.

→ WHO Global action plan for the prevention and control of noncommunicable diseases

The WHO analyzes and synthesizes information on tobacco use in the WHO European, specifically tracking the MPOWER support package: "**m**onitor tobacco use; **p**rotect populations from exposure to tobacco smoke; **o**ffer cessation and care support services; **w**arn about the dangers of tobacco (through warning labels and anti-tobacco mass media campaigns); **e**nforce bans on tobacco advertising, promotion and sponsorship (TAPS); and **r**aise taxes on tobacco" (WHO, 2019b, p. 5).

Smoking is monitored via standardized international population surveys. Examples, according to the WHO (2019b), are the Global Adult Tobacco Survey (GATS), the Global Youth Tobacco Survey (GYTS) and the European School Alcohol and Drug Survey for tobacco-related information; the WHO STEPSwise approach for surveillance; and the European Health Interview Survey (EHIS), the Health Behaviours in School-aged Children study (HBSC)

and the Global Children Health Survey for multiple risk factors. All 53 countries in the WHO European Region had at least partially implemented a registration system to report cause of death to the WHO. Of the 53 Member States, the status of specific policies and programs regarding tobacco (primarily from the WHO FCTC) included:

- N=13 banned smoking in all public places, up from n=4 in 2007. However, protections from secondhand smoke was variable in public places and often insufficient in enclosed public areas like offices and restaurants.
- N=36 prohibit sale of tobacco products to minors.
- Fewer than one fifth operated a national quitline and had cost coverage for tobacco use cessation services.
- N=32 ran media campaigns to promote tobacco use cessation in 2018. N=12 ran national campaigns.
- N=5 had thorough bans on all direct and indirect tobacco advertising. The majority of countries have regulations on advertising on national TV and radio, magazines and newspapers, and billboards. Point-of-sale and product placement in media are relatively unregulated.
- N=32 have health warnings that cover >50% of cigarette packaging.
- N=25 have tobacco taxes, which are >75% of retail price of popular cigarette brands. N=19 have taxes which are >50%.

Significant legislation included the approval of the EU Tobacco Products Directive (TPD) in 2001, and its renewal in 2009, which was apparently heavily influenced by extensive tobacco industry lobbying. The TPD includes regulations on:

- health warnings and labels on tobacco products,
- a ban on certain tobacco flavors,
- a ban on 10-cigarette packs, and
- tracking and tracing of tobacco products for the legal supply license.

Almost half EU countries have fully transposed the TPD before the deadline (Bertollini et al., 2016). Other instruments addressing tobacco use include a United Nations (UN) resolution in 2011 to address NCDs, the WHO Global Strategy for the control of NCDs, and the UN Third International Conference on Financing for Development (Bertollini et al., 2016).

3.1.3 Internet use

Children are increasingly exposed to the Internet, through a growing range of devices and at a younger age. Hence, they have particular needs and vulnerabilities on the Internet, which

must be addressed so that the Internet becomes a place of opportunities for children to access knowledge, to communicate, to develop their skills and to improve their job perspectives and employability. In general, few current policies, projects, and initiatives appear to focus on Internet addiction use. Some examples of resources are listed below? :

- The report by the European Parliamentary Research Service (2019) is part of a Scientific Foresight Unit project on harmful Internet use, conducted for the Panel for the Future of Science and Technology within the Directorate-General for Parliamentary Research Services.
- Eurostat's (2019, 2020) projects on the "information society" in the EU and the European youth cover general Internet use in the EU.
- The ICD-11 and DSM-V include definitions for disorders relating to Internet use.

As highlighted in the Council Conclusions on the Protection of Children in the Digital World of 28 November 2011, a combination of policies is required to deliver a Better Internet for Children. Actions are being developed at the national, European or sectoral level. The strategy is articulated around four main 'pillars': **a.** Stimulating quality content online for young people; **b.** Stepping up awareness and empowerment; **c.** Creating a safe environment for children online; and **d.** Fighting against child sexual abuse and child sexual exploitation. Additionally, it proposes a series of actions to be undertaken by the Commission, Member States and the whole industry value chain. In this context, in May 2012, the European Strategy for a Better Internet for Children was set up to give children the digital skills and tools they need to fully and safely benefit from being online (European Commission, 2012). The strategy proposes a series of actions grouped around the following main goals:

- Stimulate the production of creative and educational online content for children as well as promoting positive online experiences for young children;
- Scaling up awareness and empowerment including teaching digital literacy and online safety in all EU schools;
- Create a safe environment for children through age-appropriate privacy settings, wider use of parental control and age rating and content classification;
- Combat child sexual abuse material online and child sexual exploitation.

In addition to this, the European Commission announced on the 5th of February 2019, (the Safer Internet Day), the creation of a new Expert Group on Safer Internet for Children, which will help improve coordination and cooperation between EU Member States and propose concrete actions to keep children safe when using the Internet. The group, composed of representatives from EU Member States, Iceland and Norway, discussed a range of topics,

from how to protect children from accessing harmful content - for example through age ratings and parental control - to how to avoid unfair commercial practices in online advertising directed at children. One particular aim of the group is to facilitate the sharing of best practice between Member States on how to implement some of the specific provisions concerning minors in key existing legal acts. These include for example measures to protect minors from harmful content in the Audiovisual Media Services Directive (AVMSD) or rules on requiring parental consent to access children's data covered by the General Data Protection Regulation (GDPR).

3.2 Addictions during the COVID-19 pandemic

Psychoactive substances and other reinforcing behaviors including gambling, video gaming, TV series watching, using social media, watching pornography, or surfing the internet are often used to reduce stress and anxiety as well as to alleviate depressed mood. The tendency to engage in such behaviors in an excessive manner as putative coping strategies in crises like COVID-19 pandemic is considerable (Király et al 2020).

Focusing on the Internet use, since the coronavirus outbreak in Europe, online media use has changed. In line with this, recent evidence supports an increase in online news consumption, social networking and online public services (King et al 2020). In a very recent study from China, it was revealed that Internet use had increased during the COVID-19 epidemic, including the frequency and duration of recreational Internet use, and the frequency of stay-up Internet use (**Figure 16**) (Dong et al 2020). Highlighting this issue, very recenty the COST Action European Network for Problematic Usage of the Internet held an online pubic meeting, presenting the newest findings on problematic internet use studies in the time of the COVID-19 pandemic (https://www.cost.eu/events/public-meeting-problematic-internet-use-in-the-time-of-the-covid-19-pandemic/).

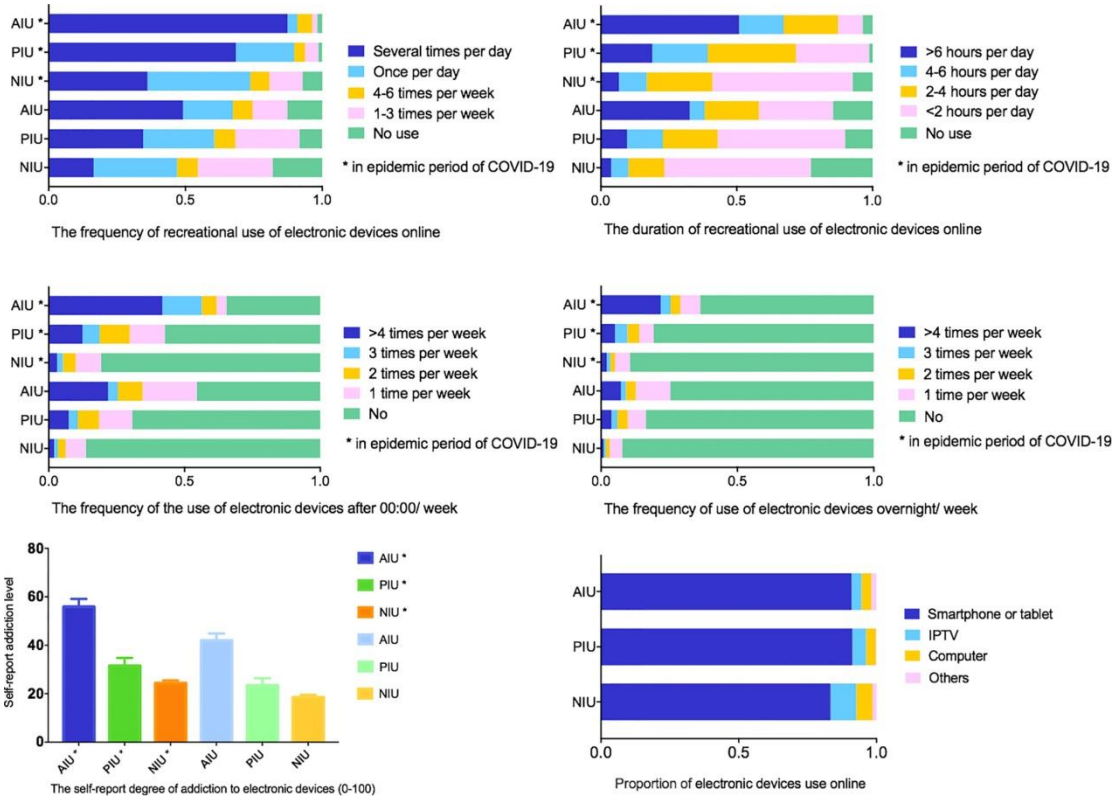


Figure 16 Characteristic of recreational use of electronic devices online during and before the epidemic of COVID-19. **Source:** Dong et al 2020

The excess Internet use during the COVID-19 pandemic is even more evident in childhood and adolescence. This has been highly recognized by WHO who recently launched a factsheet on recommendations for parents regarding Internet use by children and adolescents during the period of pandemic (WHO, 2020b).

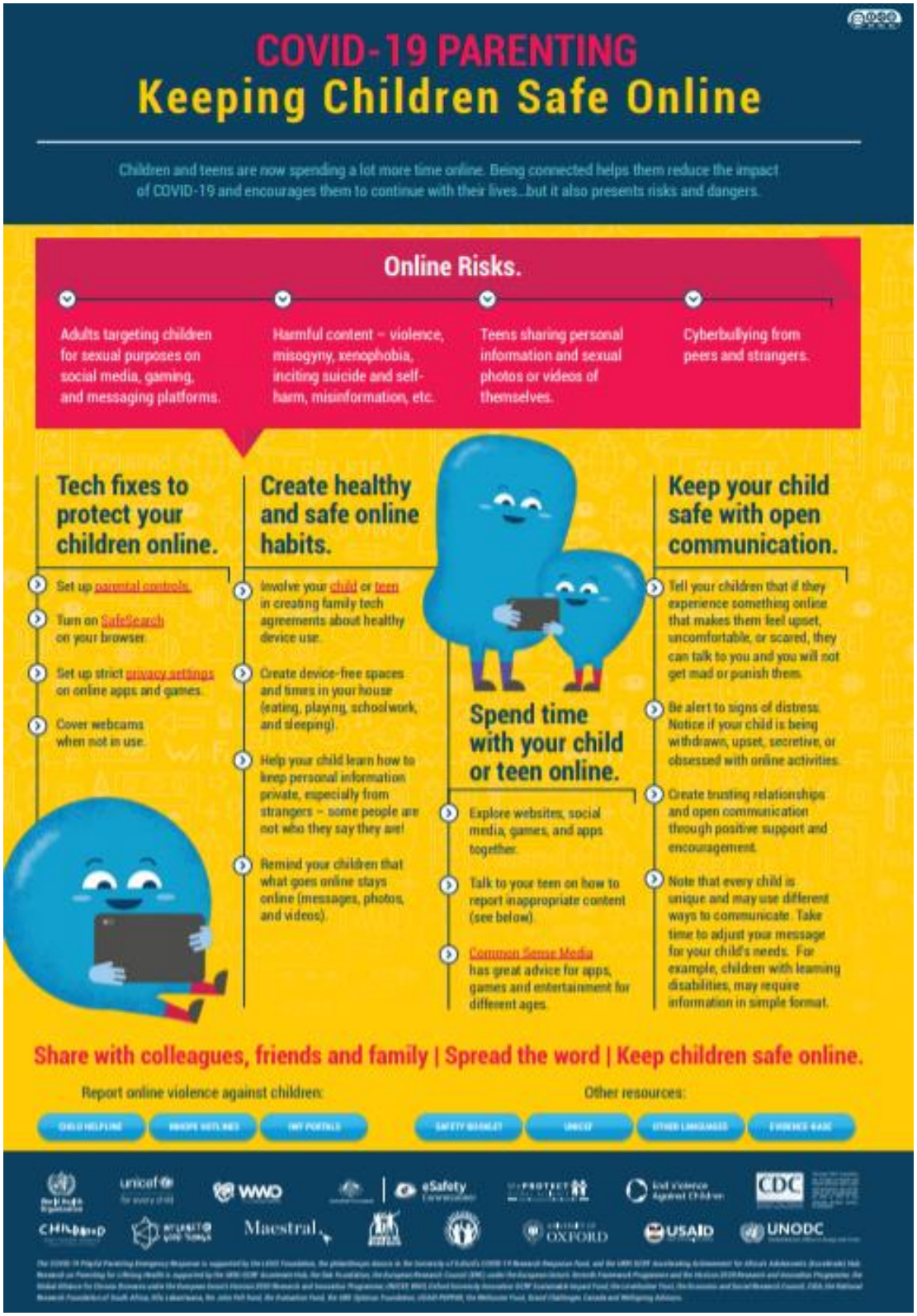


Figure 17 COVID-19 Parenting – Keeping children safe online. **Source:** World Health Organization, Risk communication and community engagement. June 2020. Available at: https://www.who.int/publications/m/item/covid-19-parenting-keeping-children-safe-online

3.3 Country-specific policies and practices

3.3.1 Bulgaria

3.3.1.1 Alcohol and tobacco use

Areas of legislation related to the control of tobacco and alcohol use include:

- Advertising and sponsorship of tobacco products and alcoholic beverages.
- Smoking in closed workplaces and public places. There is a complete ban on smoking in public places in Bulgaria.
- Regulation of the sale of tobacco products and alcoholic beverages, including a minimum age for the sale/purchase of tobacco products and alcoholic beverages.
- Legal provisions defining the so-called "Identification and legal regulation of the product". This includes provisions for consumer information concerning the level (concentration) of harmful and toxic substances in cigarettes (nicotine, tar, carbon monoxide).
- The negative health effects of tobacco use (health warnings on unit packets).

Another group of legislative acts includes pricing policy, excise duties, measures against smuggling and illegal imports, and other acts which, through fiscal and regulatory mechanisms, restrict the accessibility of the tobacco product and spirits.

A consistent and comprehensive government policy on smoking control is one of the most effective means of changing and limiting trends in the prevalence of smoking and the related morbidity and mortality of many diseases. Regional Health Inspections annually organize campaigns for children and adolescents to address the harms of smoking and drug use, and the consumption of alcoholic beverages.

3.3.1.2 Internet use

No specific legislation on Internet use was identified.

3.3.2 Croatia

3.3.2.1 Alcohol use

In Croatia, the national legal minimum age for on- and off-premise sales of alcoholic beverages (beer, wine and spirits), tobacco, tobacco-related products, and e-cigarettes is 18 years (e.g. Hospitality and Catering Industry Act, Act on Restrictions on the Use of Tobacco and Related Products, Trade Act).

3.3.2.2 Tobacco use

Tobacco and smoking control, availability, marketing, trading, pricing and taxation policies, consumption, etc. in Croatia are regulated by:

- General legislations, e.g. Criminal Code, Criminal Procedure Act, Misdemeanour Act, The Road Traffic Safety Act, Social Welfare Act.
- Trade-related acts, e.g. Hospitality and Catering Industry Act, Trade Act, The Excise Duty Law.
- Health-related acts and strategies, e.g. Mandatory Health Insurance Act, Strategic Plan for the Development of Public Health, Draft Action Plan for the Prevention and Control of Non-communicable Diseases 2020 – 26.
- Specific national strategies and action plans, e.g. National Strategy for Prevention of Harmful Use of Alcohol and Alcohol-related Disorders 2011-16, Action Plan for Strengthening Tobacco Control 2013-16.

3.3.2.3 Internet use

All strategies are now centralized in a draft national strategy and action plan (e.g. Draft National Strategy on Addictions 2020-29, Draft Action Plan on Addictions 2020-24) which has yet to be adopted and implemented. The action plan defines measures for preventing and/or decreasing the negative consequences of "general" addiction related to alcohol, tobacco, drugs use, as well as "behavioural addictions" (such as gambling and excessive Internet use) with special emphasis on decreasing harm among vulnerable populations, including children and adolescents (link in Croatian). In Croatia, there are also specially developed national guidelines and plans on addiction prevention, screening and community actions focused on children and youth (e.g. National Addiction Prevention Programme for Children and Youth in the Educational Settings and the Social Welfare System for 2015-17; Minimal Standards of Addiction Prevention for Children and Youth in the Educational Settings 2017).

By now, there is no legislation or public health policies that specifically target Internet addiction.

List of relevant legislation and health policies (available in Croatian):

1. Zakon o socijalnoj skrbi [Social Welfare Act] (Official Gazette 157/13, 152/14, 99/15, 52/16, 16/17, 130/17, 98/19) (https://www.zakon.hr/z/222/Zakon-o- socijalnoj-skrbi)
2. Kazneni zakon [Criminal Code] (Official Gazette 125/11, 144/12 , 56/15, 61/15, 101/17, 118/18, 126/19) (https://www.zakon.hr/z/98/Kazneni-zakon)

3. Zakon o kaznenom postupku [Criminal Procedure Act] (Official Gazette 121/11, 143/12, 56/13 ,145/13, 152/14, 70/17, 126/19, 126/19) (https://www.zakon.hr /z/174/Zakon-o-kaznenom-postupku)
4. Zakon o prekršajima protiv javnog reda i mira [Misdemeanour Act] (Official Gazette 5/90, 30/90, 47/90, 29/94) (https://www.zakon.hr/z/279/Zakon-o-prekr %C5%A1ajima-protiv-javnog-reda-i-mira)
5. Zakon o sigurnosti prometa na cestama [The Road Traffic Safety Act] (Official Gazette 67/08, 48/10, 74/11, 80/13, 158/13, 92/14, 64/15, 108/17, 70/19) (https://www.zakon.hr/z/78/Zakon-o-sigurnosti-prometa-na-cestama)
6. Zakon o trgovini [Trade Act] (Official Gazette 87/08, 96/08, 116/08, 76/09, 114/11, 68/13, 30/14, 32/19, 98/19) (https://www.zakon.hr/z/175/Zakon-o- trgovini)
7. Zakon o ugostiteljskoj djelatnosti [Hospitality and Catering Industry Act] (Official Gazette *138/06,* 152/08, 43/09, 88/10, 50/12, 85/15, 121/16, 99/18, 25/19, 98/19) (https://www.zakon.hr/z/151/Zakon-o-ugostiteljskoj-djelatnosti)
8. Zakon o trošarinama [The Excise Duty Law] (Official Gazette 22/13, 32/13, 81/13, 100/15, 120/15, 106/18, 121/19) (https://www.zakon.hr/z/545/Zakon-o-tro%C5%A1arinama)
9. Zakon o obveznom zdravstvenom osiguranju [Mandatory Health Insurance Act] (Official Gazette 80/13, 137/13, 98/19) (https://www.zakon.hr/z/192/Zakon-o- obveznom-zdravstvenom-osiguranju)
10. Nacrt prijedloga akcijskog plana za prevenciju i nadzor nad kroničnima nezaraznim bolestima 2020 - 2026 [Draft Action Plan for the Prevention and Control of Non-communicable Diseases 2020 – 26] (https://esavjetovanja.gov.hr/ECon/MainScreen?entityId=13277)
11. Strateški plan razvoja javnog zdravstva 2011 – 2015 [Strategic Plan for the Development of Public Health 2013 - 15] (http://www.seeclimateforum.org/upload/document/strateki_plan_razvoja_javnog_zdravstva[1].pdf)
12. Strateški plan razvoja javnog zdravstva 2017-2020 [Strategic Plan for the Development of Public Health 2017-20] (https://upuz.hr/aktualnosti/ miz-strateski-plan-razvoja-javnog-zdravstva-2017-2020-godine--prvi-nacrt)
13. Nacionalni program prevencije ovisnosti za djecu i mlade u odgojno-obrazovnom sustavu, te djecu i mlade u sustavu socijalne skrbi za razdoblje od 2015. do 2017. godine [National Addiction Prevention Programme for Children and Youth in the Educational

Settings and the Social Welfare System for 2015-17] (https://esavjetovanja.gov.hr/ECon/MainScreen?entityId=1808)

14. Minimalni standardi prevencije ovisnosti za djecu i mlade u odgojno-obrazovnom sustavu 2017. [Minimal Standards of Addiction Prevention for Children and Youth in the Educational Settings 2017] (https://esavjetovanja.gov.hr/ECon/MainScreen?entityId=4635)
15. Nacrt Nacionalne strategije djelovanja na području ovisnosti za razdoblje od 2020 - 2029 [Draft National Strategy on Addictions 2020-29] (https://gov.hr/UserDocsImages/UZOP/2018/020_Strate%C5%A1ki%20plan%20razdjela%202019.-2021..pdf)
16. Nacrt Akcijskog plana djelovanja na području ovisnosti za razdoblje 2020 – 2024 [Draft Action Plant on Addictions 2020-24] (https://gov.hr/UserDocsImages/UZOP/2018/020_Strate%C5%A1ki%20plan%20razdjela%202019.-2021..pdf)
17. Nacionalna strategija za sprječavanje štetne uporabe alkohola i alkoholom uzrokovanih poremećaja, za razdoblje od 2011. do 2016. godine [National Strategy for Prevention of Harmful Use of Alcohol and Alcohol-related Disorders 2011-16] (https://mdomsp.gov.hr/userdocsimages/arhiva/files/77016/75%20- %207.pdf)
18. Zakon o ograničavanju uporabe duhanskih i srodnih proizvoda [Act on Restrictions on the Use of Tobacco and Related Products] (Official Gazette 45/17, 114/18) (https://www.zakon.hr/z/909/Zakon-o-ograni%C4%8Davanju- uporabe-duhanskih-i-srodnih-proizvoda)
19. Akcijski plan za jačanje nadzora nad duhanom za razdoblje od 2013.-2016. godine [Action Plan for Strengthening Tobacco Control 2013 - 16] (https://vlada.gov.hr/UserDocsImages//2016/Sjednice/Arhiva//74.%20-%2011.pdf)

3.3.3 Cyprus

3.3.3.1 Alcohol use

The 'About Alcoholic Beverages Sale' Act - CHAPTER 144 (Cyprus Bar Association, 2020) provides for the issuance and conditions of an alcoholic beverage retail license. The Law also prohibits the sale, supply, or distribution of alcoholic beverages for any purpose to minors.

The 'About Customs and Excise' Law of 1967 (82/1967) (Cyprus Addiction Treatment Authority, 2020g) provides for the taxation of alcoholic beverages in proportion to the alcohol content or to the type of the alcoholic beverage.

3.3.3.2 Tobacco use

The main legislative measures involving smoking control are a result of the harmonization of Cypriot legislation with the European Directives 1989/622 (EUR-Lex, 2020a), 2001/37 (EUR-Lex, 2020b) and 2003/33 (EUR-Lex, 2020c). The Law providing for measures to reduce smoking is regulated by the 'About Health Protection' (Smoking control) Act of 2002 to 2009 (Ministry of Health, 2011) and is completed by the 'About Health Protection' (Smoking control) Regulations of 2004. The Law 'About Health Protection' 24 (I) 2017 is the revised edition of the aforementioned Law of 2002 (Cyprus Bar Association, 2017b).

According to the Cypriot Act of 2002 'About Health Protection':

1. Smoking is forbidden in:
    a. Public buildings, universities, or other educational institutions;
    b. Airports;
    c. Hospitals and public or private medical offices, clinics, and rest homes for elderly or disabled people;
    d. Cinemas and theatres;
    e. Museums, galleries, concert halls, and cultural centres;
    f. Indoors sports centres;
    g. Hotels;
    h. Factories;
    i. Elevators;
    j. Shopping malls;
    k. Betting agencies; and
    l. Internet cafes for minors and leisure centers.
2. The sale of tobacco products is prohibited for persons under 18 years.
3. The free distribution of tobacco products or imitation schemes is prohibited.
4. The import, manufacture, and use of tobacco vending machines is prohibited.
5. Smoking is prohibited in public transport and in private vehicles where there are passengers under 16 years.
6. Oral tobacco products are prohibited.
7. Tobacco products for which the producer does not comply with the requirements of Laws or Regulations are prohibited.
8. Advertising and sponsorship of tobacco products in the form of written, spoken, or radio messages or information society service messages are prohibited.

9. Warnings on packs in accordance with the Regulations and the listing of tar, nicotine, and carbon monoxide content are required.
10. Owners of non-smoking areas are obliged to post prohibition signs.
11. Employers are obliged to apply a smoking policy in each workplace based on the principle that employees who do not smoke or do not wish to smoke in their workplace are protected from smoke.
12. The use of text, names, trademarks, illustrations or other signs on the packaging of tobacco products claiming that a particular tobacco product is less harmful than others is forbidden.
13. Producers of tobacco products are required to submit a yearly list of all ingredients used in production, by brand and type (Ministry of Health, 2020a).

The 'About Health Protection' Law of 2002 imposes penalties of up to EUR 2,000, imprisonment not exceeding six (6) months, or both penalties. The penalty can also be settled out of court on the basis of 'About Extrajudicial Offenses Regulation' Laws from 1997 to 2007 and the sum amounts at EUR 85. Within the School Health Service of the Ministry of Health of the Republic of Cyprus, Health Education Programs related to the prevention of smoking are being implemented with the ultimate goal of disseminating to children and their families the knowledge and skills to develop healthy attitudes and behaviour s towards smoking. The programs are implemented by school doctors and health visitors, in collaboration with the Directorates and staff of public primary and secondary schools (Ministry of Health, 2012). There are also organized information campaigns during World No-Tobacco Day (Ministry of Health, 2020b, Ministry of Health, 2006). The National Commission has identified that a major weakness of the smoking legislation in Cyprus is the inability to interpret the law. In particular, the interpretation of an "indoor area" is a legal gray area and needs further clarification. There is also ambiguity regarding smoking outdoors, such as in parks and playgrounds. This ambiguity is exacerbated by the current inability to enforce the law, which was initially the sole responsibility of the Cypriot Police. For practical reasons, however, enforcement is now managed via cooperation between various agencies and institutions, which often fail to enforce the relevant policies due to ambiguity of authorization (Cyprus Addiction Treatment Authority, 2020f).

3.3.3.3 Internet use

The Cyprus Systemic Institute's systemic psychotherapy program for Internet addiction and electronic games is a specialized program for the prevention and treatment of Internet addiction and video games (Systemic Institute of Cyprus, 2020). The program builds on

systemic therapy, utilizing the theory of nonviolent resistance. The program is aimed at teenagers and children who abuse the Internet or show signs of Internet or video game addiction. The program includes:

- Family sessions
- Individual meetings with the child or adolescent
- Parental counseling
- Teachers counseling.

The helpline 1480 operates as part of the European CyberSafety Project – A Better Internet for Children in Cyprus (Cyber safety, 2020), with the aim of ensuring that all users will be able to receive real-time advice and support from dedicated supporters on issues related to the use of the Internet and digital technologies. The helpline 1480 services are aimed at children, adolescents, parents, educators, and other professionals providing support and advice on issues related to the safe, responsible, and ethical use of the Internet and other digital media. The Adolescent and Family Counseling Center PERSEAS (Ministry of Health, 2020) for addictive behaviour s employs therapeutic and counseling approaches to address gambling and Internet addiction. Such approaches aim for users to adopt healthy lifestyles and develop constructive relationships and communication in the family. These approaches involve systematic individual, team and family interventions led by experienced and specialized scientific staff. Teenagers and young adults from ages 13-22 years old are served.

3.3.4 Greece

3.3.4.1 Alcohol use

Based on existing legislation, the availability of alcohol in Greece is formulated as follows (WHO/Europe, 2016b, European Centre for Monitoring Alcohol Marketing, 2017):

- Minimum selling age off premise in shops (beer/wine/spirits): 18/18/18
- Minimum selling age off premise in bars, pubs, clubs etc. (beer/wine/spirits): 18/18/18
- Restrictions on hours of off-premise alcohol sale hours: No
- Restrictions on density of off-premise sale: No
- Restrictions on place of off-premise sale: No
- Restrictions on days of off-premise sale: No
- Restrictions on hours of on-premise sale: No
- Restrictions on density of on-premise sale: No
- Retail monopoly: No

- License required for production: Yes
- License required for retail sales: No
- Restriction in places
  - Parks & streets: No
  - Educational buildings: No
  - Workplace: No
  - Sport events: Yes, partial restriction
  - Public transport: Yes, ban

In addition to the aforementioned issues additional policies exist including among others:

→ Road-safety issues

- Random breath testing: Yes
- Sobriety checkpoints: Yes
- Blood alcohol limits for drivers: general: 0,5%, young: 0,2%, professional: 0,2%
- Sales ban at petrol station: No

→ Labeling of alcoholic beverages on container

- Consumer information about calories, additives, and ingredients/nutritional information: Yes, legally binding
- Health warnings on bottles: self-regulation (industry initiative)
- Number of standard drinks displayed: No

→ Marketing

- TV: Yes, minor protection & content restrictions
- Radio: Yes, minor protection & content restrictions
- Outdoor marketing: No
- Printed media: No (only self-regulation)
- Cinema: No (only self-regulation)
- Promotional items: No (only self-regulation for sales promotion from producers at parties and events)
- Sports sponsorship: Programs whose content is evidently directed at minors are prohibited from accepting sponsorships about alcoholic beverages.
- Internet: No
- Social media: No
- Health warnings: Enjoy responsibly

→ Pricing

- Excise tax on beer / wine / spirits: Yes / Yes / Yes
- Minimum pricing policy: No
- National government support for community action (any): Yes
- National monitoring system(s) (any): Yes
- Written national policy (adopted/revised): No
- National action plan: Yes

Importantly, in July 2019, the revised National Action Plan was launched and suggested policies regarding alcohol availability and marketing, according to EU policies. However, these policies are not yet implemented and legally binding.

3.3.4.2 Tobacco use

Based on existing legislation, the availability of tobacco use in Greece is formulated as follows (The Tobacco Atlas, 2020; Untobaccocontrol, 2018)

- Minimum selling age: 18
- In shops, where tobacco products are sold:
  - Cigarettes should be placed in specific window shops and accessible to staff.
  - Labels stating that "Selling cigarettes to minors is prohibited" should be visibly placed inside the shop.
  - Sales to international travelers of tax- and duty-free tobacco products are prohibited or restricted, as appropriate.
  - Imports by international travelers of tax- and duty-free tobacco products are prohibited or restricted, as appropriate

In addition to the aforementioned issues additional policies exist including among others:

→ Labeling

- Type of Warning Label: Graphic
- Percent of Pack Covered: 65%
- Plain Packaging: No

→ Smoke-free places

- Health care facilities
- Educational facilities, universities, schools, educational institutes
- Cultural facilities
- Government facilities

- Shopping malls
- Indoor offices and workplaces
- Restaurants
- Pubs and bars
- Nightclubs
- Public transport: airplane, train, ferry, ground public transport (buses, trolley buses, trams), motor vehicles used as places of work (taxis, ambulances, delivery vehicles.
- Sports facilities (open or closed)
- Cars when child under the age of 12 years old is inside

→ Marketing

- Restricting tobacco-related advertising, promotion, and sponsorship on the media below. The law requires fines for violations of direct advertising bans.
  - National TV and radio
  - International TV and radio
  - Print media (Magazines & newspapers)
  - The Internet
  - Health care facilities
  - Billboards and outdoor advertising
- Restricting tobacco sponsorship of international events and activities.
- Requiring that packaging, individual cigarettes, or other tobacco products do not carry advertising or promotions.
- Greece does not have a ban on:
  - Tobacco advertising in cinemas
  - Marketing at point of sales or displays
  - National sponsorship
  - Indirect advertising

→ Pricing

- Mixed excise tax: Yes
- Minimum price policy: No

→ Offer help

- Quitting Resources: nicotine replacement therapy and/or some cessation services (at least one of which is cost-covered)
- National Quitline: Yes

- Programmes have been designed and implemented to promote the cessation of tobacco use

→ Control bodies

- Focal point for tobacco control: Yes
- Tobacco control unit: Yes
- National coordinating mechanism for tobacco control: Yes

→ Education, communication, training and public awareness

- Educational and public awareness programs are addressed to:
  - Adults and general public
  - Children/young people
  - Teachers
  - Parents
  - Health workers
  - Community workers

→ Major interventions on smoking cessation

- HEART Project – Smoke Free Greece, coordinated by Hellenic Cancer Society and the Institute of Public Health
- Take a Breath – Hellenic Thoracic Society. Training for students of all grades, parents, and teachers on the prevention of smoking in selective schools
- NSRF (National Strategic Reference Framework) – Greek Ministry of Health: Educational school interventions on tobacco control in Athens and Thessaloniki, as well as in the rest of Greece.

3.3.4.3 Internet use

Regarding Internet use, few initiatives exist in Greece from the standpoint of legislation. According to the General Data Protection Regulation (EU GDPR) 18 years old is the legal age when an individual can provide consent to disclose their images and personal data. Until this age only parents have the right to provide their consent for their child. Additionally, the minimum age of a child to sign up a social media account is the age of 13 years old (Regulation EU 2016/679). In 2016 the Greek Safer Internet Centre was launched under the auspices of the Foundation for Research and Technology Hellas and, in particular, the Institute of Computer Science with the ultimate goal of promoting safer, responsible, and better use of the Internet and mobile technologies among children and young people, interacting with all stakeholders to bridge the digital divide between home and school and

among generations (Cyber safety, 2020). SIC provides information, assistance and support to young and adult Internet users by developing three distinct actions:

- the SaferInternet4Kids.gr website (https://www.saferInternet4kids.gr/)
- the Help-line (http://www.help-line.gr/)
- the Hotline dealing with illegal content, SafeLine (https://www.safeline.gr/)

3.3.5 Serbia

3.3.5.1 Alcohol use

The 'Law on consumer protection' prohibits the sale of alcoholic beverages to minors and all citizens who do not show personal identification proving that they are over 18 years of age (Law on Consumers protection, Article 6, 2016). In 2015, according to a change in the decision on working hours of trade in the city of Belgrade, the prohibition of sales of alcoholic drinks after 10 p.m. was abolished.

3.3.5.2 Tobacco use

According to the data from the World Bank, Serbia has mixed excise rates for cigarettes, which included both a specific tax component and an ad valorem tax component. Since 2008, excise rates have changed at least once a year in Serbia. It has increased nine times between 2008 and 2019 (World Bank Group Global Tobacco Control Program, 2019). The 'Law on protection of the population from exposure to tobacco smoke' was adopted in Serbia in 2010 (World Bank Group Global Tobacco Control Program, 2019). The 'Law on advertising' was adopted in 2016, and it prohibits all forms of tobacco smoking and advertising for all types of tobacco products, including e-cigarettes, and products that replace cigarettes (World Bank Group Global Tobacco Control Program, 2019). Total tobacco control expenditures amount to 2 million RSD. The revenue from cigarette taxation was directed to programs for prevention of cardiovascular diseases ('Smokers dinar'- 'Pusacki dinar'). Serbia has been part of the WHO Framework Convention on Tobacco control since 2006 and has ratified the 'Protocol to Eliminate Illicit Trade in Tobacco products' in 2017. Health care facilities, educational facilities (including universities), government facilities, and public transport are smoke-free areas in Serbia (World Bank Group Global Tobacco Control Program, 2019). All cafes and restaurants smaller than 80 square meters can choose whether to ban smoking or not, while those larger than 80 square meters must have separate smoking and non-smoking areas (World Bank Group Global Tobacco Control Program, 2019). Health warnings on cigarette packaging are legally mandated to cover 30%

of the front and 40% of the rear principal display area, and 12 health warnings are approved by law (World Bank Group Global Tobacco Control Program, 2019).

3.3.5.3 Internet use

No specific legislation on Internet use was identified.

4 Smoking, alcohol and Internet addictions among children and adolescents: triggers, facilitating and protective factors

4.1 Risk factors for substance abuse

The factors that trigger or facilitate substance abuse such as problematic use of alcohol or smoking range from generic to environmental and psychosocial. The socioecological model provides a framework for categorizing these factors into levels of influence organized into an ascending order of intra-individual, interpersonal, community/organizational, and societal/policy levels (**Figure 18**) (Kalkhoran et al., 2018).

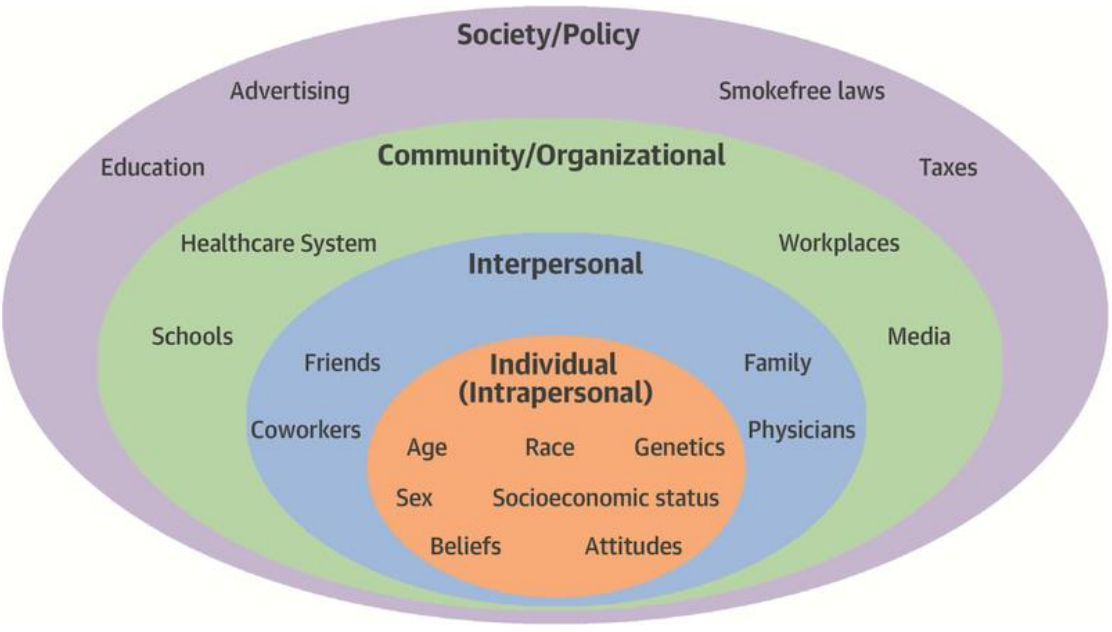


Figure 18 Socio-ecological model of factors associated with substance abuse. **Source:** J Am Coll Cardiol. 201;72(9):1030-1045.

4.1.1 Individual – intrapersonal factors

4.1.1.1 Generic factors

The fact that risk for substance abuse runs in families is well-established knowledge. Early twin and adoption studies have revealed that a boy whose father suffered from alcoholism

was at increased risk to develop problematic alcohol consumption even if they were raised by a family without any feature of alcoholism. This heritability has also been established for girls while similar associations have been found regarding the abuse of opiates, tobacco and stimulants. Recent work using nine databases of adoptive children found that risk for substance abuse was doubled when one biological parent was a substance abuser with the risk being higher if the biological father was the abuser (Kendler et al 2012). Interestingly, when both biological parents were substance abusers, the risk for the child becoming a substance abuser was three times higher (Kendler et al., 2012).

4.1.1.2 Gender

Gender differences in drinking patterns are evident across the WHO European Region (WHO FCTC, 2018). Overall, boys are more likely to be regular drinkers and to drink beer more than girls. For other drink types (spirits or wine), drunkenness and early-initiation, sex differences are less consistent and typically in favor of boys. Sex differences in 2014 were most apparent in southern Europe/Mediterranean countries and central–eastern Europe for most measures of alcohol use (WHO FCTC, 2018). Concerning tobacco use, most smokers in the world are men, and the rates of smokeless tobacco products use are higher in men than women – thus morbidity and mortality rates due to tobacco are higher in men. This is not only the case for adults but also for adolescence yet the gender gap in this age is less apparent. However, pan-European studies of 15-16 year olds have shown a reversal of the smoking gender gap since the 1990s especially in girls of low socioeconomic status (WHO FCTC, 2018).

4.1.1.3 Socioeconomic status

Many risk behaviours in adolescence are socially patterned. Low socioeconomic status in parents and unemployment trigger substance abuse including drinking and smoking yet results remain inconsistent (WHO/Europe, 2015). A systematic review of parental socioeconomic status and binge drinking showed that most included studies found no association, while other studies have found that low parental education and unemployment are associated with increased alcohol use among adolescents (Kwok & Yuan, 2016; Torikka, Kaltiala-Heino, Luukkaala & Rimpelä, 2017). For instance, in a recent large-scale study with sample from six European countries it was revealed that parental education and family affluence were not associated with adolescent drinking (Bosque-Prous, Kuipers, Espelt et al., 2017). High student weekly income and low academic achievement were associated with higher likelihood of alcohol consumption; similar associations were observed for different drinking measures (weekly binge drinking and weekly alcohol consumption), and for different sexes and age groups. Most importantly, although the relationship between

socioeconomic indicators and binge drinking varied between countries, in most countries only adolescent (not parental) socioeconomic status was associated with alcohol consumption.

4.1.1.4 Other individual factors

Personality traits (e.g., oppositional defiant disorder), externalizing characteristics, impulsivity, sensation seeking, weak self-control are also important factors that trigger substance abuse (Wiers, Fromme, Latvala & Stewart, 2013). Among other risk factors for using substances is the diagnosis of attention deficit hyperactivity disorder (ADHD).

4.1.2 Interpersonal factors

The environment where a child has grown as well as any positive or negative experiences in younger age demonstrate a profound role in shaping their character including response against any unhealthy behavior or abuse. Hence, maltreatment and early stress, parenting, peers, societal features are included under the umbrella of environmental factors and they have been suggested to affect children's and adolescents' risk against substance abuse (Kendler et al., 2012).

4.1.2.1 Maltreatment and early stress

Severe early stress, such as child abuse and maltreatment, can alter gene expression and brain development, increasing risk for substance abuse as well as a wide range of mental health problems (McEwen, 2012).

4.1.2.2 Parenting and family structure

The importance of family and social factors on the initiation and early use of alcohol or tobacco has been underscored in many studies. Families play an important role in the development of various abuse-related problems in youth, and exposure to alcohol or other drug use disorders of parents predicts substance use disorders in children. In this context, generational transmission has been widely suggested as a trigger that shapes alcohol or tobacco use patterns in youth. Indeed, drinking or smoking practices of parents strongly affect their children's' behaviour against such addictions.

Apart from maltreatment many additional aspects of parenting can affect child's risk for substance abuse. Premature birth, low birth weight, prenatal exposure to drugs, alcohol, tobacco, the young age of the mother as well as a divorced family are to be related with substance abuse –any kind– in younger ages. In addition to this, factors such as maternal

depression, parental substance abuse and parental antisocial behavior are also of potential predictive value.

4.1.2.3 Peers

Humans are social animals, seeking like-minded others who in turn can influence and reinforce their behaviour s. Peers potently influence individuals' beliefs about drugs and as a result can increase the likelihood of substance use. Children and adolescents with low self-esteem are even more susceptible. One of the strongest predictors of substance abuse in youth is having friends who use alcohol, tobacco, or other substances (Cruz, Emery & Turkheimer, 2012).

4.1.2.4 Social and physical settings for young individuals

Social and physical settings for underage drinking also affect patterns of alcohol consumption. Data from the National Survey on Drug Use and Health revealed that the usual number of drinks was substantially higher when 2 or more other people are present. Drinking in the presence of others is by far the most common setting for youth (US Department of Health and Human Services, 2013). Social contexts that appear to promote heavy consumption affect the level of alcohol consumption by children (Ryan & Kokotailo, 2019). The most common setting for youth alcohol consumption is private residences. The next most popular drinking locations are at a restaurant, bar, or club (Weitzman et al 2018). Similar findings exist for tobacco use (CDC, 2012).

4.1.2.5 Media

Adolescents and young adults are uniquely vulnerable to the effects of social media and particularly digital communication. Indeed, they are early adopters, nearly ubiquitous users, and highly susceptible to peer influences. Substance abuse is substantially affected by the media (Lenhart, 2015). To this issue, exposure to alcohol or tobacco marketing increases the likelihood that young people will initiate drinking or smoking. Several studies have described content and posting timing of alcohol use on sites such as MySpace, Facebook, and Twitter (Moreno, Briner, Williams, Brockman, Walker & Christakis, 2010). In particular, displays of alcohol use on social media have been found to be indicative of personal use among young people and are likely to enhance normative perceptions among followers of those posts. Regarding tobacco use, a major source of information about traditional cigarettes, electronic cigarettes, cigars, hookahs and smokeless tobacco is available online, especially on the widely accessed YouTube video platform (Wasserman, 2013).

4.1.3 Community/Organizational factors

The wider community and society in which young people live influence their health and behavioural choices. Indeed, many health behaviours are socioeconomically patterned in young people. Just as there are individuals at risk for substance abuse, the same can be said of cultures, subcultures and social structures related with certain behaviours. To this issue, a variety of factors may contribute to the changes in alcohol and tobacco use among young people across the European Region, including changes in household income, marketing, prevention approaches, adult norms and shifts in teen culture.

4.2 Risk factors for problematic Internet use

A number of factors have been found to be associated with PIU, although studies are often contradictory or inconclusive. In terms of social determinants, in general, the literature on PIU appears to be fairly contradictory and/or inconclusive in regards to associations with and predictors of PIU. For example, while Laconi et al. (2018) found that women are more vulnerable to PIU, they also noted a number of studies which suggest that men are more vulnerable. Sociodemographic factors broadly appear to be associated with Internet addiction as well (Lopez-Fernandez & Kuss, 2019). PIU appears to have relationships to general psychopathology including depressive and anxiety disorders, pathological personality traits, and other addictive disorders (Laconi et al., 2018). Obsessive-compulsive symptoms appear to be the most related to PIU. The European Parliamentary Research Service (2019) also presents literature examining the neurobiology of PIU, which points to neural circuits and mechanisms commonly associated with addiction and reward probably implicated in Internet use. Laconi et al. (2018) also suggest that increased time spent online could lead to more PIU, and in particular, weekend use of the Internet is related to PIU. Importantly, Laconi et al.'s analysis underscored the need for cross-cultural and country-specific analyses, due to the unique patterns of Internet usage and variable results regarding PIU in different EU countries. Durkee et al. (2012) also highlighted an association between PIU and living in metropolitan areas, low parental involvement, parental employment, and not living with a biological parent. Broadly, Vondráčková & Gabrhelík (2016) noted a dearth of quality research on Internet addiction, especially focused on treatment and prevention.

4.3 Protective factors against addictions

In all addictions in youth a number of individual and systemic factors are highly discussed. An important goal of prevention is to change the balance between risk and protective

factors so that protective factors outweigh risk factors (Figure 19) (Quiroga, García, Benítez-Andrades, Benavides, Martín & Marqués-Sánchez, 2017).

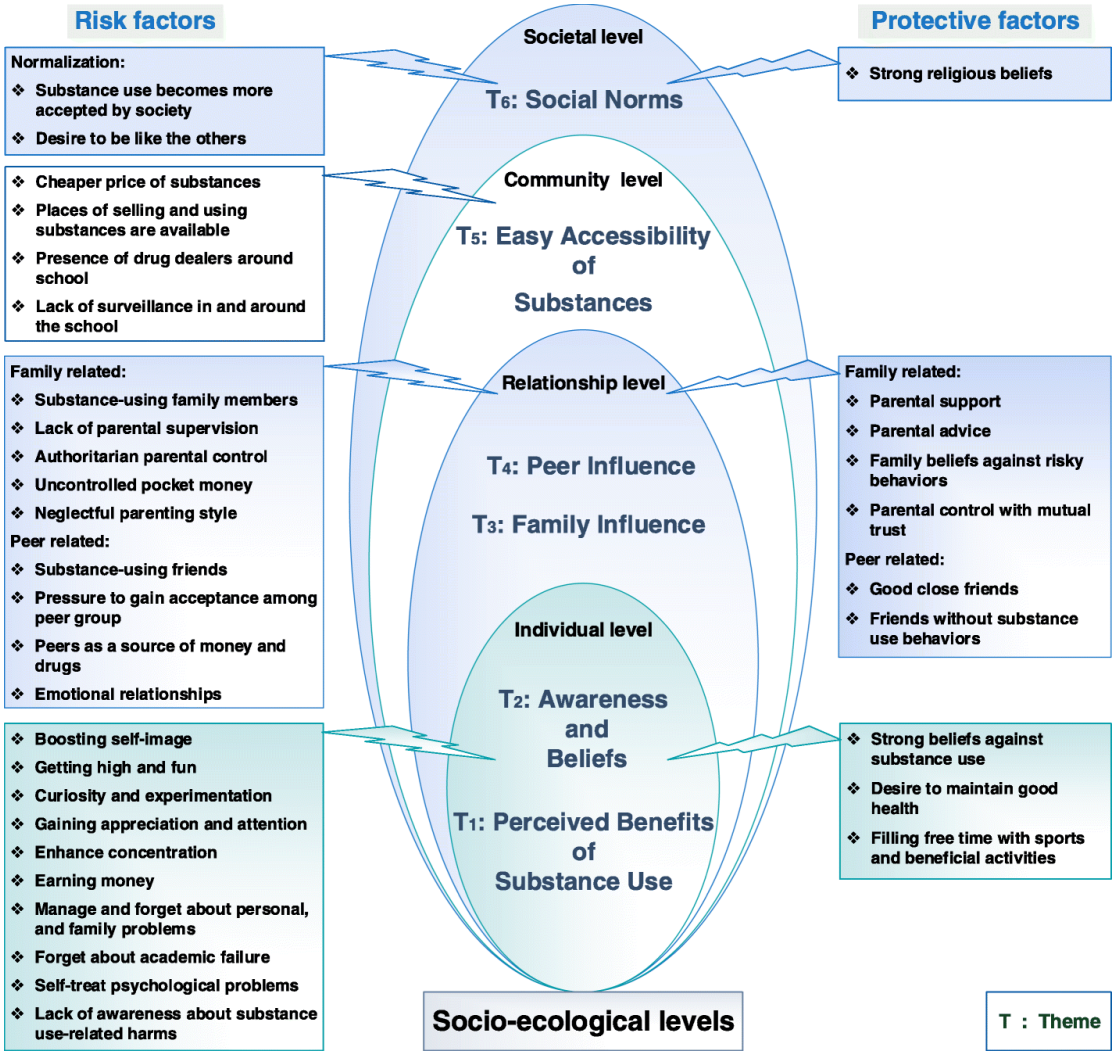


Figure 19 Diagram showing emerging themes and factors influencing substance use in Moroccan adolescents within the socio-ecological model. **Source:** Int J Environ Res Public Health. 2017;14(12):1531.

→ From the standpoint of **individual** protective factors, these include:

- Awareness, beliefs and self-monitoring skills
  - awareness of risks and complications of addictions
  - engagement in extracurricular activities
  - attitude changing
  - skill enhancement
  - critical evaluation skills
  - social skills

- problem solving skills
- cognitive restructuring skills
- reduction of impulsiveness
- emotion regulation and self-control skills
- self-concept, self-management
- promotion of awareness of subjective relationship (personal relevance) with technologies (in case of Internet use)

→ From the standpoint of **systemic** protective factors, these include:

- Family level
  - Parental advice
  - Parental support
  - Family beliefs against risky behaviours
  - Parental monitoring without mutual trust
- Peer level
  - Good close friends
  - Friends without problematic behaviours
- Societal level
  - Religious beliefs and norms
- Community level
  - Effective policies to tackle any specific kind of addiction. Several policies that have been examined for their effectiveness are mentioned below: **a.** Prices and taxation; **b.** Raising awareness campaigns; **c.** Restriction of young people's access; **d.** Packaging and labeling; **e.** Exposure to substance use prevention messages and programs

4.4 Country-specific evidence on risk and protective factors regarding addictions in childhood and adolescence

4.4.1 Bulgaria

According to experts, lack of attention and care, curiosity, bad parental example, and environments where alcohol and cigarettes are used may be among the reasons that encourage children to use alcohol and tobacco products. Parents can employ numerous preventive strategies to reduce early use of alcohol in children. Proper parental example can reduce the chances of children using alcohol. Parents engaging in open, clear

communication and education with their children about alcohol and its consequences may promote responsible behaviours (as opposed to indifference, excessive pressure, or lecturing). Adolescents are more prone to risky behaviours. With an increased need for independence, they can be expected to ignore or disregard their parents' advice. However, if the adolescent feels respected and accepted as a person, the chances of speaking openly about their problems are improved.

Within the last 20 years, it has been firmly proven that passive smoking can be very dangerous. The sensitivity of the child's body to tobacco smoke requires particular medical and ethical reasons. The lungs of children are smaller and their immune systems are less developed, which makes infections of the respiratory system and ears caused by tobacco smoke more likely. The harmful effects of passive smoking are usually greater when both parents smoke (in particular, the harmful influence of tobacco smoke from the mother, who is in close contact with the child for a longer time).

Experts have yet to conclude an exact reason for Internet addiction. Numerous factors contribute to the onset of this disorder. Over time, more and more activities on the Internet elicit pleasure in the brain. This means that if a person finds online games or online shopping for enjoyable activity, you will have to engage in more and more of these activities to create the same pleasure in your brain. Internet addiction is also linked to anxiety, depression and lack of attention, and neglect.

4.4.2 Croatia

Most of the studies conducted in Croatia examined more than one risk behavior (e.g. both smoking and alcohol consumption, or drugs consumption). Recent research shows that among Croatian youth, risk factors for alcohol intake are optimistic bias (Vlajčić, 2017), unorganized leisure time activities and low quality leisure time (Nikčević-Milković, 2016; Budimir, 2017), positive peer reactions (Kalebić Maglica & Martinac Dorčić, 2015), low perception of alcohol harmfulness and vulnerability to social pressure by peers (Glavinić, 2015), and parental modeling at young ages (Kalebić Maglica & Martinac Dorčić, 2015). Furthermore, research shows that adolescents who quit sports were at greater odds of being smokers (Zenić et al., 2017) or engaging in harmful alcohol drinking (Devčić et al., 2018). Regarding protective factors, research has found that quality leisure time (Nikčević-Milković, 2016), especially sport-involvement (Devčić et al., 2018; Zenić et al., 2017), prosocial orientation and self-esteem, and the importance of parental opinions in decisions (Glavinić, 2015) can serve as protective factors against risk behaviour s. Many areas in

Croatia have been abandoned and neglected after the civil war, and are especially vulnerable. Such areas do not offer many recreational possibilities to the residents, therefore increasing the odds of risky behaviour (Glavinić, 2016).

In summary, Croatia appears to have facilitating and protective factors similar to other countries. However, researchers should pay attention to: (1) possible regional differences within Croatia, with a focus on areas where massive emigrations took place and entertainment services, recreational possibilities, and social events are scarce, and (2) positive or neutral attitudes towards drinking and smoking as a part of Croatian tradition and culture.

4.4.3 Cyprus

In recent years, the Cyprus Health Organization has shown that the focus on prevention programs should not be on the substances or the individual. Instead, it is of particular importance to identify and account for social, cultural, and economic factors related to the population's health and health behaviour s. Consequently, the person's "choices" are treated as a result of the interaction between the person and their socioeconomic and living factors.

The priorities of the Prevention area included in the Action Plan 2013-2016 are: supporting vulnerable groups to prevent the use of addictive substances, promoting the organization of programs in high-risk areas, the development of actions aimed at creating an environmental deterrent to use of addictive substances, and the promotion of universal actions, especially those involving the use of new technologies (Cyprus National Addictions Authority, 2020e). The National Strategy 2013-2020 for the treatment of drug addiction and harmful alcohol consumption includes novel goals related to the availability and accessibility to alcohol by vulnerable groups (ESPAD 2012) or high-risk groups through the implementation of legislative measures. The main challenges in the field of Supply Regulation and Control for 2013-2016 (Ibid.) are as follows:

- Reduction of the trafficking of illegal substances
- Prevention of the import of illegal substances in the Republic of Cyprus
- Prevention of the trafficking of new synthetic substances
- Prevention of money laundering from addictive substances trade
- Reduction of the accessibility and availability of alcohol to vulnerable groups.

4.4.4 Greece

Focusing on problematic alcohol consumption, a study implemented in Greece, reported the availability in terms of easy access to alcohol in adolescence as a major risk factor for this addiction (Kokkevi et al., 2016). Indeed, most adolescents consumed alcohol in bars, clubs, restaurants, or cafeterias (despite Greek law forbidding the sale of alcoholic beverages to minors). In addition to this, in the same survey Greek adolescents did not seem to perceive the daily consumption of one to two drinks as harmful, while 6% reported that it is not hazardous to have even 5 drinks per weekend (Kokkevi et al., 2016). On the other side, about one out of five adolescents reported that their parents, relatives, or peers consumed alcohol at excessive levels while some of them perceived alcohol as a medium to build new relationships, personal and social skills, and to socialize with peers (Kokkevi et al., 2016).

Regarding smoking similar risk factors have been revealed in national surveys . In particular, many adolescents report having easy access to cigarettes (Kokkevi et al., 2016) while a substantial percentage of them believe smoking occasionally is harmless. Interstingly, in the same survey about 17% reported that smoking approximately 10 cigarettes per day is harmless while 7,5% of them mentioned that even 20 cigarettes per day is harmless (Kokkevi et al., 2016). Moreover, adolescents who smoked were closer to their friends than to their parents (Kokkevi et al., 2016). Other triggers of tobacco use in Greece are male gender (Kokkevi et al., 2016; Spyratos, Pelagidou, Floros et al., 2012; Damianaki, Tsirakis, Kaklamani et al., 2008) as well as having siblings, peers, and favorite artists who smoke (Spyratos, Pelagidou, Floros et al., 2012; Francis, Katsani, Sotiropoulou et al., 2009; Damianaki, Tsirakis, Kaklamani et al., 2007), having pocket money ≥ 16 Euros (Rachiotis, Muula, Rudatsikira et al., GYTS Study, 2008). Pressure regarding school performance and other mental or psychological health issues such as anxiety, emotional symptoms and previous suicide attempts have been as well related with increased risk for tobacco use (Banzer, Haring, Bucheim et al., 2017; Francis, Katsani, Sotiropoulou et al., 2009).

Regarding the PIU most Greek adolescents use the Internet in order to deal with distress and moodiness, and to relieve negative emotions (Kokkevi et al., 2016). Moreover, parents appear to underestimate their children's computer involvement (Siomos, Floros et al., 2012) which along with parental overprotection usually observed in Greek families is correlated with higher addiction rates (Siomos, Floros et al., 2012). On the other side security practices and Internet safety measures do not a play significant role on preventing Internet addiction (Siomos, Floros et al., 2012). In another case-control study with Greek adolescents it was revealed that Internet addiction among adolescents was associated with dysfunctional and/or problematic family relationships (Tsitsika, Critselis, Louizou et al.,

2011). In addition, adolescents with Internet addiction were more likely to be boys as well as to have poor academic performance, limited extracurricular activities, and engagement in high-risk behaviour s. Finally, Internet addiction among adolescents was associated with the presentation of emotional problems and concomitant psychiatric conditions, including depression. On the other side, another school-based study in Greece revealed that the odds of Internet addiction increased with online hours on mobile phones and Internet use during weekends, Internet café visits, chatrooms usage and engagement in cyberbullying (Tsimtsiou, Haidich, Drontsos et al., 2017). Balancing the aforementioned risk factors several protective factors have been reported. More specifically, parental relationships may serve as a protective factor to prevent or reduce alcohol-related behaviors (Jackson, 2002; Borawski et al., 2011). Having a trusting relationship with parents was found to be more influential on adolescent alcohol use than simply monitoring adolescents' activities (Borawski et al., 2011). In case of tobacco use, protective factors include the relationship between adolescents and parents and the parental approach towards adolescents (Francis, Katsani, Sotiropoulou et al., 2009), participation in sports (Spyratos, Pelagidou, Floros et al., 2012), health warning messages on cigarette packets (Spyratos, Pelagidou, Floros et al., 2012), negative parental attitudes toward smoking and tobacco (Francis, Katsani, Sotiropoulou et al., 2009) and early identification of mental health issues (Francis, Katsani, Sotiropoulou et al., 2009).

5 Educational initiatives to prevent addictions in childhood and adolescence: target groups and their training needs per ADD-freeTraining consortium country

5.1 Target groups per ADD-freeTraining consortium country: adult learners and adult educators

5.1.1 Bulgaria

Among the main objectives and features of Bulgaria's substance use prevention policy is the expansion of systematic health education in the field of secondary education. Interventions in the field of prevention in Bulgaria are predominantly of an informational and educational nature. Universal prevention is implemented mainly through the education system and is coordinated by the Ministry of Education and Science. The principal objectives of school-based prevention are to provide information and create a protective school environment. Most health education interventions implemented in schools combine life skills and peer education. Some interventions targeting parents are also available. Manual-based prevention programmes in schools are rare; available programmes are usually designed or adapted for implementation at the local level. Families are increasingly involved in general universal prevention activities. In communities, municipal youth information and counselling centres implement health promotion projects targeting young people. These activities generally promote the adoption of a healthy lifestyle. Selective prevention in Bulgaria mostly targets at-risk children, young people and families. It is often based on the provision of information and training programmes, although peer-to-peer education models are also used. Other groups targeted for prevention activities include young people and children with special educational needs and those from ethnic minority communities. Indicated prevention in the country focuses on training health, social and educational professionals on how to screen and implement early and short interventions. In Sofia, a day centre provides counselling on dependency problems for children, young people and parents (**Figure 20**) (EMCCDA, 2019).

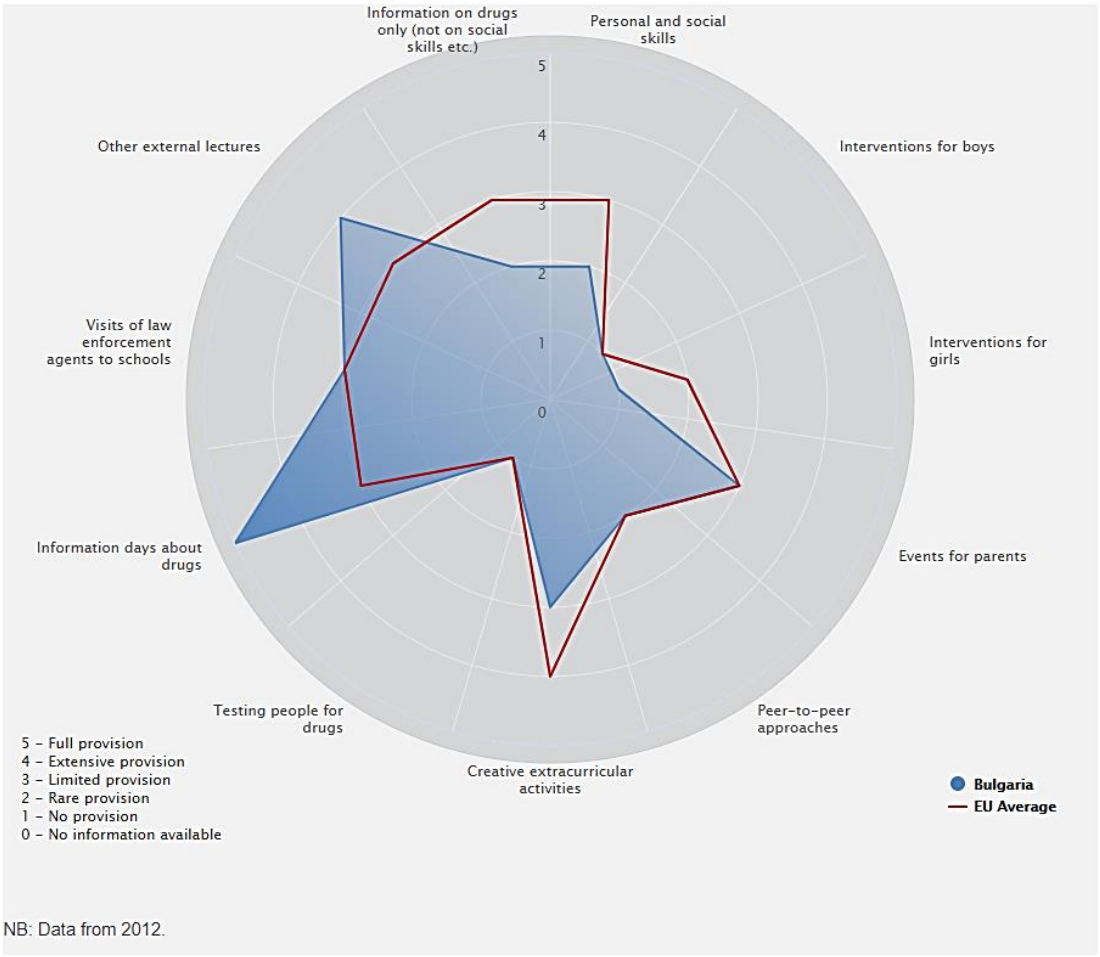


Figure 20 Provision of interventions in schools in Bulgaria (expert ratings). **Source:** https://www.emcdda.europa.eu/countries/drug-reports/2019/bulgaria/prevention_en

5.1.1.1 Adult educators

Adult educators in Bulgaria could refer to the groups of adults who are in position to organize further education for teachers, doctors, health care workers, psychologists, pedagogists, and social workers.

5.1.1.2 Adult learners

Adult learners include teachers, experts, and guardians of adolescents. Participants for learning programs would be recruited through schools, primary health care centers, and social work centers.

5.1.2 Croatia

5.1.2.1 Adult educators

Prevention efforts in Croatia are directed at the creation and implementation of prevention programs at universal, selective, and indicated levels. Universal prevention programs are

usually collaboratively directed by the Ministry of Interior, Ministry of Health, Ministry of Science and Education, and Ministry for Demography, Family, Youth and Social Politics. Selective preventive programs are usually directed by specific institutions (e.g. County Departments) and nongovernmental organizations (NGOs). The Ministry of Health annually assigns funds to support national institutions and NGOs for addiction prevention and harm reduction projects (see also Law on Games of Chance).

→ Institutional organization

- At the national policy level, policies are created by the Commission for Combating Drug Abuse of the Government of the Republic of Croatia, which is chaired by the Deputy Prime Minister and has representatives from all relevant ministries (EMCCDA 2019). This body creates the National Strategy on Combating Drug Abuse and coordinates its implementation at the political level (Figure 21).

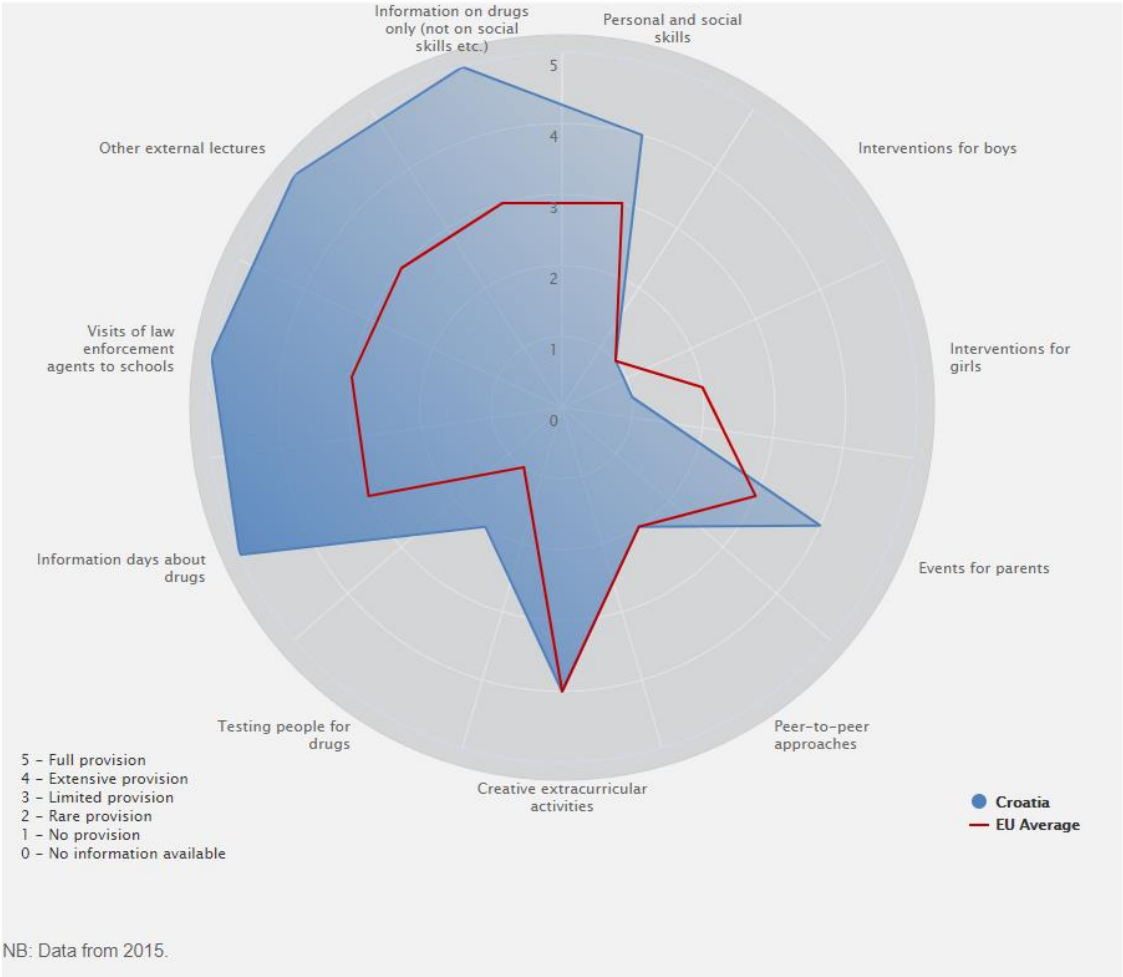


Figure 21 Provision of interventions in schools in Croatia (expert ratings). **Source:** https://www.emcdda.europa.eu/countries/drug-reports/2019/croatia/prevention_en

- At the national operational level, the Service for Combating Drug Abuse of the Croatian Institute of Public Health deals with implementation and monitoring of the national strategy. At the local level, the strategy's implementation is coordinated by the County[1] Committees for Combating Drug Abuse. Further local organization is detailed in the next paragraphs.
- County coordinators implement prevention programs in educational institutions (Service for Combating Drug Abuse of the Croatian Institute of Public Health, n.d. a; link). Their mission is to collect the data about preventive programs at the county level from preventive program leaders within individual educational institutions. Moreover, in cooperation with the County Committee for Combating Drug Abuse (some contacts are given here) and with the County Office of Education, county coordinators create school preventive programs for the given county, which is to be approved by the Ministry of Science, Education and Sports.
- County coordinators also implement programs of addiction prevention for children and youth within the social care system (Service for Combating Drug Abuse of the Croatian Institute of Public Health, n.d. b; link). Within the social care system, there is one smaller program being run for children from "at risk" families, geared towards the development of communication and socialization skills, the ability to structure healthy free time, and different forms of "acceptable behaviour ".
- The Departments of Mental Health Protection and Addiction Prevention are a part of the County Public Health Departments. Each County's Public Health Department has its Department of Mental health and Addiction Prevention (Croatian Institute of Public Health, 2016; link). They "encompass the activities of mental health protection, health, social care and education with the goal of administering constant supervision, education, psychotherapy, family therapy, prevention of HIV and Hepatitis for addicts and substance abusers". The Departments help people with addiction and substance abuse problems, and assist their families with solving related problems. However, most of these departments do not conduct systematic preventive programs.
- Professional staff (psychologists, pedagogists and/or social pedagogists) and teachers are the point people who actually engage in daily contact with end users (e.g. children in schools). In social care systems, the point people are social workers,

[1] A county is a unit of territorial organization in Croatia. Croatia is divided into 21 counties, which have their own budgets and administration.

psychologists and other professionals, such as educators who work at children's homes and juvenile detention centers. However, their potential in preventive activities is to a large extent untapped and left over to individual initiatives and efforts. There is some education regarding prevention, but programs seem to be limited to educating county coordinators and school preventive program leaders (Office for Combating Drug Abuse, 2018). The above described infrastructure (county coordinators, school preventive program leaders, County Committees for Combating Drug Abuse, County Public Health Departments and Departments of Mental Health Protection and Addiction Prevention) does result in the implementation of some programs. However, in the evaluation of the Croatian National Drug Strategy (Kools, van der Gouwe & Keizer, 2017), many surveyed stakeholders mentioned the need for more prevention and education among children and adolescents.

- Universal prevention in Croatia is organised and implemented mainly within the education system and follows a module-based Health Education Curriculum. The Health Education Curriculum was implemented in Croatian schools since 2012/13, after a nationally based education of primary and secondary school teachers. One out of three modules is dedicated to addiction prevention, and teachers implement it through both curricular and extracurricular activities and school projects (link in Croatian). The "Škola za život" ["School for life"] program is a new advancement, experimentally introduced into primary and secondary school curriculum in 2018/2019 as the first step of the wholesome "Curricular reform", which is planned to be fully operational by 2021/2022 (Ministry of Science and Education, n.d.; link in Croatian). This program also encompasses addiction prevention content.
- The Ministry of Interior also has a Department of Prevention, which deals with the prevention of various offences. They conduct some preventive programs which continually run in Croatian primary schools and are implemented in secondary schools:
  - "Zdrav za 5" ["Healthy like an ace"] (link), which consists of two modules – addiction prevention (alcohol, drugs, gambling) and environment protection. The program consists of lectures in schools which are jointly led by medical doctors/psychologists from the county public health centers and by police officers. In 2013/14, primary and secondary school teachers went through

training for independently implementing an addiction prevention module as a part of the regular health education curriculum in their schools.

- Project "Zajedno više možemo" ["Together we can do more"] consists of 5 components related to addiction prevention and prevention of risk behaviour and bullying. The project aims to promote youth, parent, and police collaboration in order to increase parental awareness for taking responsibility in preventing risk behaviour in their children.

- In counties and cities, 119 "Crime Prevention Councils" exist (Office for Combating Drug Abuse, 2018), which deal mainly with crime prevention, but also sometimes conduct some alcohol and drug prevention activities.
- Two networks which try to link cities and schools regarding health promotion activities also exist:
  - Local Croatian implementation of Schools for Health in Europe (link in English), which is coordinated by the Croatian Institute of Public Health. In Croatia, 44 schools are members of this network and they "promote health and invest in strengthening their capacities to become a healthier place for life, learning and work."
  - Croatian Healthy Cities Network encompasses 22 cities and 15 counties (link in Croatian). Within the network, local strategic documents such as "Local Health Investment Plan" are created.
- There are two university postgraduate programs addressing prevention: the postgraduate doctoral study "Prevention Science and Disability Study" (link in English) at the Faculty of Education and Rehabilitation Sciences of the University of Zagreb, and the postgraduate specialized study program "Health Promotion and Addiction Prevention" (link in Croatian) at the Faculty of Medicine of the University of Rijeka.

→ Non-institutional educators

- Different NGO's also create and implement prevention programs. There is a list of all NGO's in Croatia which have a purpose of "reducing drug demand" (Service for Combating Drug Abuse of the Croatian Institute of Public Health, n.d. c). However, it is likely that many of these NGO's don't conduct preventive programs, and that there are some other NGO's which don't have this exclusive purpose, but they conduct preventive programs.

- Therapeutic communities for drug addiction rehabilitation (Service for Combating Drug Abuse of the Croatian Institute of Public Health, n.d. d; link in Croatian) also sometimes conduct preventive activities, although these are not detailed.

5.1.2.2 Adult learners

- Adult educators are at the same time adult learners, since they go through the education before they work with children.
- Parents' councils: according to the Primary and Secondary Education Act (Official Gazette, 2020), every school in Croatia has a parents' council. This is a body in which parents of the schools' pupils are represented, with one parent in each class taking part. The parents' councils aim to help the school system complete its mission successfully and to connect the school to its community. The parental council discusses school-relevant topics and gives opinions and suggestions. They elect one representative into the School board, which is the schools' governing body.
- "Parents' Association Step by Step" (link in English) is an NGO which does a significant amount of work with parents. For example, they conduct the only program for teenage mothers in Croatia.

5.1.3 Cyprus

In Cyprus, significant emphasis is placed on environmental actions to prevent and/or delay addictions in the family, army and school environments. Related actions include a national science-based parenting skills programme; the integration of European Drug Prevention Quality Standards in preventive programmes; science-based prevention interventions or programmes in early childhood; legislation for a total ban on smoking in schools; and web-based prevention programmes. Universal prevention is the most common mode of prevention implemented in communities, families and school settings, targeting mainly secondary school students. Prevention activities in schools are implemented as part of the health promotion education programme. These programmes focus on raising awareness and providing information about drugs, while some of them address the development of personal and social skills. In 2017, 11 universal prevention programmes were accredited, and the majority of these were implemented at the national level. The main axes of the programmes were information dissemination on illegal and legal substances (such as alcohol and tobacco), strengthening of self-development skills, strengthening of self-esteem, enhancement of resilience factors, attitude change, improvement of communication, and training of teachers and parents (**Figure 22**) (EMCCDA, 2019).

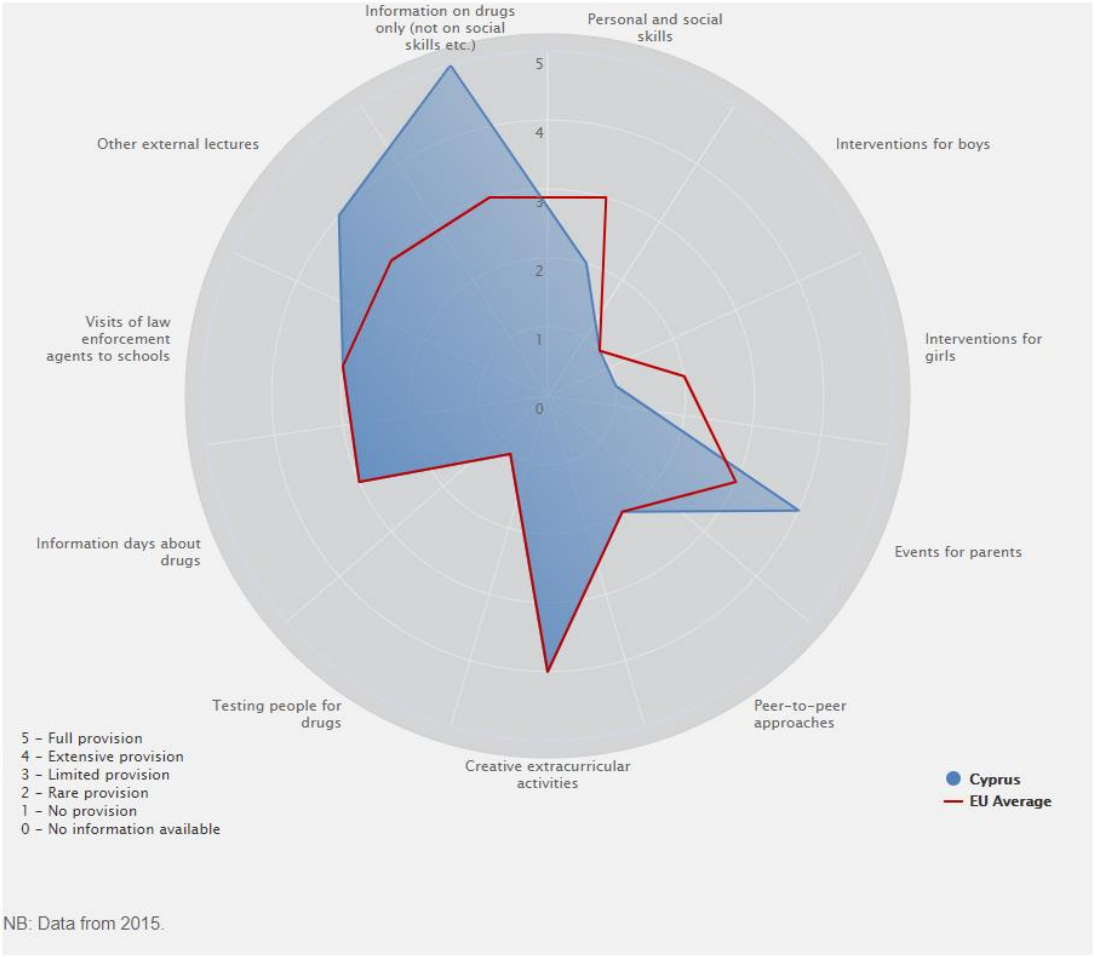


Figure 22 Provision of interventions in schools in Cyprus (expert ratings). **Source:** https://www.emcdda.europa.eu/countries/drug-reports/2019/cyprus/prevention_en

5.1.3.1 Adult educators

In Cyprus, adult educators involved in prevention activities could be:

- Anti-Drug Council of Cyprus
- Ministry of Education and Culture
- Ministry of Health
- Ministry of Interior
- Ministry of Labor and Social Insurance
- Ministry of Defense
- Ministry of Finance
- Ministry of Transport, Communications and Works
- Police of Cyprus
- Sports Organization of Cyprus
- Cyprus Radiotelevision Authority

5.1.3.2 Adult learners

Adult learners involved in prevention activities could refer to:

- Union of Cyprus Municipalities
- Union of Cyprus Communities
- NGOs
- Pancyprian Confederation of Parents of Primary Schools
- Pancyprian Confederation of Associations of Parents of Public Secondary and Technical Education Schools
- Cyprus Volunteerism Coordination Council
- Youth Board of Cyprus
- Higher Education Institutions
- Specialized Institutes
- Pancyprian Parents' School
- Cyprus Productivity Center
- Cyprus Brewers Association
- Cyprus Winery Association
- Advertising Control Body
- Cyprus Alcoholic Beverage Importers and Distributors Association
- Professional Organizations

5.1.4 Greece

Universal prevention in primary and secondary education in Greece consists of health promotion interventions implemented by the Ministry of Education and programmes carried out in close cooperation with the network of Prevention Centres. Prevention Centres provide training and support to teachers around programme implementation.

The development of personal and social skills is a key feature of these activities. Families are also a core target group; family prevention includes information events and training programmes. Prevention Centres for Addiction and Psychosocial Health Promotion provide information and raise public awareness about drugs and drug dependency, while prevention professionals target specific members of local communities, such as the army, public security forces, health professionals and youth mediators.

In recent years, a number of selective prevention interventions targeting at-risk groups and individuals have been developed. The Icarus Prevention Unit (KETHEA), for instance, designs and implements interventions aimed at young offenders, young people

who experiment with drugs, immigrants, returning migrants, refugees, disabled children, children from dysfunctional environments, at-risk families and children living in care institutions. Other institutions also implement activities targeting these at-risk groups. Indicated prevention activities consist mainly of individual or group counselling and referrals to other specialised services for students with psychological, emotional and social problems or special learning needs (**Figure 23**) (European Monitoring Centre for Drugs and Addictions, 2019).

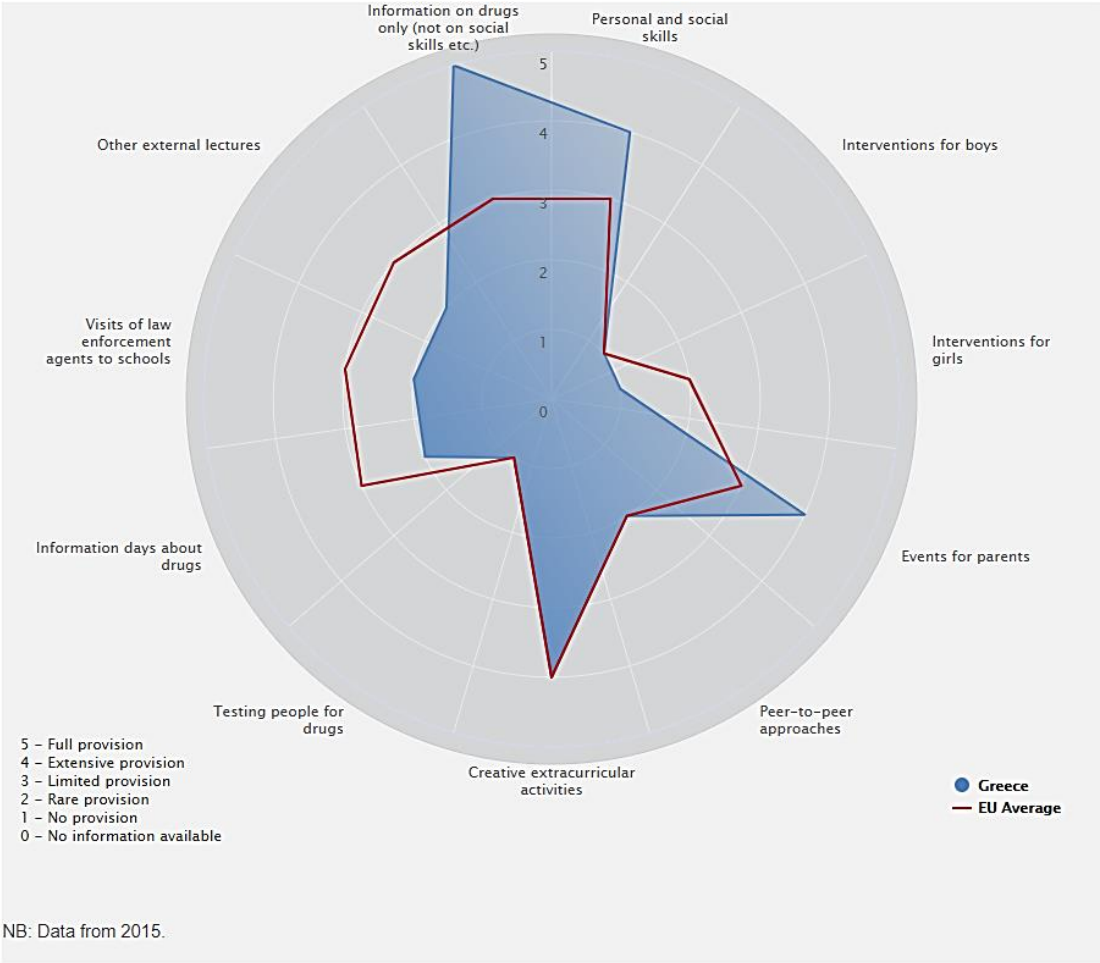


Figure 23 Provision of interventions in schools in Greece (expert ratings). **Source:** https://www.emcdda.europa.eu/countries/drug-reports/2019/greece/prevention_en

5.1.4.1 Adult educators

→ Relevant service providers

Relevant service providers include people working on prevention programs, interventions, or initiatives in various stakeholders or/and NGOs. For example, according to the national action plan for smoking, alcohol and substance use, the main state organization responsible for addiction prevention in Greece is the Centers for Addiction Prevention and Psychosocial

Health Promotion, which are part of the Greek Organization Against Drugs (OKANA). Additionally, similar interventions are carried out by the Therapy Center for Dependent Individuals (KETHEA), Hellenic Thoracic Society ("Take breath" project), Greek Safer Internet Center, and Hellenic Cancer Society ("Smoke for Free Greece" Initiative).

→ Youth workers

Youth work has three essential features: **a.** young people choose to participate, **b.** the work takes place where the young people are, and **c.** it recognizes that the youth participant and the youth worker are partners in a learning process (European Commission, 2013). In Greece, youth workers are not recognized by the state and there are no official program studies. They mainly work in NGOs, community centers, youth centers, policy making centers for youth, and in the public sector (schools, youth organizations, associations, social entities) (Youth work, 2020).

5.1.4.2 Adult learners

→ Parents & family members

Parents and family members are one of the main factors that influence child and adolescent behaviour . For example, family interventions can reduce the number of adolescents who try smoking (Thomas, Baker, Thomas & Lorenzetti, 2015), while parental smoking and house rules are proven to have an impact on children's smoking behaviour (Roupa, Vasilopoulos, Hatzoglou et al., 2016). Children or adolescents whose parents or siblings are smoking are two times more likely to smoke (Spyratos et al., 2012). Similarly, parents and family members are one of the main factors that influence alcohol drinking behaviour among adolescents. The quality of relationships between parents and children is a central focus in research on Internet addiction or problematic use. Adolescents who report problematic Internet usage also tend to report poor parental relationships; for example, high parental control and poor parental care seems to be related with PUI or IA (Siomos et al, 2012).

→ Teachers from all school grades

School, and teachers in particular, seem to play a significant role in the prevention of substance or Internet abuse, as a majority of interventions in the literature are school-based. For example, teachers that invest effort into helping students focus on basic skills and core functions in the use of computers and the Internet can reduce rates of Internet overuse (Henessy, Ruthven & Brindley, 2005).

→ School nurses

School nurses play an essential role in keeping children healthy, safe, and ready to learn (National Association of School Nurses, 2016). For example, according to the literature, an intervention based on the 5 A's model using cognitive-behaviour al strategies and delivered by school nurses within the school health setting can be effective in promoting short-term abstinence among adolescent smokers (Pbert, Drucker, DiFranza et al, 2011).

5.1.5 Serbia

5.1.5.1 Adult educators

Adult educators in Serbia could refer to groups of adults who are in a position to organize further education for teachers, health care workers, psychologists, pedagogists, and social workers. Adult educators can be from varying professional backgrounds, including those mentioned above.

5.1.5.2 Adult learners

Adult learners include the aforementioned groups and parents, foster parents, and caregivers of adolescents. Participants for learning programs would be recruited through schools, primary health care centers, and social work centers.

5.2 Knowledge gaps and needs of the ADD-freeTraining target groups regarding addictions in childhood and adolescence: country-specific evidence

Early prevention or management of substance abuse and other forms of addictions in childhood and adolescence remains a major concern. The scientific community underscores the need for tailor-made initiatives and interventions in the child/adolescent per se, family, peers, school and the entire community. The identification of the exact needs and gaps is of high importance. However, focusing on the principle target group of the present project i.e. parents, teachers and other adult learners, limited evidence exists regarding their knowledge and attitudes against children's and adolescents' addictions, even more when it comes to a country-specific approach. Nevertheless, several issues are highlighted and should be taken into consideration in relevant educational programs that address such problems.

5.2.1 Parents

Parents demonstrate a major role in preventing substance abuse among youth and in supporting them in case they have initiated use. Talking with a child about the dangers of substance use and showing disapproval of such behaviour could substantially shape children's attitudes and behaviour s. Remaining involved in a child's day-to-day activities is also critical. There are at least six steps with which parents should become familiar in order to help their children resist the pressure to smoke, or drink alcohol, or use drugs, as well as to prevent their progression along the path to addiction.

→ Learn the major risk factors for substance use among children.

As already mentioned, many factors are associated with conferring a risk for substance abuse or other forms of addictions among children, including biological (genetic, psychiatric disorders), environmental (socioeconomic status), or psychological (low self-esteem, aggressive behaviour , poor self-control). It is important for parents to learn the risks of using specific drugs and helping their children understand why use is unhealthy and risky. Among the major factors that can influence whether youth will use tobacco or alcohol is the extent to which they believe these substances might cause them harm. Most importantly, use of these substances is much lower among youth who perceive them as conferring great risk.

→ Learn about substance abuse consequences and make clear statements of disapprovement.

Initiation of substance use in early adolescence is predictive of many negative outcomes in adulthood, compromising work, family roles, educational achievement, and ongoing drug involvement. It is critical to learn about drug facts before engaging in crucial conversations with children. Most youths believe their parents would strongly disapprove of their using substances, including tobacco cigarettes and alcohol and this belief decreases their likelihood to use substances.

→ Be involved in child's life.

Supportive parenting and monitoring of children's behaviour (parental involvement) is another critical factor associated with lower rates of substance abuse among youth. For instance, various studies suggest that current cigarette smoking and binge alcohol use were lower among youths whose parents helped with homework. On the other side, youth who spend a lot of time on social media and not with their family are far more likely to use substances.

→ Know child's friends.

Parental monitoring and supervision of friendships are critical for substance abuse prevention: rule-setting for activities, monitoring friends and social engagements, limiting social networking, praise for appropriate behaviour , and moderate, consistent discipline that enforces defined family rules all reduce children's risks and protect against pathology and substance abuse.

→ Minimize child's stress at home.

Many factors at home can influence child's attitudes and propensity to use substances. Among the risk factors in the home environment are psychological, physical, or sexual abuse, living with parents who abuse alcohol and other drugs, witnessing fights at home, parental neglect, parental depression or psychopathology, providing mixed messages about substances, especially if parents use, and permission for unlimited access to social networking. Each of these factors can be modified and improvements in the home environment can assist children avoid substance use.

→ Learn the signs of child's substance abuse and how to respond.

There are many signs that can alert parents to a child's substance abuse. If a parent observes a child neglecting school work, their grades are declining, they are losing interest in extracurricular activities, they have changed friends, social groups, clothing, behaviour , the child is at risk and it becomes important to find out the reasons. Sleep patterns can also change and are manifest by irregular, unusually short, or prolonged sleep. Health issues emerge and personal hygiene declines in some youthful substance users. Relationships with family members deteriorate, and a change in personality emerges.

5.2.2 Teachers

Teaching staff are critical actors, especially during secondary school. Teachers are the people who have the best knowledge of how students socialize in the classroom; they know about the evolution of each of their pupils and can detect problems when they arise (Quiroga et al., 2017). They also provide leadership for their students, and the behaviours that they exhibit as leaders have an impact on a variety of student outcomes. Many studies stress the role of teachers in addictions prevention as well as the need to train them in substance-abuse-prevention education and intervention (Faggiano, Minozzi, Versino & Buscemi, 2014). Training of teachers regarding these issues should include providing them with techniques and tools for **planning**, **evaluating**, and **monitoring** the corresponding programs.

Country-centered evidence on the specific knowledge gaps and needs of the principle adult learners regarding prevention of addictions in childhood and adolescence (i.e. parents and teachers) are quite limited for the countries participating the ADD-freeTraining consortium.

5.2.2.1 Bulgaria

No available evidence exists.

5.2.2.2 Croatia

→ Parents

Standards of addiction prevention for children and youth in educational systems also stress the importance of programs which promote positive parenting skills, such as nurturing a warm upbringing style in which parents set rules for acceptable behaviour s and monitor their child's free time and friends, and where parents are role models and help children gain skills for making informative decisions. Specific parental knowledge and skills are methods for positive and developmentally adequate discipline, strengthening relationships, taking a more active role in their child's life by monitoring child's activity, and getting involved in child's learning and education. The importance of gaining beneficial educational procedures is highlighted in research on specific problematic behaviour , such as problematic Internet use (e.g. Vlček, 2016; Peroš, 2019). Parents generally think such programs are positive and valuable (e.g. Bašić, 2016).

→ Teachers and professionals

The Minimal Standards Of Addiction Prevention For Children And Youth in the Educational Settings were made by an expert working group appointed by Education and Teacher Training Agency (2017) in order to enable educational workers (i.e. educators, teachers, professional staff, principals) to successfully plan and implement prevention programs related to the substance use. According to these standards, the educational workers should have specific knowledge and skills regarding addiction. These are:

1. Knowledge about specific developmental phases, problems in behaviour and addiction, and risk behaviour s development.
2. Knowledge about behaviour al changes, their course of development, interpersonal relations, and skills of interactive and psychoeducational work. In addition, the

basics of professional communication with children, with highlights on fostering understanding, learning, and critical thinking in children and youth.

3. Knowledge and skills related to development, implementation, and evaluation of prevention programs.

This clearly outlines the need for trainings which enable professionals to gain specific skills and knowledge on addiction prevention. Moreover, there is comprehensive research related to the mental health literacy (more specifically, problems related to depression, suicide, and alcohol abuse in students) of educational workers in Croatian primary and secondary schools. Such research highlights the need to enable educational workers to gain basic knowledge and skills in the area of youth mental health in formal and additional education, with emphasis on the knowledge and skills required to support students, the general improvement of communication with students, and the development of close relationships (Muslić, Markelić, Vulić-Prtorić, Ivasović, & Jovičić Burić, 2018).

5.2.2.3 Cyprus

According to the Systemic Institute of Cyprus (Systemic Institute of Cyprus, 2020), the objectives of parent and teachers/professionals counseling are:

- To help them understand which behaviour s and reactions escalate conflicts and the problem of smoking, alcohol and Internet addiction and which promote communication and cooperation with the child and the adolescent.
- To enhance parents' prestige through the model of non-violent resistance and to help them set boundaries for children and adolescents in a more functional way, not through conflict but through relationship and parental presence.

However, information on the knowledge base of the project's target groups in Cyprus is limited.

5.2.2.4 Greece

No available evidence exists.

5.2.2.5 Serbia

A study on the knowledge and attitudes of physicians on smoking in Serbia showed significant differences according to physician smoking status (Stojanovic, Mušovic, & Petrovic, 2013). A study on the knowledge of nurses on smoking prevention showed that only 16% of nurses in Serbia received training in counseling patients about smoking (Merill,

Gagon, Harmon, & Milovic, 2010). Studies on the knowledge of teachers and parents on tobacco prevention strategies are lacking in Serbia.

6 Validation and accreditation system for educational/training programs for teachers and other professionals: information for ADD-freeTraining consortium countries

6.1 Bulgaria

- Training for the health care professionals is approved by the Health Commissions and Ministry of Health.
- Training for educators is accredited by the Regional Health Inspectorates.
- Training for social workers and others in the area of social work is conducted by the Ministry of Labor and Social Policy, and the Agency for Social Assistance.

6.2 Croatia

A notable external evaluation is the aforementioned evaluation of the National Strategy on Combating Drug Abuse in Croatia from 2012 to 2017, conducted by the Trimbos Institute (Kools, van der Gouwe & Keizer, 2017). This is an example of a comprehensive and strong evaluative effort which provided concrete recommendations. The Minimal Standards of Addiction Prevention for Children and Youth in the Educational Settings are the basis for the verification of prevention programs and projects in educational institutions run by the Education and Teacher Training Agency and the Ministry of Science and Education. These programs and projects run with expert help from the Service for Combating Drug Abuse of the Croatian Institute of Public Health, Croatian Institute of Public Health, and other educational and scientific institutions in this area. Evaluation, essential to scientifically grounded programs, can be defined as a systematic, objective process with the goal of determining the success of a certain program in meeting its goals. The continuous education of expert workers who implement programs is necessary for quality evaluation of prevention programs. The information and tools for the implementation of quality evaluations are available in the following documents:

- Nacionalna strategija suzbijanja zlouporabe droga u Republici Hrvatskoj za razdoblje od 2012. do 2017. godine [National Strategy on Combating Drug Abuse in Croatia from 2012 to 2017], Official Gazette 122/2012)[2]

[2] The new National Strategy on Addictions 2020-29 and Action Plan on Addictions 2020-24 have been drafted and are waiting to be discussed in Croatian Parliament.

https://drogeiovisnosti.gov.hr/UserDocsImages//dokumenti/Strategije//Nacionalna_strategija_suzbijanja_zlouporabe_droga_2012.-2017._final(2).pdf

- EMCDDA Guidelines for the Evaluation of Drug Prevention: a manual for programme-planners and evaluators, http://www.emcdda.europa.eu/publications/manuals/prevention
- EMCDDA PERK – Prevention and Evaluation Resources Kit, http://www.emcdda.europa.eu/publications/perk
- EMCDDA EIB – Evaluation Instrument Bank, http://www.emcdda.europa.eu/eib
- UNODC Monitoring and Evaluation, https://www.unodc.org/unodc/en/prevention/monitoring-and-evaluation.html

6.3 Cyprus

Trainings for teachers and educators are provided by the Ministry of Education and Culture, the Ministry of Health, and the Ministry of Labor and Social Insurance of the Republic of Cyprus.

6.4 Greece

In Greece, training and education seminars are validated by the EOPPEP, which is the National Organization for the Certification of Qualifications and Vocational Guidance. It is a public body investing in better quality and more efficient reliable lifelong learning services. EOPPEP is under the supervision of the Ministry of Education, Research and Religious Affairs.

6.5 Serbia

Training for health care professionals is approved by the Health Commission, Medical Faculties, Serbian Physician Society, and the Serbian Chamber of Physicians. Training for teachers is accredited by the Faculty of Philosophy. Training for social workers and others in the area of social work is conducted by the Centre for Continuous Education of the College for Social Work.

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