



European Monitoring Centre  
for Drugs and Drug Addiction

Structured session

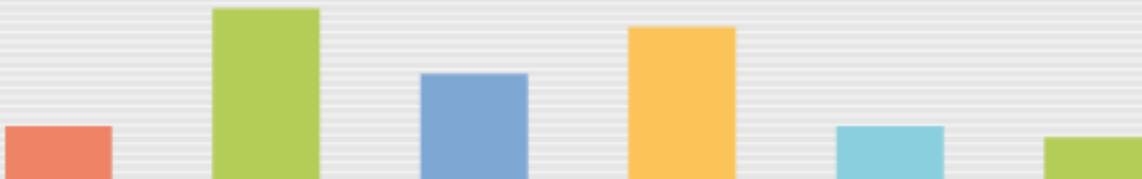
An epidemiological overview of New Psychoactive Substances use in Europe (NPS), towards a public health approach

# **Prevalence of NPS use among the European general population (adults and school students)**

**Lisbon Addictions 2019.**

23-25 October. Lisbon

Julian Vicente, Begoña Brime, João Matias, Federica Mathis, Sabrina Molinaro



# Rational of the session and presentation

Almost total lack of population based (published) information, from representative surveys

Information available on very selected samples; good for detailed patterns/profiles, not enough for overall public health impact of NPS

This presentation is the first ever in Europe, and (to our knowledge) anywhere in the world

Essential to any form of public health approach, and any rational policy approach



# NPS definition

NPS strictly speaking is a legal definition (for drug law enforcement) not a public health, epidemiological or medical definition

Examples (benzodiazepines, cathinones, opioids,...)

Paradoxical situations

For the purpose of this presentation and this session; *NPS are substances that have been identified through the EMCDDA-Europol Early Warning System*

Regardless of whether, subsequently, they have been put under legal control or not.



# Issues with using population surveys

## CONS

NPS consider a huge issue, under a constant expansion

At same time; very difficult to measure NPS use in surveys (??)  
because i) people don't know what they are using, and ii) people  
hide their use of NPS

The term “NPS” itself is unknown for many people. Its practical  
operationalization has issues (“general NPS question”).

Many/most people will not be aware of legal status (“New”) of different  
substances, at different times



## General question

Q1 New substances that imitate the effects of illicit drugs (such as cannabis, ecstasy, cocaine, etc) may now be sometimes available. They are sometimes called (insert 'local name' such as, 'legal highs', 'research chemicals) and can come in different form, for example – herbal mixtures, powders, crystals or tablets.

National questions were in many cases exactly this text, in other cases with limited adjustments

Good reasons to think in many countries (not all) this question may be very overinclusive.



## PROS

Users are able to report consistently when asked for specific substances,

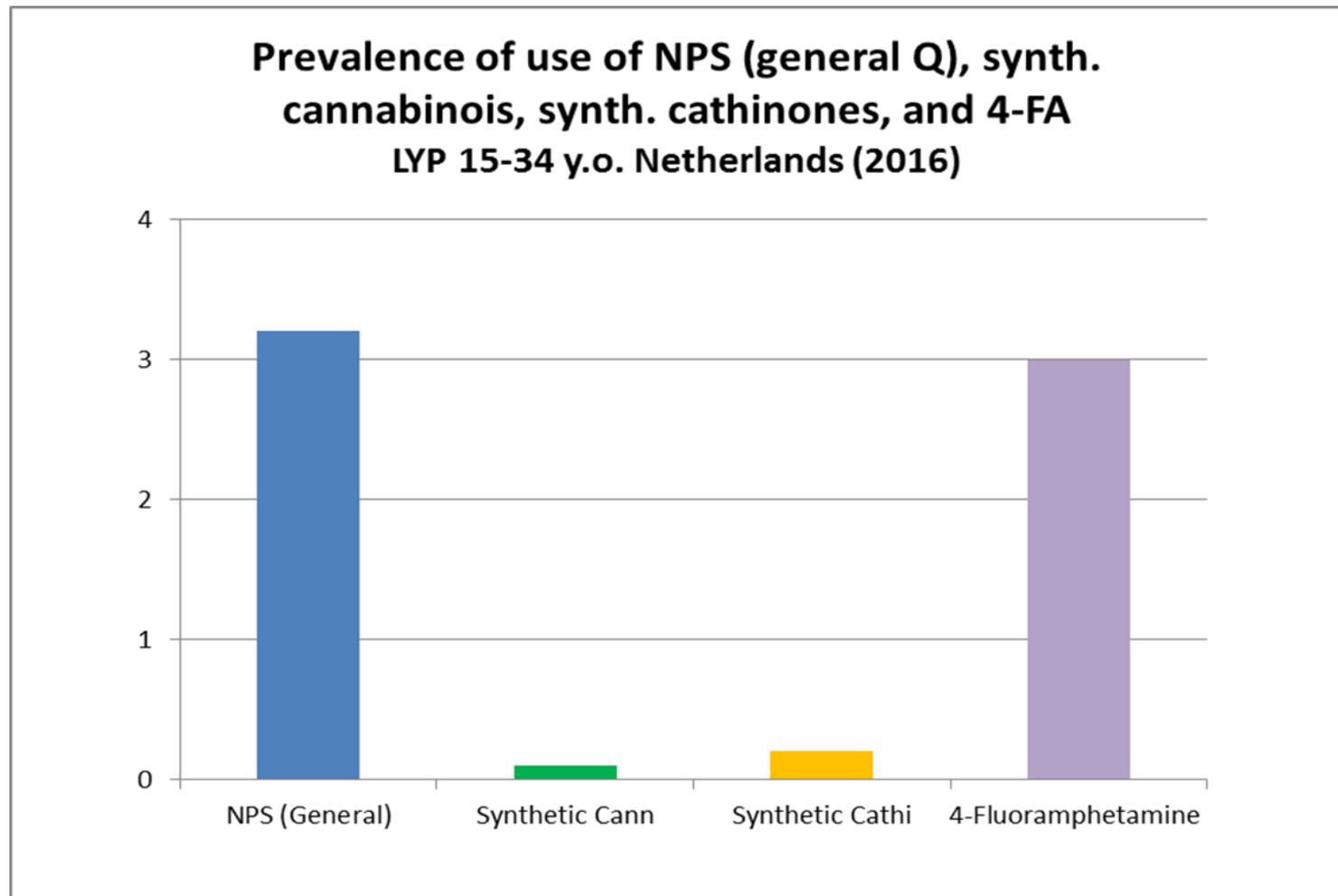
- consistent increasing or decreasing trends,
- expected patterns of age and gender distribution, timeframes patterns
- expected associated behaviours (nightlife oriented, polydrug use)
- high prevalence in expected settings (users know what they used, or intended to use)

There is not any reason in particular for hiding NPS use more than cocaine/ecstasy/medicines. On targeted or on-site surveys there is no much hiding!

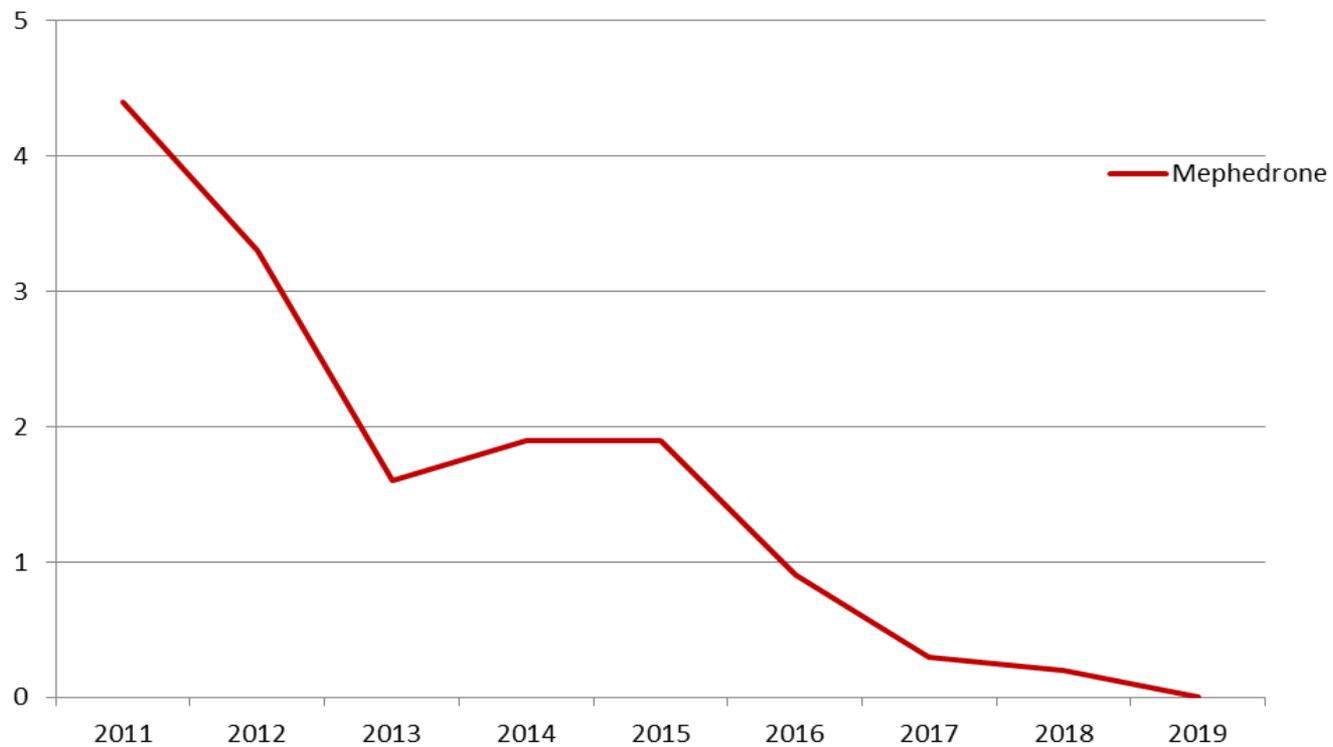
Clear trends and logical patterns appear



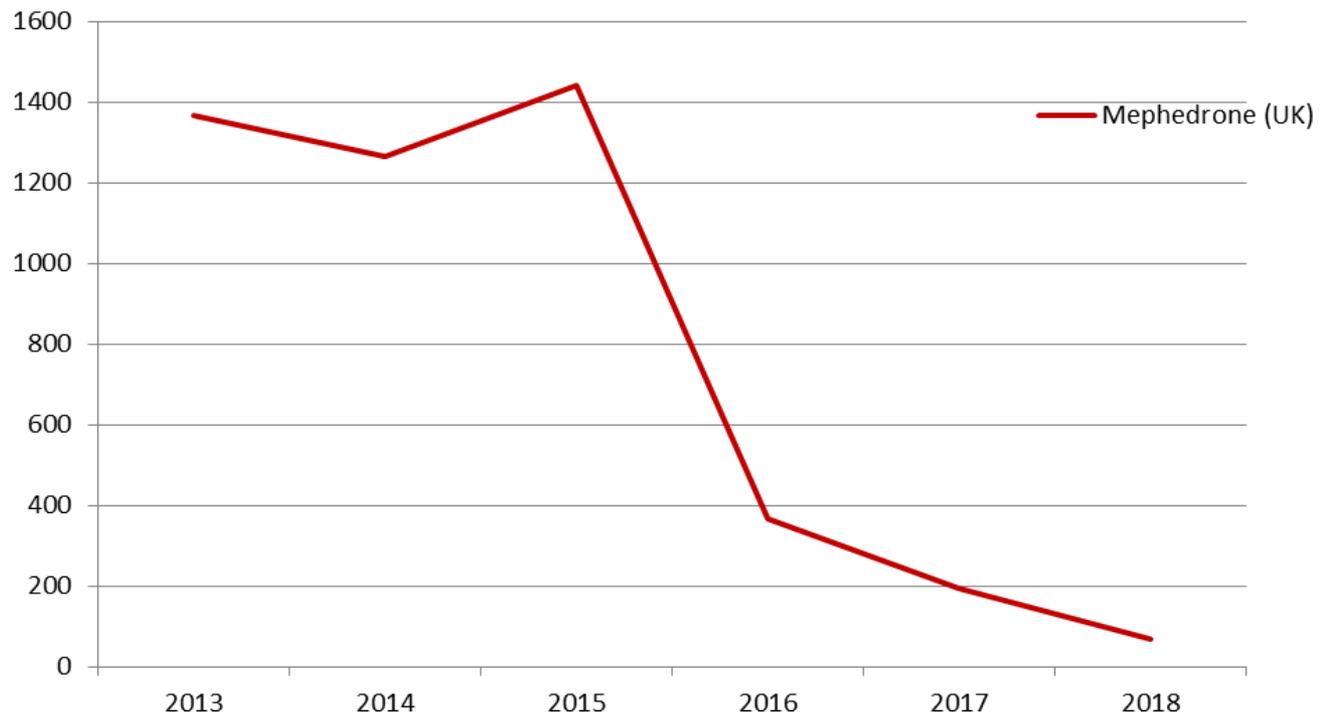
# Know what they are using



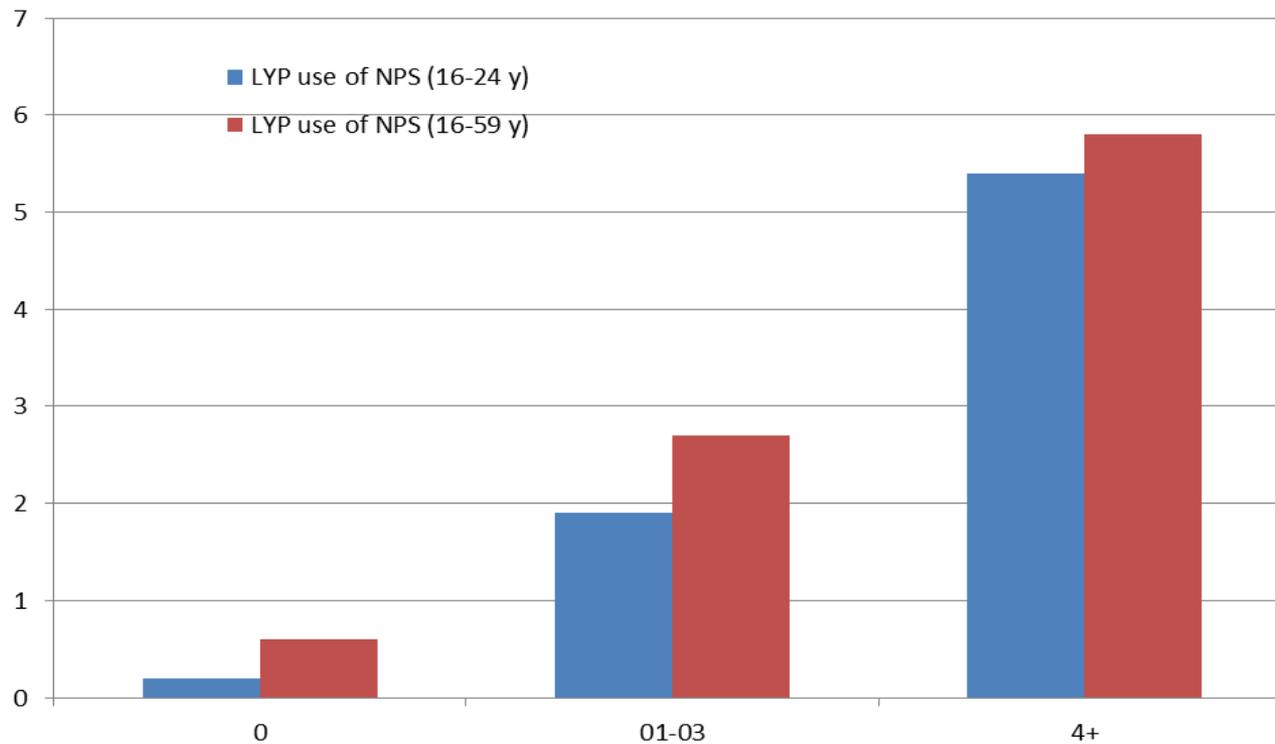
## Trend in mephedrone use (LYP among 16-24 y.o.) United Kingdom (CSEW)



## Number of admissions to drug treatment (TDI) Mephedrone (UK)



**Use of NPS during last year according to attendance to discos (times in last month) 16-24 y.o. and 16-59 y.o.)  
U. Kingdom (CSEW 2018-19)**



# Previous work

EMCDDA developed a standard module with formulation of “general question” for NPS and additional questions

- Implementation of this module encouraged to national GPS responsible
- Similar to module used in Eurobarometer
- Module used in 2015 ESPAD for first time in 35 countries
- Module used in European Web Survey (coordinated by EMCDDA)

# Material and methods

- Rapid request of information to National Focal Points (agreed in 2017 and implemented in 2018 + 2019 push)
- Standard instruments (Tables) for data reporting
- Information recovered from 17 countries (+ Ireland through another source, too late to include today)
- In some countries only LYP, in some only 15-34, in some only specific substances... but overall → insightful information





Rapid Information Request  
European Model Questionnaire on NPS

EMQ Module for monitoring use of New (and not so new) Psychoactive Substances (NPS) in General Adult Population Surveys

General information

Country:

Year of the survey:

Quantitative information: Lifetime prevalence

EMCDDA age range "All adults" (15-64)

Age range used for "All adults" (if different from the EMCDDA)

Prevalence (%) 15-64 - LTP	Male	Female	Total	Lower CI 95 (of Total)	Upper CI 95 (of Total)
NPS (total)					
Synthetic cannabinoids					
Synthetic cathinones					
Synthetic opioids					
Other 1 (specify in drugs definitions)					
Other 2 (specify in drugs definitions)					

EMCDDA age range "Young adults" (15-34)

Age range used for "Young adults" (if different from the EMCDDA)

Prevalence (%) 15-34 - LTP	Male	Female	Total	Lower CI 95 (of Total)	Upper CI 95 (of Total)
NPS (total)					
Synthetic cannabinoids					
Synthetic cathinones					
Synthetic opioids					
Other 1 (specify in drugs definitions)					
Other 2 (specify in drugs definitions)					

Quantitative information: Last 12 months prevalence

Prevalence (%) 15-64 - LYP	Male	Female	Total	Lower CI 95 (of Total)	Upper CI 95 (of Total)
NPS (total)					
Synthetic cannabinoids					
Synthetic cathinones					
Synthetic opioids					
Other 1 (specify in drugs definitions)					
Other 2 (specify in drugs definitions)					

Prevalence (%) 15-34 - LYP	Male	Female	Total	Lower CI 95 (of Total)	Upper CI 95 (of Total)
NPS (total)					
Synthetic cannabinoids					
Synthetic cathinones					
Synthetic opioids					
Other 1 (specify in drugs definitions)					
Other 2 (specify in drugs definitions)					

Quantitative information: Last 30 days prevalence

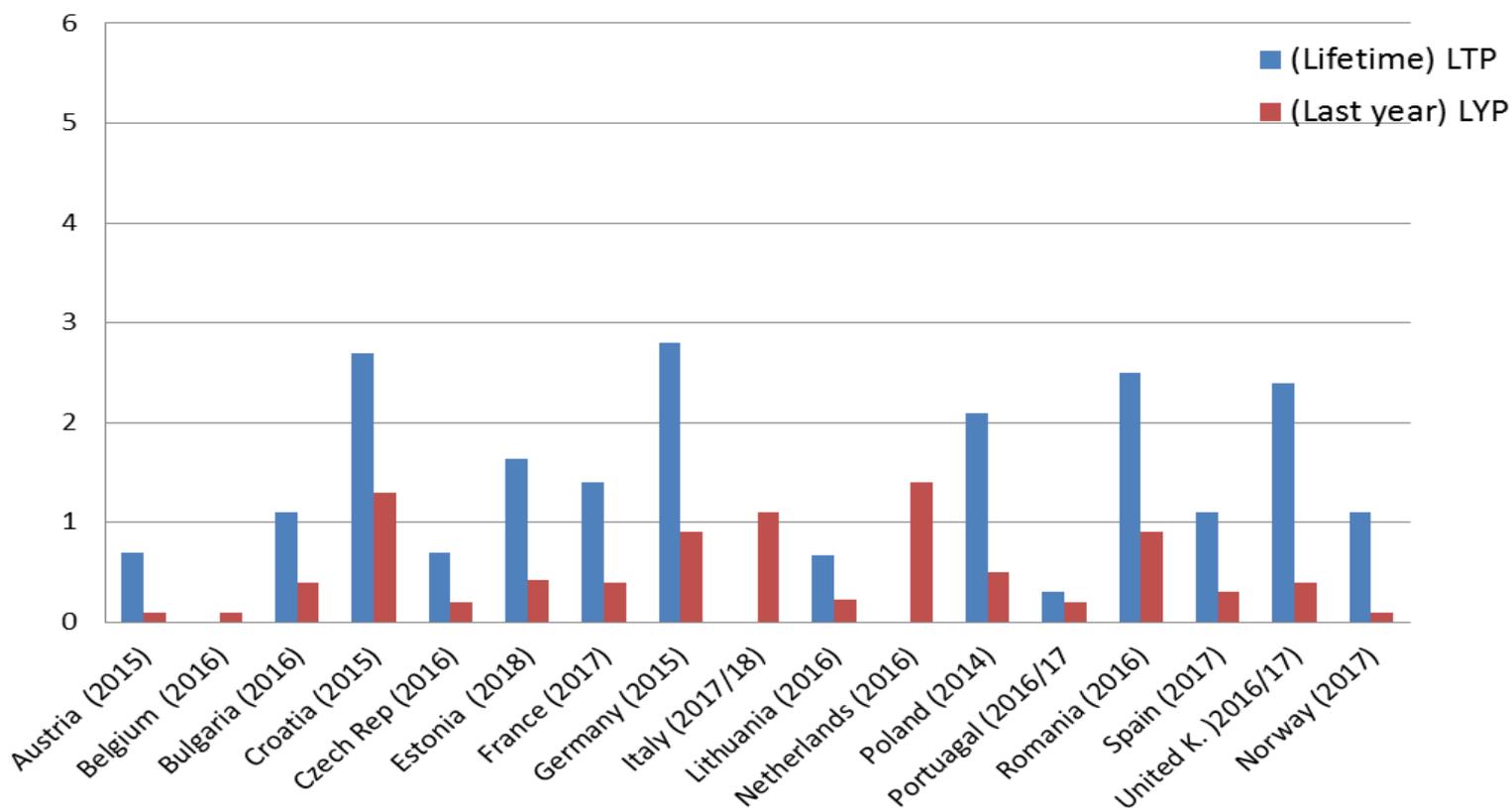
Prevalence (%) 15-64 - LMP	Male	Female	Total	Lower CI 95 (of Total)	Upper CI 95 (of Total)
NPS (total)					
Synthetic cannabinoids					
Synthetic cathinones					
Synthetic opioids					
Other 1 (specify in drugs definitions)					
Other 2 (specify in drugs definitions)					

Prevalence (%) 15-34 - LMP	Male	Female	Total	Lower CI 95 (of Total)	Upper CI 95 (of Total)
NPS (total)					
Synthetic cannabinoids					

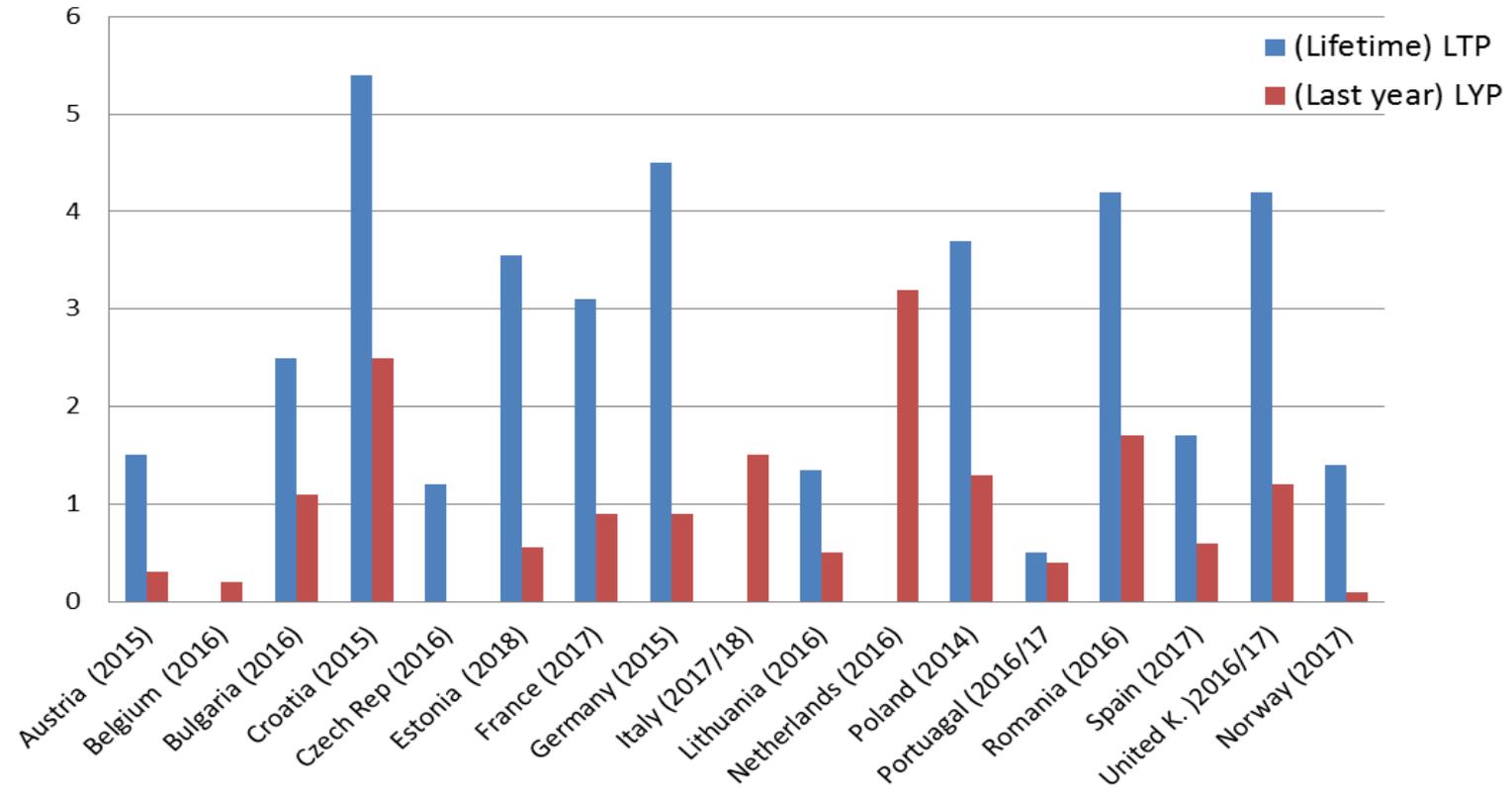
# First results



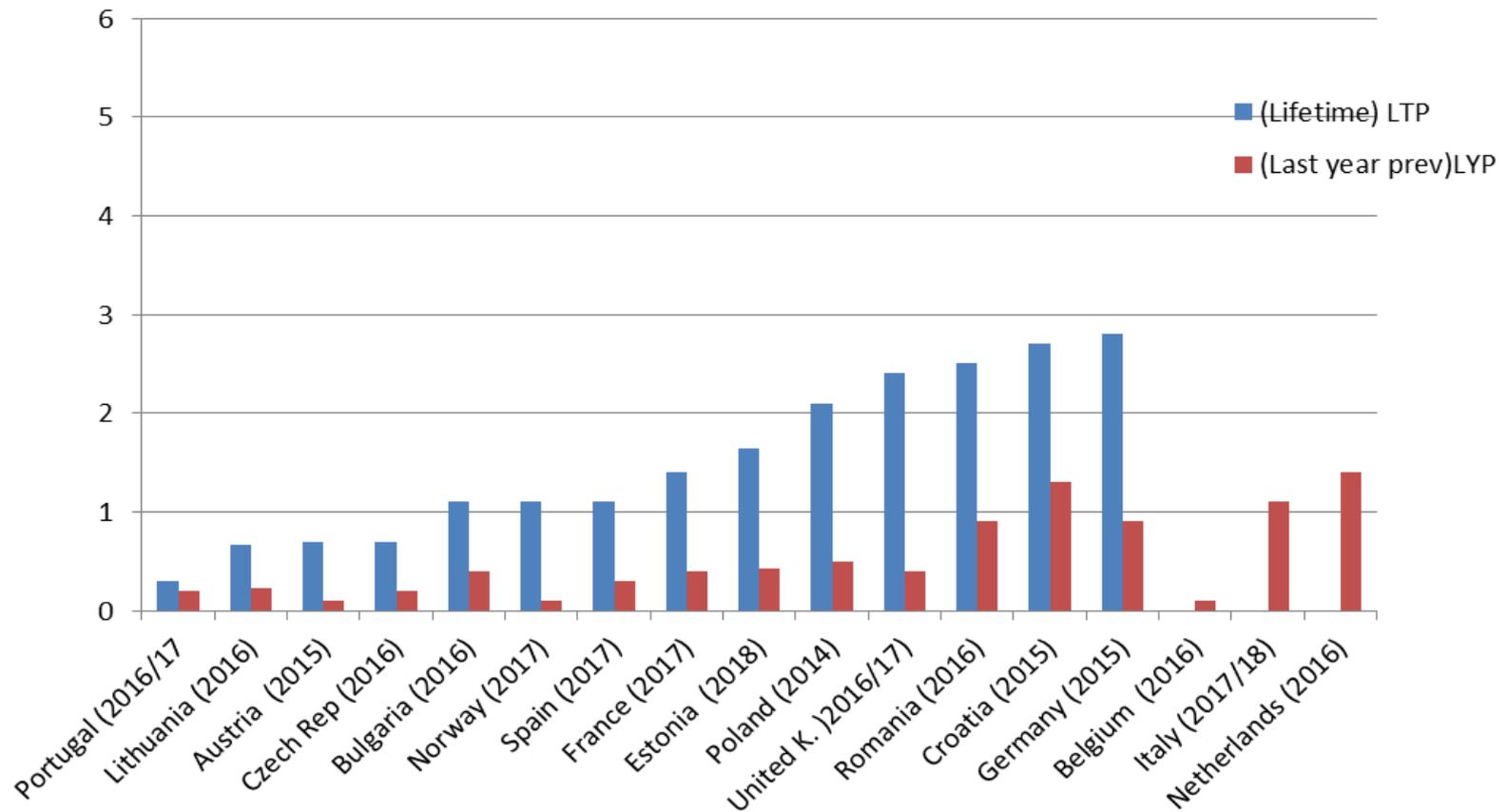
## Lifetime and Last year prevalence of NPS use (General question) among 15-64 y.o. in 17 European countries



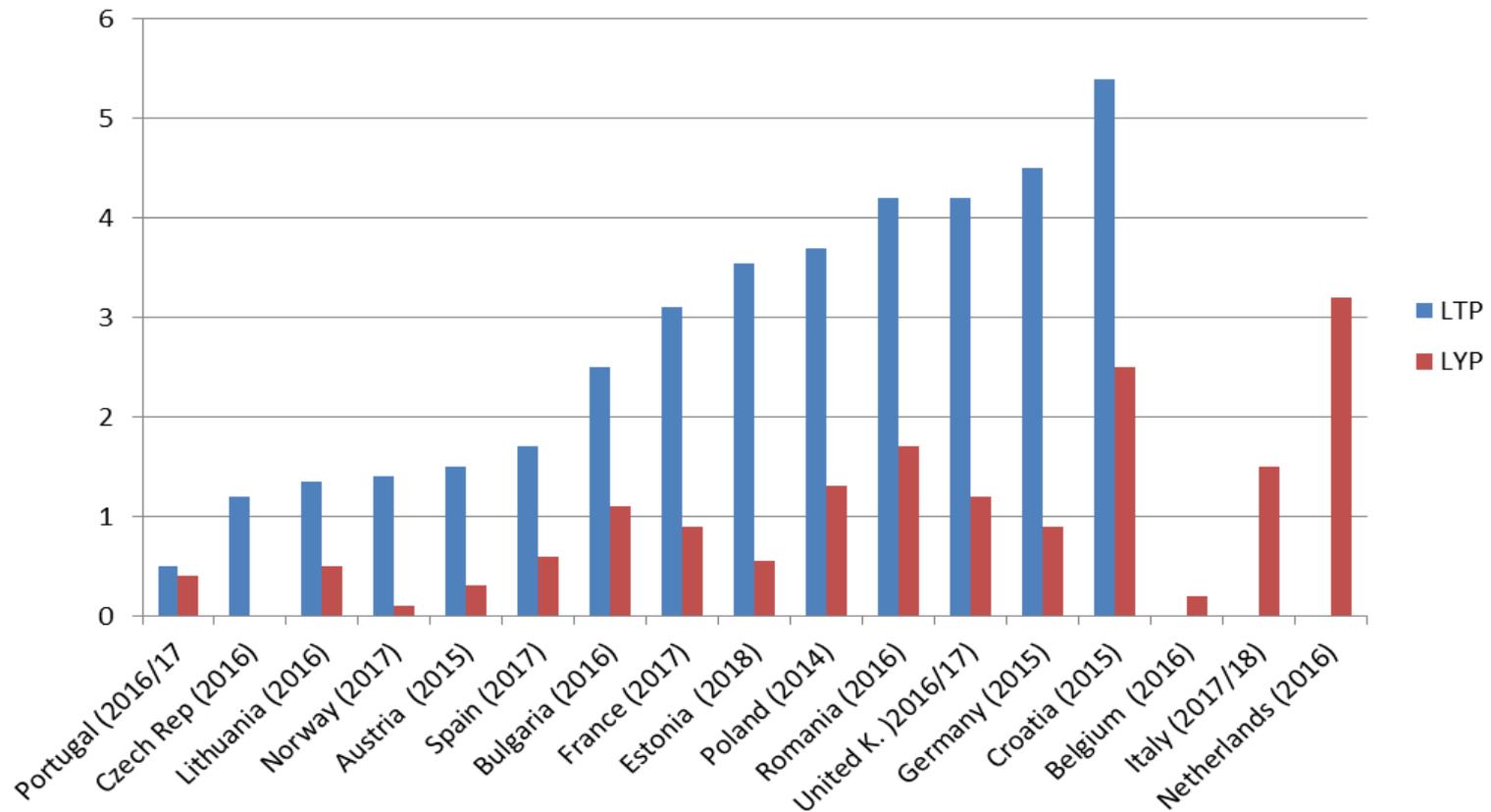
## Lifetime and last year prevalence of NPS use (general question) among 15-34 y.o. in 17 European countries



## Lifetime and Last year prevalence of NPS (General question) among 15-64 y.o. (sorted by LTP)



## Lifetime and Last year prevalence of NPS (General question) among 15-34 y.o. (shorted by LTP)



# Issues on “general questions”

A methodological experience and analysis from Spanish population surveys (2011, 2013, 2015, 2017)

Inclusion in the same general question of a number of concrete examples (spice, synthetic marihuana, miaow-miaow, flaka, keta, superman, O2..)

*Very different effect in adults and in students*

+ 2015-2017; **Adults** – increased recognition of specific NPSs as such. 2014-2016 **Students** – not

The “general NPS question” have to be consider with particular care (over-reporting) and more in young students

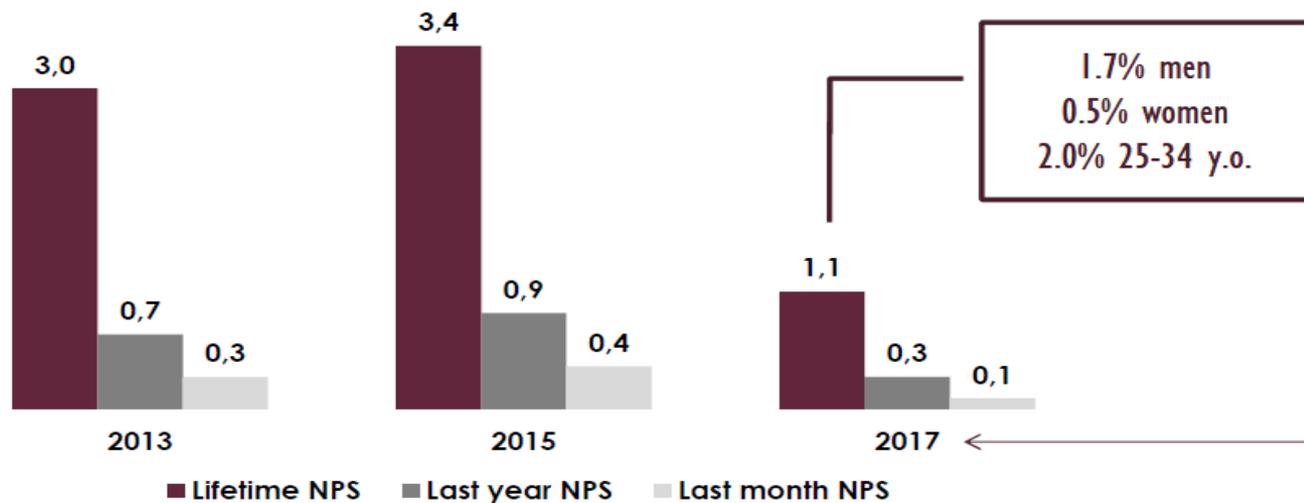


# NPS prevalence

15-64 years old

## General question

New substances that imitate the effects of illicit drugs (such as cannabis, ecstasy, cocaine, etc.) may now be sometimes available. They are sometimes called (**insert 'local name' such as, 'legal highs', 'research chemicals'**) and can come in different form, for example – herbal mixtures, powders, crystals or tablets.

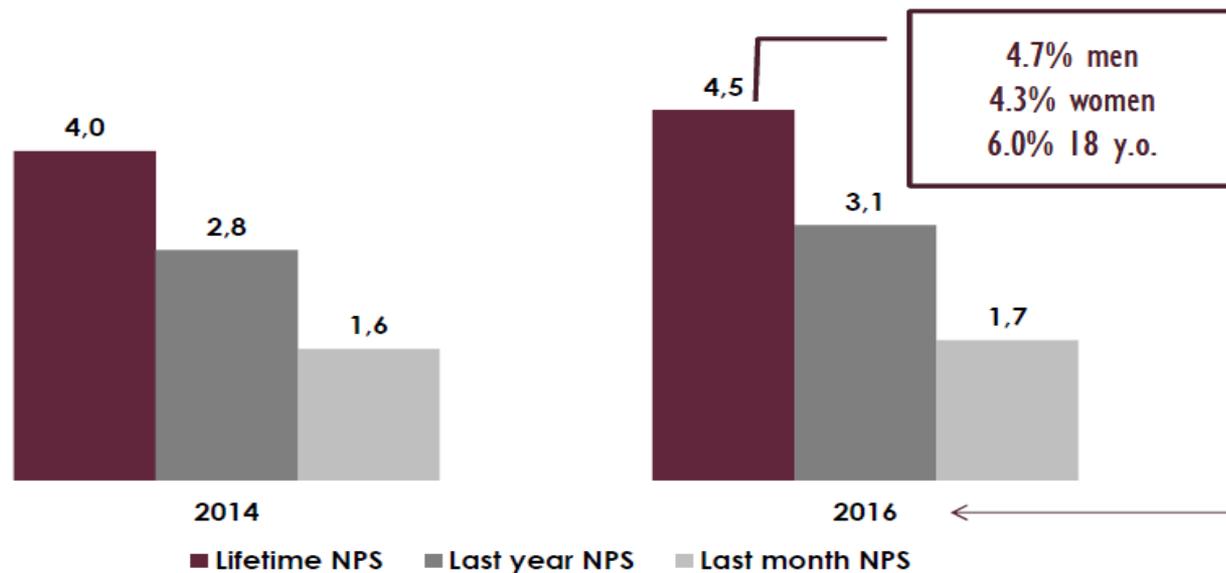


# NPS prevalence

14-18 years old

## General question

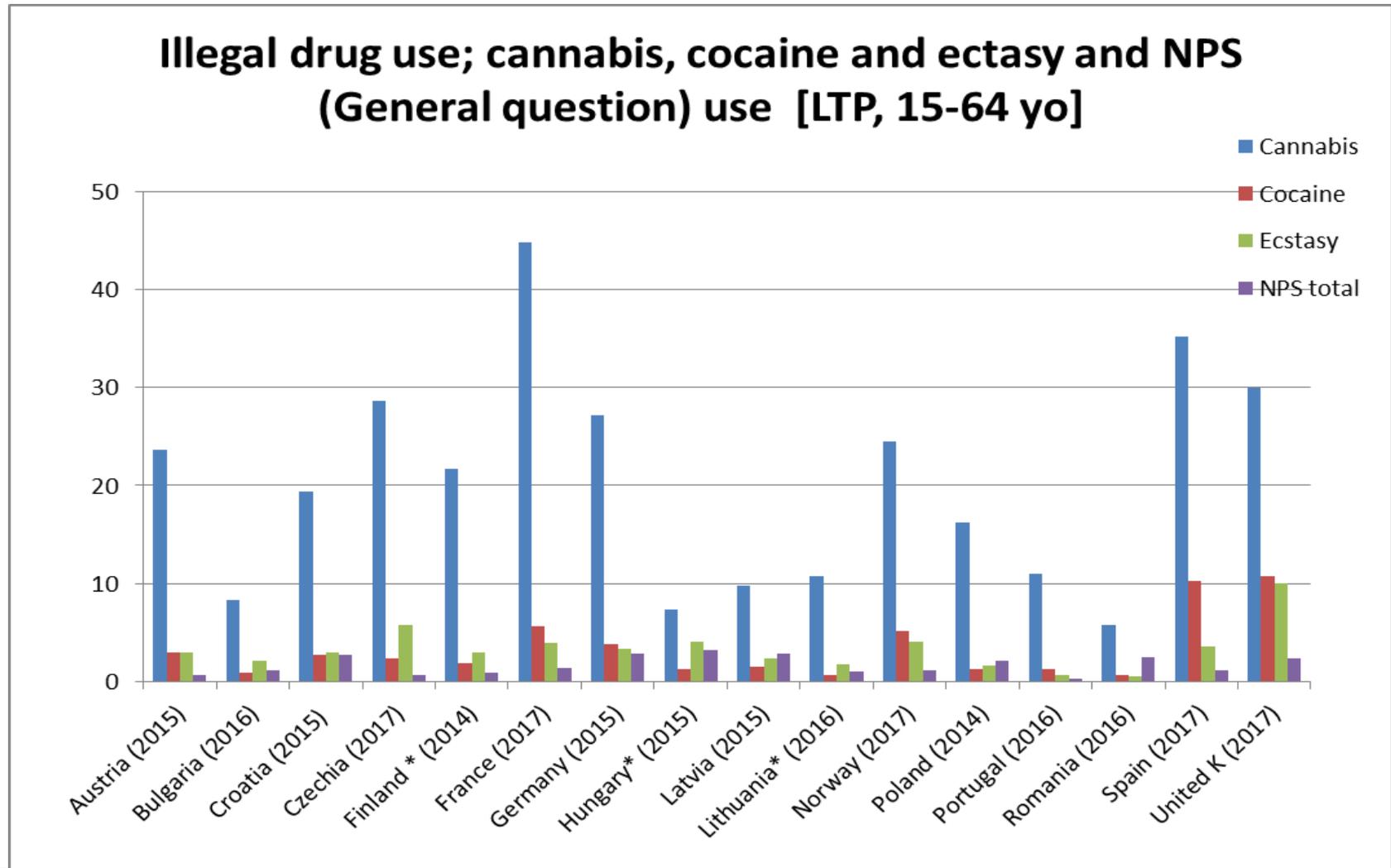
New substances that imitate the effects of illicit drugs (such as cannabis, ecstasy, cocaine, etc.) may now be sometimes available. They are sometimes called (**insert 'local name' such as, 'legal highs', 'research chemicals'**) and can come in different form, for example – herbal mixtures, powders, crystals or tablets.



# How NPS prevalence compares with other drugs

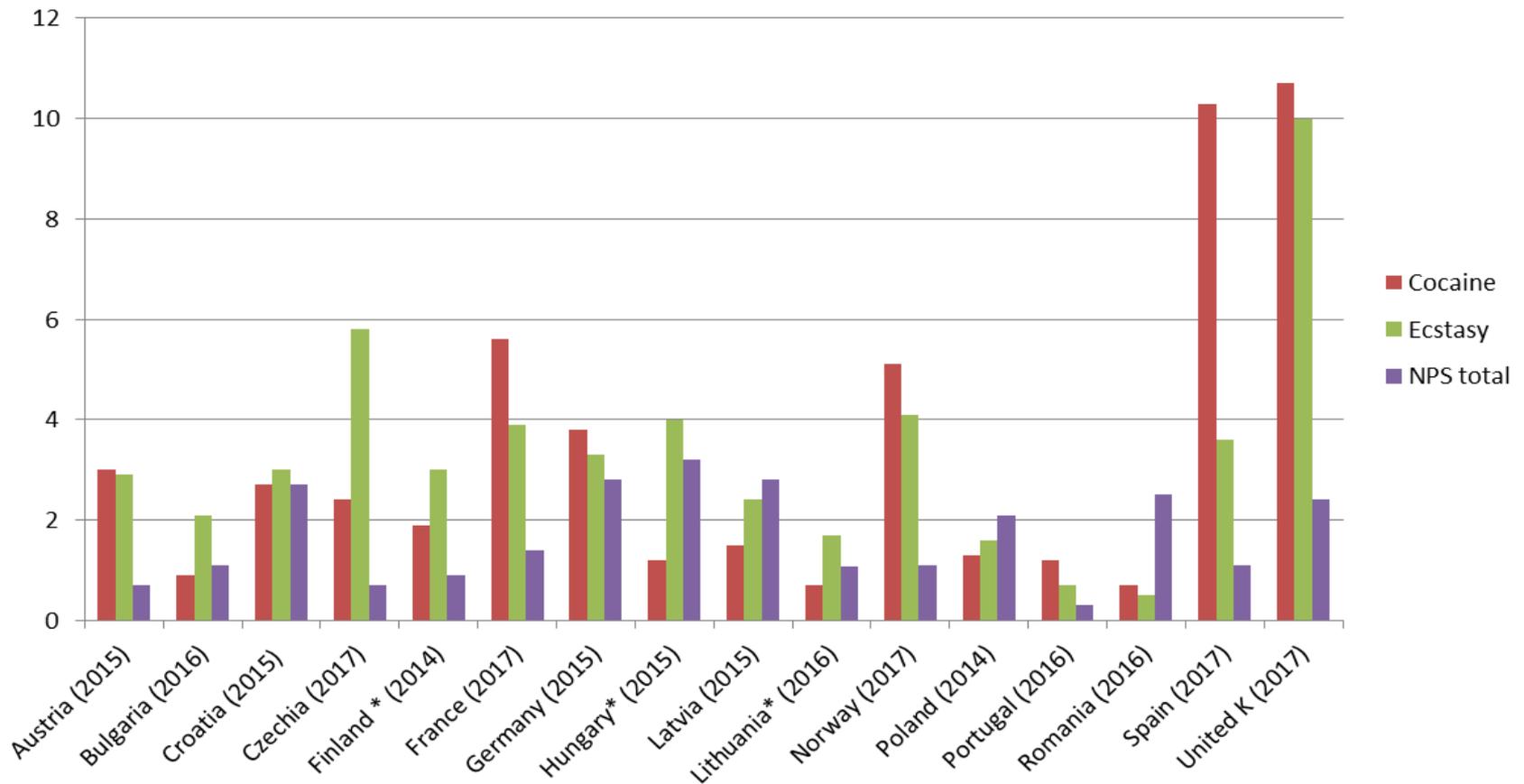


# Cannabis – cocaine – ecstasy

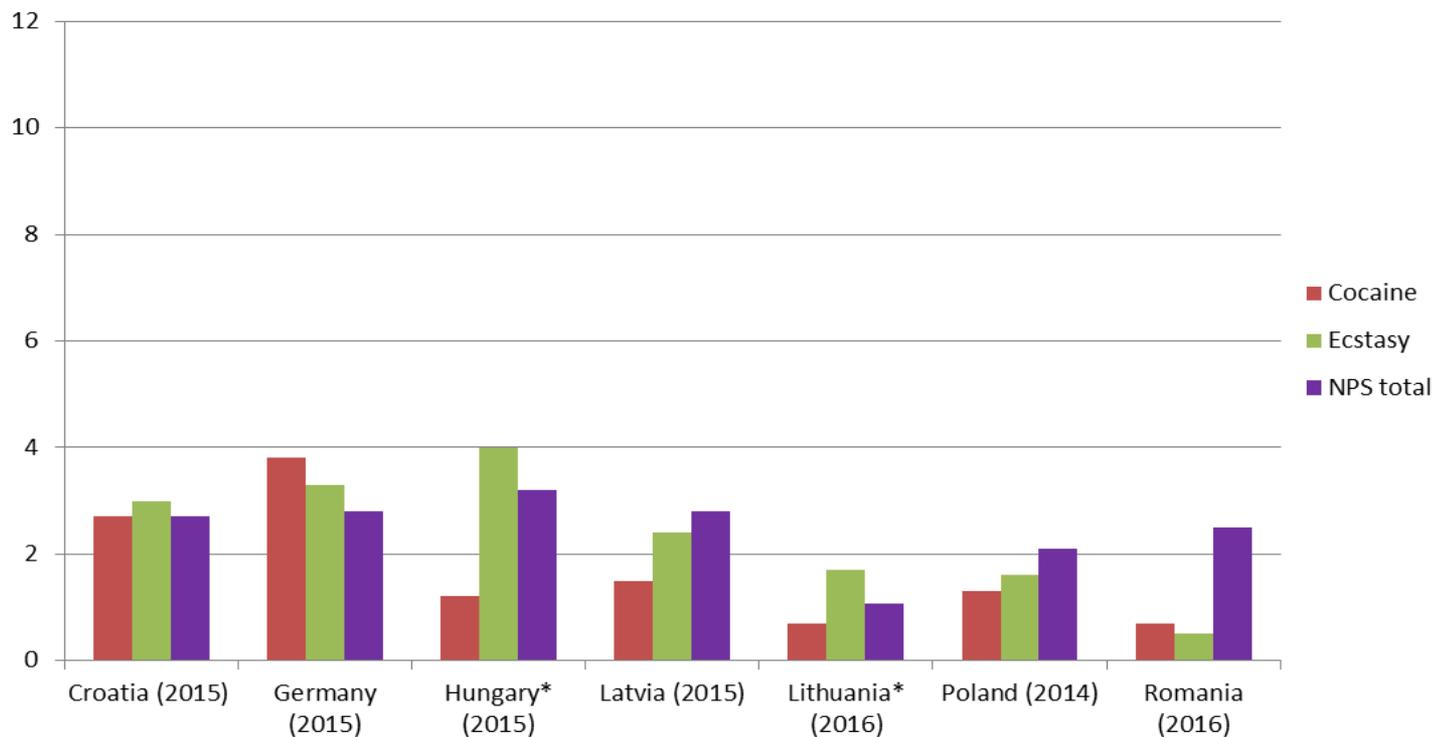


# Cocaine – ecstasy

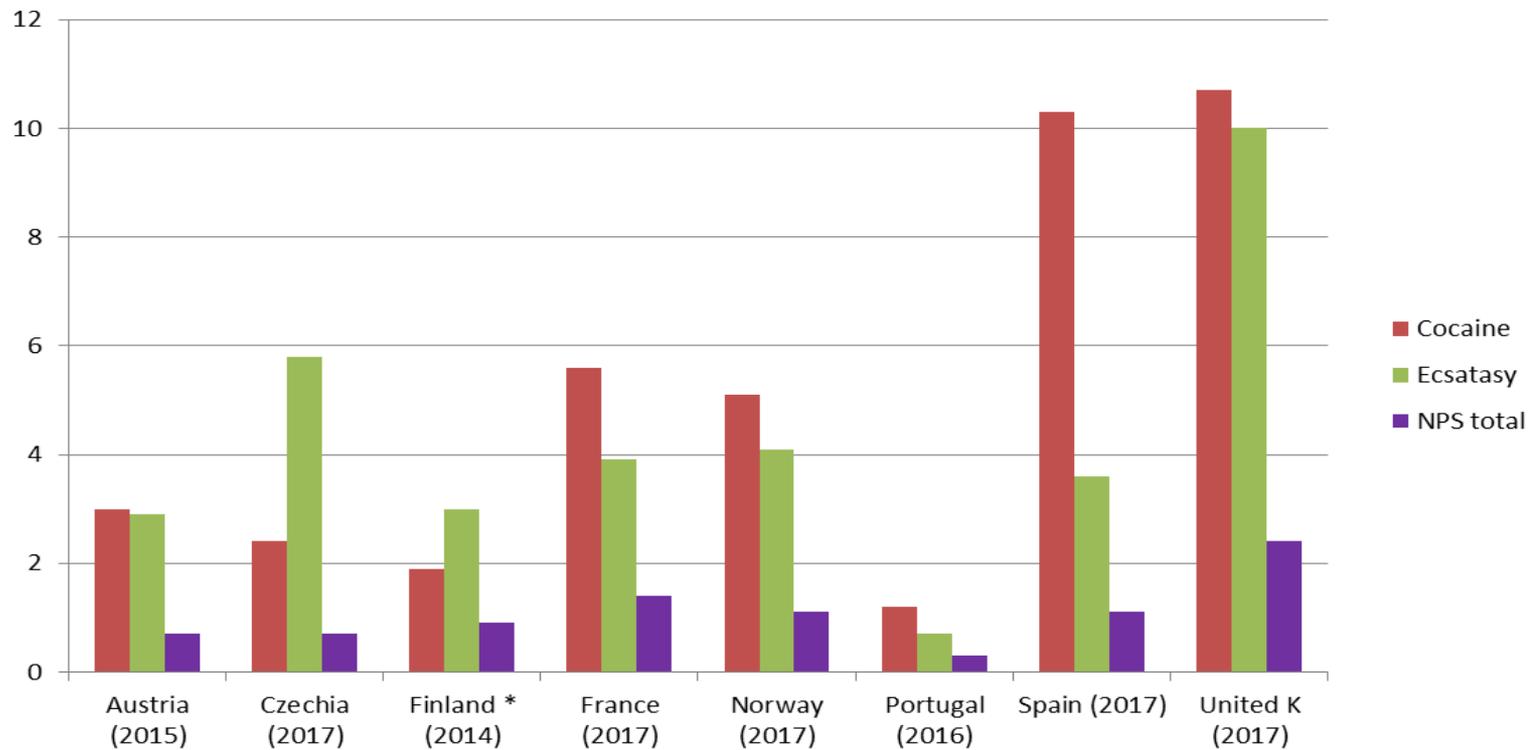
**Cocaine and Ecstasy use and NPS use (General question)  
LTP - 15-64 y.o.**



## Cocaine and Ecstasy use and NPS use (General question) Selected Countries - LTP - 15-64 y.o.

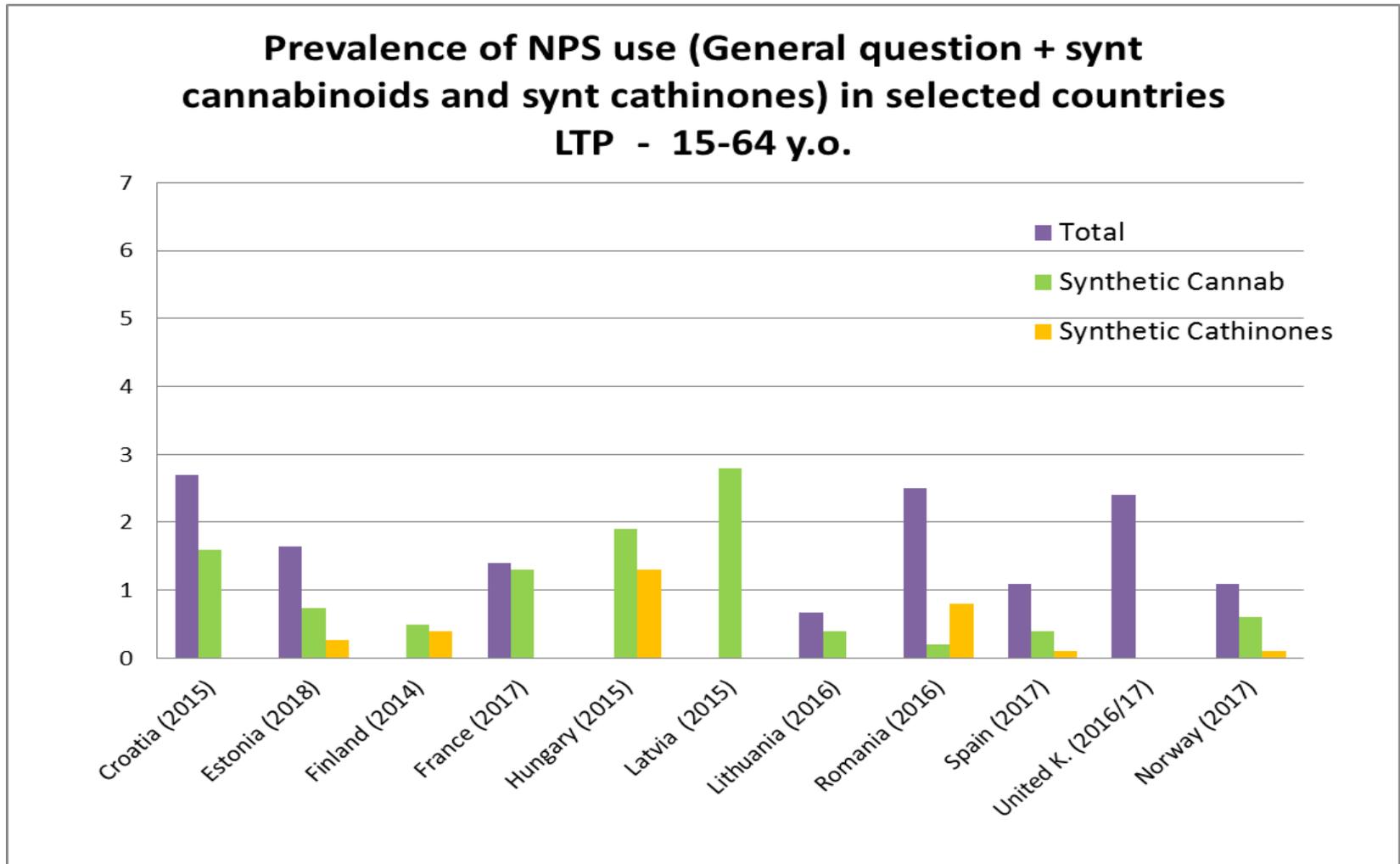


## Cocaine and Ecstasy use and NPS use (General question) Selected Countries - LTP - 15-64 y.o.

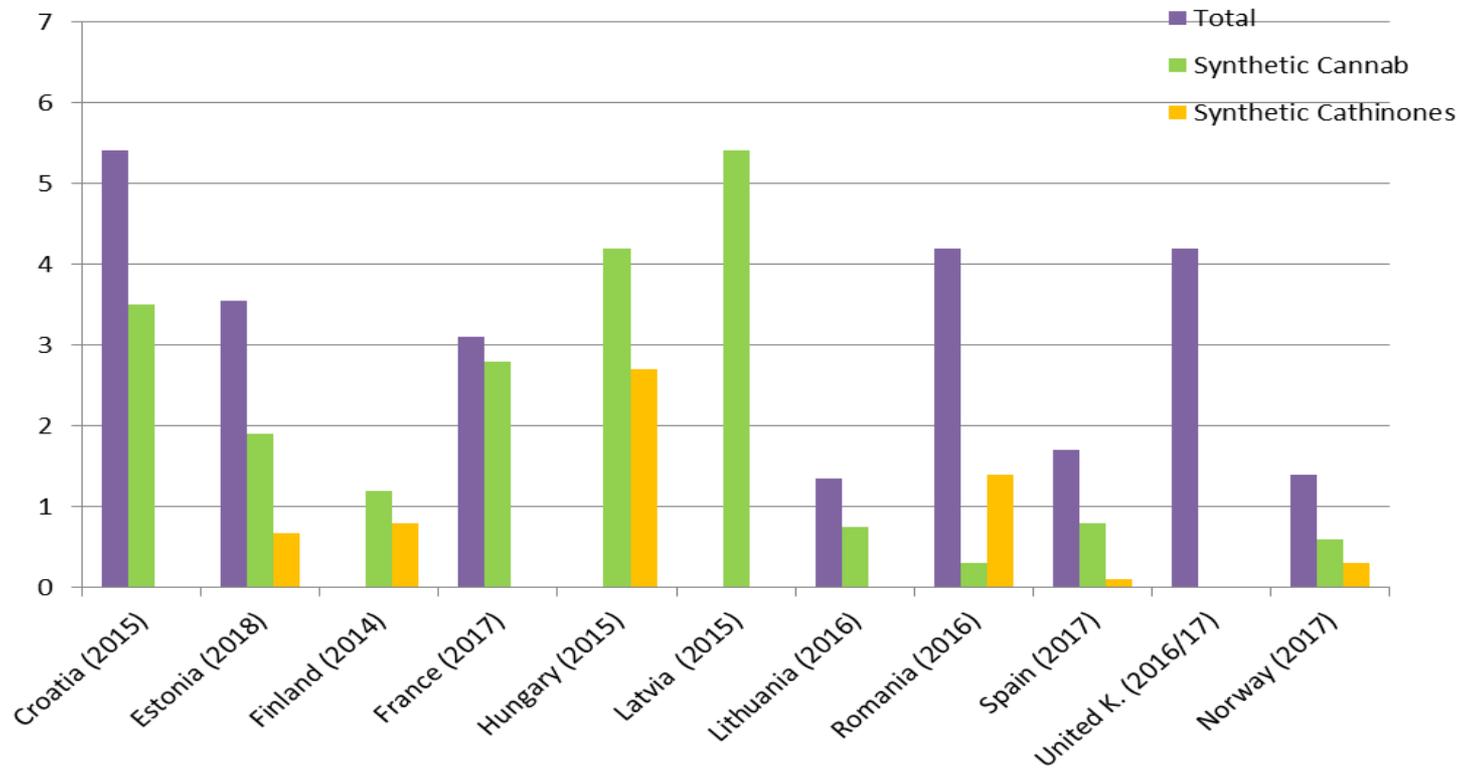


# NPS General ↔ specific substances

(no information for Bulgaria, Poland, Germany)



## Prevalence of NPS use (General question + synt cannabinoids and synt cathinones in selected countries LTP - 15-34 y.o.

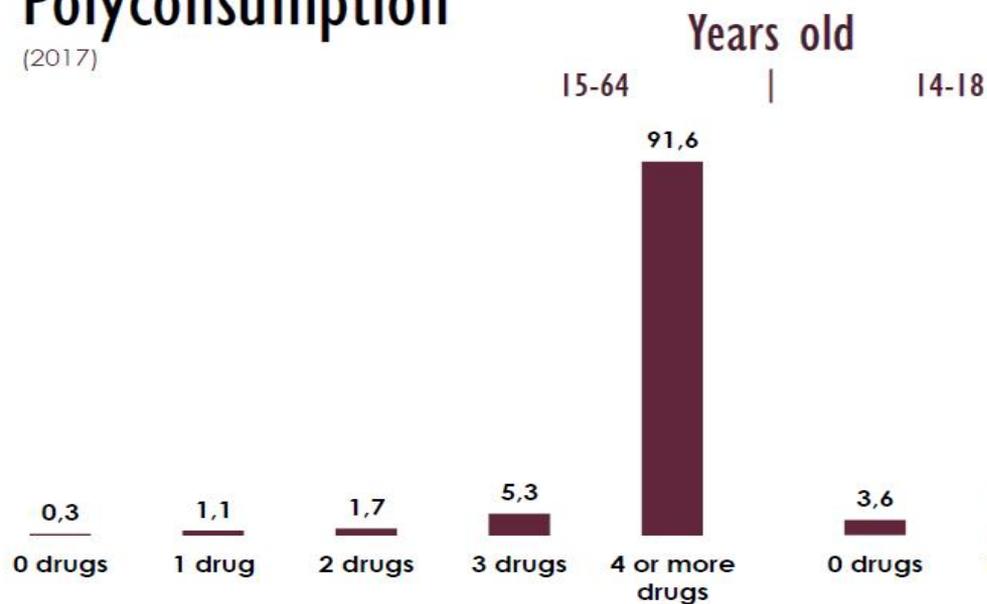


# NPS use massively within polydrug use

Source: Molina M, Llorens N, Brime B. National Plan on Drugs (DGPND), Spain - 2019

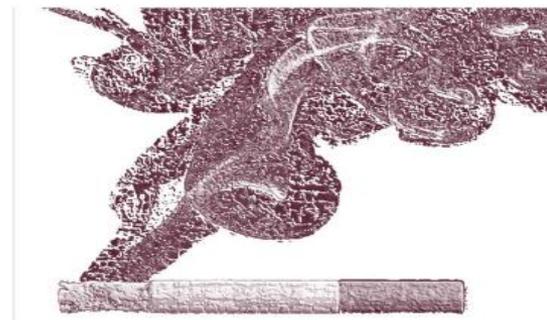
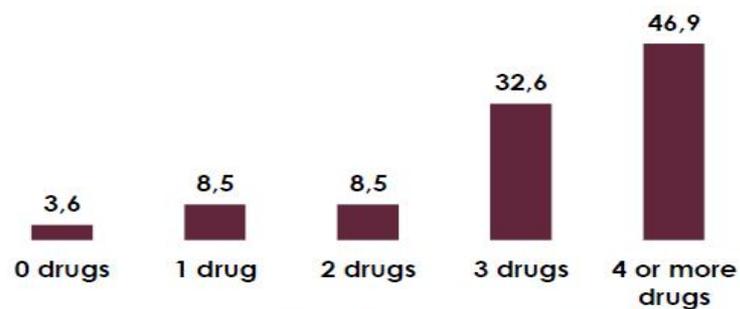
## Polyconsumption

(2017)



## Polyconsumption

(2016)



# Trends

In epidemiology and public health, trends are essential methods

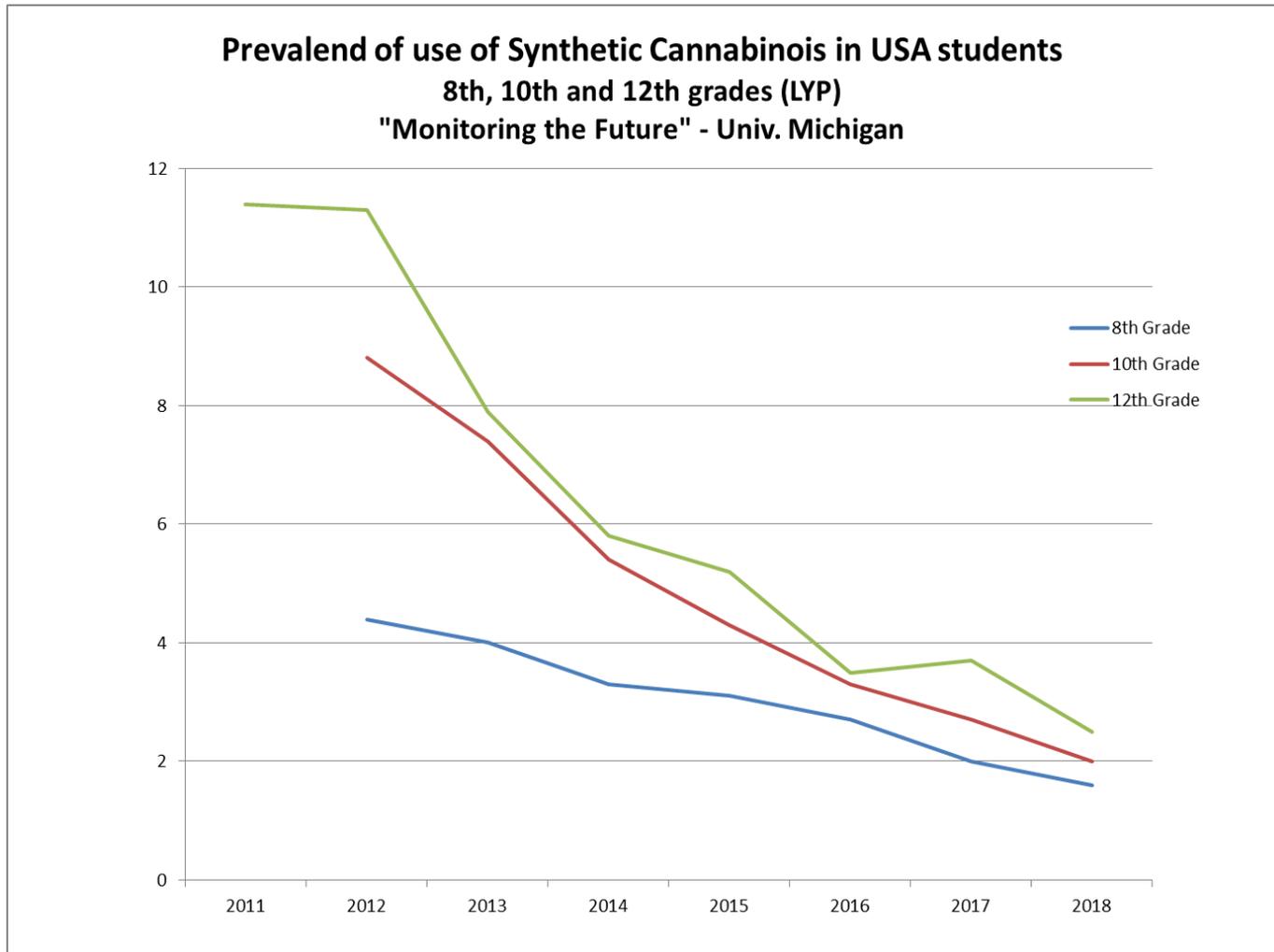
In NPS some do exist, but difficult to find.

No reference in any scientific publication on NPS.

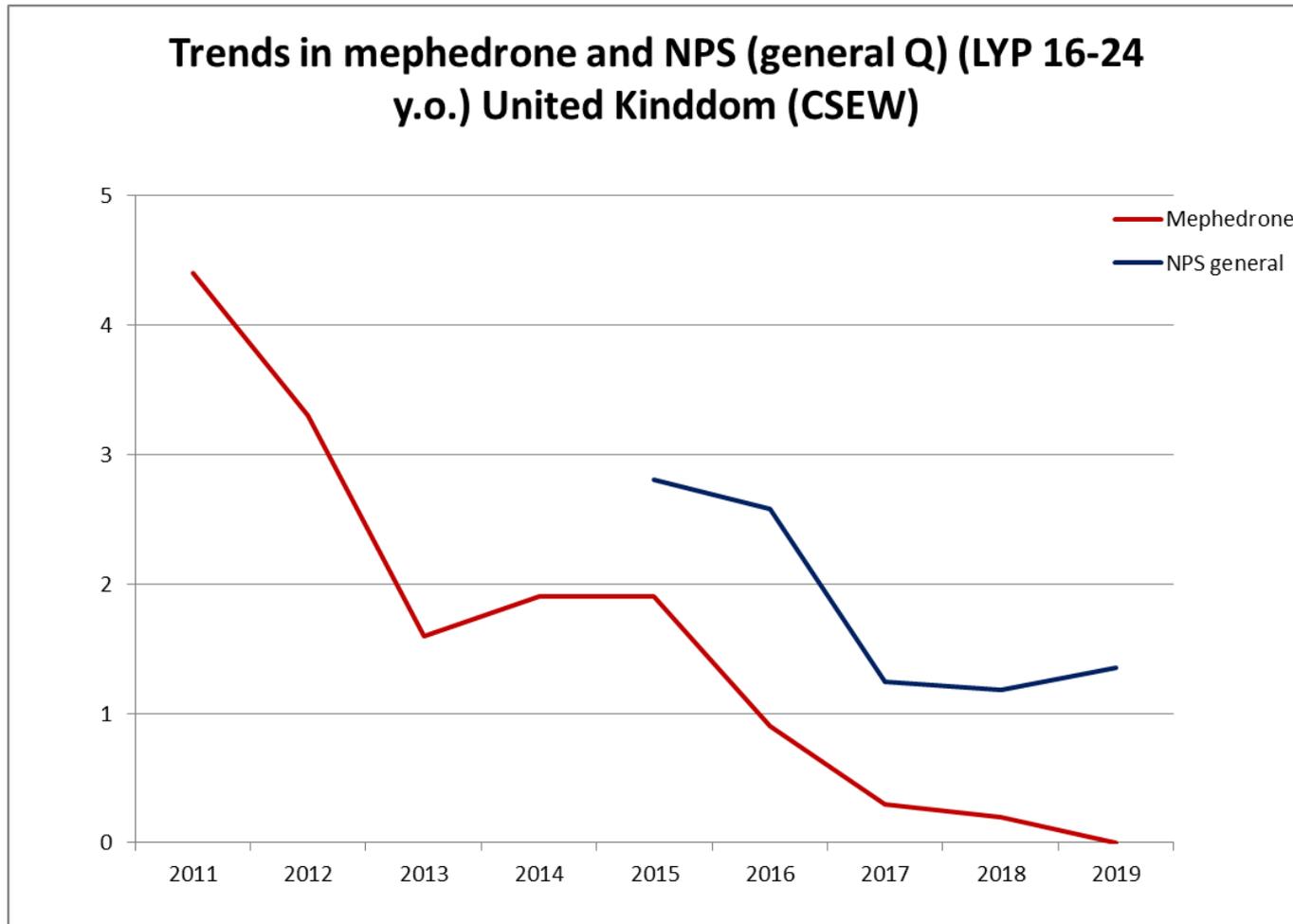
Found hidden in small corners of big reports of surveys



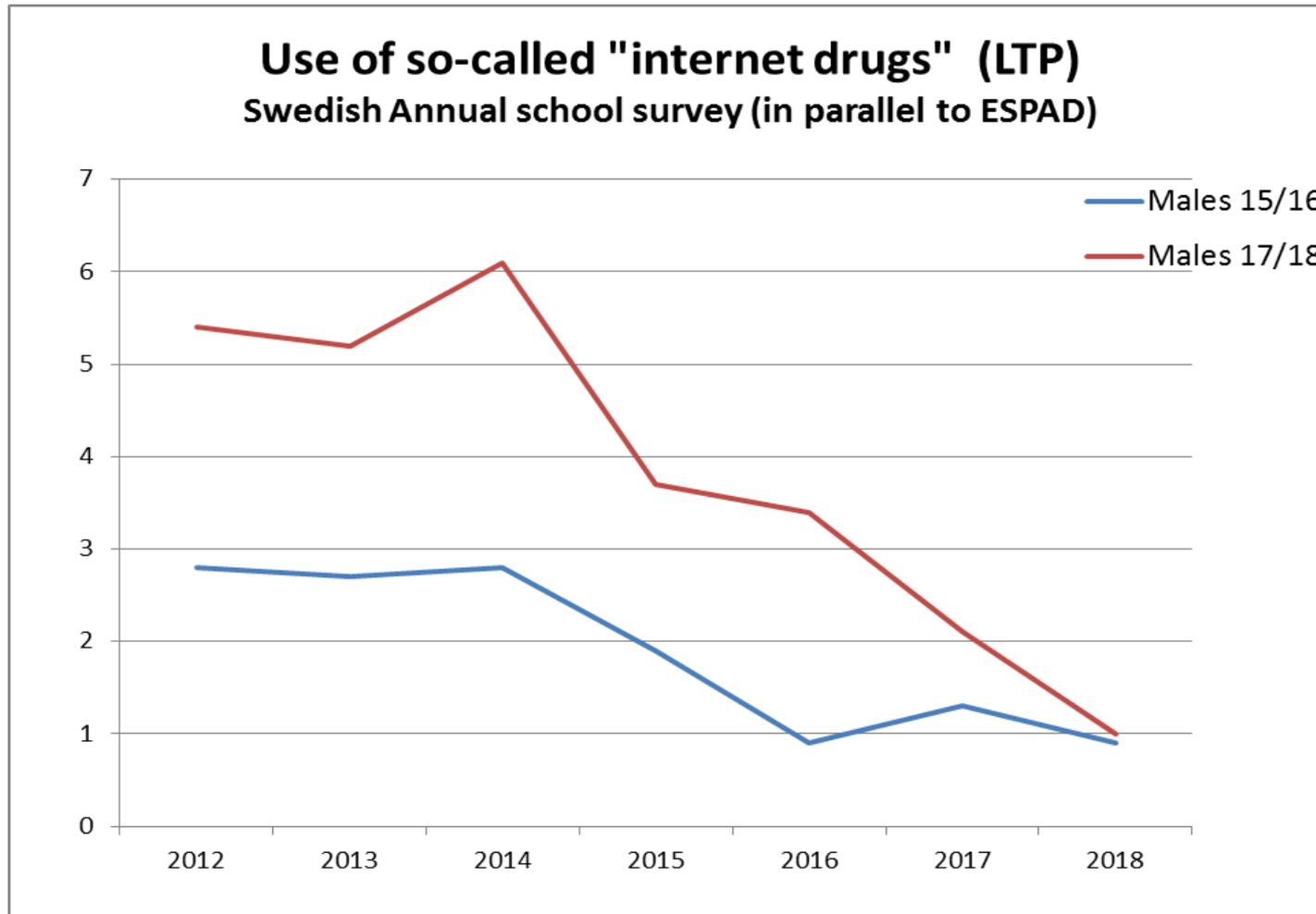
# Synthetic cannabinoids



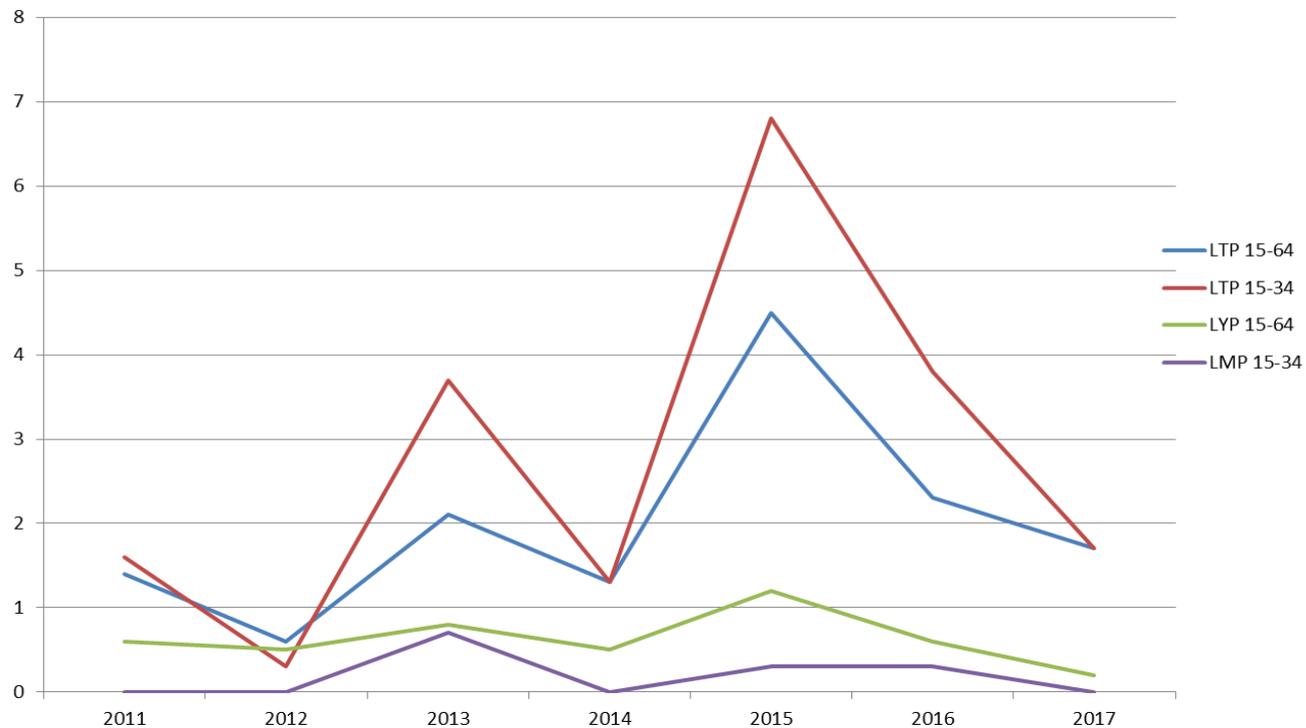
# Mephedrone, a case study



# Sweden, school students

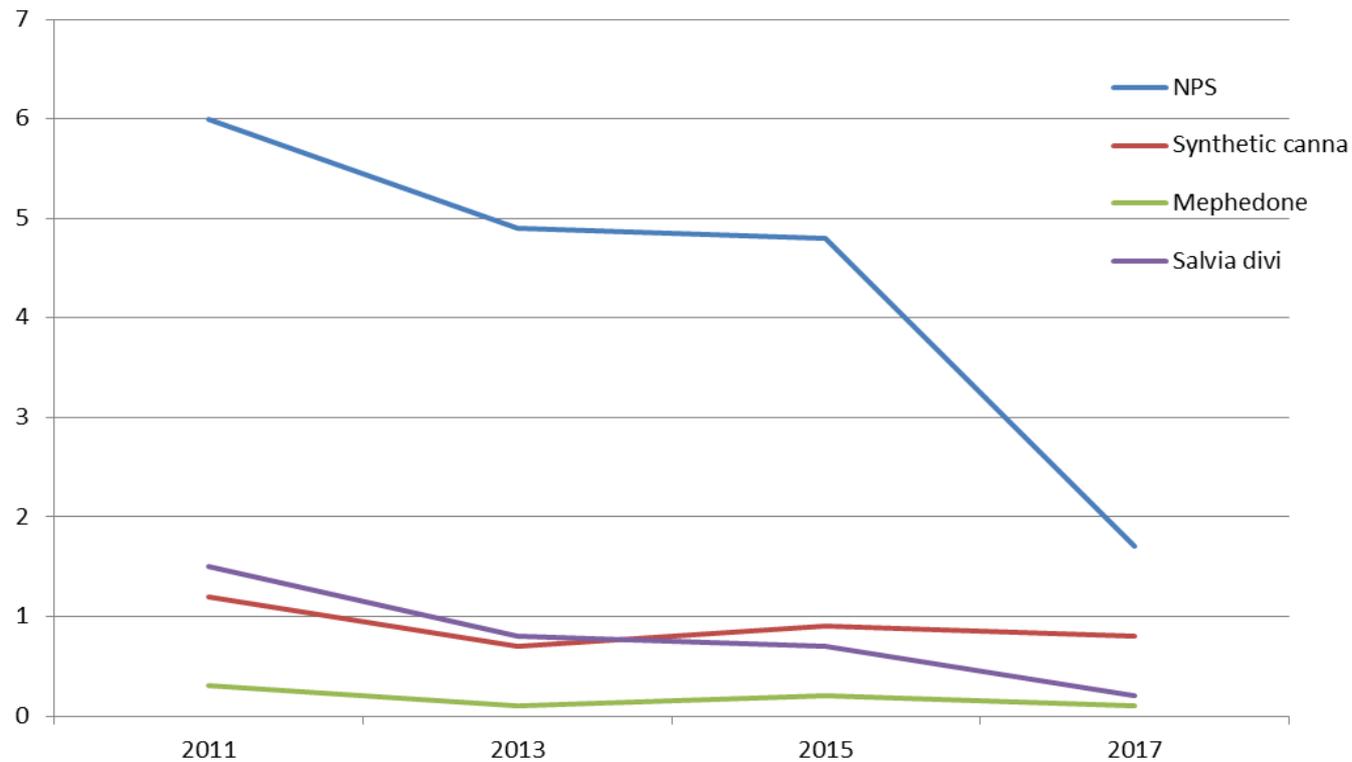


**Prevalence of NPS use (general Q) in different age groups (LTP, LYP, LMP)**  
**Czech Republic annual PPM survey (small sample)**



# Spain, and the methods

**Prevalence of use NPS (general Q), synthetic sannabinoids, methedrone and Salvia (15-34 yo LTP)**  
Spain EDADES national biannual survey



# School population – ESPAD 2015

- For the first time included a module on NPS – almost same than EMCDDA module
- Collected information in 35 European countries, among 15/16 year olds, with standardized methodology (questionnaire, sampling, data collection)
- Some countries collected information until 17/18
- Some countries collected information on individual NPS

<http://espad.org/report/home/>



# ESPAD cont/

In 2019 new round of data collection has just been completed

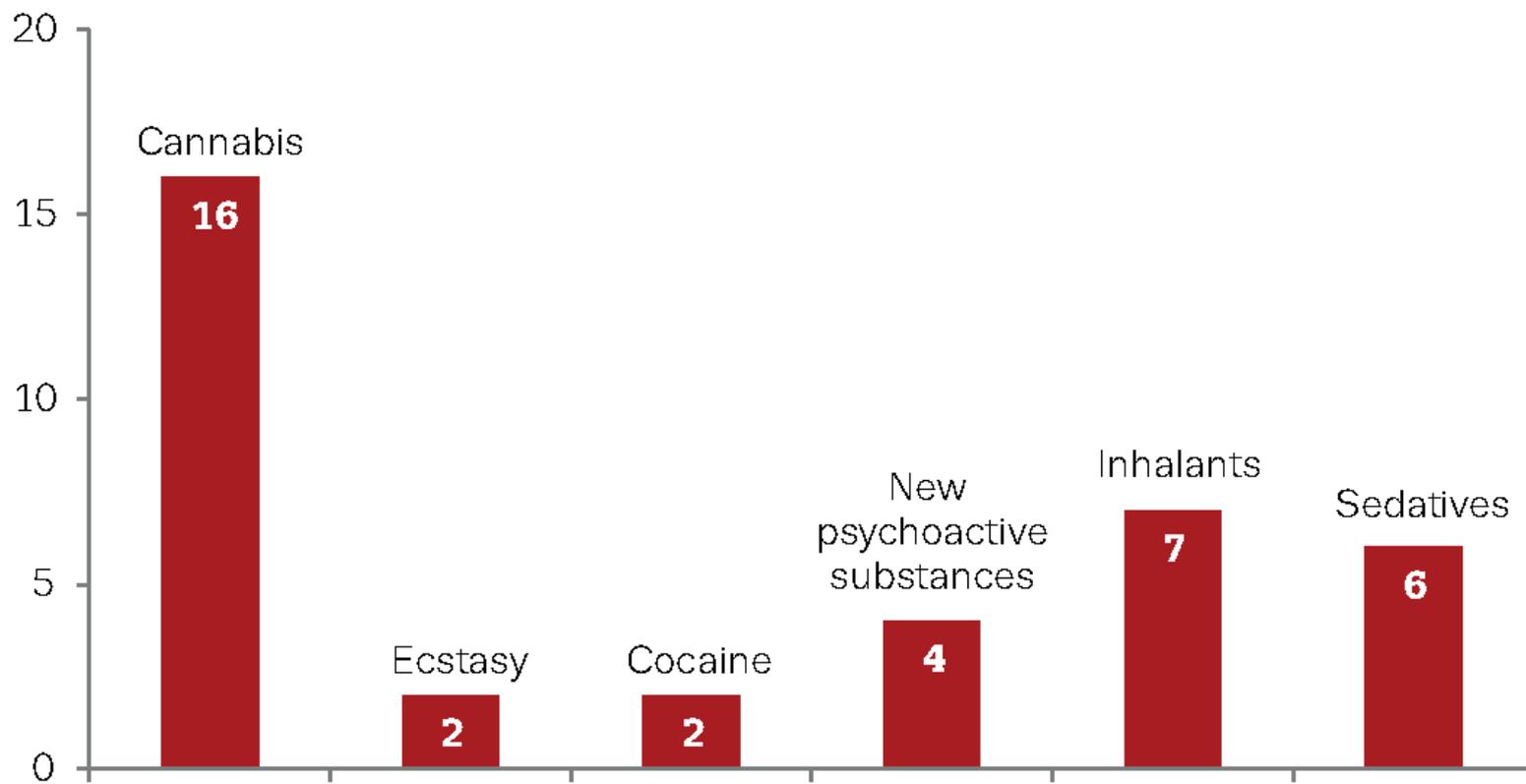
Included the NPS module, with full compatibility with EMCDDA module

Collected information on specific substances (synthetic cannabinoids and synthetic cathinones + additional voluntary)

# Lifetime use of selected substances (percentage)

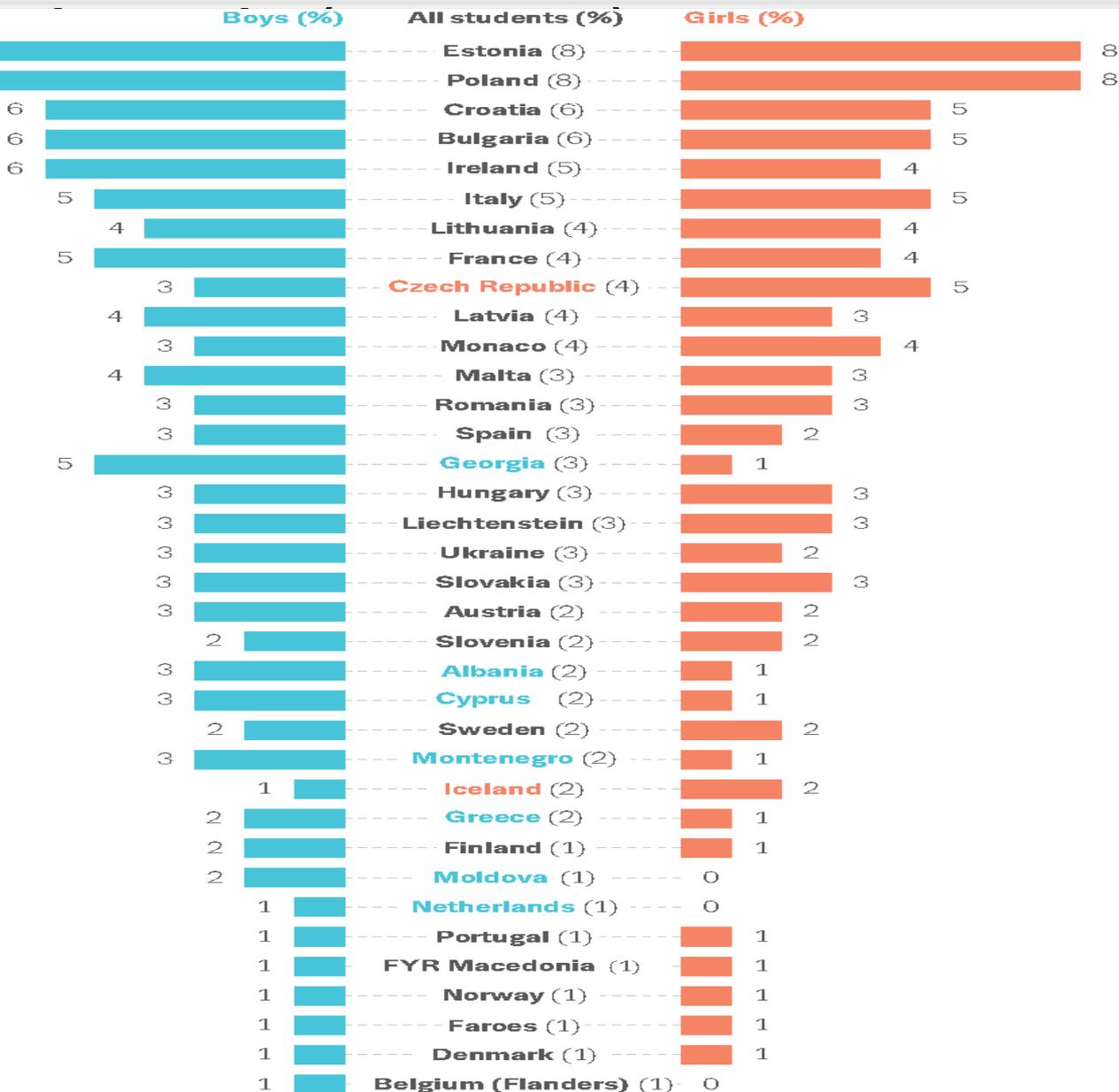
European average  
(34 countries)

Percent

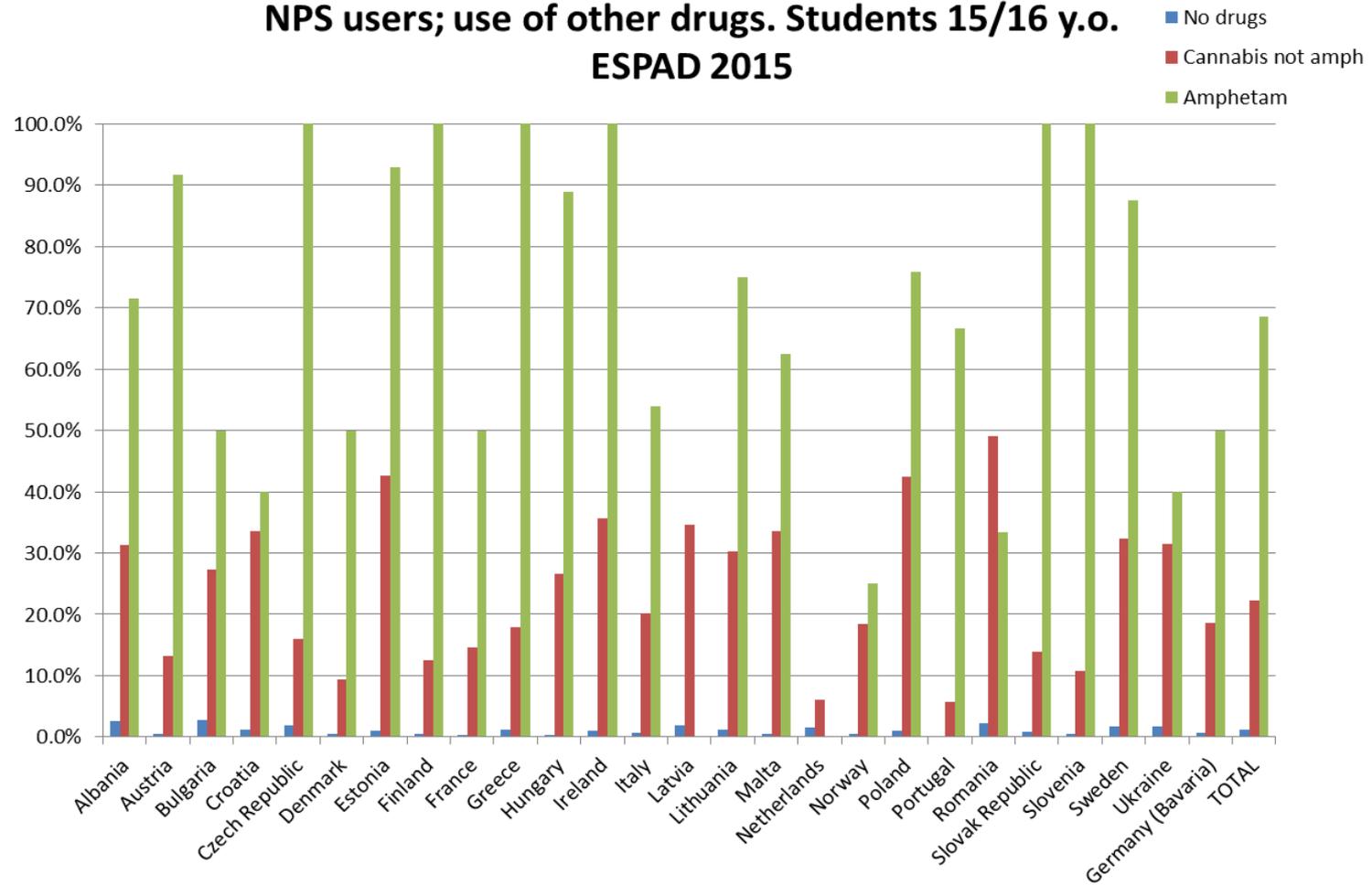


# Prevalence of new psychoactive substance use in the last 12 mo

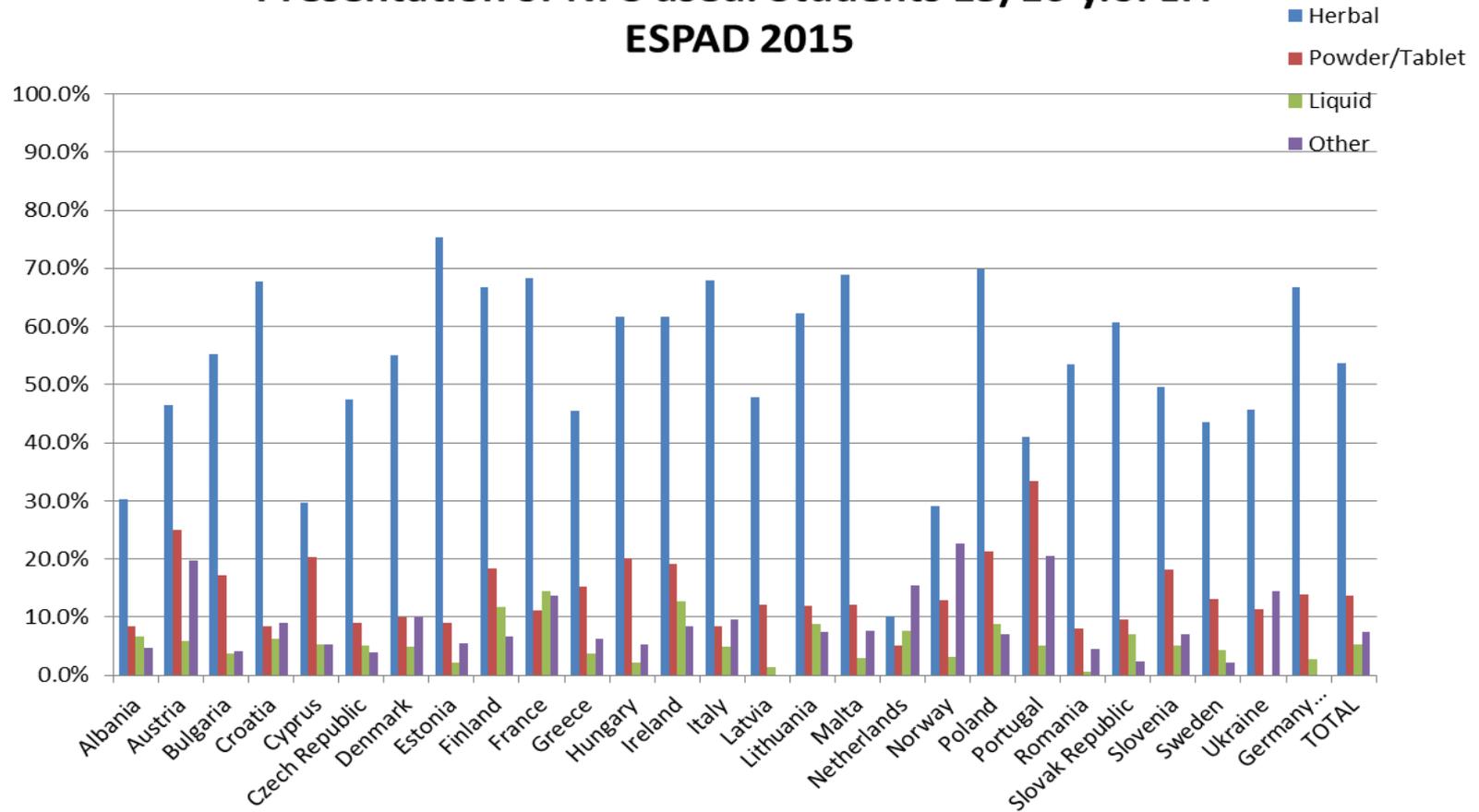
mo



## NPS users; use of other drugs. Students 15/16 y.o. ESPAD 2015



## Presentation of NPS used. Students 15/16 y.o. LYP ESPAD 2015



# Conclusions; more methodological than on concrete values

- ✓ It is presented the first ever international overview of NPS prevalence based on representative surveys
- ✓ NPS can be measured consistently with good quality surveys.
- ✓ Patterns of prevalence, trends, patterns of use are well identified and similar to other drugs
- ✓ The so-called “General Question” presents methodological and cognitive problems, in particular among adolescents, and possibly depending on country (“drug culture”).
- ✓ General Questions could give some additional insight but it should be always accompanied with some specific NPS drugs
- ✓ Identification of trends is essential



- ✓ Results of good quality surveys must be used in policies and interventions related to NPS (as with any drug) – not essentially different
- ✓ Additional methods are necessary –as with other drugs-
  - to complement prevalence data (notably wastewater),
  - to gain more insight on patterns of use, profile of users and populations at risk, detailed risk behaviours (on-line methods, targeted studies)
- ✓ Due to specificity of NPS (different similar substances, rapid change, use as –undesired- replacement of other substances...)
  - Methods that allow chemical identification can be particularly useful to monitor some aspects of NPS. Ideally with a denominator (wastewater) or individual identification (pill testing)



**Quotation “Vicente J, Brime B, Matias J, Mathis, F and Sabrina M. Prevalence of NPS use among the European general population (adults and school students). Lisbon Addictions 2019. 23-25 October 2019”.**

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## **Acknowledgements**

- The Reitox Focal Points and GPS national experts**
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- The ESPAD project**
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# Thank you

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