MONITORING DRUG USE IN THE DIGITAL AGE: STUDIES IN WEB SURVEYS

European Web Survey on Drugs: an overview of the project

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Abstract: This paper presents an overview of the European Web Survey on Drugs (EWSD), a project which began in 2016 with the aim of developing a system for collecting novel data from people who use drugs of value to the EMCDDA and its national partners. To date, the EWSD has covered 33 countries and involved over 150 000 respondents. The paper describes the impetus of the survey, namely that the quantities of substances consumed by people who use drugs was a key component missing from developing estimates of the size of the drug market in the EU, and for which there was no routine data collection and only limited data available. It also explores the methodological development of the survey, drawing inspiration from a web survey developed by researchers from the Trimbos Institute, and how its first two rounds were conducted in 2016 and 2017-2018 across 16 participating countries. The paper presents selected findings from these two rounds of the EWSD and examines the overall lessons learned from this project. By doing so, the paper shows how the EWSD has proven to be a valuable resource for better understanding drug use and drug markets, supporting policy development and implementation in response to changes in the drugs situation.

Introduction

This paper presents an introduction to the European Web Survey on Drugs (EWSD) project, which was established in 2016. It describes the impetus for and the development of the survey methodology, and how its first two rounds were implemented in 2016 and 2017-2018 across 16 participating countries. Selected findings from these two rounds of the EWSD are also presented alongside important lessons learned during the implementation process. The EWSD's primary aim has been to collect novel data, both rapidly and at a low cost, from people who use drugs, to assist participating countries to better understand national patterns of drug use, and to support better-informed policy responses at the country level. To date, four rounds of the EWSD have been implemented, with 33 countries and over 150 000 respondents participating in the survey.

Development of the EWSD

Over the past 25 years, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has expanded its monitoring capability to keep pace with changes in the extent and nature of drug use. By complementing data routinely submitted by Member States with information from an expanding range of cutting-edge sources, the EMCDDA provides timely and in-depth analyses to inform drug policies and practice.

One of these sources is the EWSD, through which data has been collected since 2016 to develop a better understanding of the drugs situation (Matias et al., 2019). The impetus for this project came from the realisation that a key component needed to estimate the size of the drug market in the EU was missing, for which there was no routine data collection and only limited data available, namely the quantities of different substances consumed by people who use drugs. At this point, data on quantities of use came mainly from small-scale studies of specific user groups, for example people entering treatment. Some data on quantities used was also available from general population surveys (GPS). However, GPS generally do not have sufficiently large samples of people who use drugs to provide robust information on the quantities consumed and the frequency of use for drugs other than cannabis.

The EWSD was developed drawing inspiration from survey experience described in the report *Further insights into aspects of the illicit EU drugs market* (Trautman et al., 2013), in which researchers from the Trimbos Institute coordinated a web survey of people who use drugs in seven EU countries. The survey collected information about the amounts of drugs used as well as the frequency of use and sources of supply. These data provided valuable information on the quantities consumed by different user groups in different countries. It also demonstrated the potential of this approach for obtaining information in a quick and cost-effective manner from people who use drugs in different countries, while highlighting areas requiring further development to improve the method for the future.

Drawing on the Trimbos report, the EMCDDA embarked on a collaboration to develop a web survey that could be implemented across the EU. The intention was twofold: to meet the need for information on quantities of drugs used, in order to enhance the estimation of market size at the European level, while at the same time providing a tool for national partners to increase their understanding of drug use locally, in order to assist policy development. If successful, the intention was to use of the EWSD model to gather information from a wider range of countries and on other aspects of drug use and supply.

The EWSD has been administered in four rounds, including a special round launched in April 2020 in order to collect crucial information on the impact of the COVID-19 pandemic on people who use drugs and on the services that support them (see the box 'EWSD – impact of the COVID-19 pandemic on patterns of use'). Among the 33 countries that have participated in the EWSD to date are EU Member States, Switzerland, and countries in the Western Balkans and the EU Neighbourhood Policy area. The survey has been completed by over 150 000 respondents and used across a number of national and European projects to inform the development and implementation of new policies in the drugs field. In relation to the original intention of the project, the EWSD has been used

to support the development of EU drug market size estimates, such as the cocaine market estimate in the latest in-depth analysis of EU drug markets by the EMCDDA and Europol (2022).

The EWSD questionnaire

In its first two rounds, the EWSD collected information about patterns of drug use and purchases of the most commonly used illicit drugs across 16 countries. The countries participating in the first round in 2016 were Croatia, Czechia, France, the Netherlands, Switzerland and the United Kingdom. In the second round in 2017 and 2018, Austria, Belgium, Cyprus, Estonia, Finland, Italy, Latvia, Lithuania, Luxembourg and Poland participated (Matias et al., 2019). The EMCDDA's national partners and focal points have been key in developing and implementing the survey across the participating countries. The national partners are responsible for translating the original English version of the EWSD and testing the questionnaire. In several countries the questionnaire was made available in multiple languages.

The 128-question survey on patterns of use of a range of substances, attitudes towards drug use, and demographics that was implemented for these two rounds drew inspiration from the *Further insights* study (Trautmann et al., 2013). Based on the European Model Questionnaire for surveys on drug use among the general population (EMCDDA, 2002), questions on attitudes (e.g. asking about a participant's opinion on cannabis legalisation) were used as introductory questions in order to avoid starting with questions on drug use patterns, which might be seen as off-putting and reduce participation.

The 2016 round of the EWSD contained specific modules for cannabis (one module with sections for resin and herbal), amphetamines, cocaine and MDMA (ecstasy), with questions related use of the drug. Each drug-specific module was presented only to those who had used that drug in the last 12 months. These modules consisted of a set of questions relating to frequency of use in the last 12 months and the last 30 days, type of products used (e.g. for cannabis, the participants were asked if they used resin, herbal cannabis or oil), methods of use (e.g. smoking, sniffing or injecting), amount used on a typical occasion, usual source of the substance, quantity usually bought and price paid, and whether it was shared with others. In the 2017-2018 round of the EWSD, a question module on new psychoactive substances (NPS) was added and the amphetamines module was divided into two separate modules for amphetamine and methamphetamine.

Respondents were given the opportunity to answer modules for all drugs they reported having consumed in the last year.

EWSD – impact of the COVID-19 pandemic on patterns of use

Information on the impact of the COVID-19 pandemic on people who use drugs, and on the services that support them, was collected via a special round of the EWSD (EWSD-COVID). The survey was coordinated by the EMCDDA in collaboration with its Reitox network of national focal points ([1]). The survey was promoted through targeted social media advertisements.

Available in 21 languages, the survey gathered information on how patterns of drug use, access to health services and the drug market changed in Europe during the pandemic. The survey findings contributed to the emerging knowledge base on COVID-19 and Europe's response to it, helping to protect the health of people who use drugs, improve drug services and raise awareness of market changes.

The questionnaire contained modules on socio-demographics; COVID-19 status; drug-use patterns (use in last 30 days and last year); access to services; and drug market activity (e.g. changes in the way illicit drugs were obtained during the pandemic).

Around 10 600 respondents completed the online questionnaire (containing about 30 questions) between 8 April and 25 May 2020. Respondents from Estonia, Finland, Italy and Spain accounted for 50 % of the sample.

The average age of the EWSD-COVID respondents was 29 years and the majority were male (58 %). Around 90 % of respondents reported drug use in the last year. Almost

60 % of the sample reported using some form of cannabis product in the 30 days prior to responding to the survey. Use of other drugs in the same period was less common, but included ecstasy/MDMA (10 % of respondents), cocaine (10 %), LSD (10 %), non-prescribed opioids other than heroin (10 %), amphetamines (5 %), heroin (4 %) and synthetic cannabinoids (4 %).

Preliminary findings of the EWSD-COVID suggested an overall decline in drug use, or some forms of drug use, in Europe during the first 3 months of the pandemic. This could be due to the national measures implemented to curb the pandemic, which reduced opportunities to use drugs within social environments and were likely to have disrupted street drug markets, resulting in a decline in the availability of some substances. The use of cocaine and MDMA appears to have been most affected, largely linked to the closure of the night-time economy and the implementation of stay-at-home measures.

A more mixed picture was observed for cannabis, suggesting that some users, with a more occasional pattern of use, may have stopped or reduced their use during the lockdown period, while others, who had more frequent or intensive patterns of use, may have increased their consumption. Relief of both boredom and anxiety were cited as reasons for increased use by some respondents.

([1]) For information, see https://www.emcdda.europa.eu/partners

Where participants reported having used more than one drug, these modules were offered in a random order. Upon concluding a module, respondents were asked if they would be prepared to answer a module on another substance. This was done in order to increase data collection on less prevalent drugs. Respondents could opt out at any stage of the questionnaire. With the slight variations in the questionnaire between the first and second rounds, respondents took on average 10 minutes to complete the questionnaire in 2016 and 12 minutes in 2017-2018.

A limited number of country-specific adjustments were also made to the questionnaire. For example, response categories for some of the background socio-demographic variables (e.g. highest level of qualification obtained and average net income) were adjusted to fit country-specific contexts, while retaining the basic questionnaire structure. In some cases, additional questions or modules were added at the end of the questionnaire to meet a request from national partners based

on specific issues of relevance. For example, Switzerland and Estonia included modules on heroin and fentanyl, respectively.

Recruitment strategies

National partners were encouraged to develop a variety of recruitment strategies to reach a range of different user groups. The EWSD is hosted by the EMCDDA and, in most cases, advertisement by national partners pointed to the project website, strengthening the perception of the study as 'European' and not solely national, which proved to be of added value.

Sampling strategies were devised by each national partner based on their own networks and experience, and the lessons learned were shared among the participating countries. The recruitment strategies varied substantially and included

dedicated web pages, flyers distributed in clubs and bars, general promotion through a variety of channels (e.g. student health insurance websites, magazines, universities, social and counselling service websites, and web pages targeting people who use specific drugs), advertising in drop-in and outreach centre premises, advertising on the darknet (Karden and Strizek, 2022), offering participants the incentive of entry in a lottery, and using paid ads on social media sites. For the paid ads, since clicking on the advertisement gave access to the survey, a 'cost-per-click' model was applied. Among the countries that applied this strategy, campaigns differed in advertisement languages, number of advertisements, targeting criteria, duration and budget (Jerkovic et al., 2019).

An important step was to develop an overall common branding, coordinated by the EMCDDA. The development of visual items, such as a logo (see Figure 1) and online videos, was essential for online advertising.
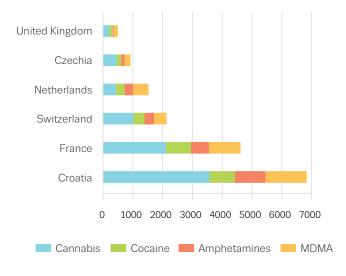
Characteristics of participants

The eligibility criteria for participation in the EWSD are being aged 18 or over (in order to avoid issues around consent by minors), using one or more of the drugs covered by the survey and living in a participating country. Participation is anonymous and voluntary. Non-eligible participants, questionnaires with
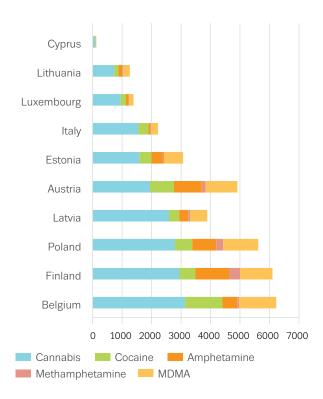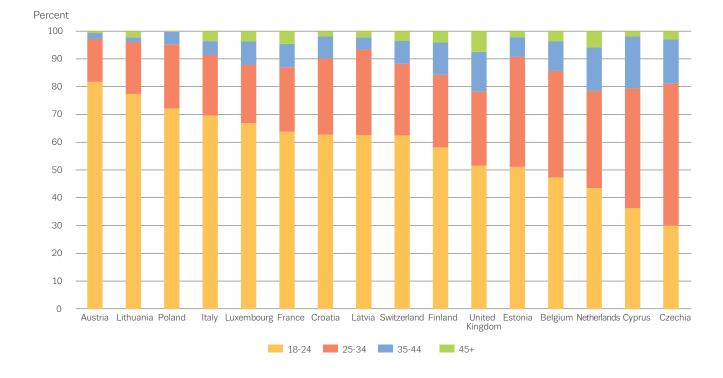
FIGURE 1
EWSD logo

large amounts of missing data (Kalamara and Škařupová, 2022) and those with obvious flaws and inconsistencies in their answers (for example, consistently providing maximum answers for the use of all drugs) are excluded from the sample used in the analysis. Since IP addresses are not recorded, repeat respondents cannot be identified.

Approximately 80 000 people from 16 countries participated in the first two rounds of the EWSD. The sample sizes and the profiles of respondents varied considerably between countries (Figure 2).

FIGURE 2
Completed modules per drug type in the two rounds

First EWSD round, 2016

Second EWSD round, 2017-2018

FIGURE 3

Age distribution of respondents to the EWSD, first and second rounds

The share of younger adults (18-24 years old) in the sample ranged from 30 % in Czechia to 82 % in Austria. Over 20 % of respondents were aged 35 or over in the Netherlands and the United Kingdom, and more than 5 % were at least 45 years old (Figure 3). In most countries about two thirds of respondents were male, while in Lithuania and Poland there was more of a gender balance, with 53 % and 51 %, respectively, identifying as male. The proportion of transgender people who participated in the survey was below 1 % in all countries.

Sources of respondent recruitment

Social media was the most common source of access to the EWSD for participants in almost all countries. However, the response category 'through social media' comprises a number of different potential channels. In particular, paid Facebook ads proved to be a very effective way of generating a large volume of respondents.
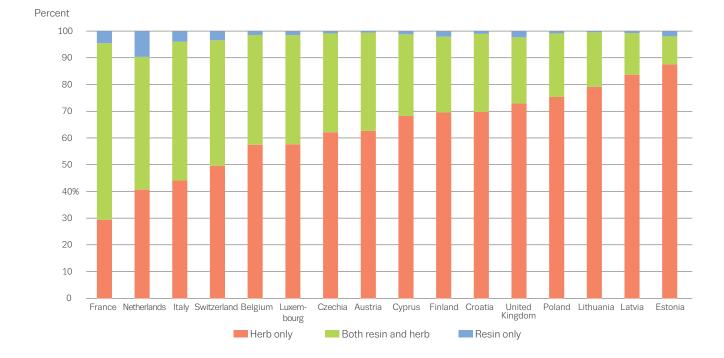
The next most common source for accessing the survey was advertisements appearing on websites other than social media. More than 10 % of participants in Austria, Estonia, Finland and Latvia accessed the survey through these advertisements. The relatively high proportion in Finland and Latvia may be due in part to the national strategies of contracting a marketing agency to help advertise the survey.

Advertisements on websites providing drug information were a common access point for the survey, particularly in the United Kingdom but also in France and the Netherlands. The survey was also publicised through other channels, for example in Italy where it was described in an interview given to a national newspaper. Many participants in Italy seem to have accessed the survey through this newspaper article, which led to a higher proportion responding that they had heard about the survey in 'other ways'.

Patterns of use

Cannabis was reported as the most commonly used drug across all countries (EMCDDA, 2019, 2020), with most respondents using it in herbal form (Figure 4).

Among respondents completing the cannabis module, overall, people who reported using resin and herb were the most frequent users, both in the last month and last year timeframes.

The frequency of use of stimulants varied between countries and also between substances. The proportion of respondents to the cocaine module who were classified as using the drug frequently (i.e. use on more than 50 days per year) differed widely, from 0 % in Czechia and 5 % or less in Estonia, Latvia,

FIGURE 4

Forms of cannabis use in the last year, EWSD 2016 and 2017-2018 (*n* = 26 256)

Percent

Lithuania and Poland to over 10 % in Belgium, France, Italy and Switzerland. Frequent use of ecstasy/MDMA ranged from 1 % of respondents in Czechia to 8 % in Austria and Croatia. Although there was between-country variability in the proportions, in general, respondents who used amphetamines were more likely to report occasional (11-50 days per year) or frequent use than those who used cocaine or MDMA.

Quantities of cocaine consumed

Respondents were asked about quantities of drugs used on a typical day of use. For cocaine, the amounts used on a typical day were significantly associated with frequency of use. Participants in all countries exhibited a pattern of increasing quantities used on a typical day as frequency of use increased. However, mean amounts used per day varied between countries.

Among participants reporting infrequent use, the amount ranged from 0.6 grams per day of use in Austria and Belgium to 1.1 grams per day of use in Finland and Croatia. By comparison, for respondents reporting frequent use, the mean amounts used varied from 1.3 grams per day of use in Austria, Belgium, Czechia and Switzerland to 2 grams per day in Croatia and 2.2 grams per day in the United Kingdom. Although similar or higher amounts per day were reported in Estonia,

Latvia, Lithuania and Poland, these estimates must be viewed with caution as the numbers of cocaine users participating in the surveys in these countries were very small.

Discussion

This paper has provided a general overview of the EWSD project, describing how it was used in its first two rounds (2016 and 2017-2018) to collect information from people who use drugs across 16 countries, and highlighting the lessons learned.

The cooperative model adopted for the EWSD has proved successful. The EMCDDA coordinates the study, while the participating national partners are responsible for translating the questionnaire and developing recruitment strategies. Through this cooperative approach, national contexts and needs can be addressed, while maintaining considerable cross-country comparability. It has also proved to be an efficient use of resources, for example through the sharing of translations, materials and expertise.

The survey has developed and improved in successive rounds. Learning from the first round in 2016, a more streamlined

Using the EWSD to improve the understanding of NPS use in the EU

The number of NPS being monitored by the EMCDDA has increased greatly over the past decade. However, the prevalence of use of these substances within the general population is relatively low. Thus, the second round (2017-2018) of the EWSD was used as an opportunity to understand more about these substances.

A total of 9 805 respondents across all countries reported ever using NPS, of whom 5 436 had used NPS in the past year. Rates of use in the last month and last year use were particularly high among respondents in Lithuania and Poland. Synthetic cannabinoids were the predominant type of NPS used, both in the last year and last month, in all countries, except Poland, where synthetic cathinones were more common.

Herbal mixtures and powder, tablet or crystal forms of NPS were reported by about half of those reporting NPS use, while liquids and blotters were also used. Relaxation was the most frequently reported purpose for consuming herbal NPS, while partying was the most common purpose for consuming powder, tablet or crystal forms of NPS. In both cases, the second most common intention was to get high.

Regarding reasons given for consuming an NPS on the last occasion of use, about half of respondents reported either that the opportunity arose (such as through friends) or that curiosity was the reason. About a third indicated that the ease of obtaining the drugs was the reason for their consumption. While there was some variability, these reasons were relatively consistent across countries.

The EWSD has allowed for the collection of considerably more data than general population surveys on the subpopulation of people who use NPS, providing much-needed information on this emerging and continually evolving phenomenon.

and focused questionnaire was deployed in the second round in 2017-2018 (see the box 'Using the EWSD to improve the understanding of NPS use in the EU'). These improvements led to larger samples of respondents who reported the use of less prevalent substances, information on which is sparse in routine monitoring sources.

It is important to review the impact of recruitment strategies on the type of respondents participating in the EWSD. The use of the same questionnaire and administration method facilitates cross-country comparisons, but differing recruitment strategies may affect comparability. However, even similar recruitment strategies (e.g. social media ads) may reach different groups in different countries, for example due to differing patterns of social media use. While techniques such as social media recruitment, particularly Facebook advertising, generated large samples in many countries, it is important to consider how representative social media users are of the wider population.

Due to the lack of previous sampling frames and the use of targeted advertising, a web survey such as the EWSD cannot readily be generalised to the whole population and the question of representativeness arises. However, as some papers in this collection show, techniques to make the results of web surveys more generalisable are being used and show some promise (see, for example, Caulkins et al., 2022).

With regard to future research and comparability across countries, even if the same recruitment methods are used by all the participating countries, the profile of respondents may change as the popularity of different social media platforms shifts. As such, to obtain coverage of particular groups from year to year, researchers may need to consider new strategies. Among these are strategies that would facilitate reaching those who use drugs in more problematic ways.

The project has also demonstrated a potential for the identification of emerging trends, as illustrated by the EWSD survey on COVID-19 impacts (see the box 'EWSD — impact of COVID-19 on patterns of use'). This experience showed that the EWSD can be adapted to collect information rapidly on specific new developments and issues of importance (see the box 'Using the EWSD to improve the understanding of NPS use in the EU').

Conclusion

This paper has presented an example of the rich data available from the first two rounds of the EWSD. The entire international dataset is made available to each participating country, allowing further cross-country comparisons as well as more in-depth study of their national data.

As the first paper in this collection highlighted (Belackova and Drapalova, 2022), there is a need for a better understanding of the advantages and limitations of the web survey method.

Through successive waves of the EWSD, the EMCDDA is contributing to the broader discussion on the advantages and limitations of this method of drug data collection. At the same time, the EWSD has proved to be a valuable tool for improving the understanding of drug use and drug markets, supporting the development and implementation of policies in responses to changes in the drugs situation. The triangulation of EWSD data with other sources will continue to improve our understanding of different drug market dynamics and help identify ways in which routine data collection tools may benefit from adjustment to better reflect drug use patterns.

Acknowledgements

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About the EMCDDA

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is the central source and confirmed authority on drug-related issues in Europe. For over 25 years, it has been collecting, analysing and disseminating scientifically sound information on drugs and drug addiction and their consequences, providing its audiences with an evidence-based picture of the drug phenomenon at European level. Based in Lisbon, the EMCDDA is one of the decentralised agencies of the European Union.

About this series

EMCDDA Insights are topic-based reports that bring together current research and study findings on a particular issue in the drugs field. This paper is published as part of *Monitoring Drug Use in the Digital Age: Studies in Web Surveys*, an EMCDDA Insights that provides an overview of current knowledge and the latest developments in the field of web surveys on drug topics. The Insights contains in-depth reports on the methodology of web surveys, the available studies being carried out in different drug topics and analyses of the European Web Survey on Drugs. The Insights will be of interest to researchers and scientists, people who use drugs, policymakers and their advisors, specialists and practitioners, and all those concerned with the issue of drugs and innovative methods.

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