European Monitoring Centre
for Drugs and Drug Addiction

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

ALAMA-nightlife survey: designing a survey to explore drug use trajectories in the European nightlife scene

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Abstract: While patterns of drug use vary between European countries, there have been recent developments in the drugs market that are likely to be felt by young adults engaging with the nightlife scene across Europe. To gain insights into drug use and nightlife participation and to understand how their patterns change over time among young adults, research institutions participating in the ALAMA-Nightlife project designed and implemented an online longitudinal survey, the Electronic Music Scene Survey (EMSS). This study presents the methodological aspects of the EMSS and some of its initial findings, including the lessons learned from this project and its potential implications. Over 8 000 young adults living in Belgium, Italy, the Netherlands, Sweden and the United Kingdom were recruited to the EMSS's baseline survey, with a 36 % retention rate at the 12-month follow-up stage. The importance of involving focus groups to ensure the relevance and acceptability of the survey content to the target population is one of the findings of this study. In addition, employing both an online and an offline method to recruit participants can help to determine whether the online sample is representative of the target population, in this case young adults attending clubs and festivals.

Introduction

The last 20 years have witnessed an upsurge in the European nightlife scene. A major contributor to this growth has been the evolution and commercialisation of the electronic dance music scene, which has expanded from underground 'raves' in the late 1980s and early 1990s, to large organised parties held in licensed premises such as nightclubs and festivals (Anderson and Kavanaugh, 2007; Hubbard, 2017).

The link between engagement with the nightlife scene and the use of alcohol and illicit substances has long been established (Calafat et al., 2008; Measham et al., 1998). While patterns of drug use vary between European countries (EMCDDA, 2018a), there have been recent developments in the drugs market that are likely to be felt by young adults engaging with the nightlife scene across Europe. For example, the strength or purity of several important drugs has increased markedly in recent years, fuelling concerns about the health of users (EMCDDA, 2021; Giné et al., 2016; Winstock et al., 2016). Another notable development is the proliferation of new psychoactive substances in the European drug market (EMCDDA, 2015). Thought to be potentially more dangerous than the drugs they are designed to mimic, and with far less known about them (Giné et al., 2014; Hondebrink et al., 2015; Pirona et al., 2017), the number of such substances found on the market continues to rise. In 2018, the EMCDDA actively monitored 670 of these substances, with a new one reported on average every week (EMCDDA, 2018a).

The vast majority of studies on substance use in European nightlife populations are cross-sectional by design (see EMCDDA, 2018b) and are therefore unable to show changes over time or factors that might be associated with any escalation, decline or stability in drug use. Prospective, longitudinal designs are likely to be more informative about the changing dynamics of drug use among those engaging with the nightlife scene, but existing studies either do not account for recent developments in the drugs market in Europe (e.g. Lieb et al., 2002; von Sydow et al., 2002) or were conducted in settings outside of Europe (e.g. Halkitis et al., 2007a, 2007b; Leslie et al., 2015; Ramo et al., 2011; Smirnov et al., 2013).

Given the lack of contemporary longitudinal data that acknowledges recent market developments, there is an urgent need to develop and validate methods to investigate the relationship between drug use and engagement with the nightlife scene in Europe. This paper presents one of the research projects in this area, namely the ALAMA-Nightlife project. Through its deployment of the Electronic Music Scene Survey (EMSS), the ALAMA-Nightlife project has been studying drug use and nightlife participation among young adults in five European countries. This paper presents the methodological aspects of the EMSS and some of its initial findings, including the lessons learned from this collaborative research project and its potential implications.

ALAMA-Nightlife and the EMSS

The ALAMA-Nightlife project is a collaboration between research institutions in Belgium, Italy, the Netherlands, Sweden and the United Kingdom, funded by the European Research Area Network on Illicit Drugs (ERANID) ([1]). The overall objective is to gain insights into drug use and nightlife participation and to understand how their patterns change over time among young adults in the five participating countries. In order to achieve this, the collaborators designed and implemented the EMSS, an online longitudinal survey about drug use and nightlife behaviours. An online survey was chosen in the light of previous success in using the internet to access hard-to-reach or hidden populations, including substance users (the benefits of web-based surveys are presented in Belackova and Drapalova, 2022).

As one of the main concerns around web surveys relates to the question of external validity, namely that the extent to which findings can be generalised beyond the measured sample is unknown, it is impossible to be certain that the target audience has been successfully reached (Barratt et al., 2015, 2017; Miller and Sønderlund, 2010). Very few online studies into drug use have attempted to validate their samples against

one known to be the target population, with those that have done so showing mixed results. Some studies find their online samples to be broadly representative of offline probability samples in terms of demographics and drug-use patterns (Barratt et al., 2017; Miller et al., 2010), while others have found differences between the two (Barratt and Lenton, 2015; Barratt et al., 2015). We therefore included the collection of an offline sample of club and festival goers in our study design in order to validate our online sample and confirm that the target population had been reached.

EMSS aims

The specific aims of the EMSS are (1) to identify the substance use profiles of young adults regularly attending nightclubs, festivals and parties; and (2) to investigate both retrospective (<12 months) and prospective (>12 months) transitions (increase, decrease, no change) in substance use and determine the factors associated with these transitions.

Table 1 shows the topics covered by the EMSS at baseline and 12-month follow-up. Information on lifetime and past 12-month use of various licit, illicit and new psychoactive substances was collected at baseline, with past 12-month questions repeated at follow-up to enable the plotting of historic and 12-month transitions in use. One of the primary influences on transitions in drug use that we explore is changes in engagement with the electronic dance music scene, given previous evidence that higher levels of engagement are associated with increased substance use (e.g. Leslie et al., 2015). The influence on drug use of changes in frequency of attendance at different nightlife venues will be examined, as will changes in genre preference, as various sub-genres of electronic dance music have been associated with differing patterns of use (e.g. Van Havere et al., 2011).

Attendance at electronic dance music events has also been associated with higher levels of polysubstance use (Hunt et al., 2009; Sanudo et al., 2015). Thus, we expect to identify at least one group of polysubstance users in our baseline sample. This distinction will allow us to investigate different typologies of substance users, explore country-level differences and identify potential risk factors for higher levels of polysubstance use. Furthermore, given concerns that polysubstance users may be at greater risk of drug-related harm (Fernández-Calderón et al., 2014; Quek et al., 2013; Smith et al., 2011), we will explore whether an increase or decrease in polysubstance use at follow-up is related to a subsequent increase or decrease in negative experiences and to mental and physical health. We will also be able to examine the extent to which a range of harm reduction strategies are being employed, and the extent to which they protect against the risk of drug-related harm.

[1] https://www.eranid.eu/projects/alama-nightlife/

TABLE 1

Topics covered in the EMSS

Domain	Areas covered
Demographics	Recruitment source; age; gender; country of residence; area code; sexuality; relationship status; urbanicity; education; mother's education.
Nightlife engagement	*N* events in last 12 months; genre preference; motivations for going out; lifetime and past 12-month venue attendance and frequency (nightclubs, festivals, illegal raves, pubs, house parties); age of first attendance; age of last attendance; most regular attendance period.
Drug use	Lifetime and past 12-month drug use and frequency (licit drugs, illicit 'traditional' drugs, new psychoactive substances); age of first use; age of last use; heaviest use period; where used most often; amount of ecstasy used; motivations for and intentions to future change at baseline; actual change and influences on change at follow-up; problematic alcohol and drug use (AUDIT-C; DUDIT).
Risks and experiences	Risk perception; positive and negative experiences following drug use at events; social acceptability of drug use; perception of how positive or negative impact of drug use; mood (WHO-5); depression (PHQ2); anxiety (GAD2).
Harm reduction	Whether or not to employ various harm reduction strategies before, during and after use.

The remainder of this paper will focus on the development of the survey, recruitment procedures and lessons learned from conducting the EMSS.

Survey development

Items in the EMSS were derived from validated scales (for example, the AUDIT, DUDIT and WHO-5) ([2]), previous literature and extensive discussions between expert members of the consortium. The survey was translated into each country's language, with adjustments made to the wording when necessary to ensure that each question was being asked in the same way across the various languages.
To ensure that the survey content was relevant to young adults engaging with nightlife scenes, a focus group was held with regular club and festival goers. This resulted in a number of minor adjustments to survey items, such as the avoidance of the term 'EDM' to refer to electronic dance music and the addition of some positive experiences and harm reduction strategies.

The survey was designed and hosted on Qualtrics, an online research platform. This approach allowed the incorporation of complex display logic so that participants were not shown irrelevant questions. For example, questions relating to drug use history were only shown to participants who reported having ever used that particular drug. This was of great benefit when cleaning the data and dealing with missing values, as it was clear whether the question had been shown to a

participant and thus whether missing values should be treated as 'not shown' or truly missing. This platform also allowed us to draw up distribution lists so that participants were automatically emailed their unique link to the follow-up survey exactly 12 months after completion of the baseline study.

Recruitment

Inclusion criteria

The inclusion criteria for respondents to the longitudinal survey were that they should be (1) a current resident in Belgium, Italy, the Netherlands, Sweden or the United Kingdom, (2) aged 18–34, and (3) have attended at least six electronic dance music events in the last 12 months. This age range was chosen so that the upper limit matched the EMCDDA's definition of a young adult (e.g. EMCDDA, 2018a). Electronic dance music events were chosen as the focus as they have a large presence in all the participating countries, while six events in the last 12 months was considered an appropriate cut-off to ensure both sufficient engagement with the nightlife scene and to capture variance in attendance frequency.

Incentives were offered to participants for their participation at baseline and follow-up to enhance recruitment and retention. Those who completed the baseline survey were entered into a prize draw for three MacBooks, three iPads, three Bluetooth speakers and forty-five 20-euro gift vouchers. A 20-euro gift voucher was offered for completion of the follow-up survey,

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([2]) See https://auditscreen.org/, https://www.emcdda.europa.eu/drugs-library/drug-use-disorders-identification-test-dudit and Topp et al. (2015).

along with entry into a further prize draw for six MacBooks, six iPads and 15 Bluetooth speakers.

Recruitment methods

ALAMA-Nightlife employed both an online and an offline method to recruit participants to the cohort. Protocols were written for each and followed by all countries to ensure the same methods were being used and would thus allow for cross-country comparisons of the results.

Online recruitment

Online recruitment initially took the form of Facebook and Instagram adverts run from a central EMSS Facebook account. Facebook allows for adverts to be targeted at certain groups based on demographics, interests and interactions with other websites. Resident Advisor is a website and ticket vendor focused on electronic dance music and commonly used in each of the five participating countries. As such, interaction with the Resident Advisor website or Facebook page and the age range as per our inclusion criteria were selected as the targeted information for the first stage of recruitment.

In an attempt to improve the rate of recruitment, the targeted information was expanded to include popular DJs, record labels, festivals and music genres. A number of websites, social media groups and media outlets were also contacted to see if they would be interested in promoting the study.

The most successful strategy, however, was the introduction of country-specific social media adverts. These adverts were run from collaborating institutions' Facebook pages and used different pictures and a more informal tone in the accompanying text, making explicit reference to the incentives on offer.

Those who completed the baseline survey were sent an email containing a unique link for the follow-up survey exactly 12 months after completion of the baseline form. Participants were also sent a reminder email two weeks later, and a final reminder two weeks before the survey closed in November 2018.

Offline recruitment

Offline recruitment was carried out at nightclubs and festivals at the same time that the online sample was being recruited. A list of the top nightclubs in the largest and third-largest city in each country was compiled using statistics available on Resident Advisor. Each research team identified individuals involved in the nightlife scene in their country to act as 'nightlife experts' to check that our lists did not omit key venues. As statistics on festivals are not available on Resident Advisor, lists of key events were compiled in consultation with each nightlife expert. Both lists were then randomised and clubs and festivals were contacted so that the rationale for the study could be explained and access for recruitment purposes requested.

During recruitment, fieldworkers approached participants using a random intercept method (Graham et al., 2014). This required the fieldworkers to stand at a fixed point and invite every second person who entered an imaginary zone to fill in a short screening questionnaire derived from the online survey, asking for age, gender and their nightlife engagement and drug use over the past 12 months. Individuals were then given a slip with the survey URL and a unique code relating to their questionnaire and asked to complete the survey at a later date. Fieldworkers noted questionnaires filled in by individuals who self-selected or were visibly intoxicated so these could be discarded prior to data entry.

Sample size

The original aim was to recruit 2 000 eligible participants to the cohort in each country, with 1 500 recruited online and the remaining 500 offline. In total, 8 045 eligible participants

TABLE 2
Sample size and response rate by country

Country	Baseline		Follow-up		
	N	Share of sample (%)	N	Share of sample (%)	Response rate for follow-up (%)
Belgium	1 345	16.7	495	17.1	36.8
Italy	1 147	14.3	341	11.8	29.7
Netherlands	2 123	26.4	840	29.0	39.6
Sweden	1 371	17.0	498	17.2	36.3
United Kingdom	2 059	25.6	723	24.9	35.1
Total	**8 045**	**100.0**	**2 897**	**100.0**	**36.0**

TABLE 3
Baseline survey recruitment source

Recruitment source	N	%
Online	7 490	93.1
At a club	132	1.7
At a festival	217	2.7
Word of mouth	206	2.5
Total	**8 045**	**100.0**

completed the baseline survey with 2 897 completing the 12-month follow-up — a retention rate of 36 % (see Table 2).

Despite the goal of having 25 % of the sample recruited offline, the vast majority of survey respondents indicated that they had heard about the survey online rather than at a club or festival, as shown in Table 3. Although in Sweden, no clubs or festivals agreed to allow offline data collection, 26 clubs across 45 different evenings and 21 festivals were visited in Italy, the Netherlands, Sweden and the United Kingdom, with 3 570 eligible offline questionnaires collected. However, only 9.8 % of these individuals (N = 352) went on to complete the online baseline survey at a later date.

Lessons learned and potential implications

A number of lessons were learned during the development and implementation of the EMSS that may prove useful for future practice. The involvement of a focus group in the development of the survey helped to ensure that the content was relevant and would be acceptable to our target population. Consultations with nightlife experts ensured that key venues were not overlooked for offline recruitment, while these individuals also acted as a conduit between researchers and club and festival organisers.

The online recruitment process was far more efficient in terms of the numbers reached than offline recruitment methods. While online recruitment required only monitoring and slight adjustment to the advertising campaign, offline recruitment demanded significant researcher time and effort and recruited less than 10 % of the total eligible respondents produced by online sampling.

As discussed, although 3 570 eligible people completed the offline questionnaire at clubs and festivals, only 9.8 % of these individuals went on to fill in the online survey at a later date.

This indicates that the offline recruitment of participants needs to be modified to enable them to complete the whole survey on site, perhaps through the use of tablets.

However, the approach taken will enable us to compare the samples recruited online and offline, as the questions in the offline questionnaire were taken directly from the online survey. This will allow us to see whether the two recruitment methods reached similar populations, and whether the online sample is representative of young adults attending clubs and festivals. Ensuring the target population has been reached via online recruitment is a key concern for internet research, and collecting an appropriate offline sample allows this to be assessed. This approach also gives us the opportunity to weight the online sample (to make it more representative) based on differences found as a result of comparisons with the offline sample when conducting sensitivity analyses in the future.

Obtaining agreement from clubs and festivals to allow researchers on site to recruit the offline sample was difficult, with a number refusing despite guarantees of anonymity. Research teams who had stronger existing relationships with club owners and organisers had greater success in this regard, highlighting the importance of fostering relationships with key stakeholders in research areas of interest.

The recruitment rate of our online sample increased markedly when running adverts from the collaborating institutions' social media accounts rather than the central EMSS page. Moreover, explicit mention of the incentives on offer was included in these adverts, which may explain their greater appeal. In addition, national-level institutions may be more widely known, making associated adverts more trusted than those from an unknown study name such as the EMSS or ALAMA.

Finally, we found benefits in the use of an online survey-building tool. This approach allowed us to incorporate complex display and within-question logic into the survey without the need to write a tailored programme. While data must still be carefully assessed for any problematic issues, this methodology eliminated any error associated with data entry, and increased efficiency when cleaning the data.

While at the time of writing EMSS data were being analysed, some results have been published elsewhere (Feltmann et al. 2021; Waldron 2020; Waldron et al., 2020). Based on the findings from analysis of the EMSS, we hope to develop an understanding of the dynamics of drug use trajectories that will be of benefit to all stakeholders in the nightlife scene. Cross-sectional typologies of drug users are extremely useful, for example in identifying at-risk groups and tailoring specific and relevant interventions to their needs (EMCDDA, 2018b). What is currently lacking, however, is evidence of the factors

that influence drug use pathways over time. Understanding, for example, why some people go on to develop problematic or risky use behaviours while others cease use altogether will be vital for informing valid harm reduction guidelines and developing selective and indicated social and health-related interventions.

We also hope our findings will increase public knowledge about drug use in nightlife settings and contribute to more informed decisions about this issue, which in turn may result in safer practice in relation to drug use and the reduction of adverse health outcomes. This objective is particularly pertinent given the increased strength or purity of a number of illicit substances and the proliferation of new psychoactive substances across Europe.

Conclusion

ALAMA-Nightlife utilised a longitudinal online survey to address a gap in the evidence base by exploring drug use trajectories in the European nightlife scene. Over 8 000 young adults living in Belgium, Italy, the Netherlands, Sweden and the United Kingdom were successfully recruited to the baseline survey, with a 36 % retention rate at the 12-month follow-up stage. A number of lessons were learned from conducting a large multi-site online study that may be informative for future research practice. For example, the involvement of a focus group in the development of the survey helped to ensure that the survey content was relevant and would be acceptable to our target population. Consultations with nightlife experts also meant that key venues were not overlooked for the offline recruitment of survey respondents, while these experts also acted as a conduit between the researchers and the club and festival organisers. Finally, benefits were discovered in the use of an online survey-building tool, which allowed the researchers to incorporate complex display and within-question logic into the survey, in addition to eliminating errors associated with data entry and increasing efficiency with respect to data cleaning.

Moving forward, building a deeper understanding of what influences drug use pathways will be vital for informing optimal policy decisions and harm reduction interventions in the nightlife scene. As this paper shows, web surveys are proving to be a useful tool in collecting the data needed to develop an understanding of these issues.

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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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