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### Article

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## **Virtual community of researchers and prevention experts: approximating drug research and practice fields**

This paper presents the key findings of a virtual community of addiction experts set up to share evidence-based programmes of prevention on novel psychoactive substance (NPS) use in Portugal. Using a theoretical framework forming communities of practice and learning in virtual environments, this paper traces how members interact in order to improve their intervention domains and consider the political and practical implications. And a mixed-methods approach which combined quantitative analysis of interactions and qualitative content analysis of debates about NPS, users, patterns of use and best practices in prevention. Results show low and irregular interactions between members, but very rich discussions sharing experiences and problematizing practices. Such collaborative work practices are not yet integrated within the drug prevention field where instead individualistic approaches tend to prevail and preclude the sharing of alternative solutions that shape different experiences.

## **Background**

This paper presents the key findings of a virtual community of addiction experts set up to share evidence-based programmes of prevention on novel psychoactive substance (NPS) use in Portugal. Using a theoretical framework that combines contributions from a virtual community of practice and learning in a virtual environment, with prevention science, this paper traces how members interact in order to improve their prevention intervention domains and approaches, and consider the political and practical implications.

### *Prevention*

Evidence-based preventive interventions in diverse contexts (family-, school-, work-, community-, environmental- and media-based) have reported considerable progress in the past four decades (Leadbeater, et al., 2018; Ostaszewski et al., 2018; Gottfredson, et al., 2015; Berkel, Mauricio, Schoenfelder & Sandler, 2011). It is now possible to identify prevention programs that ‘work’ and ‘how’ to conduct drug prevention (Leadbeater, et al., 2018; UNODC, 2015; EMCDDA, 2011). Programs have become more effective. Leadbeater et al. (2018, p. 853) note that ‘prevention science researchers and practitioners are increasingly engaged in a wide range of activities and roles to promote evidence-based prevention practices in the community’.

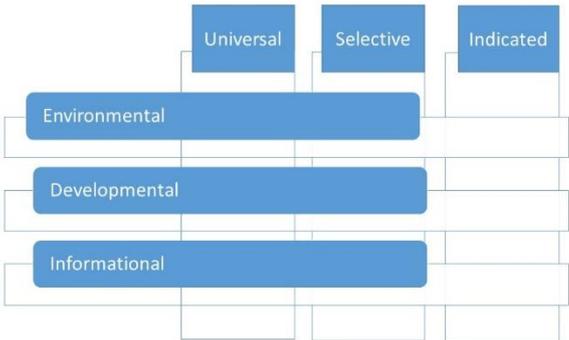
Prevention science can be classified by their form or configuration and by the function of the interventions (Foxcroft, 2014). Different forms correspond to the level of risk in a targeted population. Universal prevention is aimed at a population which the risk is typically diffuse (the preventive interventions are not based on risk level). Selective prevention refers to interventions on groups of individuals whose risk factors are higher than average. Indicated prevention focuses on individuals or groups who are identified as high-risk, as they are

already in the course of developing a problem behaviour with minimal but detectable signs or symptoms (Ostaszewski et al., 2018; Foxcroft, 2014; Mrazek & Haggerty, 1994).

Different functions or purpose emphasise distinctive characteristics. Environmental prevention aims to limit the availability of maladaptive behaviour opportunities through public policies such as laws, regulations, rules and taxation levels. Developmental prevention intends to promote adaptive behaviours and prevent maladaptive behaviours focusing on the development of key skills in social development such as parental monitoring practices, teacher behaviour management strategies, and individual life skills. Informational prevention focus in increasing knowledge and raising awareness about specific risk behaviours through communications such as mass or social media campaigns to raise awareness or social normative feedback to challenge preconceptions (Foxcroft, 2014, p. 12).

Considering the different functions and forms of prevention alongside (as in a matrix, Figure 1) provides an improved classification system for preventive interventions (Foxcroft, 2014).

Figure 1 – Prevention matrix of forms and functions (adapted from Foxcroft, 2014)



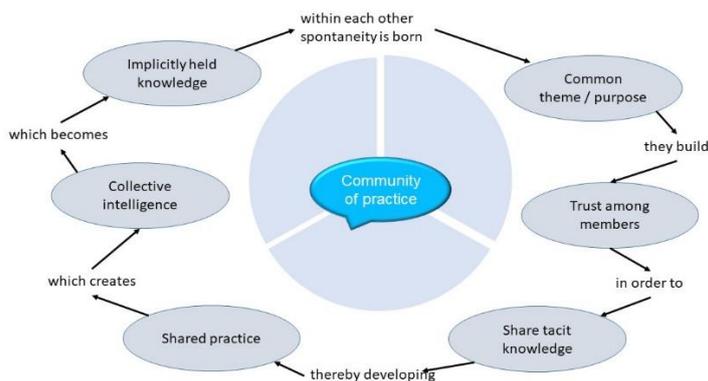
*Communities of practice*

The concept 'community of practice' is relatively new, having been first introduced by Lave & Wenger (1991) and later expanded by Wenger (1998). According to Wenger-Trayner, et al.

(2014) communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour over time. Their nature is informal and they all have the following three elements (Wenger-Trayner, et al. 2014):

- Domain as membership implies a commitment and therefore a shared competence that distinguishes members from others.
- Community, in pursuing their interest in their domain, members engage in joint activities and discussions, help each other, and share information. They build relationships that enable them to learn from each other. Although members of a community of practice do not necessarily work together on a daily basis these interactions are essential though they often work alone.
- Practice, members of a community of practice are practitioners. They develop a shared repertoire of resources: experiences, stories, tools, and ways of addressing recurring problems. This takes time and sustained interaction and results in a shared practice.

Figure 2 – How communities of practice work (adapted from Wenger-Trayner, et al. 2014).



Members of communities of practice may not share a specific location. They can collaborate online. In such setting they form a "virtual community of practice" (Dubé, Bourhis & Jacob, 2005). Virtual communities of practice use technology and virtual environments to develop

their activities that can be as diverse as problem solving, sharing information and experience, reusing assets, coordination and strategy, building an argument, growing confidence, discussing options and developments, mapping knowledge and identifying gaps (Wenger-Trayner, et al. 2014).

### *Virtual communities of practice for prevention practitioners*

Within contemporary societies professionals involved in preventative interventions face increasing demands and challenges based on knowledge, networking and technology. The lack of specialized personnel working in drug prevention programmes has been observed by recent developments and shift in healthcare toward involving interdisciplinary practices. In Portugal where this study was conducted, Portuguese experts working in drug prevention programmes also come from several scientific fields (such as psychology, sociology, social worker, education, community nursing) but yet have little specific training in prevention science (Henriques, Silva & Hsu, 2018). As a consequence there is a distinct need for opportunity for these professionals to share spaces for knowledge, experiences, doubts, achievements, and good practices within each other.

In the scope of a transnational and interdisciplinary EU funded research project, targeting new psychoactive substances (NPS), and undertaken by researchers from different scientific disciplines in six EU countries – Germany, Hungary, Ireland, the Netherlands, Poland and Portugal, there were expert consultations in each country and training sessions provided to those who work directly or indirectly with drug and addiction programmes, in prevention, treatment or harm reduction (Benschop, et al. 2017). The umbrella term NPS describe the multitude compounds marketed as legally ambiguous alternatives to conventional illicit drugs (Van Hout et al., 2018). The NPS marketing phenomenon of non-controlled substances since 2007 includes cathinone derivatives, synthetic cannabinoids, pyrovalerones, NBOMe series,

and methoxetamine, and remain a key public health concern (Addison, et al., 2018; Caudevilla, 2016).

Within this project, and in response to the identified need by Portuguese experts to support shared learning, we designed an online workshop based on the sharing of information and prevention practices targeting the use of NPS. The workshop shared the project deliverables and arising new evidence about user demographic characteristics, prevalence and patterns of use of illicit drugs, prevalence and patterns of NPS use, and reported health and social problems associated with use of NPS (Benshop et al., 2017; Van Hout et al. 2018), and was secondly also initiated to develop a virtual community of practice (Dubé, Bourhis & Jacob, 2005; Wenger-Trayner, et al., 2014).

## **Methods**

New Psychoactive Substances: transnational project on different user groups, user characteristics, extent and patterns of use, market dynamics, and best practices in prevention (NPS-trans) objectives were to determine the extent and patterns of NPS use within three different groups (users in night life, users in online communities and socially marginalised users), assess characteristics in three different groups of NPS user, collect information about supply, identify market dynamics for NPS, assess perceptions of legal status of NPS, make an inventory of prevention strategies used in the different countries, identify best practices in prevention of NPS use, and to disseminate and share project results Europe-wide (Benschop, et al. 2017; Van-Hout, et al., 2018; Werse, et al. 2018; Korf, et al. 2019). Within this work reported here, we focused on the two final objectives, related to prevention best practices and the dissemination of results through practitioner training programmes.

The EMCDDA recognises that ‘Professional training is vital for the successful introduction of prevention approaches’ (EMCDDA, 2018, p. 61). In Europe – and in Portugal – the opportunities for formal and informal training in prevention science for those working in the field, however, are limited. Given the timely nature of the NPS phenomenon, it is vitally important for professionals to share experiences and prevention tactics (O’Gorman, Quigley, Zobel & Moore, 2014). Due to these difficulties, the Portuguese team decided to offer the training workshop for Portuguese prevention experts online and it was undertaken within the remit of Universidade Aberta (UAb).

Established in 1988, Universidade Aberta is the single public distance education university in Portugal. Due to its mission, UAb uses comprehensively the most advanced technologies and methods of distance learning, in its teaching activities. It delivers higher education for all, without geographical borders or physical barriers, awarding special attention to widening the outreach of the Portuguese language and culture throughout the Lusophony space (migrant communities and Portuguese speaking countries). In this context, UAb delivers all its programs in e-learning mode. UAb was one of the first fully online universities and became an European institution of reference in the area of advanced e-learning and online learning through the recognition of its exclusive Virtual Pedagogical Model<sup>®</sup> (for further information about UAb see <http://portal.uab.pt/en/auab/> and about the Virtual Pedagogical Model see <http://portal.uab.pt/en/modelo-de-ensino/>).

The Virtual Pedagogical Model for NPS prevention was specifically designed for the teaching and learning processes at UAb and is based on the following key principles (Pereira et al., 2007):

- i. Student-centred learning, making students actively responsible for their knowledge building process.

- ii. Education based on flexibility of access to learning (contents and activities), without time or space constraints, according to the students' availability. This principle is materialized by prioritizing asynchronous communication, in which space and time do not have to coincide, since communication and interaction is made whenever it is convenient for the trainee, allowing him/ her to read, process the information, think about it, and engage in a dialogue or interact.
- iii. Education based on diversified interaction between student-professor and student-student, or even between the student and resources. According to this principle, the professor has various communication devices to plan and design according to his/her pedagogical strategy.
- iv. Education that promotes digital inclusion, in that it helps adults (students) access and master technologies, who might not otherwise be able to develop those skills.

This is an interactive and based in collaboration model which supports the emergence of virtual communities of learning and practice (Moreira, Henriques, Goulão & Barros, 2017). Based on this innovation, the analysis of this initiative was focused on the hosting of an evidence based and discussion portal, with online training workshop for Portuguese drug prevention experts who were interested or who had experience of NPS. The training sessions were hosted for those who work directly or indirectly with drug and addiction programmes, in prevention, treatment or harm reduction and law enforcement professionals. The online workshop integrated 16 Portuguese experts with the defined professional profile and spread by the national territory, continental and islands – Madeira and Azores (which make it impossible to design a face-to-face session).

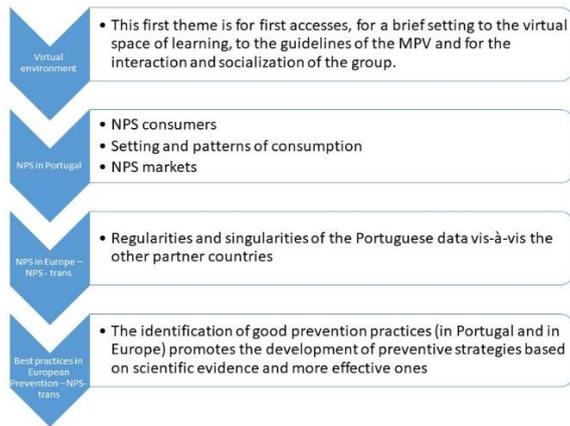
Evaluation was conducted using a mixed-method approach which combined qualitative analysis of interactions and evaluation of the workshop with qualitative content analysis of feedback. Within this approach we quantified the amount of interactions between each

participant of the workshop and the answers to the evaluation questionnaire filled in by the participants. We also evaluated the initiative qualitative by documenting the most relevant questions for the prevention experts; how they related with each other; at what level and when they shared their own experiences and best practices around NPS and the complexities in prevention of NPS use, and related health and social harms.

## **Results and discussion**

As this was an entirely online workshop, its pedagogical design comprised of the combination of the basics of open distance education and network education (Dias, et al. 2015; Aires, 2016) using the Moodle 2.0 platform customized according to the principles of the UAb' Virtual Pedagogical Model<sup>®</sup>, and other digital environments and tools. In this model the participant was integrated in a learning community that develops pedagogical thinking, as a result of the participation and collaboration in the joint construction of learning (Henriques, Moreira, Goulão & Barros, 2016; Goulão & Henriques, 2015; Aires, Teixeira, Azevedo, Gaspar & Silva, 2006).

Figure 3 – Workshop structure

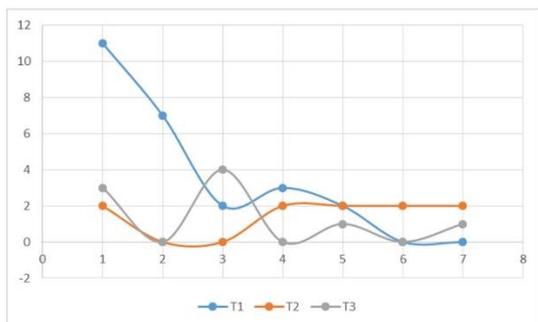


### *Level and Intensity of Interactions*

Participants have a background of a variety of disciplinary fields, notably, clinical psychology, social work and nursing. Recognition of the value of experiential knowledge and skills opened up opportunities to enter the workforce and build careers in service provision. In this workshop the chosen participants matched what Morse (1994) calls "experiential experts" in the phenomenon, those who had a particular and in-depth knowledge about it and who can maximize the information we intend to collect. These as previously outlined were the professionals and experts working directly or indirectly with drug or addiction programmes, in prevention, treatment or harm reduction.

Interactions between participants and the research team were not as intense. Researchers were most active at the beginning of the workshop and less present as the programme was developing and participants began to interact and share experiences with each other (Figure 4).

Figure 4 - Interactions



It is clear that not all of the selected prevention experts or experiential experts had active interactions. Low interaction levels in online learning environments can have several causes. As Kreijns, Kirschner & Jochems (2003) stress it is a pitfall taking for granted that participants will socially interact simply because the online asynchronous environment makes it possible. The initiative emphasises that we should consider the social (psychological) dimension of the desired social interaction. In this workshop whilst participants were invited to participate and they had no financial costs associated with their participation, they were also unfamiliar to such virtual collaboration, and in general did not know each other.

Despite the relatively low level of participation, we observed among those who did participate some very rich discussions sharing experiences and problematizing practices. In this way, the initiative brings together the autonomous regions specific realities about NPS and drug prevention or harm reduction practices. Some of the questions discussed within the workshop by participants were inspired by the expert consultations in each country (and Portugal) in the NPS-transnational project. These were as follows: what are best practices in NPS prevention regarding supply reduction and demand reduction? what role does the legality or illegality of NPS play in procurement and use? (e.g. deterrence) do users apply strategies to avoid detection or arrest?

### *Evaluation*

At the end of the online workshop the participants were invited to fill in an evaluation form. The first four questions had a five point Likert scale for the participants to locate their opinion about the relevance of data and how understandable was its presentation.

The questions were as presented (Table 5):

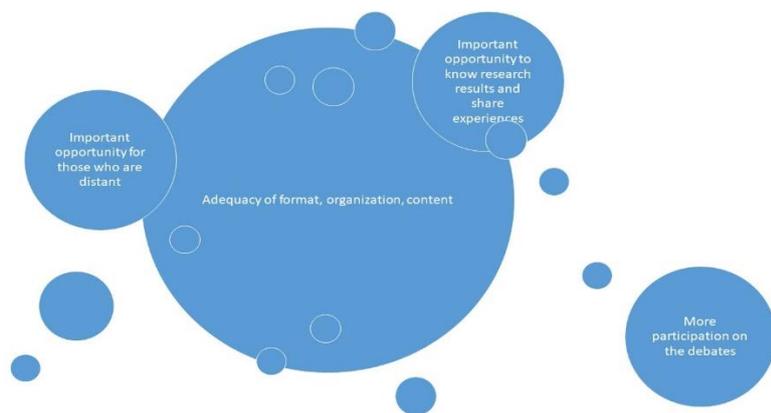
Table 5 – Workshop’ evaluation questions

Questions
Did you learn something new about NPS use among different groups of NPS users in your country during this training?
Were the data presented in a clear manner?
Will this training be useful in your work in some way?

Only 5 participants completed the evaluation form but the results were located in the most positive extreme of the scale, between 4 and 5, for all items.

The evaluation had also two open questions, namely, one asking about the adequacy of the online workshop’ format and dynamics and the last one asking for suggestions or further comments. Although most of the respondents consider the workshop design to be suitable and useful, there were some others who highlighted the fragilities in terms of weak interaction and active participation in the debates.

Figure 6 – Workshop’ strengths and improving opportunities



One of the participants had suggested to evaluate the debates in order to increase the participation in the discussion and the consistency of the online presence of participants. We consider this proposal more suitable for a training course than for a workshop such this one in analysis.

The participants' perspective and feedback was the basis of this evaluation following a model used in other studies (Chen & Yao, 2016; Henriques & Barros, 2015; Violante & Vezzetti, 2013). In all these studies the analytical results strongly support the appropriateness of the proposed model in evaluating the virtual environment through participants' satisfaction. Most of these evaluation models are addressed to courses with learning and teaching purposes. It was not the nature of the online workshop in analysis which aimed to be a response to the identified need by Portuguese experts to support shared learning and experience.

Interaction between participants and customization of the workshop' virtual environment are two strong aspects of the learning design as pointed out in by Tseng, Tang & Morris (2016). Much of this strength results from the UAb' platform and pedagogical model.

*Virtual community of practice*

Within the workshop about NPS and best practices on prevention the group of experts identified a series of features that are useful to the drug prevention community further develop its' approach and prevention practice targeting NPS. Their shared interests in addictions and prevention, underpin the domain and the practice, although they did not formed a community due to low engagement in discussions based on sharing knowledge and experiences.

Wenger-Trayner, et al. (2014) highlight key success factors for communities of practice. Some of these are important where prevention practitioners are concerned: continuity, relevance to practice, leadership and support.

## **Conclusions**

It is difficult to measure the impact of virtual communities of practice especially in this case as the online workshop constitutes a first approach to development of such a community within the realm of NPS prevention.

The study yielded some encouraging signs of how such a community could operate to support each other and share knowledge and is illustrative of the need for continued development of a virtual community of practice with prevention experts. This specific experiment evidences and underscores the lack of specialised personnel in healthcare field which connect interdisciplinary practice and cooperation for drug addiction prevention, treatment and harm reduction, particularly in NPS.

This approach has received little critical attention with respect to the professionals working in prevention field notwithstanding that the needs of professional training are emphasised at a Europe-wide level (EMCDDA, 2018), as the conclusions of European research (van-Hout et al. 2018) or in Country-specific drug strategies (see SICAD, 2013 for the Portuguese one). Communities of practice offer an innovative layer in the implementation of evidence-based

prevention programmes, supported by the establishment of registries, training initiatives and quality standards.

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