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Virtual 'experiential expert' communities of practice in sharing evidence based prevention of novel psychoactive substance (NPS)use: The Portuguese Experience

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Abstract

We present findings from a unique virtual community of practice piloted to support a programme of prevention evidence and knowledge sharing among professional prevention practitioners as '*experiential experts'* around tackling novel psychoactive substances (NPS) use in Portugal. A mixed-methods approach that combined quantitative analysis of interactions and qualitative content analysis of debates about NPS, NPS users, patterns of use and best practices in prevention of this type of drug use was conducted. Results show low and irregular interactions between members of this virtual community, but very rich discussions around sharing of experiences and problematizing practices. We discuss the layers of interaction between members, and the shared learning around policy and practice implications. Such virtual and 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. Our virtual community of NPS prevention experts provides a flagship for ongoing collaboration between research, generation of evidence informing policy and practice, professional training, support and shared learning. It underscores the need for an innovative and multi-disciplinary approach to sharing perspectives in tackling emerging and harmful drug trends.

Key-words: Virtual community of practice; prevention experts; evidence-based prevention programmes; collaborative work; virtual learning environments; training workshop

Background

Evidence based preventive interventions targeting family, school, workplace, environment, media, and community have incurred considerable progress in recent years (Leadbeater, et al., 2018; Ostaszewski et al., 2018; Gottfredson, et al., 2015; Berkel, Mauricio, Schoenfelder & Sandler, 2011). It is now possible to identify key aspects of prevention programs that 'work' and 'how' best to conduct drug prevention (Leadbeater, et al., 2018; UNODC, 2015; EMCDDA, 2011). 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 itself can be classified by form or configuration and by the function of specific interventions (Foxcroft, 2014). Different prevention modalities correspond to the identified level of risk in a targeted population. Universal prevention for example is aimed at a population where the risk is typically diffused. Selective prevention refers to interventions targeting 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 problematic behaviour, with minimal but detectable signs or symptoms (Ostaszewski et al., 2018; Foxcroft, 2014; Mrazek & Haggerty, 1994).

Hence, different functions or purpose of prevention initiatives require distinct characteristics. Environmental prevention aims to limit the availability of maladaptive behaviour opportunities though public policies such as laws, regulations, rules and taxation levels. Developmental prevention in contrast 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 focuses in increasing knowledge and raising awareness about specific risk behaviours though 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 (see Figure 1) provides an improved classification system for preventive interventions (Foxcroft, 2014).

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

'Community of practice' was first introduced as a novel concept by Lave & Wenger (1991) and later expanded on by Wenger (1998). Individuals engaged in informal processes of collective learning underpinned by sharing knowledge and experiences over time form a *'community of practice'* (Wenger-Trayner, et al., 2014). Each informal community of practice has thee fundamental elements in the form of domain, community and practice (Wenger-Trayner, et al. 2014; Henriques, Van Hout, Teixeira, 2019, p.12) (See Figure 2 and 3):

Figure 2 - Components of a Community of Practice

Figure 3 – How communities of practice operate (adapted from Wenger-Trayner, et al. 2014).

Professionals involved in preventive interventions currently face high demands and increasing challenges due to changes in knowledge, networking and technology. Individuals engaged in a community of practice may be geographically distant and by using digital technology they can nevertheless collaborate online and support shared learning in a communal effort within virtual environments. Hence the *'virtual community of practice'* offers a unique medium to connect interested parties, and support knowledge and experience sharing, problem based learning, generation of solutions, identifying emergent trends in risk and behaviours, and peer

support (Dubé, Bourhis & Jacob, 2005; Wenger-Trayner, et al. 2014; Henriques, Van Hout, Teixeira, 2019). This is particularly applicable to the fast paced nature of the drugs field. There is a lack of specialized training in the drug prevention workforce (Henriques, Burkhart, Miovsky, 2019; Ostaszewski et al., 2018; Pavlovská, 2017). EMCDDA (2019, p. 17) in it's latest report stresses the need for *"…providing skills training to those working in the drugs area. Developments in this field make use of online resources and mobile applications, with some recent innovative approaches exploring how virtual reality may, for example, be utilised in drug treatment, helping patients to develop resilience to drug cues or reduce craving".*

In Portugal where this virtual community pilot study was conducted, practitioners working in drug prevention programmes have diverse scientific backgrounds – psychology, sociology, social work, education, nursing – and little or none specialized training in prevention science (Henriques, Silva, Hsu, 2018; Henriques, Burkhart, Miovsky, 2019). At the same time, there is a need for professional development based on knowledge and experiential shared learning and the identified lessons learnt and best practices particular to the Portuguese drug context. The virtual community pilot was conducted within the context of an interdisciplinary EU funded research project called '*NPS Transnational'* involving researchers from Germany, Hungary, Ireland, the Netherlands, Poland and Portugal. The novel psychoactive substance (NPS) phenomena is diverse and dynamic, emerged in 2010 and consists of multiple compounds marked as legally ambiguous alternatives to conventional illicit drugs (Van Hout et al., 2018). Since 2007, the NPS marketing phenomenon of non-controlled substances has included cathinone derivatives, synthetic cannabinoids, pyrovalerones, NBOMe series, and methoxetamine, with diverse user harms reported (Addison, et al., 2018; Caudevilla, 2016). Hence, we present here the key findings of a pilot initiative in the form of a virtual Portuguese community of academic and drug prevention experts set up to share evidence-based programmes of prevention on NPS use. Using a

theoretical framework that combines contributions from a virtual community of practice and learning in a virtual environment, with drug prevention science, we trace how members interact in order to improve their knowledge, prevention intervention domains and approaches, and consider the policy and prevention practice implications in tackling the NPS phenomenon.

Methods

The NPS - transnational project on different user groups, user characteristics, extent and patterns of use, market dynamics, and best practices in prevention 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 NSP 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 pilot work reported here, we focused on the two final objectives, related to prevention best practices and the dissemination of results though practitioner' training programmes. Our work also responds to the call by EMCDDA which stresses that "*Professional training is vital for the successful introduction of prevention approaches"* (EMCDDA 2018, p. 61).

Within the NPS transnational research plan interviews were conducted with key experts, and training sessions were delivered to practitioners working with addiction and drug programmes (Benschop, et al. 2020; Benschop, et al. 2017). Focusing on the needs of professional sharing of the Portuguese prevention experts we designed an online workshop based on our qualitative research findings. The main training objective was to share

information targeting the use of NPS and NPS addiction practices, in prevention, treatment or harm reduction programmes. We shared the project deliverables, forthcoming new evidences about users' sociodemographic characteristics, prevalence and patterns of NPS (and other drugs) use, and described health and social problems arising from the NPS (ab)use (Benshop et al., 2017; Van Hout et al. 2018). In so doing, we initiated the (pilot) development of a virtual community of practice applicable to supporting academic dissemination and communication to practitioners in the prevention response to the emerging use and abuse of NPS in Portugal (Dubé, Bourhis & Jacob, 2005; Wenger-Trayner, et al., 2014). Considering the fast evolution of the NPS phenomenon it is of significant importance for professionals to share prevention' experiences and practices (O'Gorman, Quigley, Zobel & Moore, 2014).

The virtual training workshop was designed, developed and delivered by the Portuguese Open University (UAb) which was established in 1988, and is the only public distance education university in Portugal. In this context, UAb delivers all its programs in e-learning mode using 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). UAb 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® (Henriques, Van Hout, Teixeira, 2019, p. 14) (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 for this virtual community of practice pilot was specifically designed based on the UAb teaching and learning processes and adapted several key principles based on student centred learning, education based on

flexibility of access, education based on diversified interaction and education which promotes digital inclusion (Pereira et al., 2007; Mendes et al., 2018). This Virtual Pedagogical Model® for NPS was innovative and interactive (Moreira, Henriques, Goulão, Barros, 2017), with analysis of narratives and dynamics feeding into the Portuguese prevention field and workforce prevention training. Training was provided based on the NPS transnational project deliverables to professionals in drug and addiction programmes, in prevention, treatment or harm reduction, and to law enforcement professionals. Sixteen Portuguese experts attended the online NPS workshop. All of them were geographically distant some of them were in the Autonomous Regions of Madeira and Azores. We used a mixed-method approach combining quantitative analysis of interactions and questionnaire, and content analysis of narratives and feedback to evaluate the training and the virtual community pilot by documenting the most relevant questions for prevention experts, paying attention to the ways they related to each other, when and how they shared own experiences, difficulties, and best practices on NPS.

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®, and other digital environments and tools. In this model the participant is 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 4 – Workshop structure

Multi-disciplinary participants participated from diverse scientific backgrounds, from clinical psychology, social work and nursing. Their professional value on prevention is based on experimental and experiential knowledge matching what Morse (1994) calls *"experiential experts"*. These '*experiental experts'* as previously outlined were the professionals and experts working directly or indirectly with drug or addiction programmes, in prevention, treatment or harm reduction. There was low level of interaction between the '*experiental experts'* and the research team/trainers. Social presence of researchers was more intense during first discussion and being less intense as workshop progress (see Figure 5).

Figure 5 - Interactions

It is clear that some of the '*experiental experts'* engaged well, and were active in interaction and discussion. Online learning environments can be characterised by low interaction levels which can have several causes. As Kreijins, Kirschner & Jochems (2003) stress it is not simply because online asynchronous environments permits social interaction that it happens between participants. In this online NPS workshop we were required to take into account the social and psychological dimensions of the wanted social interaction. Namely we considered the following issues: *'experiental experts'* were invited to participate; they had no financial costs with the enrolment; virtual collaboration was unfamiliar for them; and they did not know each other. Those who did participate were involved in rich discussions, sharing lessons learnt, experiences and best practices, problematizing prevention issues and generating solutions. These interactions highlighted their distinct specific realities about NPS and drug prevention or harm reduction practices. The NPS Transnational research team/trainers inspired the guidelines for discussion in terms of identifying 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); and do NPS users apply strategies to avoid detection or arrest?

The evaluation model was based on participants' view, satisfaction and feedback, similar to other studies (Chen, Yao, 2016; Henriques, Barros, 2015; Violante, Vezzetti, 2013). It seems appropriated based on the analytical results despite most of these aforementioned models applicable to formal learning and teaching, and training courses. Our pilot differed slightly in that we were evaluating in order to identify the potential of this initiative as a response to Portuguese prevention experts needs, and generate an opportunity for sharing experience and knowledge. On completion the *'experiental experts'* were invited to fill in an evaluation questionnaire. The first four questions had a five point Likert scale for participants to indicate their appreciation about the relevance of information and the clearness and coherence of results' presentation. The questions were as presented (see Table 1):

Table 1 – Workshop' evaluation questions

The evaluation form was completed only by five *'experiental experts'*. All answers were located in points four and five for all items meaning a very positive appreciation of the initiative. Furthermore the form combined two open questions, asking opinion about the adequacy of the workshop and about suggestions or further comments. Most *'experiental experts'* expressed a very positive overall opinion, taking into consideration the virtual workshop design as suitable and useful. The interactive and customized virtual environment was deemed a significant strength of the learning design (Tseng, Tang, Morris, 2016) which results from the customised UAb' e-platform and UAb Virtual Pedagogical Model®. Some focused on the fragilities of the virtual community of practice due to little interaction and weak participation by some *'experiental experts'* on debates (See Figure 6). One suggestion

was to increase participation in debates through a mandatory online presence. However, this proposal is particularly suitable for a formal training course and less so for an online workshop of virtual professional experts.

Figure 6 – Workshop' strengths and improving opportunities

Ultimately the NPS online workshop allowed *experiental experts'*, the Portuguese drug prevention experts, to identify features and benefits for the professional development of an NPS specific drug prevention workforce based on a virtual community of practice approach. Participants shared interests (addictions, drug prevention, NPS) that supported 'domain' and 'practice'. These are two of the three elements defined by Wenger-Trayner, et al. (2014) as forming a community of practice. The third element, 'community', was not as present in our initiative as participants were little engaged in discussions, in sharing knowledge and experiences. This may have been due to professional lack of time, workload, or other factors impacting on engagement. In this context, future virtual communities of practice are advised to promote continuity, relevance to practice, leadership and support.

Conclusions

We present findings from a unique virtual community of practice piloted to support a programme of prevention evidence and knowledge sharing among professional prevention practitioners as '*experiential experts'* around tackling novel psychoactive substances (NPS) use in Portugal. Whilst encouraging, the limitations centre on difficulties in assessing knowledge sharing, engagement and the impact of our virtual community of practice. Such virtual and 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. Our pilot however also underscores the

need for a multi-disciplinary and innovative online approach to sharing perspectives in tackling emerging and harmful drug trends. This has been emphasised at Europe-wide level (EMCDDA, 2018), by NPS Transnational research results (Van Hout et al. 2018), and in Country-specific drug strategies (see SICAD, 2013 for the Portuguese one). Hence our virtual community of practice with NPS prevention experts whilst small scale provides a flagship for ongoing collaboration between evidence and practice, knowledge sharing between multi-disciplinary professionals, training, and establishment of quality standards in training and prevention science (Henriques, Van Hout, Teixeira, 2019). Future efforts are warranted to scale up of these types of innovative support platforms for professionals alongside future research directives in informing the professional and practice response to diverse and emergent drug trends.

Conflict of Interest The authors declare that they do not have any interests that could constitute a real, potential or apparent conflict of interest with respect to their involvement in the publication.

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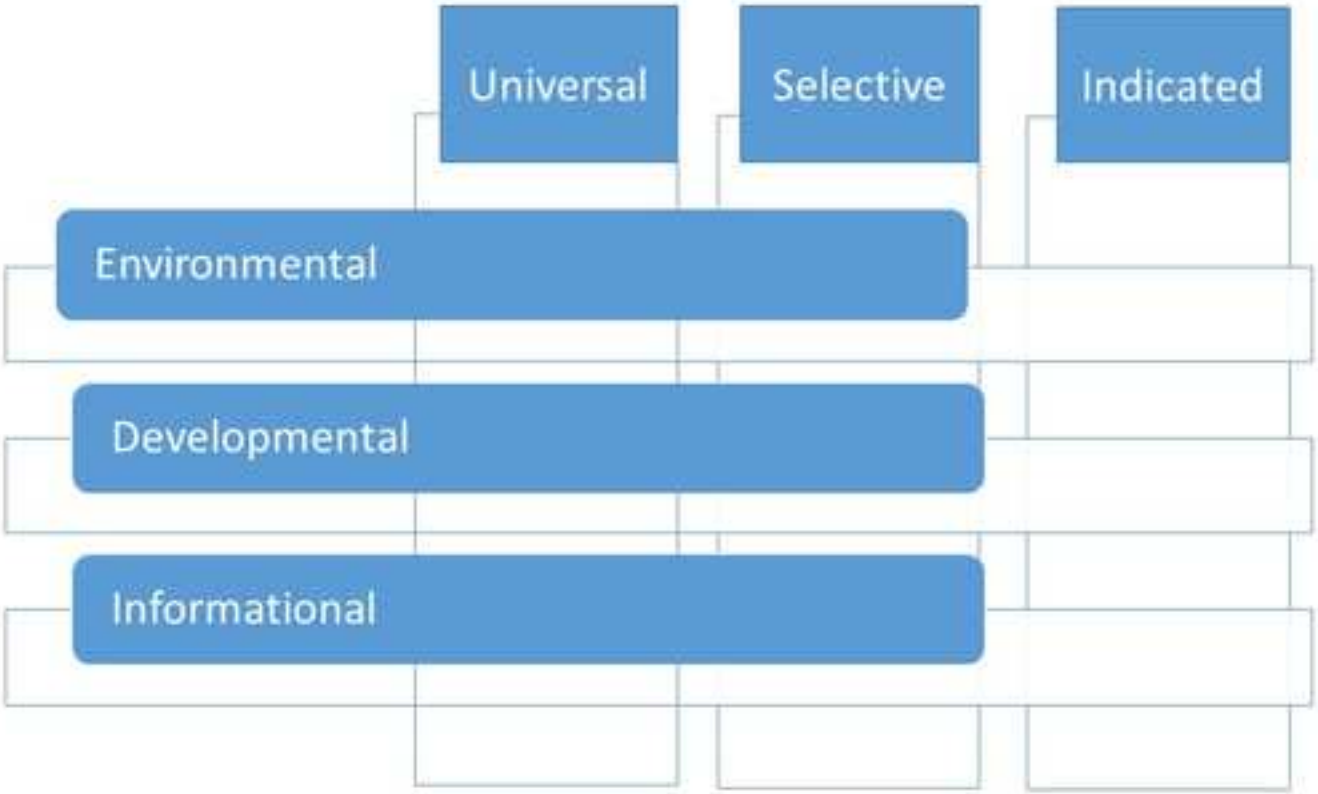
Table

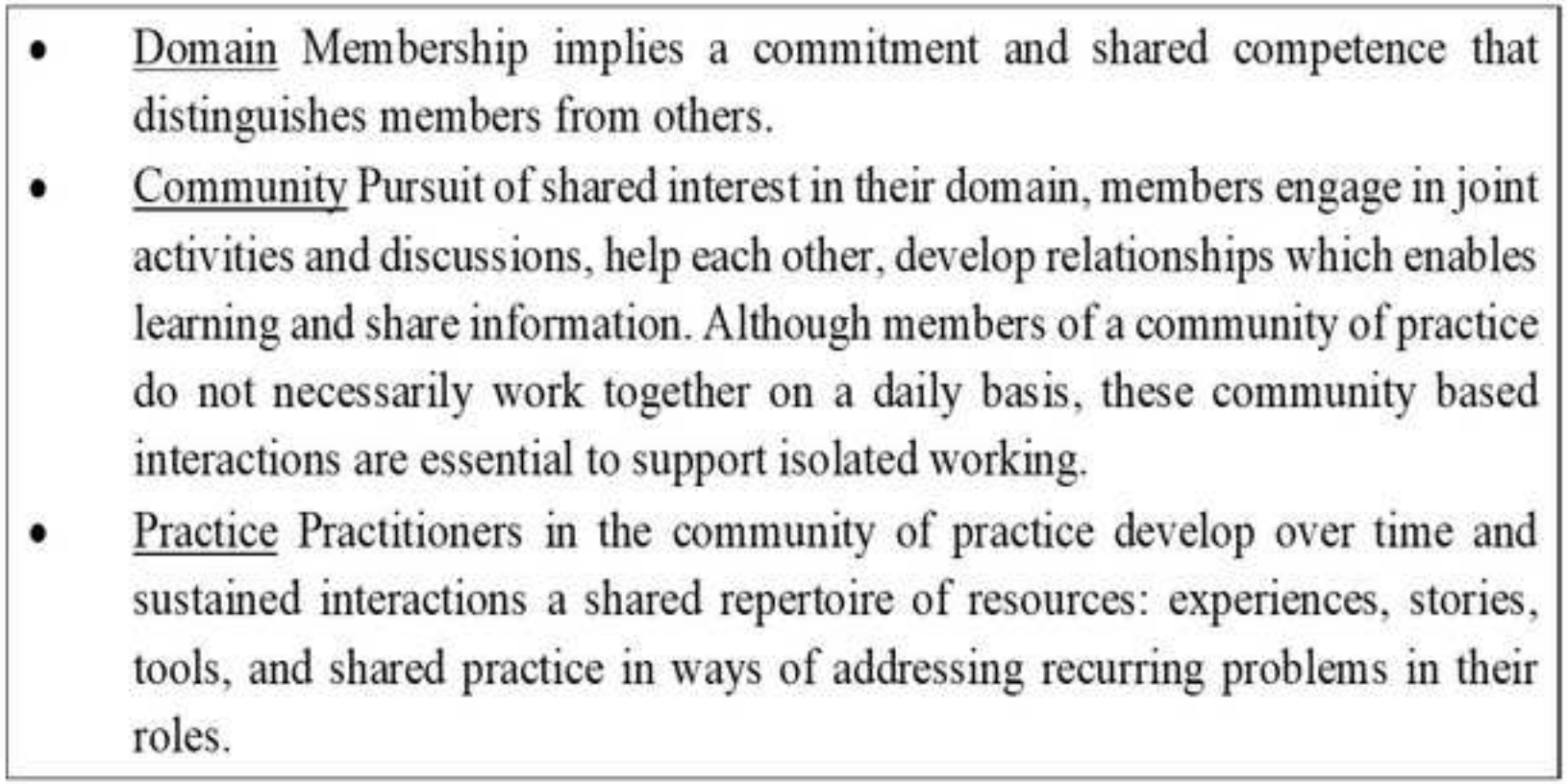
Table 1 – Workshop' evaluation questions

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?

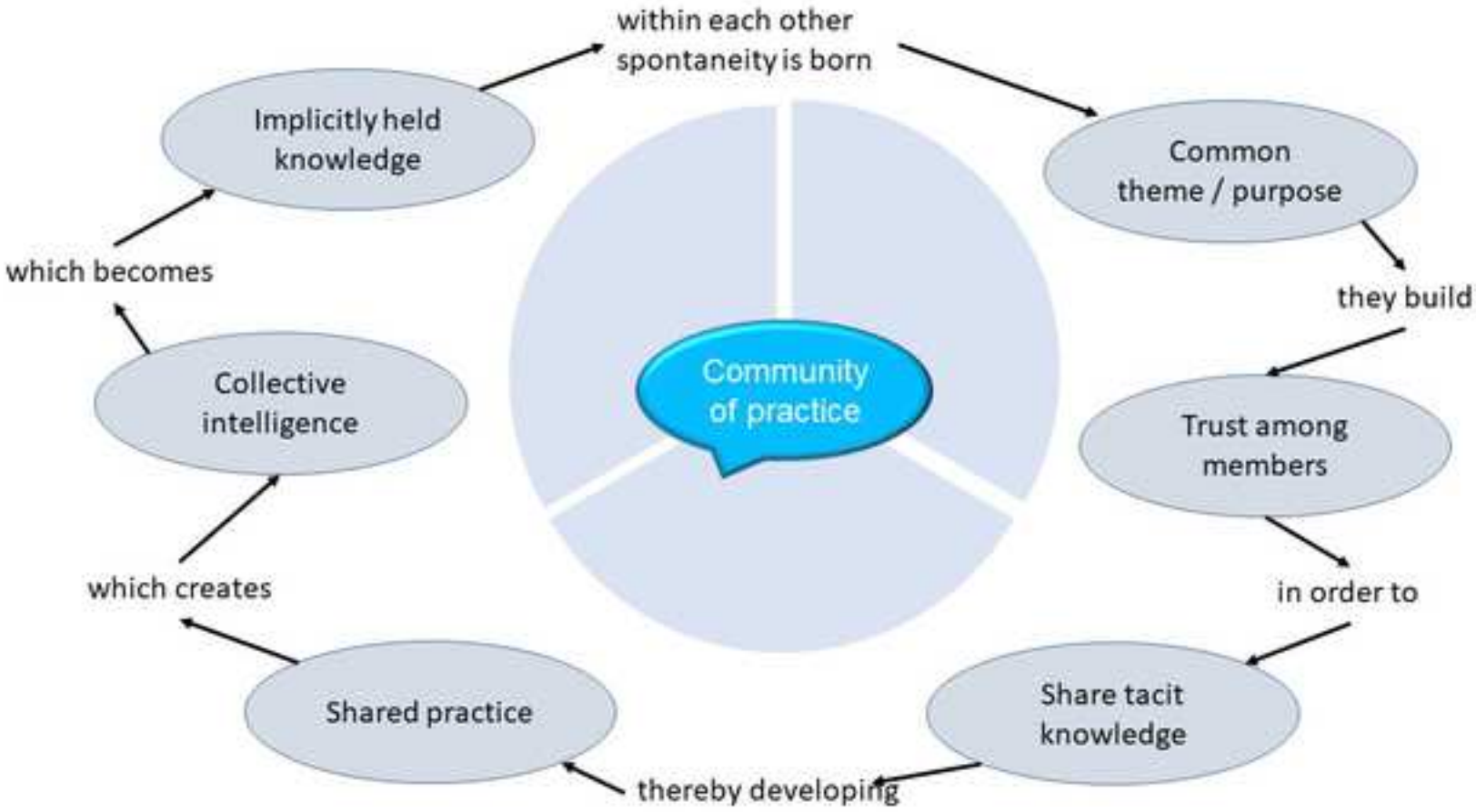
Figure


Universal
Selective
Indicated
Environmental
Developmental
Informational

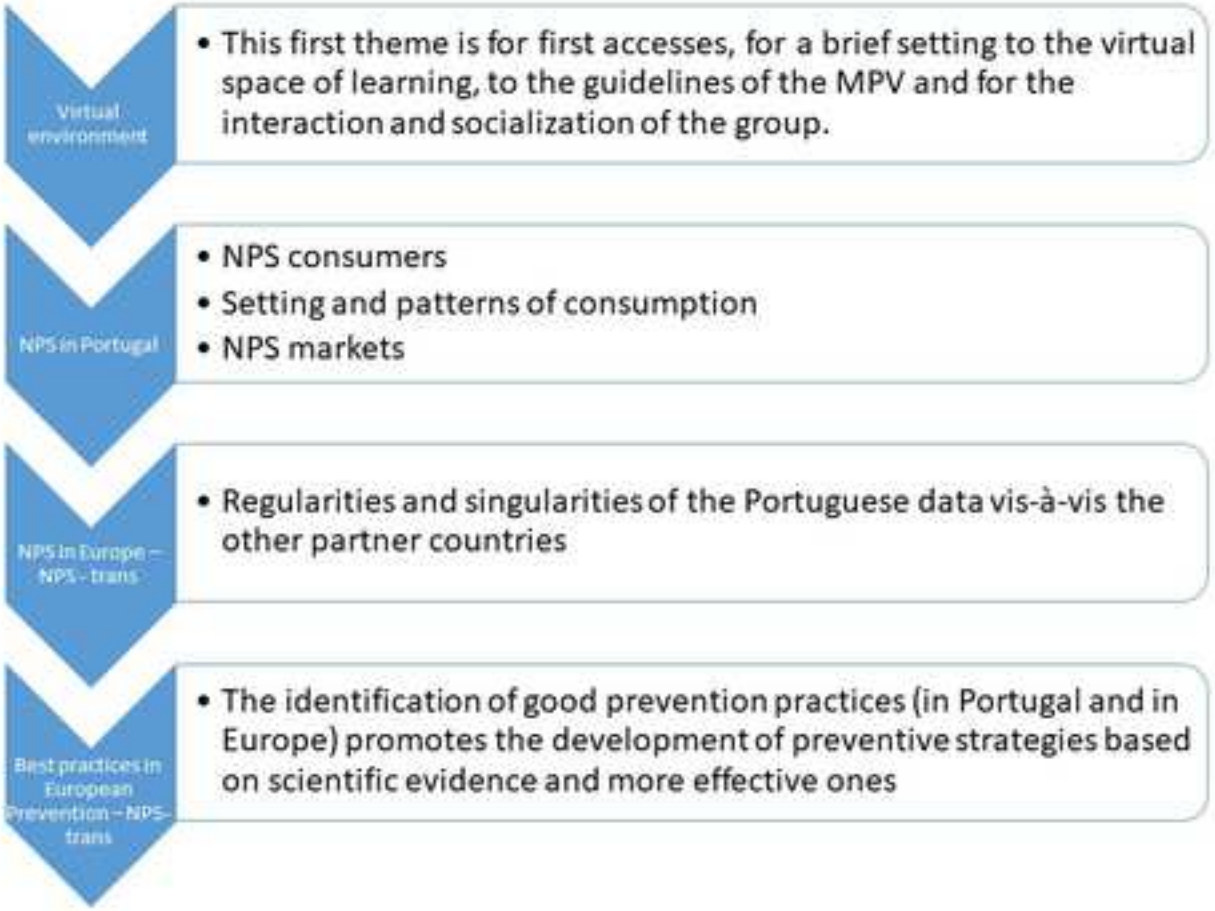
Figure


• Domain Membership implies a commitment and shared competence that distinguishes members from others.
• Community Pursuit of shared interest in their domain, members engage in joint activities and discussions, help each other, develop relationships which enables learning and share information. Although members of a community of practice do not necessarily work together on a daily basis, these community based interactions are essential to support isolated working.
• Practice Practitioners in the community of practice develop over time and sustained interactions a shared repertoire of resources: experiences, stories, tools, and shared practice in ways of addressing recurring problems in their roles.

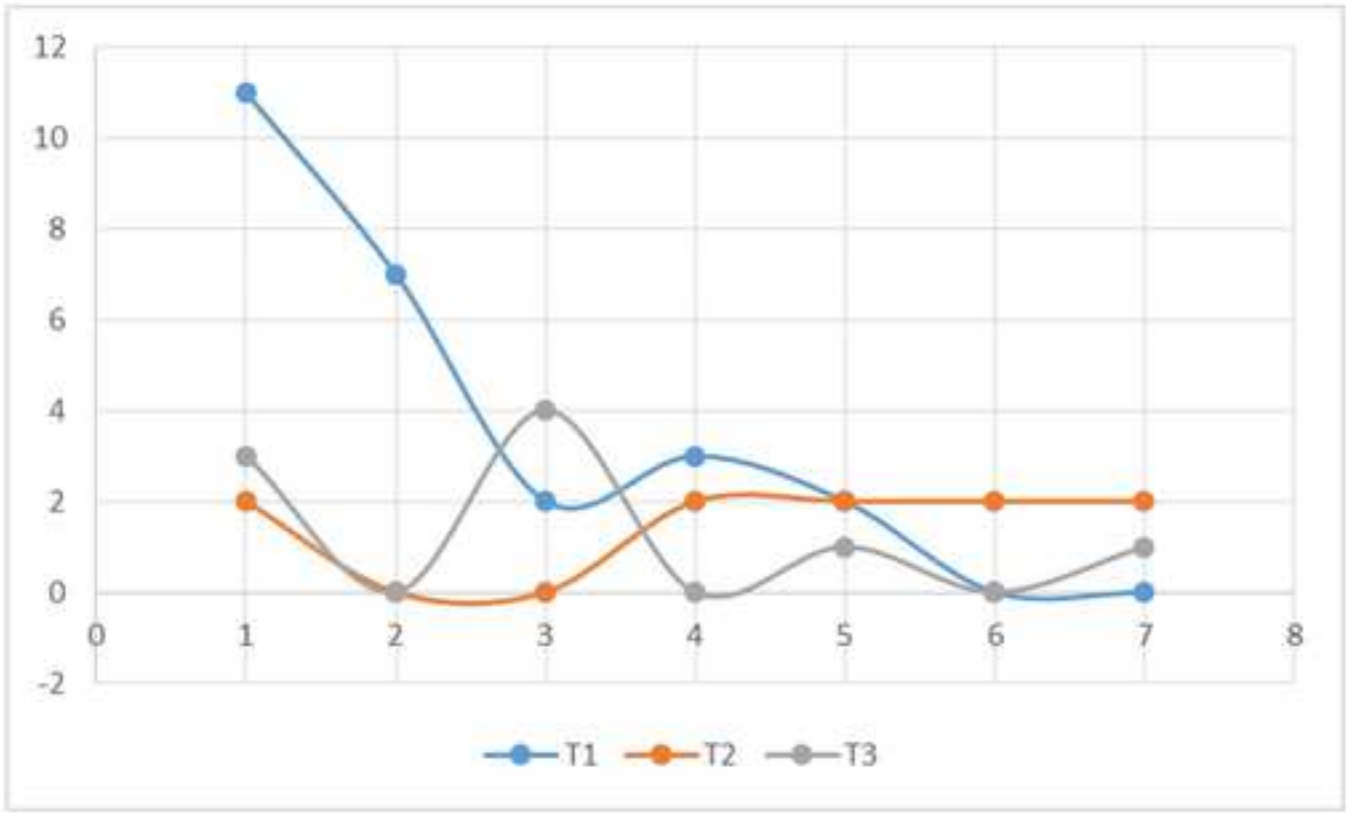
Figure


within each other spontaneity is born
Common theme / purpose
they build
Trust among members
in order to
Share tacit knowledge
thereby developing
Shared practice
which creates
Collective intelligence
which becomes
Implicitly held knowledge
Community of practice

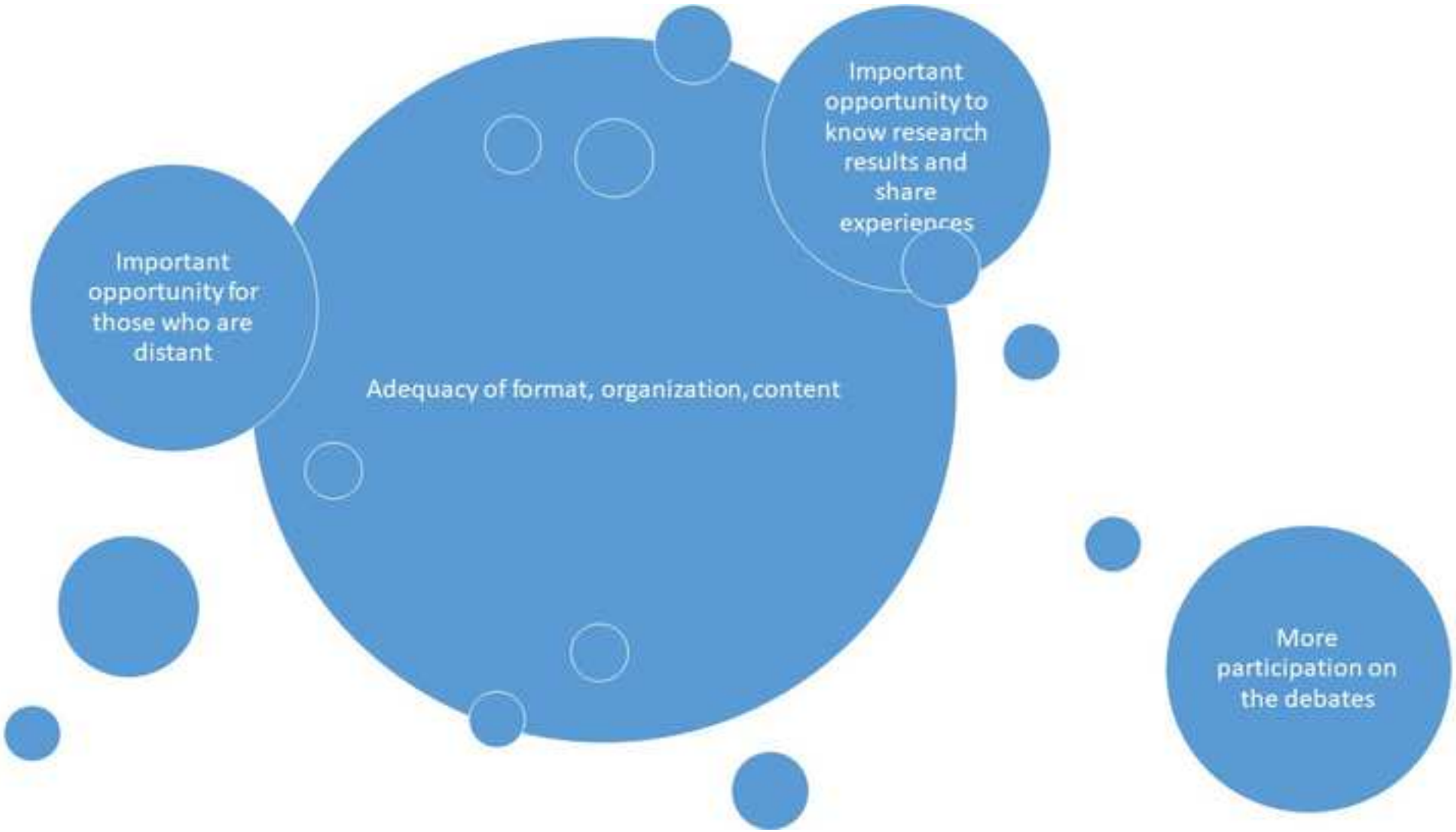
Figure


Virtual environment
• This first theme is for first accesses, for a brief setting to the virtual space of learning, to the guidelines of the MPV and for the interaction and socialization of the group.
NPS in Portugal
• NPS consumers
• Setting and patterns of consumption
• NPS markets
NPS in Europe – NPS - trans
• Regularities and singularities of the Portuguese data vis-à-vis the other partner countries
Best practices in European Prevention – NPS-trans
• The identification of good prevention practices (in Portugal and in Europe) promotes the development of preventive strategies based on scientific evidence and more effective ones

Figure



Figure


Important opportunity to know research results and share experiences
Important opportunity for those who are distant
Adequacy of format, organization, content
More participation on the debates