

USE OF NOVEL PSYCHOACTIVE SUBSTANCES (NPS) *OF NATURAL ORIGIN*: AN INTERNATIONAL SURVEY

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INTRODUCTION

Over the last two decades Novel Psychoactive Substances (NPS) recreational use as safer and legal alternatives of traditional illicit drugs¹ poses a serious threat for public health and a challenge for drug policy-makers worldwide.

The NPS term is used to define the phenomenon of substances produced with slight differences in their chemical structures to mimic effects of traditional illicit drugs (EMCDDA, 2014) sold legally in headshops and on the internet globally.

NPSs are often derived and modified from constituents of natural origin. Our previous research has noted that since the introduction of the PSA 2016 UK NPS consumers are switching to sourcing NPS from the darknet and increasingly using herbal natural NPSs, such as *Salvia divinorum*².

AIM

Here we investigate the motivation and setting of *natural* NPS use, perception of potential associated health risks and demographic factors associated with their use

METHODS

- The Bristol Online Survey was in English and advertised on the drug forum Bluelight and social media Facebook pages and via University email between 1 July and 17 November 2018 (812 responses)
- This pharmacoepidemiological study was evaluated using the SPSS software (IBM SPSS Statistics version 24; MacOS Sierra 10.12.3).
- The survey was ethically approved by University of Hertfordshire: PHAEC/1042 (02)

RESULTS

Table 1: Demographics related to use of NPS of natural origin

	Natural NPS Use {Number responses (%)}		p values
	Yes	No	
Total responses (N= 812)			
Gender			*0.000
Male	315 (72.4%)	120 (27.6%)	
Female	140 (37.6%)	232 (62.4%)	
Other***	3 (60%)	2 (40%)	
Sexual orientation			**0.026
Straight/Heterosexual	371 (54.4%)	311 (45.6%)	
Homosexual	20 (74.1%)	7 (25.9%)	
Bisexual	55 (62.5%)	33 (37.5%)	
Other***	12 (80%)	3 (20%)	
Living Area			*0.000
Urban	184 (46.7%)	210 (53.3%)	
Suburban	181 (60.9%)	116 (39.1%)	
Rural	93 (76.9%)	28 (23.1%)	
Education			*0.000
No school completed	3 (60%)	2 (40%)	
Junior High School	6 (100%)	-	
High School	66 (71%)	27 (29%)	
College	120 (64.5%)	66 (35.5%)	
Undergraduate studies	154 (50%)	154 (50%)	
Postgraduate studies	94 (47.7%)	103 (52.3%)	
Other***	15 (88.2%)	2 (11.8%)	
Employment			*0.000
Employed (Full Time)	199 (65.2%)	106 (34.8%)	
Employed (Part Time)	89 (54.6%)	74 (45.4%)	
Not employed (but looking for work)	28 (31.1%)	62 (68.9%)	
Not employed (but not looking for work)	35 (30.4%)	80 (69.6%)	
Unable to work (accident, disability)	29 (90%)	3 (9.4%)	
Retired	35 (89.7%)	4 (10.3%)	
Other***	43 (63.2%)	25 (36.8%)	
Smoking frequency			*0.000
Daily	125 (78.6%)	34 (21.4%)	
Often	22 (73.3%)	8 (26.7%)	
Occasionally	78 (60.9%)	50 (39.1%)	
Not at all	233 (47.1%)	262 (52.9%)	

*=statistically significant at p<0.001 level, (Chi square test) **=statistically significant at p<0.05 level, (Chi square test)

Other** refers to:

Gender – Do not identify as male or female, genderqueer (non-binary)

Sexual orientation – Asexual, Pansexual, Unknown

Education- Diplomas in arts, Certificates, Some college

Employment – Student, Self-employed, Homemaker, Unpaid volunteer, Disability

Table 2: Natural NPS Users' responses

	Number responses (%)
Total Responses (Natural NPS Users)	458
Main age groups of natural NPS Use	
• 26-39 years	159 (34.7%)
• 40-59 years	143 (31.2%)
Main countries of residence of natural NPS users	
• United States of America	162 (35.4%)
• Australia	87 (19%)
• United Kingdom	76 (16.6%)
Risk perception	
(% Do not know, No risk, low risk)	375 (84.8%)
Main motivations of natural NPS use	
• "I want(ed) to experience something new and different"	300 (67.3%)
• "Make me happier and more optimistic about life"	248 (55.6%)
Favourite natural NPS	
• Magic mushrooms (psilocybin)	422 (92.5%)
• Dimethyltryptamine (DMT)	217 (47.6%)
• Salvia (<i>S. divinorum</i>)	174 (38.2%)
Preferable setting of natural NPS use	
• Outdoors in nature	318 (71%)
• At home with friends	270 (60.3%)
Main emotions after natural NPS use	
• Very satisfied	274 (62.1%)
Main natural NPS- drug combination:	
• Cannabis	251 (62.7%)
• Alcohol	115 (28.7%)
• LSD	113 (28.2%)

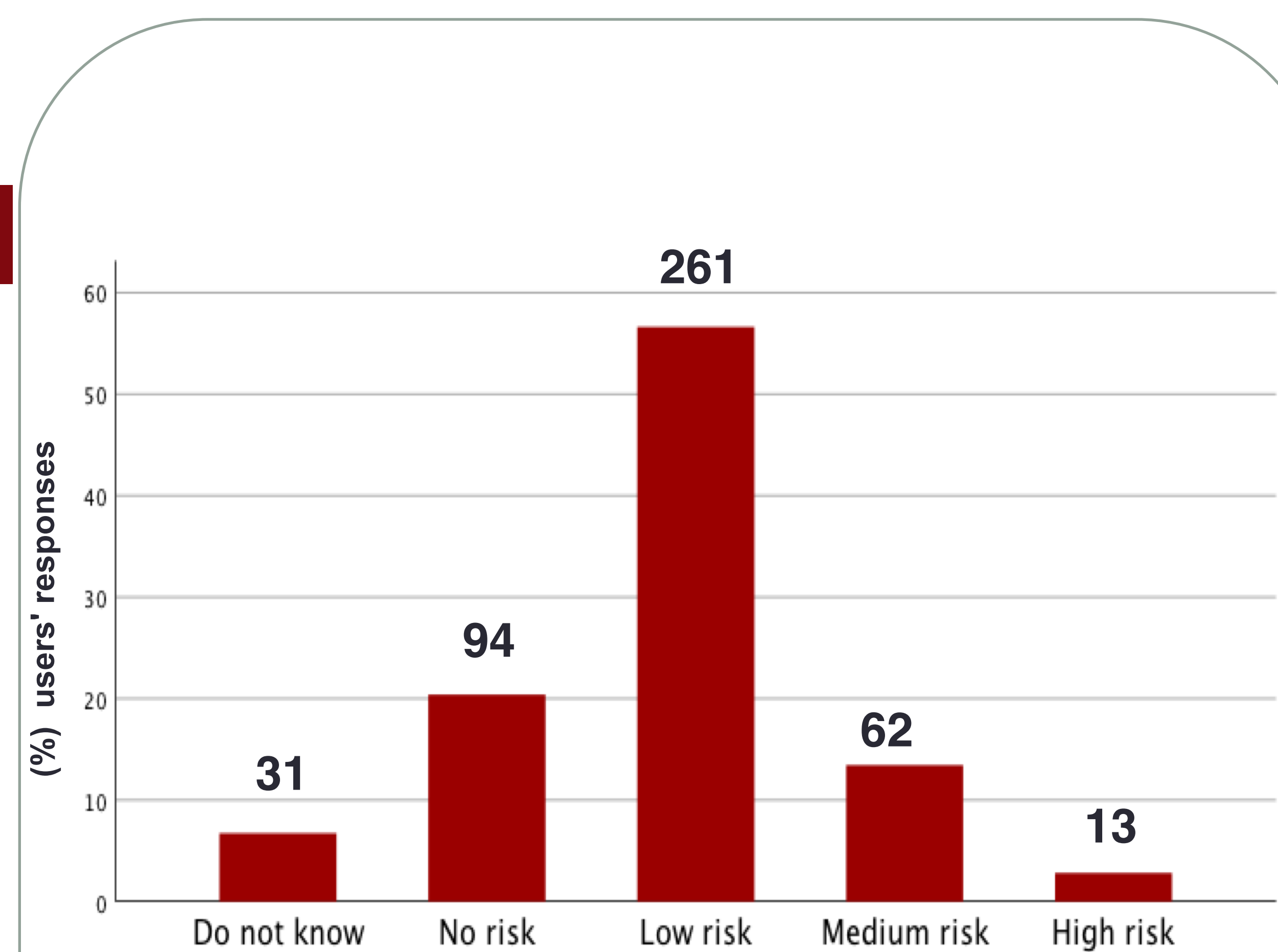
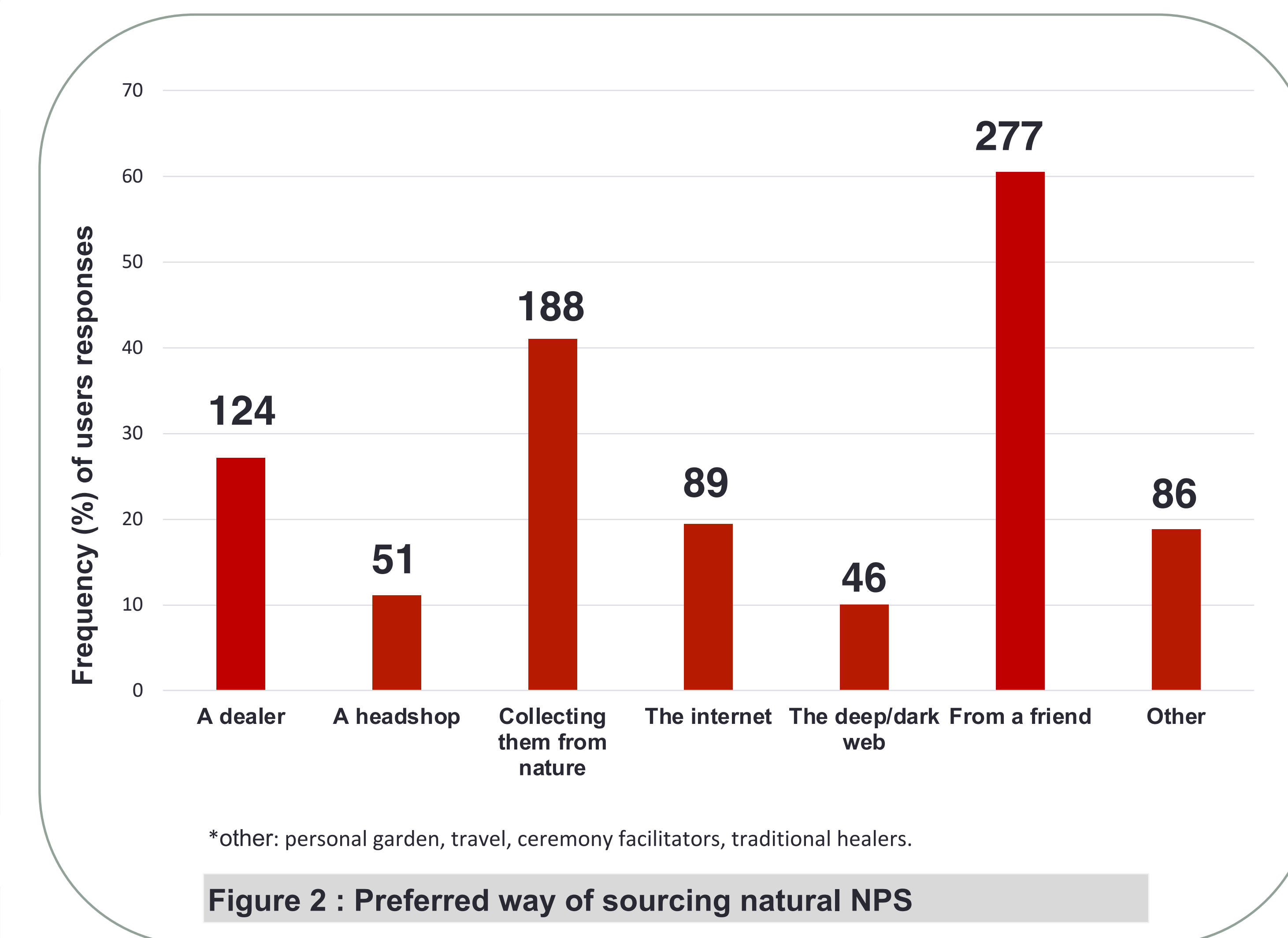
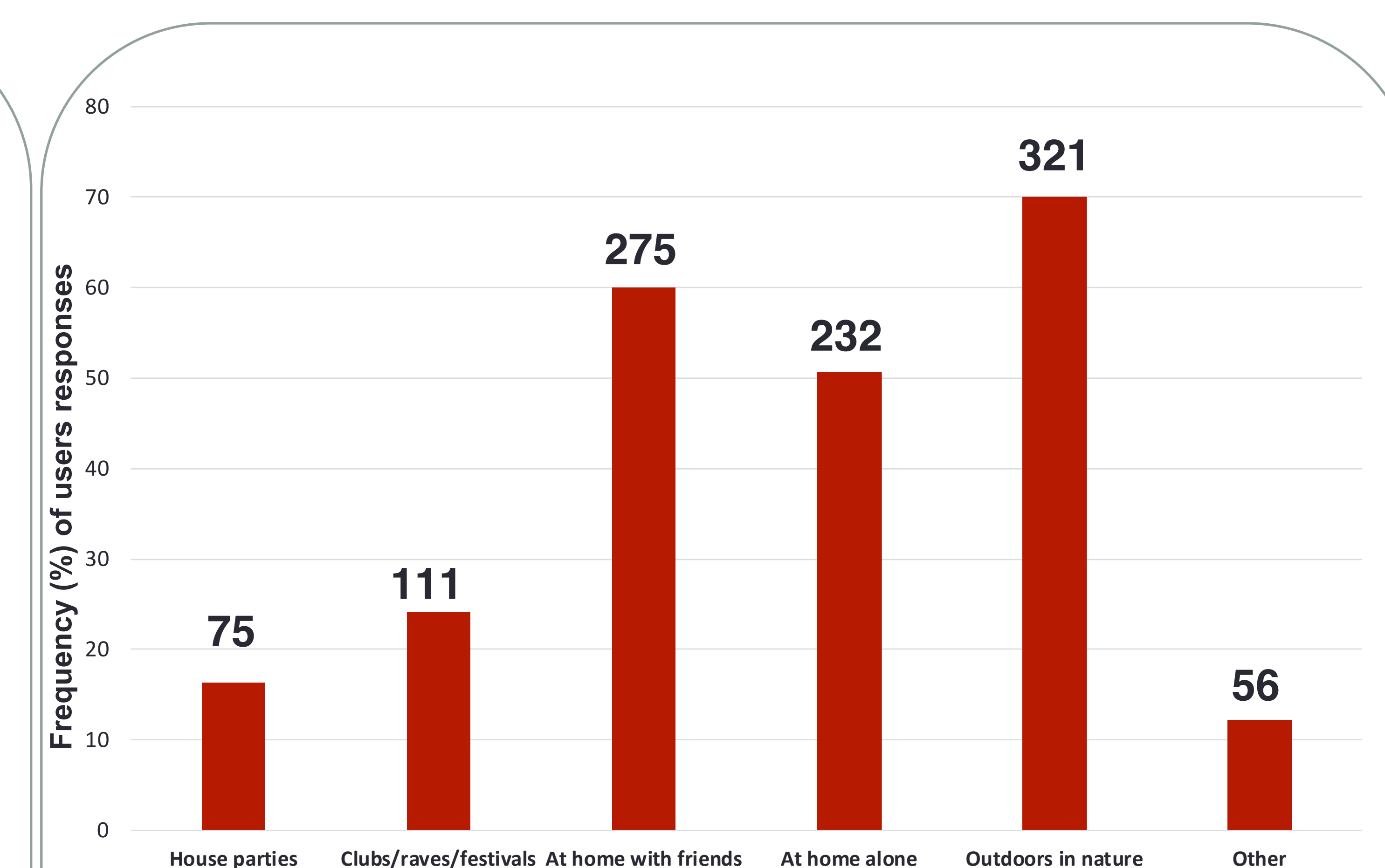


Figure 1 : Users' perception of health risk related to natural NPS use



*other: personal garden, travel, ceremony facilitators, traditional healers.

Figure 2 : Preferred way of sourcing natural NPS



*other: religious ceremonies, medical facilities, therapeutic setting, University

Figure 3 : Preferred setting for natural NPS use

DISCUSSION & CONCLUSIONS

- The main motivation (67%) for natural NPS use was **curiosity to "experience something new and different"** with a low , unknown or no perception of health risk (85%). The preferred natural NPS was **magic mushrooms (psilocybin, 95%)** often **in combination with cannabis (63%)**.
- Gender, living area, educational background, smoking frequency and employment significantly affected (P<0.001) natural NPS use. **Male respondents, residents of suburban and rural areas, smokers and respondents with low educational level** represented the majority of natural NPS users as well as the employed, the unable to work and retired groups. Similarly, sexual orientation (**bisexual, homosexual**) significantly increased (p<0.05) natural NPS use.
- Users' low perception of natural NPS safety profile and the fact that natural NPS use correlates with a lower level of education, indicates a need for **enhanced statutory targeted prevention interventions in schools and colleges**.
- Many users (67%) reported natural NPS make them be happier and more optimistic about life emphasising the need to **study the potential application of these substances in appropriate clinical settings for therapeutic purposes in mental health**.

REFERENCES

¹ European Monitoring Centre for Drugs and Drug Addiction (2016a). Health responses to new psychoactive substances. Luxembourg: Publications Office of the European Union. Available at: <http://www.emcdda.europa.eu/system/files/publications/2812/TD0216555ENN.pdf> (accessed 24 March 2019).

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