Editorial

New Drugs, New Directions? Research priorities for New Psychoactive Substances and Human Enhancement Drugs

Introduction

This special issue of the *International Journal of Drug Policy* focuses on 'new drugs', drawing on contributions to an Economic and Social Research Council (ESRC) seminar series (https://newdrugseminars.wordpress.com) we embarked upon in 2014. Most commonly, 'new drugs' are conceptualised as 'New Psychoactive Substances' (NPS) – chemical compounds that have been newly and recently created, although some were synthesised many years ago with new evidence of sale and use. Others have been *designed* to mimic the effects of existing illegal drugs such as cannabis, MDMA, cocaine, LSD and heroin, and originally emerged outside the confines of current national and international systems of drug control, also variously known as 'designer drugs', 'synthetic drugs' and/or 'legal highs' (Perrone, 2016). NPS have been broadly categorised (UNODC, 2013) as: synthetic cannabinoid receptor agonists (e.g. JWH-018; 'Spice'), aminoindames (e.g. MDAI), synthetic cathinones (e.g. Mephedrone), tryptamines (e.g. 5-Meo-DPT), ketamine and phencyclidine type substances (e.g. 4-MeO-PCP), plant based substances (e.g. khat), piperazines (e.g. Benzylpiperazine), phenethylamines (e.g. Bromo-DragonFLY), and other substances (e.g. DMAA). The design and manufacture of such substances is not a new phenomenon *per se* (Sumnall, EvansBrown & McVeigh, 2011), but the speed with which such substances have emerged over the last decade, the role that the Internet plays in facilitating their marketing and distribution, and their increasingly transnational nature (Measham, 2013; Seddon, 2014,) have led to a significant "increase in their range, potency, profile and availability" (Winstock & Ramsey, 2010: 1685).

A broader interpretation of the field of 'new drugs' also includes substances generally described as Human Enhancement Drugs (HED). Evans-Brown, McVeigh, Perkins & Bellis (2012) describe how these are divided into six categories: muscle drugs (e.g. Anabolic-Androgenic Steroids), weight loss

drugs (e.g. Xenical), image enhancing drugs (e.g. Melanotan), sexual enhancers (e.g. Viagara), cognitive enhancers (e.g. Ritalin), and mood and behaviour enhancers (e.g. Diazepam). Human Enhancement Drugs have not received the popular, media or research attention that have been afforded to new psychoactive substances, and subsequently, even less is known about them. Nevertheless, there are important similarities between NPS and HED that merit their joint study by those who are interested in the latest developments in the illicit drug field. For example, there is a similar lack of information about rapidly emerging substances, there has been a similar tendency for countries such as Sweden, Denmark and Belgium to adopt zero-tolerance measures (Mulrooney & van de Ven, 2015) on a precautionary basis, and they share similar online distribution methods.

New Drugs: New Policies

Over the last decade, two contrasting stories about the scope of the NPS problem have emerged. A focus on the number of substances detected by monitoring systems such as the EMCDDA/Europol early warning system (EMCDDA & Europol, 2015) and the rate at which they are emerging, suggests that the problem is escalating at an exponential rate. For example, the EMCDDA document (2016a) 98 new substances reported to their early warning system in 2015, with more than 560 substances currently being monitored in the European Union (EU). The UN has thus described the new drugs phenomenon as the latest challenge faced by national and international systems of drug control (UNODC, 2013). On the other hand, the limited available data suggests that general population use of these substances remains relatively low (European Commission, 2014; Measham & Newcombe, 2016; Sumnall, Brown & McVeigh 2013).

While some substances appeared to have successfully diffused into the street pharmacopeia, for example mephedrone in the UK (e.g. Carhart-Harris, King & Nutt, 2011) and Benzylpiperazine (BZP) in New Zealand (e.g. Sheridan and Butler, 2010), and while some populations have experienced higher levels of use, for example gay men and vulnerable populations (Atkinson, Begley & Sumnall, 2016; Measham, Wood, Dargan & Moore, 2011), most of them “hardly register on the radar” (Shapiro, 2011: 6). Reuter (2011: 4) describes the problem as “modest and localized”, and suggests that there have not, thus far, been large numbers of fatalities and/or infections associated with this set of substances. There have, however, been some recent notable localised examples: multiple fatalities in Russia associated with use of what was identified as the synthetic cannabinoid MDMB(N)-Bz-F (RT News, 2014); a localised outbreak of HIV associated with NPS injection in Dublin, Ireland (Giese, Igoe, Gibbons, Hurley, Stokes, McNamara, Ennis, O’Donnell, Keenan, De Gascun,

Lyons, Ward, Danis, Glynn, Waters & Fitzerald, 2015). Furthermore, Coulson & Caulkins (2011) failed to find significant violent markets associated with NPS.

Nevertheless, NPS are being used as a catalyst for the rapid development of new policy responses (Chatwin, 2014; EMCDDA, 2016b; Measham & Newcombe, 2016; Stevens and Measham, 2014). NPS tend to emerge rapidly, and sometimes in tandem with each other, making it difficult for existing reactive systems of drug control to keep pace with them. Under systems that modify or adapt existing laws and processes, once legislation is passed to prohibit a named substance or group of substances (generic control), compounds can be easily moderated to create others not covered by the legislation (van Amsterdam, Nutt & van den Brink 2013), a 'cat and mouse' response between policy makers and manufacturers noted since the earliest NPS appeared (Measham et al. 2011).

Increasingly, demands have thus been placed on national and international drug control systems to adapt their existing drug laws to make them more effective in responding to NPS (Measham, 2013). The UN (UNODC, 2014) have admitted that they are unable to cope with the plethora of new substances and, in 2013, the EU put forward proposals to increase their powers to deal with new substances more quickly (see Chatwin 2017 in this issue for more details). Birdwell, Chapman & Singleton (2011), Coulson & Caulkins (2011) and Hughes & Winstock (2011), all predicted that the development of substances and markets that do not fit neatly into existing systems of drug control would necessitate the development of new approaches. In sum, "new policies were needed to meet a drug problem that was in a state of flux and arose from a dynamic and rapidly evolving drug market" (Wolfgang Gotz, director of the EMCDDA, cited in Travis, 2013: 1). In some European countries such as the UK, Poland, Austria, Portugal, and Ireland, new approaches to control of NPS have been developed based upon broad definitions of 'psychoactivity', sometimes without consideration of harmful outcomes (see Reuter & Pardo, 2017; Reuter and Pardo, 2016; Stevens et al., 2015).

In a similar vein, as increasing attention has been placed on the use of HED, so have new, increasingly stringent, policy responses been developed. For example, in relation to Performance and Image Enhancing Drugs (PIED) such as steroids often used by professional athletes, the World Anti-Doping Authority (WADA) has consistently promoted the need for a global zero-tolerance approach within the sporting world (Mulroony & van de Ven, 2015). Kimergard (2014) describes how this policy framework has been extended to the use of PIEDs by non-professional athletes resulting in the targeting of traffickers and, in some cases, the criminalisation of users. The European Commission, for example, released a White Paper on Sport in 2007 which recommended

that the trade in HED should be treated the same as the trade in all illicit drugs. Set against this backdrop of a prevailing lack of information about new drugs in general and a period of intensive and rapid policy change in response to their emergence we wanted to support and promote, via our seminar series in general and this special issue in particular, a critical and social approach to the exploration of the impact of new drugs.

Researching NPS

Although there has been a recent increased emphasis on research involving new drugs, there remains a lack of research based evidence in general, and a lack of relevant critical and social research in particular, to draw upon when seeking to implement related policies (Measham, 2013; O'Brien, Chatwin, Jenkins & Measham, 2014). Only a relatively small number have moved beyond prevalence to explore user experiences and motivations (e.g. McElrath & O'Neill, 2011; Measham & Newcombe, 2016; Measham, Moore, & Østergaard, 2011; Perrone, Helgeson, & Fischer, 2013; van Hout & Brennan, 2011; Lauritsen & Rosenberg, 2016; Palamar & Barratt, 2016). Similarly, there are only a limited number of policy analyses that critically evaluate the major changes that are taking place (Hughes & Winstock, 2011; Kavanagh & Power, 2014; Rychert & Wilkins, 2016; Stevens et al. 2015; Walsh, 2016; Winstock & Ramsey, 2010). Finally, research studies tend to consider NPS and HED separately without seeking to draw out similarities between the areas of study. Our special issue aims to address these gaps by: (i) drawing attention to the important parallels between the study of NPS, HED and traditional illicit drugs; (ii) providing critical analysis of recent new drug related policy change; and (iii) exploring the social harms facing vulnerable users of these substances.

Parallels in the study of traditional illicit drugs, NPS and HED

Perhaps unsurprisingly, the studies of HED included in this special issue indicate the importance of viewing their development as another facet, alongside NPS, of the illegal drugs issue in general. Collectively, they demonstrate that HED research can add to our understanding of the cultural and societal contexts of drug use in general, as well as the critical analysis of the consequences of drug policy implementation. Both van de Ven & Mulrooney (2017) and Hanley Santos & Coomber (2017) emphasise the importance of cultural and societal context to the use or supply of HED and the complex patterns of and motivations for use surrounding them. To expand one example, both articles draw heavily on the principles of normalisation (Parker, Aldridge & Measham, 1998) and

everyday life (South, 1999) which have long been key concepts in the drugs field for those seeking to understand recreational drug use. Van de Ven & Mulrooney (2017) also contribute to debates about the social supply of substances in general (Chatwin & Potter, 2014; Coomber, Moyles & South 2015; Potter, 2009) through their work with PIED suppliers, and Hanley Santos & Coomber (2017) provide evidence that in an environment where little official information is readily available about substances that are newly available on the market, users tend to seek information from their friends and fellow users within the bodybuilding community. This finding mirrors research (see for example van Hout & Hearne, 2017; O'Brien et al, 2014) with NPS users that demonstrates one of the primary avenues for information about new substances comes from user based discussion forums on the internet.

Finally, Dunn, in his critical review of DMAA research evidence, demonstrates that issues around policy implementation and associated unintended consequences and/or harms for this HED are similar to those posed by the increase in range and availability of NPS and new drugs more widely. For example: there is a very limited existing evidence base on which to draw; the potential for harm is demonstrated but there is very little understanding of the nature of these harms; and scheduling of DMAA in many countries will now impede the ability of future research to provide a stronger evidence base. This special issue therefore offers tentative evidence of the merit of studying NPS and HED, not in isolation from each other, but as different faces of the same issue, and furthermore asserts that both phenomena should be seen as a part of the overall drugs issue rather than as new problems *per se*.

Critical evaluation of policy change inspired by new drugs

Several of the papers included in this special issue directly take up this issue of policy change: the main recommendation here is that it tends to increase and extend policy and legislative responses, and is therefore an area worthy of critical examination. Reuter & Pardo (2017) – recognising this tendency towards law enforcement, regulation and scheduling – explore (amongst other things) the likely effectiveness of legislation that seeks to impose a blanket ban on all psychoactive substances, and conclude that it will not provide an effective deterrent either to vulnerable users who are using new drugs to stay one step ahead of drug testing regimes, or to 'psychonauts' who are actively interested in seeking new psychoactive experiences. Chatwin (2017) cautions against the tendency to encourage uniformity in response to a new facet of the drug problem, such as that presented by new drugs. Instead she recommends allowing and even encouraging a diversity in response,

underpinned by evidence gathering and sharing of instances of best practice, that will allow a variety of policy options to emerge.

Two further articles advocate for the merits of further explorations of the role of pleasure in understanding the motivations for use of these substances and, importantly, in developing policy responses towards them. There has long been a tendency in drug policy discussions of any type to overlook any values, benefits, or possible positive effects from the recreational use of substances in general (Measham, 2004; Ritter, 2014). In an Australian context, Matthews, Sutherland, Peacock, van Buskirk, Whittaker, Burns & Bruno (2017) provide a concrete example of the important and valuable role that subjective experiences of pleasure can play in determining the likelihood for new substances to remain popular, attract users and inspire longevity of use. Similarly, Alexandrescu (2017) explores the seductions of unpredictable encounters of drug use that are provided by new drugs, particularly among groups of Romanian experienced and long-term users who have become problematic in some aspects of their use. Both papers aim to provide important lessons for the development of policy towards NPS.

New drug use within vulnerable populations

Many of the articles in our special issue attest to the persistent and problematic use of new drugs amongst vulnerable populations: for example, see Blackman & Bradley's (2017) UK based research on vulnerable young people and synthetic cannabinoid use; Ralphs, Williams, Askew & Ykhlef's (2017) British study of synthetic cannabinoid markets in a local prison; Alexandrescu's (2017) exploration of NPS use among existing methadone users in Romania; and Quintana, Ventura, Grifell, Palmo, Galndo, Fornis, Gil, Carbon, Caudevilla, Farre & Torrens's (2017) Spanish based research on the adulteration of heroin products available online. Existing research on new drug use within vulnerable populations tends to be very limited – HMIP (2015) and User Voice (2016) have both sought to emphasise the elevated use of new drugs within the English prison system and the particular harms that this can cause, and Public Health England's (2016) recent survey of the treatment population found that 8.2% of respondents reported injecting mephedrone in the past year, and these were twice as likely to report sharing injecting equipment than other people who injected drugs. The contributions included in our special issue concerning vulnerable populations and new drug use provide valuable new insights into this area and, furthermore, strongly suggest the

need for our research efforts to be concentrated here, rather than in the more popular area of recreational and experimental use of new drugs.

Two articles directly address the issue of service provision for problematic new drug users. Campbell, O'Neill & Higgens (2017) have conducted a research study of service providers in Northern Ireland who are frequently in contact with new drug users, and Pirona, Bo, Hedrich, Ferri, van Gelder, Giraudon, Montanari, Simon & Mountenay (2017) have presented a comprehensive exploration of current health responses to new drugs in operation in Europe, seeking to highlight key issues and instances of best practice. Both articles highlight the continuing gaps in service provision for vulnerable groups such as young people, polydrug users and mental health populations, and the need for new drugs to be considered at every stage of drug prevention and education interventions. This issue is particularly complex as, paradoxically, evidence suggests that on the one hand many users of new drugs are also users of traditional drugs indicating that their drug use should be treated holistically, while on the other hand users have called for service provision that focuses on the specific needs of the users of new substances. Campbell et al (2017), thus emphasise the need for increased knowledge not only about new drugs, but also about the *intersections* between traditional drugs, NPS and HED.

In terms of harm reduction our articles collectively suggest, we should promote the more widespread introduction of drug checking and testing facilities, build information about a variety of new drugs into our existing drug and alcohol education programmes, and encourage the distribution of harm reduction information via existing peer networks of users. Sometimes, the emergence of NPS and the challenges of intertwining traditional and new drug markets, has prompted the introduction of harm reduction measures – see, for example, the initiation of on-site forensic testing for safety for the first time in countries such as the UK and Australia (Measham, 2016). The article by van Hout & Hearne on forum activity between buyers and vendors in cryptomarkets provides some further evidence of this trend by documenting the centrality of harm reduction practices and vendor information exchange to NPS market dynamics in general.

Conclusion: towards a critical and social research agenda for new drugs

One factor that is usually agreed upon by a variety of experts working in related fields, is that we urgently need more information about new drugs in general – both new psychoactive substances

and human enhancement drugs. Without a better evidence base for policy makers and practitioners to draw upon, it is very difficult to make any meaningful progress in responding to the new drug phenomenon. Despite the prioritisation of the new drugs issue, sometimes over and above more prevalent 'traditional' drugs (at least in terms of NPS) a coherent and extensive social research agenda in this area that seeks to evaluate policies and their consequences, critically assess official discourses, evaluate supply and demand, particularly within online markets, and explore the needs and experiences of users does not yet exist. Based on the articles included in this special issue, as well as our wider work within the ESRC seminar series as a whole, we offer the following brief outline of future research needs and challenges.

Firstly, new drugs research should pay more attention to the *intersections* between traditional drugs, NPS and HED. There are important similarities that merit the study of different substances, or categories of substance, side by side; but there are also important differences that, for example, can lead to different treatment needs. Future research should seek to tease out these similarities and differences. Secondly, we need to assess and evaluate the new legislative landscapes that are developing as a direct result of rising anxieties about new drugs, often based around precautionary principles rather than strong evidence of harm and the need for intervention. Finally, and perhaps most importantly, we need to concentrate our combined research efforts on the exploration of new drug use amongst vulnerable populations such as the prison population and those who have recently been released from prison, the homeless, and those who are experiencing mental health problems.

Acknowledgements

We would like to thank the Economic and Social Research Council for their funding of our 'new drugs' seminar series: Grant Number ES/M002330/1

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***Conflict of Interest Statement**

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We confirm that we have given due consideration to the protection of intellectual property associated with this work and that there are no impediments to publication, including the timing of publication, with respect to intellectual property. In so doing we confirm that we have followed the regulations of our institutions concerning intellectual property.

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Dr Caroline Chatwin	University of Kent	23.11.16
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Dr. Kate O'Brien	Durham University	23.11.16
Prof Harry Sumnall	Liverpool John Moores University	23.11.16