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Commentary

'Silk Road', the virtual drug marketplace: A single case study of user experiences

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ABSTRACT

Background: The online promotion of '*drug shopping*' and user information networks is of increasing public health and law enforcement concern. An online drug marketplace called '*Silk Road*' has been operating on the '*Deep Web*' since February 2011 and was designed to revolutionise contemporary drug consumerism. *Methods*: A single case study approach explored a '*Silk Road*' user's motives for online drug purchasing, experiences of accessing and using the website, drug information sourcing, decision making and purchasing, outcomes and settings for use, and perspectives around security. The participant was recruited following a lengthy relationship building phase on the '*Silk Road*' chat forum. *Results*: The male participant described his motives, experiences of purchasing processes and drugs used from '*Silk Road*'. Consumer experiences on '*Silk Road*' were described as '*euphoric*' due to the wide choice of drugs available, relatively easy once navigating the Tor Browser (encryption software) and using '*Bitcoins*' for transactions, and perceived as safer than negotiating illicit drug markets. Online researching of drug outcomes, particularly for new psychoactive substances was reported. Relationships between vendors and consumers were described as based on cyber levels of trust and professionalism, and supported by '*stealth modes*', user feedback and resolution modes. The reality of his drug use was described as covert and solitary with psychonautic characteristics, which contrasted with his membership, participation and feelings of safety within the '*Silk Road*' community. *Conclusion*: '*Silk Road*' as online drug marketplace presents an interesting displacement away from '*traditional*' online and street sources of drug supply. Member support and harm reduction ethos within this virtual community maximises consumer decision-making and positive drug experiences, and minimises potential harms and consumer perceived risks. Future research is necessary to explore experiences and backgrounds of other users.

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Introduction

The Internet is increasingly viewed as the driver of the contemporary drug markets by the promotion of '*drug shopping*' in web based retail outlets and settings for user communication of information (Burillo-Putze, Domínguez-Rodríguez, Abreu-González, & Nogué Xarau, 2011; Califano, 2007; Corazza et al., 2011, 2012; Davey, Corazza, Schifano, Deluca, & Psychonaut Web Mapping Group, 2010; Davey, Schifano, Corazza, & Deluca, 2012; Davies, 2012; Eurobarometer, 2011; Forsyth, 2012; Hill & Thomas, 2011; Jones, 2010; Measham, 2011; Oyemade, 2010; Prosser & Nelson, 2011; Psychonaut Web Mapping Research Group, 2009; Solberg, 2012; Sumnall, Evans-Brown, & McVeigh, 2011; Vardakou, 2011; Winstock, Marsden, & Mitcheson, 2010). Research has underscored how the cyber drug market has become increasingly dynamic and innovative in its capacity to retail drugs, create new compounds and circumvent legislative controls (Brandt, Sumnall, Measham, & Cole, 2010; EMCDDA, 2011a, 2011b; Griffiths, Sedefov, Gallegos, & Lopez, 2010; Inciardi et al., 2010). Organic responses to drug product development and availability include the prevalence of online drug website and chat forums operating to provide user information on outcomes, experiences, popularity, availability and sourcing mechanisms, optimum use and harm reduction practices (Davey et al., 2012; Gordon, Forman, & Siatkowski, 2006; Wax, 2002). It is increasingly apparent that existing and new versions of illicit drugs are traded and discussed among users of the '*Deep Web*' or '*Invisible Web*' which represent online content not searchable by standard search engines such as '*Google*'. Novel psychoactive substances (NPS) are commonly known as '*designer drugs*', '*legal highs*', *research chemicals*', '*synthetic drugs*' and '*herbal highs*' and are marketed as quality '*legal*' or labelled '*not for human consumption*' substitutes for popular street drugs such as ecstasy, amphetamine, cannabis and cocaine (De Luca et al., 2012). The shift towards widespread global availability of all drugs is evident in the recent online presence of drug marketplaces such as '*Silk Road*', '*Black Market Reloaded*', '*The Armory*' and the '*General Store*' (Christin, 2012).

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One such website experiencing heightened user interest is called '*Silk Road*' and has operated anonymously on the '*Deep Web*' since its launch in February 2011 (Chen, 2011; Norrie & Moses, 2011). According to Schumer (2011), '*Silk Road*' is '*a certifiable one-stop shop for illegal drugs that represents the most brazen attempt to peddle drugs online that we have ever seen.*' It has revolutionised Internet drug sourcing and has been described as an '*Ebay for Drugs*' (Barratt, 2012, p. 683). '*Silk Road*' provides cyber buyers and vendors with the infrastructure to conduct online transactions, with over 24,400 drug related products for sale (Christin, 2012). The 'Silk Road Sellers Guide' (2011) prohibits the sale of goods and services intended to harm or fraud, with a conspicuous omission relating to prescription drugs and narcotics, pornography and counterfeit documents (Christin, 2012). Weapons and ammunition were permitted until March 2012, and since relisted on a sister site called '*The Armory*' (Christin, 2012). It is only accessible to users of Tor anonymising software which encrypts computer IP addresses (Tor Project, 2011). At the time of writing in late 2012, '*Silk Road*' forum statistics indicate close to 200,000 registrations and 199,538 forum posts, up from close to 8000 registrations in 2011 (Silk Road Forums, 2012). Christin (2012) estimated total revenue by all vendors as approximately $1.9 million per month.

Of note, is that the website operates similarly to '*Ebay*' (Barratt, 2012), by way of vendor and buyer ratings, and feedback on quality of transactions, speed of dispatch and profile of products. It operates a professional dispute resolution mechanism and has a forum dedicated to drug safety and harm reduction practices. Once the user has registered for free, a wide variety of drugs are easily located on the website and include cannabis, ecstasy, psychedelics, opioids, stimulants, benzodiazepines and dissociatives (Barratt, 2012). Vendor and buyer identities are obscured, with the site recommending vendors to disguise shipments and vacuum seal drugs potentially detected by smell. Buyers and vendors use '*Bitcoins*' (often used for online gaming) to conduct all transactions, which is a non-government-controlled anonymous and untraceable crypto-currency, used as peer-to-peer currency and indexed to the US dollar to prevent excessive inflation or deflation (Bitcoin, 2011; Davis, 2011). Transaction anonymity is optimised by use of "*tumbler*" services of dummy and single use intermediaries between buyer and vendor (Christin, 2012). In addition to '*public listings*', '*Silk Road*' supports '*stealth listings*' which are used for '*custom listings*' directed at certain consumers and operated through out-of-band contact between vendor and buyer (Christin, 2012). Vendor authenticity and commitment to providing quality goods is also controlled by the purchasing of new vendor accounts through auctions to the highest bidders. The site offers sale campaigns and events, and users may also purchase gift certificates for friends.

Research to date on '*Silk Road*' is scant and at present limited to investigative site monitoring work by Monica Barratt and Nicolas Christin (resp.). The '*Silk Road*' context and its member experiences are an under researched topic. We present here an intensive, holistic and exploratory single case study analysis (see Baxter & Jack, 2008; Flyvbjerg, 2011; Thomas, 2011; Stake, 2005; Yin, 2003) of an active user's experiences within the '*Silk Road*' setting in order to gain a sharpened phenomenological understanding and rich description of user motives for accessing the site, perceptions of risk, purchasing processes and drug use outcomes within the realities of '*Silk Road*' as contemporary virtual drug market. We recognise that the chosen single case study approach is exploratory and confined to the experiences of the participant, and therefore cannot offer grounds for reliability or generalisation of findings (Baxter & Jack, 2008; Greenhalgh, 1997; Yin, 2003). Despite these shortcomings, this holistic single case study which explores the user's experience of navigating '*Silk Road*' as online drug market is unique and merited.

The single case study method

We originally intended to undertake a qualitative study using interviews with '*Silk Road*' members. Ethical approval for the case study was granted by the School of Health Sciences, Waterford Institute of Technology, Ireland. Following a period of two months site navigation on '*Silk Road*' and active participation in the *Silk Road*' forums, we requested permission from the website administrator to undertake research on its member experiences and to upload information and recruitment threads in the forums. Following best practice protocols recommended in the literature (Barratt & Lenton, 2010; Mendelson, 2007; Murguía & Tackett-Gibson, 2007; Sixsmith, Boneham, & Goldring, 2003), we invited members to partake in the research via a message board recruitment thread. Recruitment of site users was hampered by negative and suspicious reactions by forum participants. Information-oriented sampling (Flyvbjerg, 2006) guided recruitment efforts, with an active '*Silk Road*' member agreeing to be interviewed, following a lengthy relationship building phase with Author 2 on the '*Silk Road*' chat forum.

We recognised that in order to gain an in depth understanding of user motives, experiences and navigation of the '*Silk Road*' site, a single exploratory and holistic case study with a participant '*who fitted the bill*' could be deemed appropriate (Greenhalgh, 1997, p. 157). The case itself (in this instance the '*Silk Road*' user) was defined as a phenomenon occurring within a bounded context, namely the '*Silk Road*' site (Miles & Huberman, 1994). The study adhered to recommended proposed purpose, approach, processes and quality control methodologies for data analysis of single case studies (Baxter & Jack, 2008; Flyvbjerg, 2011; Greenhalgh, 1997; Thomas, 2011; Yin, 1984, 2003). Close collaboration between us and the '*Silk Road*' participant enabled the participant to tell his story, iterate his views on '*Silk Road*' and allow us understand his actions (Baxter & Jack, 2008; Lather, 1992).

Interview topics and targets set for this single case study were developed following the review of existing '*Silk Road*' literature and media reporting, and in consultation with our experiences navigating the site itself (see Darke, Shanks, & Broadbent, 1998). We focused on the following areas of interest; participant drug use history, motives for Internet drug sourcing and sites used, experiences accessing and using '*Silk Road*', drug information sourcing and decision making on *Silk Road*', '*Silk Road*' drugs of choice, experiences of these drugs and settings for use, interaction with *Silk Road*' chat forums and the online *Silk Road*' community and future intentions for using *Silk Road*'. The case was provided with information outlining the research aims, and was informed that his experiences would be documented and subsequently available in the public domain as journal paper. He was advised of the permission to withdraw if desired. Informed verbal consent was received prior to commencement of the recorded interview. Complete anonymity was ensured as the case and Author 2 used online pseudonyms, with the interview conducted via visually deactivated '*Skype*'. No names or personal identifiers were requested, and the participant was advised not to verbalise any potentially identifying names, places or otherwise. The interview was conducted in an open-ended, unordered '*conversational*' style and lasted 70 min.

The interview was transcribed and read and reread several times by both researchers. The interview data set contained rich series of narratives, which built on the single case study plot in the form of a '*hero's journey*' within a sequence of events leading to accessing '*Silk Road*', subsequent interaction with the site, and experiences of drugs purchased (Flyvbjerg, 2011). We recognise that the analysis of narratives in this single case study runs the risk of committing so called '*narrative fallacy*', by virtue of over simplification of data and researcher's preconceived notions (Flyvbjerg, 2011). Extensive

briefing sessions were held between researchers in order to circumvent this and we strove to minimise bias towards verification by checking for validity and reliability within the collection, analysis and subsequent presentation of resultant themes. Data credibility was further improved by employing a focused analysis by consistently exploring the data within the scope of the research questions and existing literature on '*Silk Road*' (Darke et al., 1998; Miles & Huberman, 1994; Russell, Gregory, Ploeg, DiCenso, & Guyatt, 2005; Yin, 2003). The focused collection and comparison of these single case study narratives with extant literature enhanced the quality of resultant deconstruction and reconstruction of various '*Silk Road*' phenomena by virtue of idea convergence and confirmation of findings (Baxter & Jack, 2008; Knafl & Breitmayer, 1989). Five themes emerged from the data, and are presented in the following section: '*Participant drug use history*', '*Internet drug sourcing and risk perceptions*', '*Preparing to access 'Silk Road*', '*Silk Road' purchasing mechanisms*' and '*Drug use, testing and setting*.'

The single case study

Participant drug use history

The participant was male, aged 25 years and in professional employment. He described himself as commencing drug use at age 15 years, and an experimental, recreational and psychonaut[1] type user of cannabis, ecstasy, cocaine and hallucinogens (LSD, mushrooms, 2CI, 2CB). He described using drugs as '*life enhancing tool*' to expand his consciousness within a personal and lifestyle oriented journey, particularly whilst meditating, playing music in his bedroom and outdoors to boost '*connection with nature*'.

> 'At heart, I really am a psychonaut. I really do love anything that is 'trippy' but at the same time it's restrained.'

He appeared conscious of periods of excessive drug use where loss of control was evident, and subsequent self-monitoring and control of his drug consumption occurred.

> 'It has woken me up to ask is what is an acceptable level of use or is it acceptable to use at all.'

Internet drug sourcing and risk perceptions

The case observed increased awareness of the possibilities of Internet drug sourcing in 2010 via his use of social media, with '*Silk Road*' and some sites selling '*research chemicals*' (i.e. the '*Buy Research Chemicals (BRC)*' website) appearing to offer a legitimate, safe and opportunistic channel for the sourcing of a variety of drugs. He described some initial concerns that perhaps products would not arrive. The '*BRC*' website was used several times, and he reported favourable experiences with a tester pack of drugs purchased, which supported his decision to continue purchasing his favourite products. Mail order cannabis was the first product bought.

> 'It was through reviews or through word of mouth that this place is actually ok and they have some interesting things on offer, that sparked the interest and I kept on going and things have gone deeper since.'

Comments were made around perceived buyer safety from legal detection by using '*Silk Road*' and '*BRC*' and the limitation of risks associated with interaction with street dealers.

> 'The main reason for buying from the sites was because I felt there was a safety factor from the law, I have never really had any trouble with the police or the judicial system as a whole and I have always wanted to limit any risk. I saw it as a safer way of sourcing'.

Perceived safety and intention to use these sites for drug sourcing appeared to hinge on the case's own capacity to research and survey online user feedback on available channels of cyber drug retailing, and levels of trusting social media connections between users. He described exercising caution and observed that (in general) amongst the '*recognisable*' experienced drug user reports, a host of relevant and useful information on drug retail sites and drug products was evident. The participant recognised that despite undertaking extensive online researching, products received were untested, and therefore potentially harmful. He commented on the role of the site moderators in discouraging potentially harmful dissemination of information.

> 'When I was reviewing the sites, I didn't look at specific people, I looked at the big picture, if there were ten people saying this site was good and two people saying that it was bad, the chances are, it was a good site, you have to be careful at the same time, what one person experiences isn't necessarily what someone else is going to experience.'

Preparing to access 'Silk Road'

Once deciding to use '*Silk Road*', the participant used '*Google*' and existing drug forums on '*Erowid*' [2] and '*Bluelight*'[3] to discover how to access the site.

> 'On the open internet you have the details of what the 'Silk Road' is, they have a link to the Tor browser and they even include it on Wikipedia, the link to the Silk Road as it is at the moment, it is even easier now. . .when I joined the link wasn't available. There is potential for lots more people to look'.

In 2011, he reported spending close to one day navigating the '*Tor*' website and gaining access onto '*Silk Road*', which was described as time consuming, but not difficult as he is an experienced computer user.

> 'Getting onto Tor is quite easy really, you have the open Tor project which is on a freely available website and you can download the software and all of a sudden you on the Deep Web once you're on there, you only need the link to get onto Silk Road.'

The participant observed the need for exercising personal caution by encrypting computer hard drives and following the guidelines for '*Tor*' encryption software.

> 'All you have to do is to go onto the internet and look at the Tor websites so if you're on Silk Road and look at the forums, there are people there telling you how to use the site safely and properly. As long as you follow the advice, you should never

[1] A person who intelligently experiments with mind-altering chemicals, sometimes to the extent of taking exact measurements and keeping records of experiences. Also defined as a scientific explorer of inner space (Newcombe, 2008; Newcombe & Johnson, 1999).

[2] Erowid – Online is an online library containing information about psychoactive drugs, plants, and research chemicals.

[3] Bluelight – is an international message board that educates the public about responsible drug use by promoting free discussion.

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encounter a problem, you just need to follow common sense which can be learnt from the experience of others. It's your responsibility to make it as secure as you can, so the Tor network itself that allows you to get onto the Silk Road helps to provide anonymity, but the anonymity that you get is only as good as you make it, if you leave the software left on your computer and you get raided by the police, then they will know that you have been using this software to go on there.'

'*Bitcoins*' as currency within a peer to peer network were described as useful but not without its problems. He had used '*Bitcoins*' for purchases other than drugs but reported increasing difficulties in bank to bank transferral of funds using unnamed payments. The setting up of fraudulent accounts and use of '*Bitcoin*' tumbler systems appeared to guarantee security.

'Getting hold of the 'Bitcoins', that's probably the only hard part. I have managed to set up a bank account fraudulently. I suppose probably the worse crime I have ever committed. I can now deposit money under a false name and get it into this online account, so I can then get it out and cipher it through 'Bit' wallets of my own that are completely anonymous and not linked to me any shape or form, and from there transfer them into my account on Silk Road. It has become a lot more complicated to do it very securely. But, the nature of Silk Road itself and the fact that they have a tumbler system that the 'Bitcoin' go through, the chances of it being linked back to your bank account would be slim to none really. I have not heard of any users being arrested for going on Silk Road and if they have, it has not been publicised.'

'Silk Road' purchasing mechanisms

The participant reported a euphoric '*joyful*' experience once on '*Silk Road*'. A wide variety of drug product hostings were visible particularly for new psychoactive substances and drugs not easily sourced within his locality.

'I got on there and I was blown away by it really, it really kicked me for six. There were things on there that I had wanted to try for a long time, but have never had either the contacts or the desire to go and source from the street'.

He described '*Silk Road*' as the only trusted place to get both information on the available drug products and in contrast to street drug purchasing, the opportunity to receive quality products. Overall quality of consumer experience and assistance in product and vendor decision-making was supported by visible online vendor reviews, vendor accountability, buyer–vendor negotiations and resolution modes.

'The levels of protection and the quality of what's on there, the quality of the service, the negotiations if something goes wrong, you can go into resolution mode, if something doesn't turn up or if you don't get exactly what you ordered as described in the article. On the whole because there is a level of accountability. . .there is a greater safety purchasing from 'Silk Road' because the level of self reporting. If people get something they don't like, they will kick up a fuss. The vendors, if they are reputable vendors, they will give the person a refund and say 'I am very sorry don't let this mar our relationship'.

For certain drugs (like MDMA), the participant described experiencing varying degrees of product quality via use of pill testing websites and drug outcome, and as a result focused his MDMA sourcing on vendors located in countries renowned for producing quality forms of that drug (i.e. the Netherlands). He appeared to register some concern for the export of drugs from Asian countries. Over time, he reported noticing that the same vendors used similar sourcing chains, and described his vendors as becoming '*trusted sources*' by repeat transactions. Vendors can review buyers' track history in purchasing and instances using the resolution centre before deciding to transact with a new buyer.

'Using the forum and doing intelligence investigations and weighing things up before hand is very important, but the actual buying process is ridiculously easy. If you're going to purchase from someone, you need to do your research first, just don't go blindly and say I want that and buy it because although the vendor might have a 5 star review, the last five people who might have bought from them might be turning around and saying 'hey this guy is selling funked products and its not giving me the high it used to or its not doing anything for me at all'.'

Purchasing process and visual layout of the site appeared very like '*Ebay or Amazon*', with buyers selecting products priced in '*Bitcoins*' or US dollars by the weight and then proceeding to the checkout. He described the advertising of multiple packages and special offers. The participant observed a slight increase in the number of visible vendors on '*Silk Road*' and described how successful vendors on reaching a quota of clientele would '*go into private or stealth mode*', and cease advertising openly on '*Silk Road*'. This was observed to increase vendor–buyer transaction anonymity and cement trade relationships. Street dealers in contrast to '*Silk Road*' vendors were described as unaccountable to anyone. He commented that vendor profit margins were similar to street dealing, but without the '*cutting down*' of products. He was aware of through forum chatting on the site that some '*Silk Road*' vendors had been arrested for street dealing.

Following review of the vendor and his/her products on '*Silk Road*', his initial purchase was made by providing his home address with a false name. The payment exchange was finalised on receipt of the product, which he attributed to the seller being UK based and due to the small quantity purchased. He reported that all of his '*Silk Road*' transactions arrived safely, despite some reports of this not occurring for his virtual friends. Product packaging was described as very professional using bubble wrap envelopes or multiple sheets of paper, with warning labels and user guides absent.

"I sit at home and wait for the postman to turn up and say good morning to him and shake his hand and thank him for bringing the post to me. I had a lovely experience when I purchased some LSD off a German chap, he actually sent me a Christmas card with a message in there, the LSD was hidden behind one of the glued pieces on the card, I actually had to contact him to thank him for the Christmas card, and ask where is the LSD, he told me to look harder in the card, then I found what I was looking for. . . Some of the packaging is incredible so not to draw the attention of the postal service or customs.'

Drug use, testing and setting

'*Silk Road*' was described as an '*online sweetie shop where you can go and have a pick and mix*' and the participant observed this as promoting ethno-pharmaceutical experimentation. He described his favourite purchases as good quality cannabis, MDMA and new psychoactive substances such as '*2C-I*'.

'Definitely if it hadn't been for 'Silk Road' there are a lot of chemicals that I would never had the opportunity to try and wouldn't

have known about to try. It has given me access to things that I wouldn't necessarily has access to before.'

Seeking advice around optimum dosage and route of administration for his purchases was described as a '*two fold process*' where he searched the online communities in '*Erowid*' for user reviews and dose reports, and administered and re-administered the drug based on '*common sense*' within the drug taking episode. He reported never having a negative experience with drugs bought on '*Silk Road*'.

'I have never had a bad trip because I have always had a good set and setting, good mind frame, I know my surroundings, well prepared in terms of food, drink and a bowl to be sick in if I need to. I have always taken the necessary steps to ensure it is a good trip and nothing will or could go wrong.'

Drug use was described as covert and frequently alone. He observed that his '*drug identity is very separate from my non drug identity*'. He described fear of '*too many unknowns*' when drug taking within a group, and described his participation in such settings as rare and only in the instance of '*trusted groups*'. He was aware that many users of '*Silk Road*' attended mass outdoor events. Simply being part of the online drug using community on '*Silk Road*' and '*Dope Tribe*' was described as facilitating feelings of safety and legitimisation of drug purchasing and use within the network of trusted virtual friends. When questioned around his perspective on being part of such a community, the participant emphasised that his drug use was for a personal journey, and not something shared with others.

Discussion

Online research methodologies for the recruitment, surveying of and engagement with drug users are increasingly utilised, given the emergent importance of the Internet in people's associational day to day lives and recent explosion of online pharmacies, drug user forums and sites selling new psychoactive substances (Barratt & Lenton, 2010, De Luca et al., 2012; Fielding, Lee, & Blank, 2008; Miller & Sønderlund, 2010). Research to date has focused on the web mapping of online retailing, marketing and use of drugs, and equally the potential for Internet based interventions to reduce harm (De Luca et al., 2012; Kypri, 2009; Sinadinovic, Wennberg, & Beman, 2012). This unique exploratory single case study followed protocols advocated by Yin (2003, p. 184) and Flyvbjerg (2011), and is defined as '*an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used*' (Yin, 1984, p. 23). Resultant findings provide a phenomenological insight into an '*expert*' account of the case's experiences of '*Silk Road*' and associated drug taking. The hidden nature of '*Silk Road*' on the Deep Web and its covert operation limits access to its members by outsiders. This severely hampered recruitment and snowballing efforts by the research team. Despite these shortcomings, the case himself was an active participant in the '*Silk Road*' forums and willing to be interviewed. He proved to describe his experiences in an intelligent and erudite manner, and illustrated site characteristics and purchasing mechanisms corroborated by published literature, recent media reporting and law enforcement statements. We recognise the limitations associated with this potentially unverifiable single case study, and recommend further research into other unrelated users' accounts and experiences of '*Silk Road*'.

Accessing '*Silk Road*' was described as a joyful '*child in a sweet shop*' type experience by virtue of its host of quality products and vendors, and its capacity to offer an anonymous, safe, and speedy transactioning without any of the risks associated with street drug sourcing. The individual appeared act as drug connoisseur by virtue of conducting extensive online and '*Silk Road*' research on product testimonials and resolution centre outcomes, developing trusted social media connections between chosen vendors and other users, prior to selecting both a product and sourcing route. '*Silk Road*' by way of its hidden location on the '*Deep Web*', its use of '*Tor*' encryption software, '*Bitcoins*' and tumbler systems, and its capacity to create networks of drug vendors with private consumer bases appears embedded within a growing cyber culture of anonymous drug consumerism. Barratt (2012, p. 683) commented that '*trust in sellers is built on reputation*', with vendors reporting preference for selling through this website rather than street dealing, due to its increased market reach across the globe, and ability to reduce the risk of street violence. Similar to Christin (2012), of interest is the illustration of reciprocal reviewing undertaken by vendors in the event of potential transactioning, and the subsequent transferal onto '*stealth mode*' which allows them to operate their business by invitation only, once a quota of trusted buyers is reached. The case described personal decisions to invest in '*Silk Road*' as somewhat time intensive and requiring computer expertise with creation of virtual '*friendships*' protected by use of pseudonyms and private vendor–buyer relationships. Within recognisable cyber group reciprocity, accountability and trust, the notion of '*safe*' drug use within the '*Silk Road*' community was described.

It appears that for this individual, simply being part of the global online drug community served to compartmentalise his drug consumerism with risk decisions undertaken within normative collective frameworks of virtual connectivity (see Furlong & Cartmel, 1997; Miller, 2005) whilst adhering to conventional societal norms in reality (Peretti-Watel, 2003). Of interest in this case study, is that the individual despite clearly reaping the benefits of '*Silk Road*' community membership, in reality strove to maintain a '*non drug using identity*' with his drug use occurring alone, and for personal, psychonautic and transcendental purposes (see also Leary, Metzner, & Alpert, 1964; Newcombe, 2008; Shulgin & Shulgin, 1992, 1997; Turner, 1994). Anonymity is key, as '*Silk Road*' members do not need to publicly assume a drug user identity in order to converse freely about their drug use (Barratt, 2012). Indeed, the existence of a drug user's '*parallel life*' has been commented on by Moore and Miles (2004). The importance of cyber navigation and learning appeared facilitated and supported by an existing host of experienced drug users. Cyber communities in this sense appeared to provide a series of '*nested support systems*' (Stockdale et al., 2007, p. 1868) which in turn fuelled information sourcing and exchange, user connectivity, identification of trusted and reliable sourcing routes, and mutual user supports. Whilst recognising the potential harm in using unregulated and un-tested products sourced from '*Silk Road*', he described his own (subjective) drug taking experiences, personal awareness of optimal settings for drug consumption and harm reduction practices as informed by prior experience of similar analogues and '*Silk Road*' user forums (parallels can be drawn from similar theorists in underground drug cultures see Becker, 1963; Jay, 1999; Lilly, 1972; Miller, 2005; Tart, 1971, 1972; Zinberg, 1984). In this sense, this single case study holds some promise in illustrating '*Silk Road's*' capacity to encourage harm reduction within a vary hard to reach drug using population (Stimson, 1995), considering the lack of scientific knowledge around pharmacological properties and toxicity of available substances on the net (Dixon, 2010; Govier, 2011; Hughes & Winstock, 2012; Karila & Reynaud, 2011; Rosenbaum, Carreiro, & Babu, 2012; Schepis, Marlowe, & Forman, 2008; Schifano et al., 2011; Wood et al., 2010).

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