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This place is like the jungle: discussions about psychoactive substances on a cryptomarket

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Abstract

Purpose – *The purpose of this paper is to analyse dynamics amongst members to better understand in what terms and to what extent marketplace forums can be seen as new forms of harm reduction.*

Design/methodology/approach – *This is a qualitative analysis focused on conversations about psychoactive substances on the forum community of AlphaBay Market. A sample consists of 100 online threads. The data, collected in July 2016, were analysed by applying the grounded theory approach with the support of Atlas.ti.*

Findings – *Conversations in the marketplace forum focus mostly on the purchase. Concerns and disputes are voiced in a significant proportion of them, and interactions are affected by a climate of distrust where stigmatisation processes can emerge between users of different drug categories. This casts a certain amount of doubt on the thesis that marketplace forums – like online forums – are new forms of harm reduction and peer-led communities.*

Research limitations/implications – *The study focuses on only one marketplace forum. Other such forums should be analysed to corroborate its findings.*

Practical implications – *Harm reduction interventions in the online environment should take different form according to the forum type, and take the differences and boundaries that separate users of different substances into account.*

Originality/value – *Thanks to its infrequently used qualitative approach, the study provides a more thorough understanding of the relationships on marketplace forums.*

Keywords *Content analysis, Harm reduction, Cryptomarkets, Dark net, Marketplace forums, Psychoactive substances*

Paper type *Research paper*

Introduction

The literature on drugs and cryptomarkets – i.e. markets hidden in the web, also called marketplaces – is rather recent but fast growing (Aldridge and Askew, 2017). Most studies focus on the first cryptomarket, the Silk Road (see e.g. Barratt, 2012; Aldridge and Décary-Héту, 2014; Van Hout and Bingham, 2014), which was closed by the FBI in 2013. Since then, however, cryptomarkets have proliferated, and the sale of illegal substances on the marketplaces is not only increasing but also seems to be an uncontrollable phenomenon (Soska and Christin, 2015; Van Buskirk *et al.*, 2014; Winstock *et al.*, 2016).

Accessing the dark net – that part of the web made up of sites that use anonymity tools to hide their physical location – entails a certain level of digital competence. People who want to buy drugs (or other illegal material) on a cryptomarket must install a special browser such as TOR or I2P on their computer, convert money into cryptocurrency – e.g. bitcoins – and use digital cryptography (Barratt, 2012). These are the main barriers to buying drugs on a cryptomarket (Barratt, 2012), which could explain why drug users who buy on cryptomarkets – mainly male – seem to be younger than those who buy only on traditional illegal markets (Barratt *et al.*, 2016; Van Buskirk *et al.*, 2016).

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At the same time, these barriers should protect the anonymity of financial transactions and online conversations, making the purchase safer for both vendors and buyers (Van Hout and Bingham, 2013b, 2014; Barratt *et al.*, 2016). According to a single case study of the Silk Road (Van Hout and Bingham, 2014), dealers who sell on the dark net especially appreciate the opportunity to operate in a fast growing and relatively competitive environment that offers a high profit margin. For their part, drug users' main reasons for buying on marketplaces are cheaper prices, higher quality of substances and greater availability compared to the street markets (Van Buskirk *et al.*, 2016; Van Hout and Bingham, 2013b). Furthermore, users associate cryptomarkets with a lower risk of physical violence and intimidation than traditional street markets (Barratt *et al.*, 2016; Van Hout and Bingham, 2013b).

A lower risk of physical violence is one of the main arguments advanced to support the claim that cryptomarkets are associated with harm reduction, with reference both to social and health harm (Van Hout and Bingham, 2013b, 2014; Buxton and Bingham, 2015; Aldridge and Décary-Héту, 2014; Barratt *et al.*, 2016). This lower risk is said to be due not only to cryptomarkets' virtual location and anonymity, but also to the fact that disputes can be submitted for resolution to the cryptomarket administrators, who provide third-party mediation (Aldridge *et al.*, 2018). The most widely used precautionary measure for preventing frauds is escrow, which, simply put, means that payments are held by the marketplace administrators until the goods have been delivered and accepted (Barratt *et al.*, 2016; Aldridge *et al.*, 2018). Escrow protocols have been continually improved since the time of the first marketplaces in order to increase security and reduce the risk of fraud, even by mediators (Goldfeder *et al.*, 2017; Moeller *et al.*, 2017). One such improvement was the introduction of a "multisig" feature, where the money is sent to multiple addresses controlled by each of the contracting parties and the mediator cannot unilaterally redeem escrowed funds (Goldfeder *et al.*, 2017).

Furthermore, by giving users the opportunity to rank and review the quality of the substances and of the vendors' services, cryptomarkets have replaced intimidation as means of maintaining market share with new marketing strategies based on customers' satisfaction and decision making (Aldridge and Décary-Héту, 2014; Barratt *et al.*, 2016; Van Hout and Bingham, 2013a). This may also result in higher product quality, though further research is needed to assess the quality of drugs sold on cryptomarkets by comparison with different kinds of off-line drug markets (Aldridge *et al.*, 2018).

Cryptomarkets are also considered harm reducing because, through their discussion forums, users can provide harm reduction information to their peers (Aldridge and Décary-Héту, 2016; Aldridge *et al.*, 2018) and offer a "non-judgemental environment, where people feel safe to discuss drug related issues" (Buxton and Bingham, 2015, p. 11). From this perspective, marketplace forums – forums and/or private chat rooms associated with a cryptomarket – can be seen as empowered peer-led communities "where users can discuss drugs, share information and document personal experiences" (Vale Pires *et al.*, 2015, p. 60). This thesis is consistent with what has been observed on drug users' communities on the clear net (Soussan and Kjellgren, 2014; Móró and Rácz, 2013; Van Hout and Hearne, 2015), where harm reduction – in the form of peer-to-peer support through sharing information and advice about drug consumption – "appeared both explicitly and implicitly as the common denominator that on the whole permeated the discussions" (Soussan and Kjellgren, 2014, p. 7). This parallelism between online and marketplace forums has to a certain extent been taken for granted (Buxton and Bingham, 2015; Aldridge *et al.*, 2018), though it has not yet been fully explored. Indeed, the first dark net investigation to pursue this thesis, often quoted by other scholars (see e.g. Buxton and Bingham, 2015), is based on a single case study of the old Silk Road marketplace, and its authors recommended further research (Van Hout and Bingham, 2013a). A more recent study, consisting in a content analysis of the AlphaBay and Valhalla marketplace forums aimed at analysing members' opinions about new psychoactive substances (NPS), reiterates the concept of harm reduction with reference to information and advice sharing (Van Hout and Hearne, 2017). However, these authors also note that the discussions they analysed "appeared to be centred in 'business to customer' transactioning" (p. 108), including disputes between vendors and buyers. This suggests that there may be a difference with respect to conversations on online forums, which are peer-led and chiefly devoted to sharing information and experiences (Soussan and Kjellgren, 2014), since discussions about drug sourcing are usually prohibited (Barratt, 2011).

As part of a larger study that has also investigated attitudes towards psychoactive substances on traditional web forums[1], the present paper offers an in-depth content analysis of interactions

between the members of the AlphaBay Market forum, in order to gain a better understanding of cryptomarket dynamics from a harm reduction perspective. We argue that forums relating to a hidden market on the dark net have specific characteristics that set them apart from other online forums in terms of the type of harm reduction they may be able to provide.

Methods

AlphaBay Market was selected from amongst the marketplaces provided with forums, which account for around 29 per cent of all markets linked to Hidden Wiki on July 2016, while no forums were found that were not linked to any market. AlphaBay was chosen because it was one of the largest and most active marketplaces with a forum in that period (Van Hout and Hearne, 2017), though it was closed after a law enforcement action in July 2017.

Data collection was conducted in July 2016 on the basis of the AlphaBay categorisation of threads concerning drugs, which also includes NPS, prescription drugs and steroids. The ten threads – a thread being a set of messages starting with the same original post – receiving the largest number of visits and comments were selected for each category of drugs on the market with the exception of steroids and paraphernalia, which were not considered pertinent to the main focus of the study. The idea behind this choice of threads was to determine whether the consumers' use of the forum and representations differed according to the type of substance. We thus obtained a sample of 100 threads each consisting of several pages of messages and replies, which were converted into 100 "primary documents" for the analysis (Table I).

Qualitative content analysis was conducted using the grounded theory approach (Strauss and Corbin, 1990) in two steps. A first "rough" coding was performed to try to understand what kind of conversation topic prevails on the forum. Unexpectedly, this first step indicated that forum conversations mainly focus on concern about the purchase, rather than on drug consumption (see Table II).

In the second step, qualitative analysis went into greater depth, focusing in particular on concerns and quarrels, which offer many insights into the interactions between the forum members.

Quotations were considered as semantic units, i.e., portions of conversation with full meaning, potentially including more than one user's comment.

Marketplace forum analysis did not entail interaction of any kind with members, as we only collected pre-existing data. The process was thus an observation of public conversations, in accordance with ethical guidelines (Secretary's Advisory Committee on Human Research Protections, 2013). To further protect the users' anonymity, however, we removed all user nicknames when reporting the quotations. Excerpts are therefore simply introduced by either B or V, to indicate whether the comment was posted by a buyer (B) or a vendor (V). Further precautions for protecting anonymity, e.g., paraphrasing the comments instead of transcribing them verbatim – were not needed, as the forum was closed and it would thus be impossible to trace original comments.

Results

Content of conversations

In general, the topics of conversation on the marketplace mainly concern the action level, that is, threads focus on the purchase. Specifically, exchanges about delivery and about vendors' reliability or unreliability predominate, while requests for information and remarks about substances are in the minority and are often merely parentheses within broader conversations. Furthermore, they did not often include reports of personal experiences. The major topics that emerged from the in-depth analysis are presented in greater detail below.

Concerns about vendors

Most of the forum conversations arise from buyers' questions about the reliability of specific vendors, which seems to be the main concern amongst marketplace members, despite the

Table 1 Data set for the in-depth analysis

<i>AlphaBay categorisation of drugs</i>	<i>No. of threads</i>	<i>%</i>	<i>No. of comments</i>	<i>%</i>	<i>No. of selected threads</i>
Cannabis Hashish	1,439	27.89	9,428	18.24	10
Buds and Flowers					
Hash					
Concentrates					
Shake					
Edibles					
Synthetic					
Other					
Opioids	706	13.68	12,983	25.12	10
Heroin					
Pills					
Fent and RCs					
Other					
Ecstasy	644	12.48	4,982	9.64	10
MDMA					
MDA					
Pills					
Knock Offs					
Cocaine	633	12.27	7,881	15.25	10
Powder					
Fish Scale					
Adulterant					
Stimulants	475	9.21	7,422	14.36	10
Speed					
Meth					
Pills					
Benzos	411	7.97	3,463	6.70	10
Pills					
Powder					
RC					
Psychedelics	319	6.18	1,777	3.44	10
Acid					
Shrooms					
DMT					
Mescaline					
NBOME					
Others					
Prescription	172	3.33	752	1.46	10
Drug safety	141	2.73	1,290	2.50	10
Steroids/Weight loss	118	2.29	1,018	1.97	0
Dissociatives	89	1.73	592	1.00	10
Ketamine					
MXE					
Other					
Paraphernalia	12	0.23	87	0.17	0
Total	5,159	100.00	51,675	100.00	100

ranking service and the wealth of information available on vendor profiles. As one buyer suggests to new forum members, trusting vendors is unwise:

B: Firstly trust nobody on any market. You would have to be completely stupid to trust total strangers that are selling you drugs[2].

Indeed, according to the analysed conversations, reviews do not seem to be entirely reliable, since they may be written by buyers in their own interest. Sometimes new vendors offer free samples in exchange for good reviews; likewise, some buyers offer to act as testers in return for free samples:

B: I'm always willing to try samples of anything to new vendors or any vendor and will write a honest lengthy review of your product on the forum. Also tell some personal vendors/friends of mine to check it out and will pay shipping if needed for samples.

Table II Results of the first rough coding

Code	Explanation	%
Secure purchase	Pieces of conversation about the precautions to be taken in order to make a secure purchase, without getting caught by the police	40.5
Vendors reliability	Pieces of conversation about vendor reliability	34.2
Where to buy	Pieces of conversation in which consumers ask where to buy the substance	9.5
How to prepare	Pieces of conversation about how to produce substances	8.4
How to use	Pieces of conversation about how to consume substances	3.5
Information about drugs	General information about substances	2.3
Information about price	Information about prices	1.6

Confirming previous research (Cox, 2016), users reported that some vendors are able to post false reviews and – even though escrow is formally provided by the marketplace – to finalise the financial transaction early before delivery is concluded. While a dispute is being processed – which can take a long time – buyers cannot receive their bitcoins back:

B: Also i asked for a custom listing of 25 because he only sells 50 pill orders which was fine. But after i made the order it turned out to be FE [finalize-early] and he wrote a fake positive review on my order and then he finalized it. It looks like most of his feedback is fake, especially the MDMA pill listings.

Negative reviews can also be written by another vendor in order to promote his own products and to discredit competitors. The following is a typical dispute between vendors on AlphaBay, where competition between vendors seem to be fierce and not always fair:

V: Look at your feedback – you are a horrible vendor. You scam people and sell garbage products. Look at my feedback, I have over 2000 and yours is the ONLY negative about ANY of my products. My product is lab tested, both by myself and independently by EnergyControl. Ever single batch I offer will be over 99% purity guaranteed. You left me a negative feedback trying to ruin my reputation and advertise for yourself. I do not want you to “feel the heat of competition”. You will never be able to compete with the quality product and service I offer, period.

As one of the market users has effectively pointed out, despite the internal regulation system, the marketplace “is like a jungle”, where you should be careful because you may run into risks and frauds:

B: The thing is, this place is like the jungle. You are willingly coming to and participating in an environment where there is no law, you need to look out for yourself. There are no rules here, and nobody gives you any guarantees. You come here of your own free will knowing the potential hazards.

Concerns about delivery

The most highly appreciated vendors not only sell good quality drugs, at reasonable prices and in acceptable delivery times, but they also respond to messages in real time and use effective stealth practices when delivering their products. Indeed, even when the transaction takes place as agreed, buyers are obviously concerned about running into legal problems during delivery, which seems to be the second main concern of AlphaBay Market clients who buy psychoactive substances.

Trying to avoid these risks, the forum members share experiences and suggestions. Some of them give false names and addresses of student housing or homeless shelters for delivery. Some warn users that certain vendors may blackmail buyers: anonymity thus serves not only to protect themselves from law enforcement, but also from vendors:

B: I use homeless shelters and student houses. Anywhere that has a lot of people coming and going is good, you can use any name you want and the postman wont think anything of it. Its cheaper to give a homeless person or a student a few quid than getting false ID and renting somewhere. Never use your real name and address, its not just LE [law enforcement] you have to worry about. Some vendors try to blackmail buyers so only pick vendors that other buyers will vouch for.

Concerns about quality

Marketplace users are also concerned about poor substance quality – a concept that can encompass reliability, purity, potency and predictability of effects, as Bancroft and Reid (2016) pointed out.

For instance, it seems difficult to find a good quality ketamine on the marketplace, and buyers are nostalgic for the “good old days” when this substance came from India, at better quality and lower prices. Some buyers even argue that it is easier to get it on the street:

B: I get amazing quality ketamine locally for better prices in bulk than anywhere iv seen on the darknet. i can also get vials of liquid. I have yet to try any ketamine from the net because most of the reviews make me want to steer clear. sounds like iv got better ketamine connections than most of the vendors on here.

B: I don't think there is a safe non-street version. It is just injecting an opiate with really really dirty extract chemicals.

It seems that it is easier to find racemic ketamine (arketamine) than the more potent S+ ketamine (esketamine). Some buyers argue that certain vendors who pretend to have esketamine are actually selling the racemic type, since the process of producing S+ ketamine is too complicated.

Buyers' doubts seem to be reasonable, as they do not always get what they have ordered, and effects are not always as expected. Instead of amphetamine or speed, for instance, they may receive research chemicals of some kind, which are considered a scam, as according to some reports they cause anxiety rather than euphoria:

B: The dominoes were garbage [...] I threw most of them out because I felt so gross for two days or so after I took them. I would guess it's some kind of RC amphetamine blend. No euphoria to speak of, just sweaty creeper watching porn all night type thing.

Quarrels

Many of the concerns we have mentioned do not seem to be unfounded. Indeed, buyers' complaints of having been cheated – and consequently having run risks – are numerous. Quarrels between buyers and vendors can also involve insults and heated clashes.

Most buyers' complaints are because delivery times have not been respected – and they risk going into withdrawal, which is the case of opioid users who often present themselves as addicts:

B: Last thing a fent user needs is to get their order confiscated or lost because of ZERO stealth and then have to go into withdrawal because of it.

Sometimes complaints concern receiving quantities that are less than expected, though this is not the worst problem with doses. The following quotation is from an intense dispute that arose because a buyer accused a vendor of trying to kill people by selling a product containing a near-lethal dose:

B: You also sell a fentanyl nasal sprayer that is advertised as 1mg per spray. You do realize that the LD50 for Fentanyl is 2mg, RIGHT? Are you trying to kill people or do you just not care about the safety of your customers?

V: 2mg as LD50? for who? Opiate naive people or in general? I can take 5mg and be just fine, and that's your stuff, not some stuff that's cut to hell.

The issue of the lethal dose also arose for NBOME. A buyer's complaint elicited a harsh reaction from a vendor who presents himself as a competent consumer and attributes bad trips or unwanted consequences to the buyers' inexperience. First, the vendor claims that cases of death reported in the media are stories invented to make the substance illegal “as occurred with LSD”. Furthermore, he argues that even “bad” experiences are important and useful. He asserts that “psychedelic use is about spiritual growth” and that “any teaching from any source that helps facilitate that growth is welcome”:

V: What I hear is opinion, and I am an authority on Nbome, I have been collecting data and listening to experiences for many years, as I am a reputable Vendor of Nbome. I have personally ingested as much as 30mg of 25C Nbome, and loved it (6 times the alleged lethal dose). I gave an entire Buddhist

Monastery Free Nbome, and they loved it. [...] You know tripping is not a panacea, and requires education also. [...] Every experience we have, grows new neuron and dendrite pathways. For the shaman every experience he can get is important. [...] It is the spiritual master that is ultimately responsible for the psychedelic experience, not the chemical.

Buyers can also run serious risks because the substance is not the one they expected, as related in the following excerpt from a buyer who thought he had bought an opioid but instead received a mix of substances that exposed him and his friend to serious risks:

B1: I am what I would consider “highly experienced” in opiate use and this was not a straight opiate. It tasted a little like cocaine and ketamine mixed together. Gave no euphoric feelings or opioid effects. It simply tried to kill me. I was throwing up violently and lost so much fluid that I was cramping up and struggling to walk for a week [...] I had a girl with me that took a key bump. literally a fucking key bump and she overdosed. [...] She had to get hit with 2 doses of Narcan to come back. One of the scariest situations I’ve ever been in and the EMS said that my friend was on the brink of serious brain trauma and death.

It is worth noting that this buyer was unable to find the vendor again on the forum, perhaps because vendors can change their profile and get a new account when problems occur:

B1: I searched because I wanted to call him out but could not find where I messaged him. He had a sample posting on the forums and that’s where I reached out.

Stigmatisation

Though the marketplace forum is clearly frequented by people who use drugs, and the dark net itself is considered to mitigate stigma (Bancroft, 2017), stigmatisation is not unknown in this environment. Different types of consumers can take their distance and criticise other forum members. For instance, users of hallucinogens distance themselves from “recreational users”, who are dismissed as only looking for entertainment without understanding that even negative effects – e.g., bad trips – are valuable as a way to increase awareness and grow spiritually:

B: I don’t have much sympathy for people using it as a party drug other than to feel sad at the shallow expectations they have and wish that they could obtain something constructive from it rather than simply escape and entertainment.

B: [Salvia divinorum] it’s not a recreational substance. YouTube is full of videos of morons who think that it is and they are squandering its gift [...] my experiences on SD have all scared the shit out of me but I have taken what I experienced and reflected upon it and attempted to use it constructively. As such, it has been extremely valuable.

Oddly enough, users are perceived to be stigmatised even by vendors. This is reported by the members who consume opioids – who are seemingly considered the most persistent and troublesome:

B: Other vendors treat us like shit because they probably think we’re assholes who are just one dose away from death. Which of course makes them the assholes because if they think that, then they are supplying the means. Guess that’s why they think that can sell us any old cut up bullshit that counts for fent.

Users of synthetic cannabinoids also seem to be stigmatised on the marketplace forum. The following excerpt is from a vendor who explains why he quit selling this kind of substance:

V: I decided that the demand, pressure, and stress was too high on my end to deal with [...] every damn morning message after message “Anything yet?!” (I can deal with the average messages of people with product I have but damn synthetic addicts for real bad as heroin users).

Distrust

Disputes can arise not only between buyers and vendors, but also between vendors – because of competition, as mentioned above – and even between buyers themselves.

On the one hand, buyers on the platform can talk and exchange advice about substances, as in the following examples:

B: If you know what you are doing it is fine but if you do not then cutting it with lactose can be very dangerous. Please be VERY careful, you could kill yourself or someone else!

B: Ayahuasca is not a joke and should not be taken lightly in any way at all. While DMT is a fairly quick experience and has minimal physical side effects, Ayahuasca can last for hours and can be potentially fucking terrifying and painful beyond your wildest imaginations, and you may be puking, shitting, and pissing yourself throughout this experience. I'm not saying Ayahuasca can't be a beautiful, ecstatic, and rewarding experience, but you really need to be extremely prepared for it. And smoking DMT is really not overly difficult.

On the other hand, vendors – who often present themselves as expert users – can also intervene in the conversation, which forum members say can be misleading:

B: I understand that you are a NBOME vendor (no i have never heard of you lol your a small time nbome vendor why would i have?) so you will want to defend your products but people deserve to understand and know what they are putting in their body and you are giving them a false sense of safety and spitting out factless bullshit just to make a quick buck which is sick.

Furthermore, it seems that advice is not always welcomed on AlphaBay, seemingly because of a generalised distrust. The next excerpt is the conclusion of a very long argument that occurred because one buyer warned another about the dangers of taking a certain amount of fentanyl. The latter reacted negatively because he felt that his experience and consciousness had been underestimated, and he thought that the other buyer's concern would bring him bad luck. The final comment by the forum member who initially tried to give advice was as follows:

B: Damn man, alright then it looks like you're more experienced than I thought but I don't think it's cool to rage on someone who's just looking out for you. I mean I have no qualms if you wanna kill yourself but at the same time I was just trying to help out. FFS man, why would you get upset at someone who's obviously just trying to help you out? [...] I mean fuck [...] dude, take a step back and realize I wasn't trying to shake my finger at you. Just trying to fucking help, even if it wasn't "IN THIS CASE" needed. It's called a community and we should look out for each other. Not get our panties in a wad because of that [...] just saying dude. You seem paranoid, and upset. Forgive me for trying to be a decent guy and dealing with you.

However, when a buyer needs more detailed information about drugs, often the advice is to go on specific clear net forums such as Reddit, reflecting a tendency which has also been noted on other marketplace forums (Bancroft, 2017):

If you're a weekend user or don't use opiates often then you'd be making a grave mistake in jumping straight to fentanyl. Seriously [...].

For your own safety, do some research.

[Reddit.com/r/opiates](https://www.reddit.com/r/opiates)

Read the wikipedia on fentanyl.

and take a look at this webpage, it explains a lot as to the strength of fent.

Discussion

The continuing growth of cryptomarkets (Soska and Christin, 2015; Van Buskirk *et al.*, 2014) indicates that this form of trading is on the whole appreciated by customers, and it is reasonable to assume that successful transactions with no animus are less likely to be discussed on the marketplace forum – which could explain why negative opinions and quarrels abound in our data set. Indeed, it has been argued that 99 per cent of posts on a marketplace forum are written by 1 per cent of forum members. With this in mind, our analysis offers some insights into the relationship between web forums and harm reduction, indicating that references to the latter must consider different kinds of harm (Bancroft, 2017). In particular, the study suggests that marketplace forums differ from online forums specifically addressed to drug users and analysed by previous research (Soussan and Kjellgren, 2014; Móró and Rácz, 2013; Van Hout and Hearne, 2015) in that they focus mainly on the purchase rather than on the users' experiences.

Our data appear to indicate that interactions amongst forum members differ from those observed on Silk Road, where a peer-to-peer exchange of advice, information and support was evident (Van Hout and Bingham, 2014; Caudévilla, 2016). The present study seems to confirm that users of new cryptomarkets are increasingly focused on security (Munksgaard and Demant, 2016) and

suggests that marketplace forums differ or evolve over time, even though this hypothesis could be better addressed by analysing new and different marketplace forums.

According to Caudevilla (2016), the presence of vendors on the old Silk Road forum provided buyers with better opportunities for obtaining information about quality, purity, adulterants and so forth. In the threads we analysed, by contrast, little space is devoted to exchanging experiences and opinions about drug consumption, or to talking about the values and philosophy of drug consumption. Indeed, forum members suggest that new visitors in search of information about drug effects or consumption methods go to the web forums on the clear net dedicated to drug consumers, which do actually perform all these functions (Soussan and Kjellgren, 2014; Móró and Rácz, 2013; Van Hout and Hearne, 2015).

Though it could be argued that the ranking and the review system helps users make informed decisions (Barratt *et al.*, 2013), exchanges between AlphaBay forum members were “contaminated” by a generalised sense of distrust, which site policies and regulation were unable to dispel, just as they were unable to prevent scams.

Based on our data, we agree with Bancroft (2017, p. 347) that “cryptomarkets do not remove risk but do they reconfigure harm”, which can include different aspects. Confirming the most recent studies (Tzanetakis *et al.*, 2016; Cox, 2016), buyers suspect that some reviews are false; in addition, some vendors circumvent the escrow system and require early finalisation of the financial transaction. Since the risk of being ripped off is not absent (Aldridge *et al.*, 2018; Bancroft, 2017), the conversations on the marketplace forum are full of quarrels. Many buyers complain they have been ripped off in various ways, e.g., the substance they have paid for has not been delivered, has been delivered after much delay, was actually another substance, the quantity was not as agreed or its quality was poor. As other scholars have noted (Quintana *et al.*, 2017; Rhumorbarbe *et al.*, 2016), there is also a risk of adulteration. Therefore, one of the users’ main reasons for buying on the dark net instead of on traditional illegal markets (Van Hout and Bingham, 2013b, 2014; Barratt *et al.*, 2016), namely, better quality, is not ensured and depends on the substance. As users’ satisfaction does not necessarily reflect actual product quality (Evrard *et al.*, 2010), the supposedly higher quality of drugs sold on the cryptomarkets compared to off-line markets needs further research (Aldridge *et al.*, 2018). Finally, even when the purchase is a good deal in itself, delivery is still a major dilemma and buyers seem quite worried about it, as it entails the risk of drawing law enforcement attention (Aldridge and Askew, 2017; Tzanetakis *et al.*, 2016).

Arguments are not only between supply and demand. On the one hand, the heated arguments amongst vendors suggest that competition is not as low as found in previous studies (Van Hout and Bingham, 2014). On the other hand, exchanges amongst buyers are often replete with prejudices and suspicion, to the point that even advice is not always well-taken. Sympathy and solidarity between buyers are not to be taken for granted, while users of different types of drugs – such as opioids, hallucinogens, stimulants, cannabinoids, dissociatives, etc. – tend to draw boundaries between each other (Soussan and Kjellgren, 2016; Móró and Rácz, 2013; Rolando *et al.*, 2017). This is what happens in the marketplace environment, where, for instance, opioid users – who account for a minority (Aldridge and Décary-Hétu, 2014) – are openly disparaged, even by vendors. This finding calls in question the definition of cryptomarkets as non-judgemental environments (Buxton and Bingham, 2015) that enable “a sense of belonging” (Vale Pires *et al.*, 2016, p. 184), though, this may be the case when the forum is frequented mainly by users of one type of drug, e.g., “psychonauts” (Móró *et al.*, 2011).

Finally, we argue that the presence of vendors on the marketplace forums establishes a conflict of interest that means the forums cannot be considered user-led initiatives (Vale Pires *et al.*, 2016). Rather, they are market-led forms of harm reduction as Van Hout and Bingham (2014) pointed out, and as such their effects would require more investigation.

Conclusions

The study suggests that a more nuanced view should be taken of the association between web forums and harm reduction in the case of marketplace forums. In particular, it should be borne in mind that marketplace forums’ primary function of enabling purchases and the presence of

vendors may affect members' interactions, pushing the wish to share information and advice into the background. The findings should be corroborated by analysing other marketplace forums, given the importance of the implications for prevention policies. We can conclude that "netreach interventions", i.e., harm reduction interventions applied to the online environment (Vale Pires *et al.*, 2016), should take different forms according to the forum type and take the differences and boundaries that separate users of different drug categories into account.

Notes

1. BAONPS – Be Aware On Night Pleasure Safety <http://coopalice.net/baonps/>
2. Quotes are unedited excerpts pasted from the marketplace forum. Any grammatical errors or strong language were left.

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