European Monitoring Centre
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Technology-facilitated drug dealing via social media in the Nordic countries

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Authors
Jakob Demant and Silje A. Bakken
Department of Sociology, University of Copenhagen, Denmark

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Abstract

Aims: Use of the internet has changed drug dealing over the past decade. While there is a growing understanding of the role of darknet drug markets, little is known about how drug dealing works on public online services such as social media. This study reports findings from a Nordic comparative study of social media drug dealing, which represents the first in-depth study of increasing levels of digitally mediated drug dealing outside cryptomarkets.

Design and methods: A qualitative study using online ethnography and semi-structured interviews. Data were coded in NVivo by general themes: modus operandi, motivation, trust and risk. The qualitative study is supplemented with data analysis from the national Danish Youth Profile Survey of young people (13-25 years old) to establish the prevalence of online versus offline purchasing of drugs and to compare online and offline buyers.

Results: Interview data consist of 107 buyers and sellers aged 16-45 (mean age 23.1 years), of whom 83.2 % were male. Ethnographic data (approximately 1 500 screenshots) show a high degree of drug-dealing activity on Facebook (113 observed groups) and Instagram (approximately 50 identified profiles), as well as on Snapchat and Facebook Messenger. Buyers and sellers also make use of encrypted platforms, such as darknet forums and the Wickr application. National data show a high volume of Facebook use in Denmark and Iceland, as well as in Sweden, where Instagram is also widely used. Norway had no discernible activity on Facebook, but rather used Snapchat and Wickr. Finland used encrypted channels such as Wickr and a national darknet forum. The Danish Youth Profile Survey results indicate that 36 % of young people buying drugs source them online.

Discussion: Social media is a common tool used in the buying and selling of illicit drugs. National differences in the use of social media in drug trading across the five Nordic countries might be influenced by various factors such as cultural context and drug legislation. Our analysis indicates that social media markets may be entry-level markets for the youngest stratum of drug users. Social media markets are highly liable to fluctuation, so uncertainty prevails with regard to their future use. Further research is needed to address this issue, taking into consideration how rapidly change may occur.

Introduction

This report provides an overview of the findings of an in-depth study on the different ways in which online social media is currently used to facilitate drug dealing in five Nordic countries: Denmark, Finland, Iceland, Norway and Sweden.

The use of internet-based digital communication tools has developed quickly since the year 2000, especially with the rise of social media, which has changed daily routines globally. Social media is generally characterised by both social networking and easy access to virtually any type of content that is available online (Kaplan and Haenlein, 2010; Van Dijck, 2013). Concerns have been raised that the expansion of the drugs trade into online social media is responsible for an increased interest in buying drugs (Forsyth, 2012). In fact, within the past few years, a number of news stories have identified drug-dealing activity on social media (Ferguson, 2016; Horne, 2018; Ward and Maidment, 2017). Social media drug dealing makes drugs potentially available to large groups of (previously disinclined) young people. In addition, the wide variety of drugs available may tempt users to expand use from one to more types of drugs, as has been reported in relation to cryptomarkets (Barratt et al., 2016). As highlighted by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), research investigating the impact of social media on the demand for drugs is needed (EMCDDA, 2016; Thanki and Frederick, 2016).

Online drug dealing has been studied intensively since the rise of cryptomarkets on the dark web, where the purchase and sale of drugs were made possible without a direct threat of detection (Aldridge and Décary-Hétu, 2014; Martin, 2014). Drug dealing has also been a part of the 'clearnet', where a number of new psychoactive substances (NPS) and pharmaceutical products are traded (Hall et al., 2017; Martinez et al., 2016; Scammell and Bo, 2016). Simple searches can direct a potential buyer to websites selling 'spice', 'legal highs' or synthetic cannabis (Hillebrand, 2010; Schmidt et al., 2011). The market for these substances has partly disappeared in some countries following changes in national legislation. The rise of cryptomarkets is seen by many as a response to the increasingly strict regulation of drug markets (Maddox et al., 2016; Munksgaard and Demant, 2016b). Cryptomarkets build trust systems that enable their functionality, and they rely on encryption as well as on users' skills (Bakken et al., 2017; Tzanetakis et al., 2016). Cryptomarkets have functioned alongside the more public digital routes of the drugs trade (Clough, 2015; Kaakinen et al., 2018; Yar, 2013). The use of social media as a channel for drug trading, however, has been less well explored. The present study seeks to address this gap in the research.

This report outlines the findings from the first in-depth study on the use of social media to buy and sell illicit drugs. The study aimed to investigate how drug dealing takes place on social media within different national contexts, as well as to establish an overview of how social media is structured for this trade (in terms of groups, technologies, etc.). It also sought to estimate the prevalence of drug dealing on social media (using the Danish Youth Profile Survey data), and to test possible differences between those who buy drugs online and those who buy them offline. The study makes use of a combination of methods, including digital ethnography, qualitative interviews and analysis of survey data.

The next section details the methodology used. The report then moves on to compare the five Nordic countries under study (Denmark, Finland, Iceland, Norway and Sweden), before focusing on the Facebook markets commonly found in Denmark, Iceland and Sweden.

Methodology

Digital ethnography

Data collection was based on online ethnography (Hine, 2015, 2017) that included interviews with online sellers and buyers in five Nordic countries: Denmark, Finland, Iceland, Norway and Sweden.

As this field of research is largely unexplored, the research process was initiated with online ethnography. Online ethnography is grounded in the basic principles of ethnographic research; however, activities take place online (Hine, 2017).

Our first step was to conduct general drug-related searches on various social media platforms, which enhanced our understanding of the openness of drug trading on the various platforms. From this search, we identified profiles on Instagram and explored specific groups on Facebook and the profiles within these in order to gain information on the forms of communication and its content. Our data indicated that a substantial part of social media-based drug dealing occurs on closed, one-to-one, messenger-style social media, and in-depth interviews were valuable in providing data for this kind of interaction that would otherwise be inaccessible to us. The interviews explored the motivations and risk perceptions that formed participants' engagement with social media, or lack thereof.

All data were collected between September and December 2017. Research assistants at each location followed the research protocol on data collection. Most interviewees were recruited through the social media that they used to sell and/or buy drugs. This group can be described as a hidden population (see, for example, Dunlap and Johnson, 1998) and it proved to be a very time-intensive process to have both sellers and buyers respond positively to our invitation to be interviewed. A small number of interviewees were recruited through information posts about this project on relevant drug forums (mostly for the Norwegian sample) and by snowballing from the research assistants' networks. Table 1 shows only an approximate distribution of interviews by recruiting method, as many interviewees contacted us directly on Wickr without informing us where they got our contact information. Interviews were conducted using an encrypted messenger app, which ensured privacy and offered flexibility in terms of time and space.

Table 1: Distribution of interviews across recruitment methods by country

Participating country		Denmark	Finland	Iceland	Norway	Sweden
Recruitment method (*n*)	Social media	15	15	4	4	17
	Forum post	7	0	3	25	7
	Student network	4	0	0	6	0

Of the 107 interviewees (Table 2), most were male (83.2 %), with only 7.5 %, 2.8 % and 6.5 % of interviewees identifying as female or transgender or not specifying their gender, respectively. Ages ranged from 16 to 45 years (mean age 23.1 years, standard deviation (SD) 5.6 years). Approximately one-third (32.7%) of participants were primarily sellers, one-third (36.5%) were primarily buyers and one-third (30.8%) fell into both categories.

Table 2: Mean age, gender and role of interviewees by country

Country	Denmark	Finland	Iceland	Norway	Sweden	Total (mean age)
n (%)	26 (24.3)	15 (14.0)	7 (6.5)	35 (32.7)	24 (22.4)	**107**
Mean age (± SD)	23.4 (± 5.6)	27.3 (± 7.9)	24.8 (± 5.2)	21.2 (± 4.3)	22.9 (± 5.2)	**23.1 (± 5.64)**
Gender (no (%))						
Male	22 (84.6)	7 (46.7)	6 (85.8)	34 (97.1)	24 (100)	**93 (86.9)**
Female	1 (3.8)	5 (33.3)	1 (14.2)	1 (2.9)	0	**8 (7.5)**
Transgender	0	3 (20.0)	0	0	0	**3 (2.8)**
Not reported	3 (11.6)	0	0	0	0	**3 (2.8)**
Role (no (%))						
Seller	10 (38.4)	3 (20.0)	1 (14.2)	8 (22.9)	13 (54.2)	**35 (32.7)**
Buyer	8 (30.8)	5 (33.3)	3 (42.9)	20 (57.1)	3 (12.5)	**39 (36.5)**
Buyer and seller	8 (30.8)	7 (46.7)	3 (42.9)	7 (20.0)	8 (33.3)	**33 (30.8)**

Ethnographic data collection was described briefly by each research assistant. Data mostly consisted of screenshots (e.g. see the two screenshots in Figure 1, both of which have been edited to ensure anonymity). We then proceeded with content analysis. A data overview in Microsoft Excel gave a general first analysis of the participants and the social media they used.

Figure 1: Screenshots of online profiles and posts
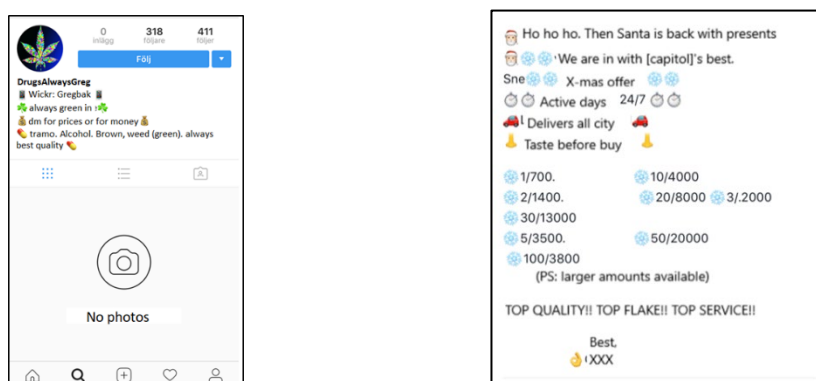
Screenshots were grouped by country and market into various files and coded in NVivo for group information, marketing strategy, emoji use and drug type. NVivo was also used to code interview data by general themes (e.g. modus operandi, trust and risk).

Markets were then categorised according to how open communication for the drugs trade is within each country (Bakken and Demant, in press). The most open markets were labelled public digital markets, which in this particular study mainly indicate public Facebook groups and Instagram profiles. Semi-public and private markets, on the other hand, concern one-to-one messaging applications such as Facebook Messenger, Snapchat and Wickr. Public digital markets are relatively easy to access, while private markets rely on the development of interpersonal (drug-dealing) connections.

Youth Profile Survey – Denmark

The 2017 Youth Profile Survey data analysed here stem from a partnership between various public Danish institutions, including several municipalities and universities, which started a yearly Youth Profile Survey in 2015 (Dahl et al., 2018). In 2017, more than 60 000 young Danes responded to a survey concerning health and social issues. The data are used for research as well as for targeting specific prevention interventions and policies. The survey was collected by individual municipalities, and since the process and selection method varies between municipalities, it is not possible to properly investigate the representativeness of the sample (Svendsen, 2018). Of those respondents aged 14 years, 51.3 % were male, which is not significantly different from the proportion of males aged 14 years in the general population. Still, there are bound to be non-responses that might have a bias that we cannot account for.

The full survey sample consists of 59 475 young people between 13 and 20 years of age. Of these, 20 % stated that they have tried cannabis. Of these, around 40 % stated that they usually buy their cannabis either online or offline (as opposed to smoking only when offered by others or growing cannabis themselves). The sample analysed for the purposes of this study comprises only those buying cannabis, which amounts to 4 236 survey respondents (mostly 14 years of age).

Ethics

The study was approved by the Academic Ethics Committee of the University of Copenhagen in September 2017. In addition, the ethics committees in other Nordic countries were consulted. All participants agreed to take part in the interviews and they were informed of the aims of the study. The anonymity of both interviewers and interviewees was maintained by using an encrypted messenger app and collecting data on dedicated mobile phones (which were later cleaned and reset). The datasets were further anonymised and securely saved for analysis.

Results

Denmark, Iceland and Sweden have an active open social media drug market, especially within Facebook groups and on Instagram. These markets are characterised by high accessibility and dealing between strangers – what we have categorised as public digital markets (see Table 3). In Norway and Finland, we did not find any open markets or indications of their use or existence. Instead, we found what we have categorised as private digital markets: closed, essentially peer-to-peer-only markets run through messaging applications. In Norway, if Facebook is used to buy and sell drugs, it is only through private messages or strict groups that are exclusive to Facebook friends. In Finland, we found that most online dealing took place on a local cryptomarket forum that resembled somewhat the process of drug dealing on Facebook. Based on the predominant type of market, countries are categorised as either 'public' or 'semi-public/private' market countries. Despite large variations between countries, the overall process of drug dealing was similar: parties first meet online, where price and amount are discussed and then meet physically to exchange money and drugs.

Country	Public digital market (Facebook, Instagram, forums)	Semi-public/private digital market (Snapchat, Wickr, messaging applications)
Denmark	High	Medium
Finland	High	Medium
Iceland	High	Low
Norway	Low	High
Sweden	High	Medium

Private and semi-public digital markets

In this section we focus mostly on drug dealing taking place on online social media in Finland and Norway. Large differences were seen between these two countries: Finland had predominantly an encryption-based market open to the public, and Norway had a more private market. In these two countries we did not find any drug dealing taking place on open social media platforms.

In Finland, we found a large public digital market taking place on a forum. This forum was placed as a hidden service and was available only with a Tor browser, which has built-in encryption. This darknet forum functioned very much like the larger groups on Facebook that were observed in Denmark, Iceland and Sweden. The main characteristics of these markets are that sellers publicly post their drug offers, including their contact information, and encourage further communication on private channels such as Wickr.

In Norway, no such public drug communication was found. Instead, sellers and buyers made use of private message applications such as Wickr, Snapchat and Facebook Messenger. Accessing the markets therefore requires a high level of previous knowledge to be able to contact a seller (knowing who to contact and how), which was often achieved by friends acting as intermediaries. Depending on the app in use, sellers sometimes sent group messages (e.g. Wickr) or public stories (e.g. Snapchat) advertising newly arrived drugs or special deals.

While the markets in both Norway and Finland have certain elements of social media drug dealing, we did not include them in the analysis of public digital markets. This is because communication takes place in restricted or bounded systems, which are kept secure either by encryption or by the use of private markets only, and therefore it stands on the very edge of what can be described as social media (Boyd and Ellison, 2007). The next section limits the analysis to drug dealing on Facebook, allowing for a comparison of drug dealing patterns in the three countries where Facebook was a prevalent platform for accessing drugs: Denmark, Iceland and Sweden.

Public digital markets

In this section, we focus on the three countries that have open social media markets: Denmark, Iceland and Sweden. We descriptively analyse the markets in relation to the types of drugs sold. We further describe posts made by individual profiles – these are mostly posts by sellers, although a few are made by buyers with particular requests. The analysis is based on the coding of the material in NVivo 11. It is important to note that the frequencies are dependent on

the sampling procedure. This means that we can use the material as an indication, but not a precise representation, of these markets.

Online drug markets on Facebook

In total, we observed 113 Facebook groups through which illegal drugs were sold: 26 in Denmark, 30 in Iceland and 57 in Sweden. We identified and observed the markets within a 4-month period (September-December 2017), and data are limited to the groups that we were able to access. In relation to each country's population, Denmark and Sweden have the same frequency of groups per capita, while Iceland shows a remarkably large frequency of groups compared with its population.

Only 63 drug markets had a specific geographical coverage: 34 were nationwide, 20 were citywide, six covered large regions (often including counties or more than one city) and two covered small regions (i.e. a city and surrounding areas). Finally, one market focused on a specific area within a city. Despite these data, an estimation of market demographics is challenging because almost half of the markets (n = 50) did not inform members of their geographic reach (no specific instructions were provided in the group summary). It is possible that markets not specifying geographical coverage have a national reach, where it is up to the sellers to limit their own areas of delivery. The analysis of screenshots from these markets supports this hypothesis.

Figure 2: Geographic focus of Facebook groups in Denmark, Iceland and Sweden
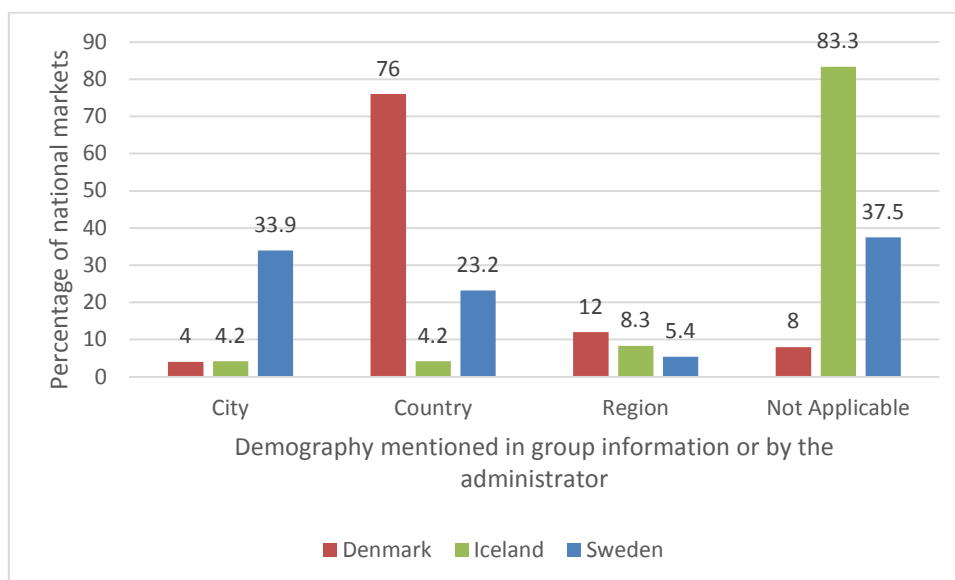
There are clear differences between countries (see Figure 2). Denmark has national markets for the most part, which appears to align with the geography of the country: it is easily accessible and is densely populated. Sweden, however, has a significant number of citywide groups. In Iceland, the majority of groups did not specify geographical reach, which may suggest that they are open to nationwide sales.

We also found a large difference in the number of group members, both within and across the three countries. The groups showed great variation in size, ranging from fewer than 100 members to more than 7 000. What makes these figures even more interesting is that group size is not evenly spread across the three countries (Figure 3).

Figure 3: Number of members in Facebook groups in Denmark, Iceland and Sweden
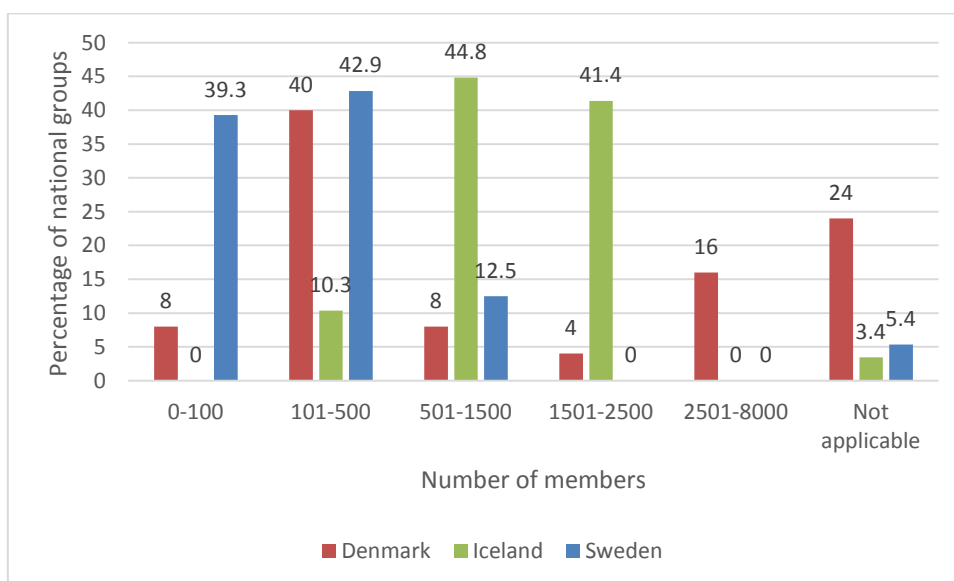
Swedish markets are typically small in size, with fewer than 500 members. Denmark has a large proportion of small markets but also has groups with the largest number of members. These are groups with more than 2 501 members and are most often characterised as cannabis social groups where sales occasionally take place. Iceland, on the other hand, mostly has medium-sized groups of between 501 and 2 500 members, which, considering its population size, could indicate that it has a larger group of core members across the different market places.

Figure 4 shows a breakdown of the drugs on offer in Facebook groups and among individual sellers. The most significant finding is the high frequency of groups not specifying the types of drugs that can be dealt. In Denmark, we do, however, find a large specialisation of cannabis groups, which account for 40 % of the Danish groups.

Figure 4: Type of drugs sold/requested in Facebook groups in Denmark, Iceland and Sweden
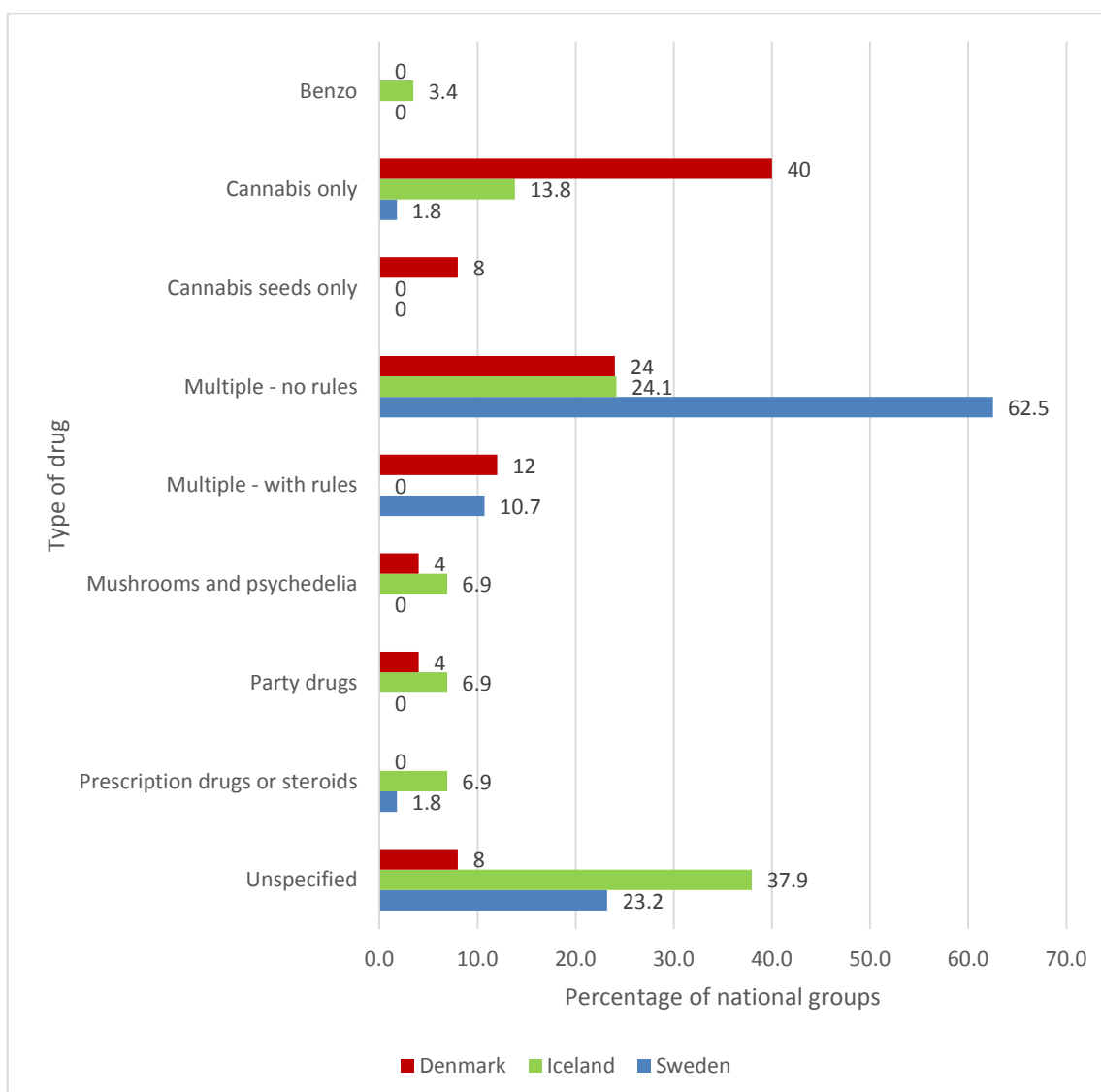

Note: Benzo, benzodiazepine.

Most of the markets did not specialise in one or a few types of drugs and instead were open to trading any kind of drug. In fact, 48 out of the 113 markets sold multiple drugs without imposing any rules (i.e. the administrators of the groups did not provide guidance on what could and could not be sold within the group). Under 'non-applicable', we included the 28 groups that provided minimal information and hence could not be placed in any of the categories. Groups function as a platform economy for drug sellers, but the flexibility of the platforms appears to be greater in Sweden, where the majority of groups are open to the trade of multiple drugs with no rules attached (compared with only 24 % of groups in Denmark and Iceland).

Perhaps unsurprisingly, markets specific to the trade of particular types of drugs were mostly drugs-only groups (i.e. groups not selling products other than drugs). Cannabis groups, in particular, rarely traded anything other than cannabis. Groups selling multiple drugs were more frequently open to the trade of other illicit items such as weapons or stolen goods, for example. Figure 5 shows a breakdown of market type by country.

Figure 5: The content of Facebook groups in Denmark, Iceland and Sweden
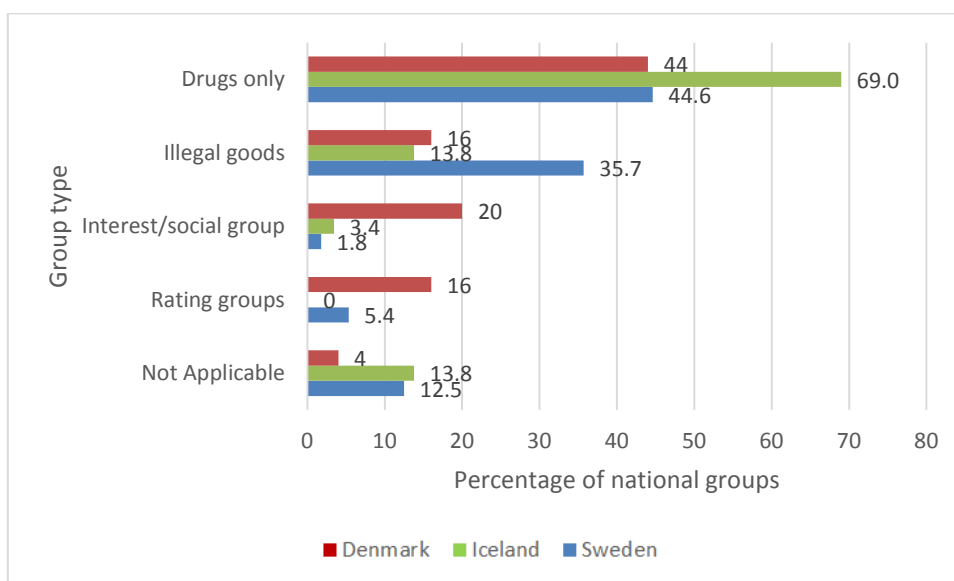
In all three countries, the majority of groups dealing drugs excluded the trade of other items. However, a significant portion of Swedish groups combined the sale of drugs with the sale of other illicit items. Sweden also had specific rating groups, which were used for gossip and sales. Denmark was the only country with a significant percentage of political and interest/social groups (20 %), which are more often than not connected to the groups trading cannabis exclusively (see Figure 4).

Drug dealing on Facebook
We now move into an analysis of individual posts within the groups. The large majority of posts (from which screenshots were taken) originated from Facebook and amount to 1 037 posts. From Instagram we collected 109 posts and profiles. Facebook thus appears to be a medium that is widely used for selling and requesting drugs. When observing the different groups, we found that advertisements by sellers dominated the groups' activities (50 % of collected posts marketed drugs for sale). Our data suggest that the groups are sellers' markets, that is, markets where those selling determine the goods sold, the rules of engagement and how much is sold. Buyers occasionally posted (15 % of posts), mostly on their need for certain drugs or to voice complaints about different sellers. Group administrators posted less frequently (10 %), and when they did so it was to talk about the group itself or to share warnings. Other posts discussed a variety of issues (24.6 %).

In the following section, we describe the drugs that were discussed in posts. Posts are coded by the type of drug(s) sold, requested or bought. The categories are multiple and have been recoded into clusters of drugs in Figure 6.

Figure 6: Drug types mentioned in Facebook posts in drug-related groups, by country
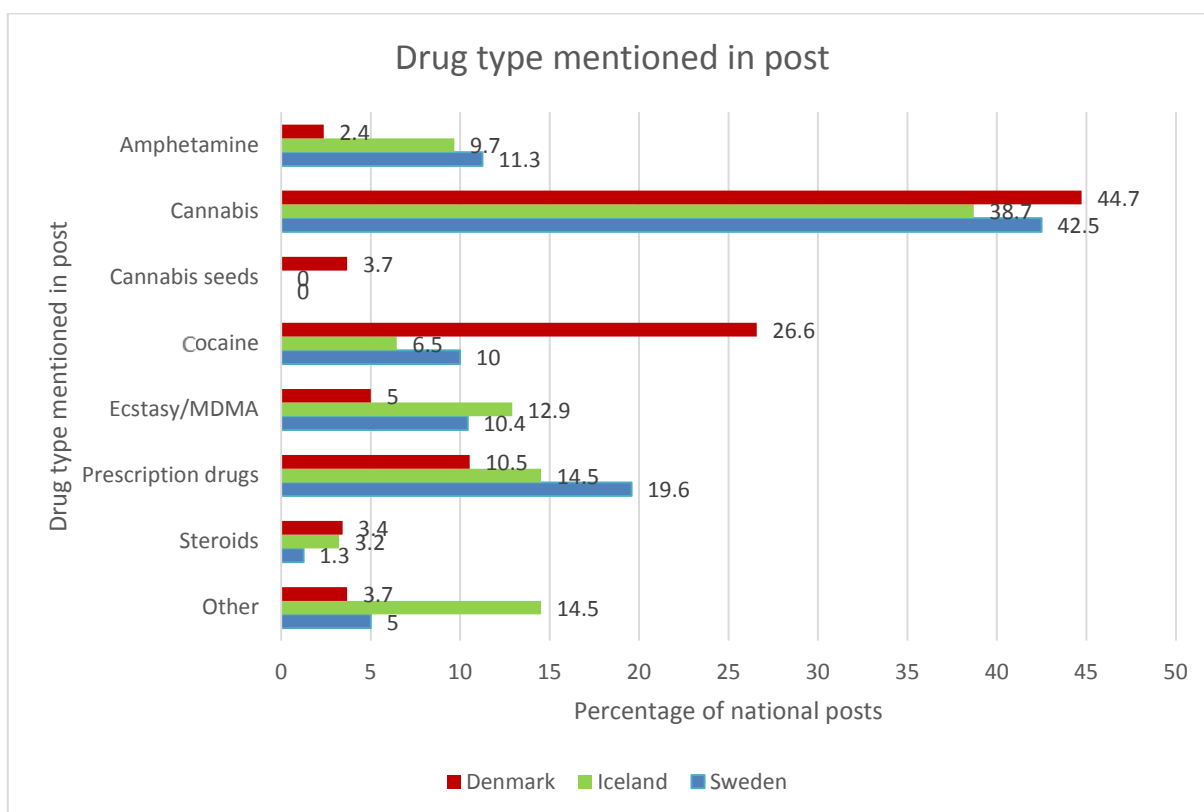
The majority of posts mentioned cannabis only, with the next most commonly mentioned drugs being prescription drugs, cocaine, other drugs (lysergic acid diethylamide (LSD), mushrooms, heroin, etc.), amphetamines, cannabis/cocaine, and a combination of cannabis and prescription drugs. Cannabis was the most common drug in all three countries; however, it was most popular in Danish groups (which was also the only country to mention cannabis seeds). Cocaine was mentioned more often in Denmark than in Iceland or Sweden, while prescription drugs and amphetamines were mentioned mostly in Swedish groups. Most posts mentioning multiple drugs were also from Swedish groups. Our data suggest that the market in Sweden may differ from those in Iceland and Denmark in that the drugs most commonly mentioned are connected to a particular drug user profile dominated by amphetamine, prescription drugs and multi-drugs.

It is interesting to note that the social media markets detailed here seem to have only the most widely used drugs on offer (in contrast to cryptomarkets, which offer a wider range of psychoactive products). Drugs such as dimethyltryptamine, LSD and ketamine are almost entirely absent. The social media open markets therefore appear to cater to less specialised drug users.

The gender balance of the posts is interesting (Figure 7). However, while selling is dominated by male-gendered profiles, there are some interesting findings among the female profile posts: female profiles are more active in amphetamine and prescription drugs markets. However, all the administration posts, as well as posts about the group, came from male profiles.

Figure 7: Profile gender and types of drugs mentioned in Facebook posts
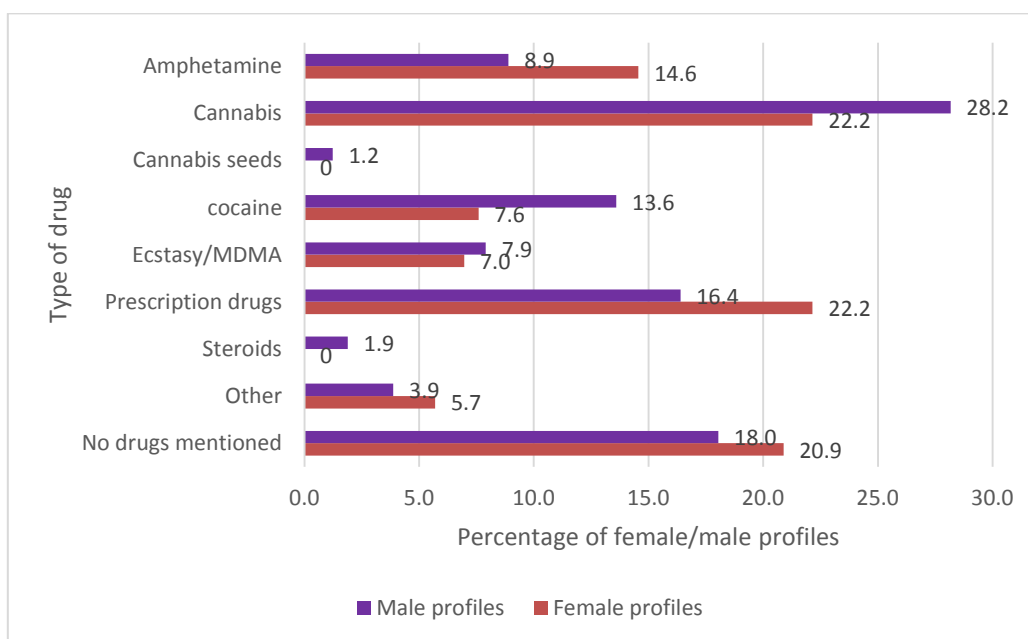
While the posts are quite evenly distributed across genders between the three countries, there seems to be a slightly higher number of female profiles in Sweden. However, Sweden also presents a rather large number of posts by people of unknown gender, which might indicate the more common use of fake profiles.

Posts from female profiles mainly concerned (in descending order) prescription drugs or cannabis, no drug mentions, amphetamine, cocaine and ecstasy/3,4-methylenedioxymethamphetamine (MDMA). Cannabis seeds and steroids were not mentioned by female profiles. The male profile posts concerned mainly cannabis, followed by no drugs, prescription drugs, cocaine, amphetamine, ecstasy/MDMA, steroids and cannabis seeds. Profiles for which gender was not identifiable mostly sold cannabis, although a few sold amphetamine and cocaine.

Danish young people purchasing drugs online

So far, we have focused mainly on seller-related data and the different types of technology and platforms used in the online drugs trade. We now move into an analysis of survey data on Danish young people who buy drugs. The survey results can indicate the share of the retail market that has moved into online trade. In addition, we are able to test whether and how the online buyer is different from the offline buyer. We will present the descriptive statistics of cannabis and drugs other than cannabis.

We first analyse people who buy drugs other than cannabis online. The questions relating to this were answered only by students in the seventh to ninth grades. As this is a younger sample, one should be careful about making direct comparisons between the numbers presented here and those presented for the purchase of cannabis. Out of a sample of 31 378 respondents, only 1.3 % answered that they have tried other drugs. Of these, 72 % answered that they buy their drugs. The following description is based on the responses of these 209 students.

In this sample, 36 % of those who buy drugs do it online, that is, either on social media or on the dark web. Table 4 and Table 5 distinguish between social media and the dark web. Table 5 shows that 6.4 % of those in our sample who say they buy cannabis buy it online. If we separate social media and the dark web, we see a partial but not complete overlap.

Drugs other than cannabis		On the dark web	
		No	Yes
On social media	No	**134** *64%*	**26** *12%*
	Yes	**22** *11%*	**27** *13%*

Table 5: Online markets used to buy cannabis, Youth Profile Survey, Denmark, 2017

Cannabis		On the dark web	
		No	Yes
On social media	No	**4 031** *93.6%*	**65** *1.5%*
	Yes	**150** *3.5%*	**58** *1.4%*

Of those who buy other drugs, 79 % are male. Here there is no significant gender difference between those who buy online and those who buy offline. Of those who buy their cannabis online, 76 % are male. This is a significantly higher proportion than the 63 % of those who buy their cannabis offline.

Those who buy drugs other than cannabis online are on average slightly but significantly younger than those who buy it offline (14.4 and 14.7 years, respectively). Conversely, the proportion of online buyers is especially high among the youngest age group in the sample (13 years old). It is important to take into consideration that we have only a sample of young people in the seventh to ninth grades on which to base this conclusion. However, the results indicate that online buyers are slightly younger than offline buyers.

As Table 6 shows, the proportion of those who buy cannabis online is higher among those in lower grades (i.e. those of a younger age). It is lowest among young people in the common/academic upper secondary education category.

Table 6: Young people buying cannabis online by current education level (%), Youth Profile Survey, Denmark, 2017

Current education	Buys online (%)
Seventh/eighth grade	22.6

Ninth grade	10.7
Commercial	8.3
Technical/vocational	7.3
Common/academic	4.1
Total	6.4

On average, those who buy drugs online are about half a year younger than those who do not. As with education, buying online is especially prevalent among the very young (Table 7.

Table 7: Percentage of young people buying drugs online by age, Youth Profile Survey, Denmark, 2017

Age (years)	Buys online (%)
13	39.0
14	17.2
15	8.9
16	6.2
17	4.6
18	4.9
19	6.9
20	7.4
Total	6.4

The tendency among young people to purchase drugs online may indicate that the availability of online social media markets tempts those in younger age groups to buy drugs. If this is the case, it is an important finding with implications for prevention. However, the available data are insufficient and more research is needed.

Discussion

Previous research on internet-based drug dealing has focused on cryptomarkets (Munksgaard and Demant, 2016a; Paquet-Clouston, 2016; Rhumorbarbe et al., 2016) and has largely neglected the role of the mainstream internet. This report presents results from one of the first robust studies of social media-based drug dealing and the first in the European context.

The findings presented here are based on large-scale qualitative data in an underdeveloped area of research. Data collection employed the triangulation of ethnography, interviews and survey data and has, therefore, provided profound insights into a novel type of illicit behaviour. Major variations were found across the five Nordic countries. In Denmark, Iceland and Sweden, drug dealing takes place openly in dedicated closed Facebook groups, where sellers announce

their goods with pictures, descriptions and contact information. Instagram was used in addition to Facebook in Sweden. In Norway and Finland, we did not identify any open social media drug-dealing platforms. Interview data point to more hidden methods, such as the wide use of Snapchat, Wickr, Facebook Messenger and other one-to-one communication applications, as well as cryptomarkets and darknet forums. The Facebook-driven markets of Denmark, Sweden and Iceland have a number of similarities with platform-type markets; the group provides a platform for individual sellers to distribute their goods within the limits of the groups. The Swedish markets have adapted to this format more than Danish and Icelandic markets, with their developed review system and higher prevalence of citywide groups.

A closer analysis of Facebook markets in Sweden, Denmark and Iceland reveals additional differences with regard to the use of open or one-to-one media. Within drug dealing groups on Facebook in these countries, we found variations in demographic reach, number of members, type of drugs sold and content of postings. The Danish market had mostly a national reach, varied in the number of group members and the largest groups were social cannabis groups. Cannabis was the most common drug and was often sold in specific groups, whereas other groups sold multiple drugs. The Swedish market had a higher number of city-specific groups, offering multiple drug types. The groups were often smaller than the Danish and Icelandic groups and often included the trade of other illicit items such as weapons and stolen goods. The Icelandic groups often did not mention locations specifically, which could point to their national reach. Most of the Icelandic groups were exclusive to the trading of drugs and often consisted of between 500 and 2 500 members, a seemingly large number of people compared with population size and the overall number of groups.

We also looked at the content of posts within these groups. This gave us insights into the content within these groups, as well as who is actively participating in them. Most drugs mentioned were common drugs, as opposed to drugs such as ketamine, NBOMe – a powerful hallucinogen, similar to LSD – and mushrooms. This might be due to the (possible) low average age within the groups, which is reflected in the interview data. Cannabis was the most widely mentioned drug in groups from all three countries. Cocaine was more popular in Denmark than in the other two countries, whereas prescription drugs and amphetamine were popular in Sweden. With regard to gender, the large majority of posts were published by male profiles, and there were slightly more female profiles in Sweden than in the other countries. Female profiles more often posted about amphetamine and prescription drugs, while male profiles were more concerned with cocaine and cannabis. Although uncertainty remains with regard to members' real identities, our data suggest a male-dominated market within the Facebook groups, which mainly concerns 'mainstream' drugs such as cannabis, cocaine, amphetamine and prescription drugs.

National legislation and sociocultural context may account for some of the differences between countries. For example, Denmark has a more liberal drug legislation than the other Nordic countries (Hakkarainen et al., 1996; Moeller, 2013; Träskman, 2005). However, our data also reflect variation in the use of social media for trading. We found that Icelandic traders solely use Facebook, while Finnish users prefer the more secure Tor network applications, and Norwegians use a combination of closed social media and encryption applications. On the one hand, the prevalence of certain social media apps for buying drugs depends on knowledge of the applications, as well as the buyer's risk perception. On the other hand, sellers have a crucial role in deciding what media to use for dealing and buyers follow the sellers to where they are situated. For example, there were no available open markets on Facebook in Norway and Finland and no Wickr use in Iceland. Therefore, social media drug markets are supply driven, whereby the normalisation of drug use and the frequency of use of certain social media apps leads to the high availability of illicit drugs on social media.

The availability of drugs via social media has provided a new and hidden channel through which to buy drugs. While we should not overestimate the technological aspects of this type of market, such markets nevertheless provide access to drugs for users yet in a hidden way. There are two aspects of this new availability that are important to highlight. First, people without any prior experience or knowledge of drugs can encounter drug sales on social media where they are already present through, for instance, Instagram accounts and postings in Facebook groups on other topics. They can then either ignore, purchase or become interested in the drug-specific groups and profiles. Survey results from Denmark indicate that we may find most young drug users among ninth graders. Exposure and availability may tempt this younger group into the purchase and use of drugs. Furthermore, drug users encountering the wide selection of drugs on social media may be tempted to try drugs for which they were not shopping. The availability of prescription drugs, cocaine and amphetamines alongside cannabis on social media may tempt some cannabis users to try other products. The combination of younger users with lower self-control within online compared with offline markets suggests that the wider selection of drugs may be more problematic for this group.

The study highlights new policy implications, given these new types of market. Most participants in the social media drug trade expressed a low level of awareness of the severity of their actions, especially when dealing drugs among friends on private social media apps. A combination of the availability of drugs, open communication channels and requests resulted in the potential to easily drift in and out of dealing and various drug markets.

Limitations

Research on illicit activities, both online and offline, faces a number of challenges. The activity is hidden by its nature and is designed to deflect methods of identification. Therefore, this ethnographic research may not have identified all activities. It is also easier to collect data within closed groups (as on Facebook) than within non-group-structured media such as Instagram and Snapchat. In the light of this, the research assistants collecting data may also have influenced the amount and types of drug dealing identified. Consequently, the number of groups and activities cannot be used as a precise estimate of the activities but should be used instead to understand the processes and its meanings. Steps should be taken to include measures of market types for drug sourcing in general representative surveys to enable the triangulation of results.

Conclusion

The current study shows that social media is still marginal in the dealing and buying of drugs. However, we should be aware that there is a general drift towards more digitally facilitated ways of operating. Therefore, new dealers or buyers may not even distinguish between different forms of interaction (social media, short message service or oral). We find that there is great national variance on social media depending on culture (drug use, social media use, etc.) and risk perception. The easy access to online drug markets on social media might enable the easy drifting in and out of both dealing and general use, and the availability of various drug types is a risk for younger people in particular. It is hoped that these findings may inform future prevention campaigns.

Acknowledgements

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