



European Monitoring Centre
for Drugs and Drug Addiction

An analysis of drug dealing via social media

Background paper commissioned by the EMCDDA

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Summary

This study investigated the current state of social media drug dealing. The main objective was to understand how contemporary hybrid digital social media markets have evolved since previous research was undertaken in 2017-18. This was achieved by conducting netnography in online spaces, with a particular focus on Danish sites. The netnography data collection in Denmark has since been rolled out in Norway, Sweden and Germany. The most significant findings are as follows.

- Our netnography found no access to drug dealing in Danish spaces through searching on the Meta platforms, Facebook and Instagram. Although there may be some limited groups on Facebook, the findings suggest that there has been a successful implementation of increased moderation protocols on both Instagram and Facebook.
- On Snapchat, we identified easy and quick access to many active drug dealers in all major Danish cities. These dealers were identified by searching for common Danish drug slang in the search field and through suggestions from the app's network-expanding features. We found similar ready access to drug dealers in Norway and Sweden. However, we did not identify drug dealer activity on the German Snapchat.
- We also found a vast amount of Danish and Swedish drug dealing on forums in the social networking site Reddit. Here, dealers created and moderated forums dedicated to selling drugs. The forums functioned as open markets with high levels of competition and a degree of specialisation in offering all types of drugs. No Norwegian and German dealers was found on these sites.

In summary, we identified easily accessible drug dealing on surface-level social media amounting to a large potential drift among social media users. Snapchat and Reddit each host active digital drug markets well suited to taking advantage of the platforms' features while avoiding effective moderation. It was not possible to reach either platform to inform them of this, and we were unable to conduct interviews with them about their moderation strategies.

Introduction

Online drug dealing has been studied intensively since the rise of darknet markets, through which both the buying and selling of drugs have been made possible without a direct threat of being caught (e.g., Aldridge and Décary-Héту, 2014; Martin, 2014). Drug dealing has also featured on the Clearnet, where a number of new psychoactive substances (NPS) and pharmaceutical products have been traded (Hall et al., 2017; Scammell and Bo, 2016). Simple searches can direct a potential buyer to websites selling 'spice', 'legal highs' or synthetic cannabis (Hillebrand et al., 2010; Schmidt et al., 2011). However, the market for these products in some countries has partly disappeared due to changes in legislation. The rise of darknet markets could be seen as a response to the increasingly stricter regulation of drug markets, as well as some more political and opportunistic reactions to state monopoly and registration (Maddox et al., 2016; Munksgaard and Demant, 2016). Moreover, to enable them to function effectively, darknet markets build trust systems (Bakken et al., 2018; Tzanetakiset al., 2016). Such markets rely on encryption as well as users' skills in using such modalities. Darknet markets operate side by side with the more public digital routes of the drug trade (Kaakinen et al., 2018; Yar, 2017).

Social media coverage of drug use has been a concern in relation to an increase in young people's interest in buying illicit substances (Forsyth, 2012). Moving from exposure to drug use, recent years have seen media stories identifying drug-dealing activity on social media. Social media drug dealing makes drugs potentially available to large groups of previously unengaged young people. Furthermore, a wide palette of available drugs may tempt users to expand their use from one to more types of drugs, a phenomenon which has been observed on the darknet markets (Barratt et al., 2016). In a previous report for the EMCDDA, Demant and Bakken showed how social media digital drug markets function,

and they reported relatively few barriers to finding drug-related content (Demant et al., 2019). In their study, the open social media sites Facebook and Instagram demonstrated a high level of dealing in Denmark, Sweden and Iceland. Within these countries, drug dealing was in part moving away from a relation-based model, where buyer and seller had to establish a one-to-one contact, and over to a more open market, where sellers and buyers could contact each other without sharing their networks. In Australia, a similar development in social media drug markets has taken place (Moyle et al., 2019). By carrying out a multi-national survey, Oksanen and colleagues (2021) showed that buying drugs online was associated with lower levels of self-control, higher psychological distress, and excessive behaviour in terms of gambling and/or internet use. In parallel with the more open type of social media dealing that was identified previously in the Nordic countries, a more traditional phone-based, closed style of partly online dealing was also evident (Søgaard et al., 2019).

Since the first documentation of app- and social-media-based drug dealing in 2018, there has been a growing debate on these activities in the media and in prevention and law enforcement circles. This is likely to have led to stricter platform moderation and policing initiatives. As such, we expect that this may have sparked a displacement of certain activities and/or transformations in the market. Hence, increased moderation might have reversed the move to open social media, making drug markets more reliant on one-to-one contact and likely to be limited to the buyer's network. Based on these two interlinked hypotheses, indeed, we expect that social media markets for illicit drugs have moved away from the more open style of dealing back towards a hybrid open and locally embedded closed style.

The focus of this report is to understand the current state of social media drug markets and how the drugs market has changed over the last five years.

We understand hybrid markets as drug purchases that are partially made online, but which, importantly, include some physical locality when meeting to exchange the drugs and money. Therefore, this report will not engage with purely online national or international markets where payment and drug delivery are achieved without meeting. An example could be Google groups, where internationally shipped drugs are advertised or dark-web-based markets (darknet markets).

We understand surface-level social media as unrestricted social media meant for mass use. It should be easy to create a profile at this level, and other users or their content should be available to and searchable by users. In line with this definition, we exclude markets on non-service or encrypted platforms such as Wickr Me, Signal and Telegram, as well as phone-based markets.

The aims of this study will be addressed through two qualitative analyses.

First, we conducted a netnography search to understand the accessibility of drugs in these markets through looking at how users with no existing networks supporting drug purchases can gain access to hybrid drug markets on open social media.

Second, we asked the platforms to discuss their moderation strategies and goals. This goal was not achieved due to receiving no responses from the platforms.

The first and second parts of the report will describe our theory and methods in greater depth. Here, core concepts and methodological discussions will be found. We then move on to discuss the netnographic campaigns and present their findings. These results will lay the ground for our analysis of and comments on the social media drug markets for which we have concrete evidence. Finally, we will draw a number of conclusions from the report's findings and discuss its limitations.

Theory and methods

We use the concept of affordances to understand and explain how the platforms under consideration have an effect on social behaviour (in this case, drug dealing). In other words, we use their affordances to describe and interpret how each platform enables and constrains certain behaviour. Affordances have been widely used in human–computer interaction and communication research to describe differences in communication due to the platform used. They can also be understood narrowly as the perceived possible actions that an object’s materiality affords (Gibson, 1979). Affordances are neither features of the object nor the outcomes of its use, but rather possibilities defined between the material and the user (Evans et al., 2017). Affordances on a platform can be such features as anonymity, visibility of content and persistence of content posted.

Although an affordance invites some behaviours, it does not determine specific consequences. However, platform design, restricting and promoting certain kinds of action, might, in combination with the subjects’ agency, encourage or make more likely certain uses and outcomes (Evans et al., 2017).

We examine the platforms’ affordances as expressed in the following features:

- anonymity – the degree to which the user experiences their own and others’ identity as obscured when communicating;
- persistence of information – the durability of access to the information in the same form;
- visibility of information – how the information can be located and especially how easy it is to find; and
- algorithmic content – the degree of content that is generated and shown to the user, and what triggers the generation.

We explore these affordances and their effects on use through immersive netnography. Here, we record each platform’s affordances and features through a systematic use of the media to identify drugs. By ‘use’, we mean concrete ethnographic work by the researcher to pursue a specific aim — here, to access drug seller information. This process is repeated numerous times across different platforms and national languages. All data generated are aimed at recording how platform design and affordances hinder or help the user in buying drugs. Here, we are not only interested in the narrow understanding of affordances (as defined above) but also in how these affordances — in combination with platform features and user culture — help or hinder the creation of digital drug markets. In this way, we adopt a wider definition of social affordances. Social affordances include design elements and features incorporated in the user interface to boost engagement and push certain harmful or unintended content types or use cases on the user. Engagement maximisation design can unintentionally promote negative behaviour or harmful content. As outlined, these social affordances’ will be qualitatively investigated via netnography.

In summary, the method focuses on how affordances and app design affect the ease with which drug-related content can be found.

Methods

Netnography

We conducted an online ethnography (hereafter netnography) to investigate and record current existing social media drug markets. This method enabled us to record and describe the markets. However, further relevant for this study is deep immersive ethnography into social media drug markets, which can generate qualitative data on what barriers protect a given user from being exposed to drug-related content.

Online ethnography treats online spaces as data fields. These fields' available content, interfaces, affordances and local online culture all provide certain possibilities for use. Understanding the way the platform is used and how content is accessed is necessary for understanding developments in current social media drug markets. The researcher undertakes a journey on the platform to find drug markets, investigating and recording relevant data traces on how the platform helped or hindered them and how the entrance into drug markets is experienced first-hand. These recorded data traces and interpretations on the technical affordances form the data output.

Robert Kozinets's (2019) *Netnography* inspired the type of ethnography conducted in the present report. A detailed *immersion journal* is kept while investigating these online spaces, noting attempts, failures, successes and the researcher's more interpretive comments. The immersion journal is a method of recording and organising investigative data such as screenshots, snippets and links, as well as more interpretative immersive data, for example the researcher's thoughts and experiences. In short, it charts the researcher's experience as a web user as a way to understand how the platform is experienced from the user's perspective. In this case, the user is trying to identify drug sellers. This method is especially well suited to describing how the platform's features act as affordances for certain actions and not others.

We chose this method because the combination of documenting the data sites in pictures and links, alongside the recording of rich description and interpretation is uniquely suited to the online data collection campaign undertaken in this report. The researcher provides an authentic point of reference for a social media user trying to find drug-related content without any prior network or knowledge. The possibilities for including descriptive and interpretive data in the immersion journal are also very useful when investigating data fields that might be rich with personal and sensitive data. In this way the researcher can describe a post or message without recording any personal data, the way data scraping or simply screenshotting might do. A guide on how to replicate our method of immersive netnography is available (Demant and Aagesen, 2022).

To start the data collection, we compiled a list of commonly used Danish drug slang from online resources. This list was then translated into Swedish, Norwegian and German, and partly augmented with a similar number of specific national slang names for drugs. These national lists focused on gathering different synonyms for popular types of drugs that sellers might use to avoid using names that automatic content management would identify. From earlier research, we know that dealers often write in simple code using slang or emojis instead of writing the drug's name and that they redirect further communication to encrypted messaging apps. This keyword list formed a starting point to gain access to relevant data sites, where the more iterative and immersive processes could start. Every time some new form of drug post or slang was discovered, the search list and researcher's familiarity with the field was refined, making for more effective searches on all data sites.

To provide a neutral assessment of how each platform promotes or restricts drug-related content, the collection required profiles with no prior digital traces. Multiple profiles were produced for the study. These profiles were designed to be as anonymous as possible within the specific social media platforms, giving only the necessary information (i.e., anonymous profile picture, a common name and location within the nationality of the data collection). As such, they did not provide any information on

the researchers, the research or the EMCDDA. This research practice was ethically approved for the NDDSM study conducted in 2018 (see details [here](#)). Considering that the profiles do not provide any information on the study, they can be described as covert.

For each platform examined in the study, two profiles were created. When the platform asked, one was set as male and the other as female. The age was held at 22 years for both genders, and the geographic location was set to Denmark. Eventually, we created two more profiles for Snapchat stationed in Germany.

Analysis

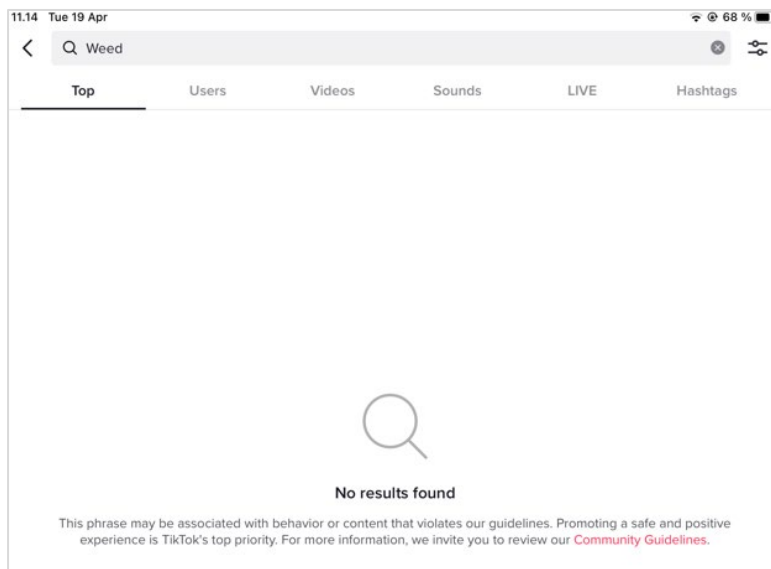
Findings from the netnographic study

The netnography was conducted as an investigative and immersive ethnographic campaign into different online data fields, and will be presented separately within this section. In preparation, we created profiles on secured devices, and through the affordances of said platform we tried to identify drug markets. During the immersive data collection, we noted and recorded for analysis all searching steps, successes and barriers. Our ability to find drugs through the platforms provided infrastructure that was used as a proxy for how available or restricted drug advertising content was on the specific platform under study.

TikTok

Based on this study, TikTok has the tightest moderation of all platforms. Through searching for keywords we did not find any users or content that gave the impression of selling. When explicit keywords such as 'cocaine' or 'weed' were used, no results came back except for text referencing their community guidelines (Figure 1).

Figure 1: Search results limited due to violation of community guidelines



The technical affordances of the platform prioritising interaction through the consumption of algorithmically chosen content made it difficult to seek out drug-related content. Meaning that the platform is primarily intended for scrolling the algorithmic-chosen content. The search bar provides the possibility for searching among users' videos, sounds and topics. After extensive use of both the searching and the scrolling function, no selling of illicit drugs was found. We were left with an

impression of a high degree of moderation and a platform that does not easily lend itself to drug dealing.

Meta platforms — Facebook and Instagram

Although they have different user interfaces, content and affordances, the same company owns the two Meta platforms and they share community guidelines.

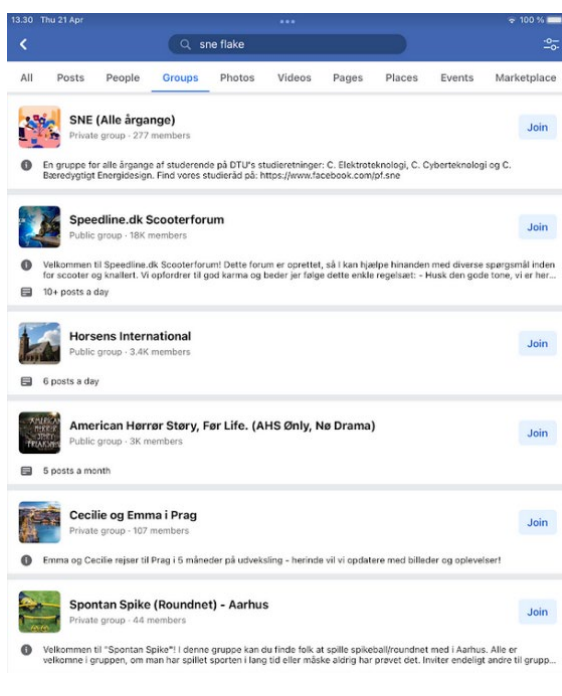
As with TikTok, Facebook did not yield any results based on searching. A large share of the content on Facebook is heavily reliant on making connections with other users and ‘friends’ or via open or closed groups. This means that the fact that this type of content will not appear in a search is largely a consequence of how Facebook is structured (via specific features).

It was also time consuming and cumbersome to create a fake Facebook profile. This erects an extra barrier for prospective sellers and users hoping to sell or buy drugs. This barrier is only relevant if the potential seller wants to uphold anonymity. If they are willing to risk their personal profile being disclosed, establishing a fake profile is unnecessary.

We conditioned one of the research profiles by engaging with cannabis-related content.

Throughout the searches a couple of cannabis-related groups were identified. None of these were set up for selling but were rather for discussing and sharing cannabis-related culture and news. We found one group whose description invited people to share the best places to purchase cannabis (in Danish, ‘grønt’). Our profile was not given access to this group. This could have been due to the group administrators most likely assessing the profile as very new and anonymous looking. The admins can vet members of groups, and, therefore, shield illicit group activity from prying eyes.

Figure 2: ‘Snow’ and ‘flake’, both slang for cocaine



Using the search function on Facebook was not successful in identifying drug-selling content, as seen in figure 2 that only returned searches with content unrelated to illicit drug dealing. No matter what drugs we searched for, entirely unrelated groups were presented as results, suggesting shadow flagging of these terms or some other automatic limitation. The unrelated content would in this case include some version of the search word — but no group, profiles or posts that indicated any selling. This shows that there is unlikely to be any more precise (in this case, drug-selling-related) content

available through open searches. It may also indicate that the search results were being limited due to the presence of flagged words

Meta's other big platform, Instagram, did not yield any drug-related results either. After making the profiles follow many cannabis-related sites, the profile was added by low-quality cannabis influencers, cannabis paraphernalia shops and supposed/potential fraudulent cannabis shipping accounts. Most seem to be based in Spanish-speaking countries and utilise automated bots to follow users interested in cannabis-related sites. Hence, no drug dealing in Denmark was identified on either Meta platform through simple searching.

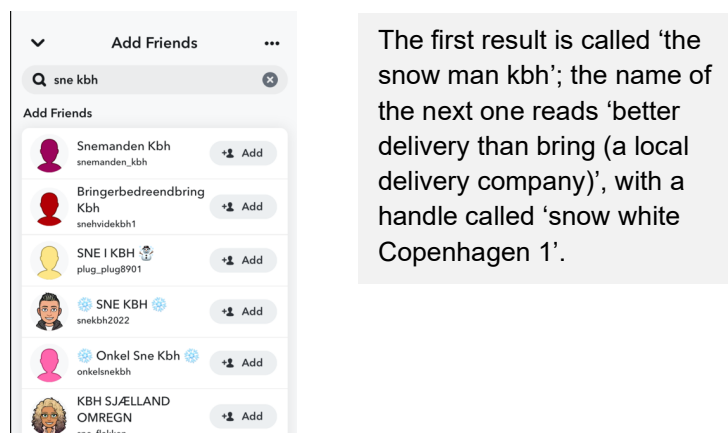
We conclude that these platforms have changed their moderation practices/techniques considerably. One drug-dealing group was identified on Facebook. Contrary to earlier findings on Facebook, this group was more closed and did not accept the inclusion of the Danish researcher profile. With increased vetting from group admins, only people who were interested in buying or selling drugs were admitted. Furthermore, because Facebook relies heavily on user flagging for effective moderation, tightly closed groups can run under Meta's radar. Even though this indicates that there may be some drug-dealing content on Facebook, it also shows there has been a major improvement in content management since earlier research in the field. We do not conclude that there are no drug markets on Facebook, but rather that they are not easily reachable without network contacts or specific invites.

Snapchat

Snapchat is a direct message and image-sharing app, where users anonymously send each other messages privately or share a story (image and text) to all their connections for 24 hours. A central feature of Snapchat is that all images and texts sent are automatically deleted in the chats. Additionally, if a user screenshots or screen records anything another user sent, the original poster receives a notification letting them know who screenshotted or recorded their content. The automatic deletion of material on Snapchat creates a sense of privacy. The notification the sender receives when their message is screenshotted fosters information norms that support this feeling of Snapchat's service providing unique affordances, and promotes confidential use patterns.

Snapchat was found to offer easy access to drug dealers. The first few searches of drug slang and locality yielded many profiles looking like dealers. Figure 3 shows the results of a search for 'sne kbh' meaning *snow Copenhagen*. 'Sne' is one of the most popular Danish code names for cocaine. As such, through searching for a normal slang for cocaine combined with 'kbh', which is short for Copenhagen in Danish, we immediately identified social media hybrid drug markets.

Figure 3: Results for searching 'sne kbh' (snow Copenhagen).

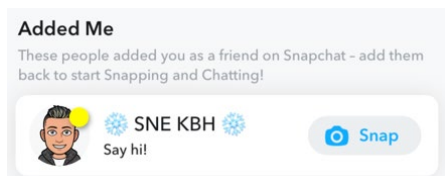


The first results shown to the research profiles were in the 'add friends' feature. Here, a section extends indefinitely, providing a multitude of profiles to 'add'. Most profiles included slang for drugs,

expressions for delivery and emojis known from previous research to be associated with selling drugs online. We suspect most – in not all – of the profiles to be cocaine dealers. Figure 3 shows how all the profile names combined popular slang for cocaine with locality. One of the profiles mentioned delivery in their name, another had temporality, mentioning 2022 in the handle as an assurance that the profile was new and therefore active.

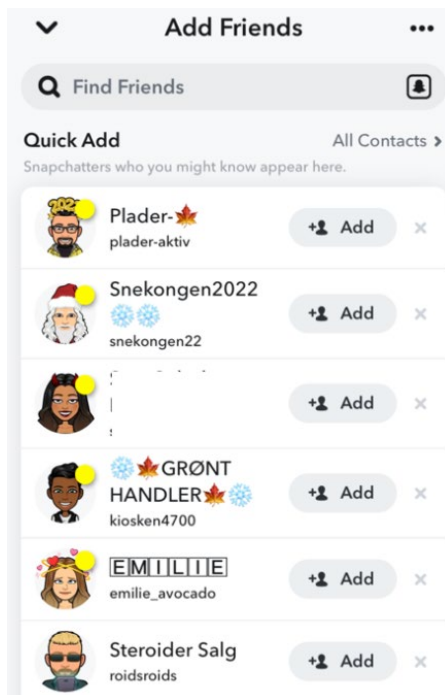
We proceeded to have one of the research profiles add these users. Within five hours, the first presumed dealer added the profile back (Figure 4).

Figure 4: SNE KBH ‘snow Copenhagen’, which included 2022 in the handle, added the research profile back



From this, we can conclude that it took around six hours to establish the first contact with a seller. This contact was triggered primarily by the open search combined with one friend added to the profile. There was no vetting process before being added back, probably owing to the anonymous nature of the app.

Figure 5: Recommended profiles, most looking to be dealers



The first profile uses the Danish slang for an entire block or brick and the maple emoji, widely used to resemble a hemp leaf. The handle includes the word active, as opposed to inactive profile. The next one is called ‘the king of snow 2022’ with two ‘snowflake’ emojis. Both the Danish word for snow and these emojis are associated with cocaine. The last profile is called ‘steroids sale’ in

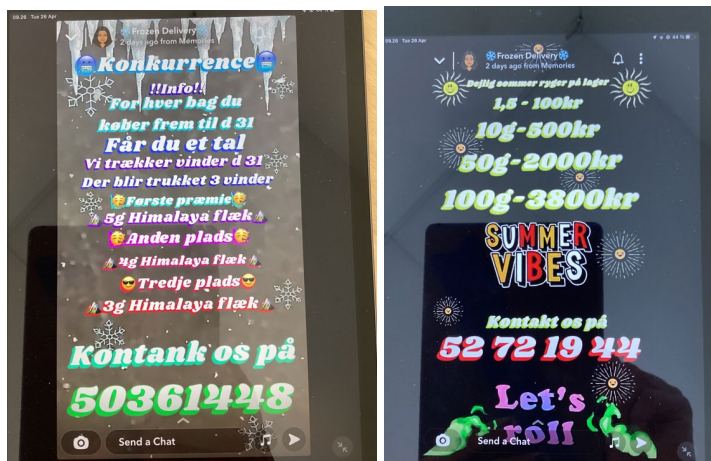
After being connected with this profile, the automatic friend recommendation feature started suggesting more users with drug lingo and emojis in their usernames (Figure 5). Due to the profiles’ association with a profile interested in selling cocaine, the app’s recommendation features then suggested new dealers who did not appear in the initial search. These recommendations seemed to have branched out to also include dealers in cannabis and anabolic steroids.

In the next step, the research profiles added all users who included ambivalent drug slang. A number of these profiles added our profile back, and a few initiated contact, asking how they could help. After

connecting with more drug dealer profiles, the recommendations in the 'quick add' feature became more diverse and included more users with real names. The profiles with the presumably real names were likely the customer base of the connected dealer profiles that were added.

Without any network or specialised technical knowledge, the profile could find contacts for multiple dealers within a single day. From this point, the Snapchat app pushes notifications, urging the user to add new dealers, to read messages from already added dealers, and to view promotional material in the Snapchat stories, as shown below in Figure 6.

Figure 6: Photos of screens; screenshotting notifies poster



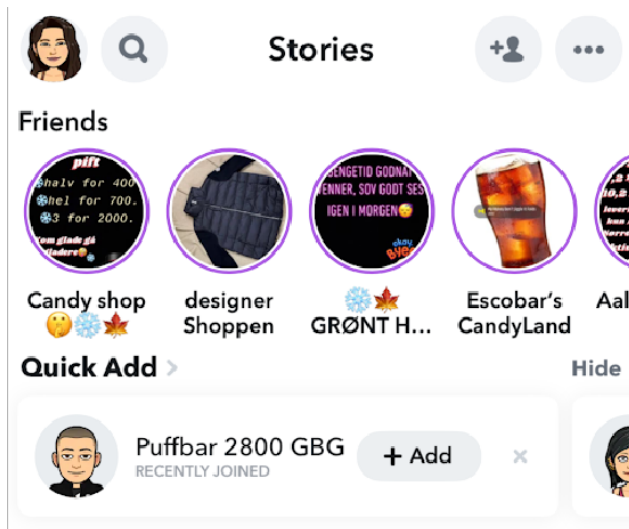
Left: Profile for 'Frozen Delivery' advertising a raffle for 'flæk', a slang term for cocaine, with one entry offered for every druggie bag bought. The first prize is 5 grams of cocaine, the second is 4 grams and third is 3 grams. At the bottom, a contact phone number is given.

Right: Advertising 'good summer weed' with discounts offered for larger quantities bought, showing 1.5 grams for 100 DKK, going up to 100 grams for 3 800 DKK. At the bottom, a contact phone number is given.

Figure 6 shows two 'stories', which are re-watchable messages broadcast to all contacts from the same profile for 24 hours. In the first one (left) you can enter a raffle for 'flæk' (slang for cocaine). Each bag (small bag of cocaine normally containing a street gram) any customer buys will provide the customer with one number in the raffle. The second story offers a summertime discount on buying cannabis according to quantity. Both posts emulate promotional materials from legitimate businesses trying to upsell to their customer base. In both cases, the story wants the buyer to contact them on the provided phone number, leading them away from Snapchat. The phone number for each drug is different, giving the impression of a larger operation, possibly with two different delivery services, run by the same profile.

These two profiles included contacts for 18 drug dealer profiles, who actively advertised drugs either in direct messaging or in stories. Hence, both profiles were effectively turned into round-the-clock drug-purchasing platforms with constant notifications about drugs for sale. Both profiles published five or more stories daily advertising different kinds of drugs for sale (see Figure 7).

Figure 7: Showing multiple stories from the profile's friends. There are so many active drug stories that we had to scroll left to see them all.



Drift potential – earning money on Snapchat

Accessing drugs is evidently easy on Snapchat. The app not only makes it simple to find drugs and dealers outside of personal networks, but it also provides the possibility to drift into making money by selling, dealing or undertaking other questionable activities. Although the netnography never aimed at entering this aspect of the illicit economy, we found multiple entry points (some through the drug dealers' advertisements and some through app features). One story, which a notification from the app pushed, was a job offering as a delivery driver for a cocaine-selling service (Figure 8).

Figure 8: Photo of screen as screenshotting notifies poster.

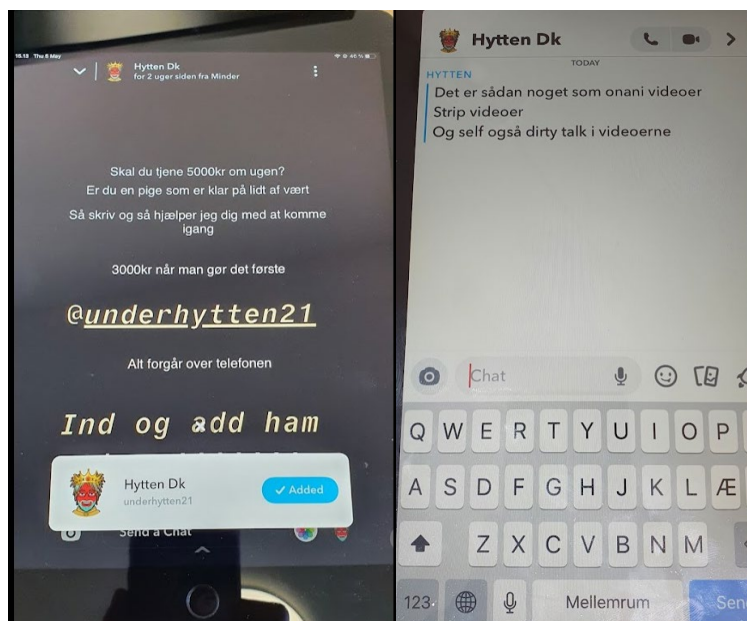


Translation: 'Seeking a driver, private message for [info about] the pay, on the weekend who will deliver piff' (slang for cocaine).

In a little over a week the research profiles went from having no network to connecting with dealers and then on to being offered the opportunity to join an organised dealer network. This exposes users to exceptional drift potential by offering both illicit addictive drugs and high-risk, and often criminal, jobs.

Another Snapchat story that was suggested to the research profile offered payment for engaging in pornographic work and/or prostitution (Figure 9).

Figure 9: Pornographic or prostitution work



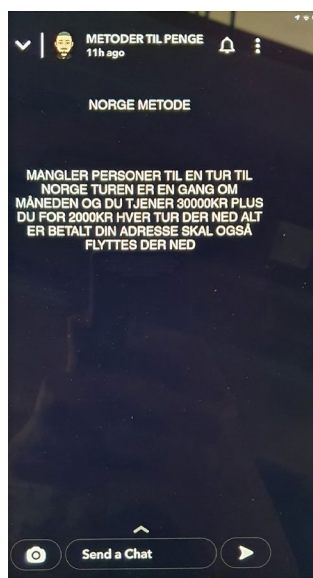
Left: Shows a story offering girls willing to do 'this and that' 5 000 DKK (670 EUR) per week, with a starting bonus of 3 000 DKK (400 EUR).

Right: Message from the user describing that the job consists of selling 'things like masturbation videos, strip videos and of course also dirty talking'.

The female-gendered research profile had not in any way been searching or browsing for pornographic content. The offers were provided solely via a drug-selling network to which the profile was connected (see Figure 9). This suggests a very high potential for drifting into alternative ways of generating income though amateur pornography, especially when considering that this opportunity for earning money instantly was presented to the user because they had connections with multiple party-drug dealers.

The most extreme drift potential into criminal or alternative economies was a Snapchat profile wholly dedicated to making and illegal money (Figure 10). This account was also suggested to both of our research profiles through the quick add feature. The profile posted multiple times a day through stories and direct messages, offering large sums of money for different tasks.

Figure 10: Story from 'methods for money': Offering a 'method in Norway'.

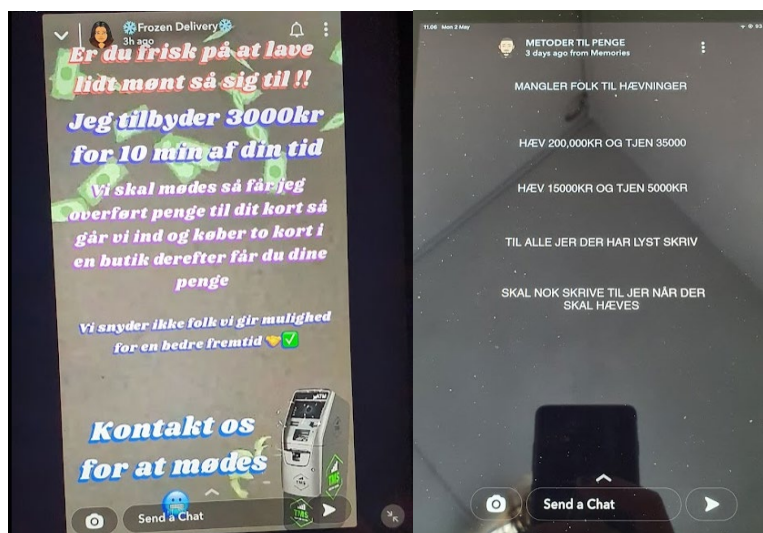


They need people who will take a monthly trip to Norway. They are offering 30 000 DKK (4 000 EUR) plus 2 000 DKK (270 EUR) for each trip. Everything is paid for, and they would also need the person engaged to move their address to Norway.

One of the tasks, as shown in Figure 10 above, seemingly involves smuggling or transporting something, probably drugs, from Denmark to Norway, offering a very large down payment and a smaller amount paid for each trip. The mule would have to move their address to Norway too, which in combination with the large payment up front, suggests that whoever is hiring expects a long-term commitment.

Most of the offers involved the user making their bank account available for large transactions, withdrawing cash or buying goods with a card earning some percent for the account holder. These offers also came directly from drug-dealing accounts.

Figure 11: Requests to put one's account at a dealer's disposal



Left: A dealer offering 3 000 DKK (400 EUR) for buying a 'card' (pre-paid cell phone card). They explicitly claim that they are not swindlers, but are solely offering a better life.

Right: Advertising that they 'need people to withdraw money'; withdrawing 200 000 DKK (26 900 EUR) and earning 35 000 DKK (4 700 EUR), etc.

Requests to put one's account at a dealer's disposal looks like mule activity (Figure 11).

This plethora of dubious income streams was constantly advertised to our research profiles, who were only actively searching for popular party drugs. The drug dealers could use Snapchat in combination with the affordances derived from various features, such as 'quick add'. As a result, this represents a very serious drift potential for drug users buying via the social media drug market. The amount of money offered for such apparently little work might provide a route to drift into increasingly serious criminal actions for someone in need of money or a drug user unable to fund their addiction.

Expanding beyond Danish markets

After building up an extensive Danish dealer network, suggestions for Swedish accounts started appearing in the quick add feature, alluding to similar markets existing beyond the Danish borders. We therefore ran analogous netnography campaigns in Swedish and Norwegian to quickly gauge if similar types of open markets existed on Snapchat in these countries

The same searches were recreated for Swedish and Norwegian cities, with drug slang found on internet forums and simple translations of Danish slang such as 'snow' for cocaine. This produced similar results. To ensure that no algorithmic residue remained from the Danish profiles, new profiles were created for these campaigns. Within 24 hours, the profiles had 10+ active dealers in Sweden and Norway, advertising in the same way with stories and direct messages, and with the quick add feature working to expand the network just as it had done with the Danish dealers.

There were some differences in the advertised drugs between the Nordic markets. Many profiles partly or solely sold alcohol, especially in Sweden, where alcohol over a certain percentage has to be purchased in designated shops. Hence, there is a market for alcohol in Sweden that is not supported in Denmark.

The Swedish dealers with whom we established contact also offered nitrox oxide, while amphetamines were advertised more in comparison with the Danish dealers. In the Danish market these drugs were quite rare, unless searched for specifically. However, cocaine and cannabis were also the most commonly advertised products in the Norwegian and Swedish markets.

The same searches were also replicated in Germany. Here, however, we did not identify any sellers and no algorithmic-driven drug-related content was shown in stories to the research profiles. To ensure these sparse results were not a consequence of the original registration of the research profiles in Denmark (and that the account was region-locked due to the Danish phone number) we registered a new research profile based on a German phone number. This new German research profile produced the same results: it also returned no identified drug sellers.

The research profiles searched with German drug slang identified on a German Reddit forum in combination with the eight largest German cities ⁽¹⁾. After a week of searching, the research profiles had still not attracted any active drug dealers. As a result, we concluded that access to drugs on German Snapchat was severely limited, with much higher barriers in place compared to the Nordic countries. This could have several explanations:

- Our research team does not have a particularly wide German vocabulary (beyond the formal language), which may have resulted in less creative searches;
- There is better moderation on German Snapchat; or
- German drug users and sellers for a number of reasons preferred not to use Snapchat for coordinating drug dealing.

In general, Germans use Snapchat less frequently than Danes do. Snapchat reports that their German user base is 18.2 % of the population. In comparison, 26 % of the Danish population over 12 years of age use Snapchat daily ⁽²⁾.

Reddit

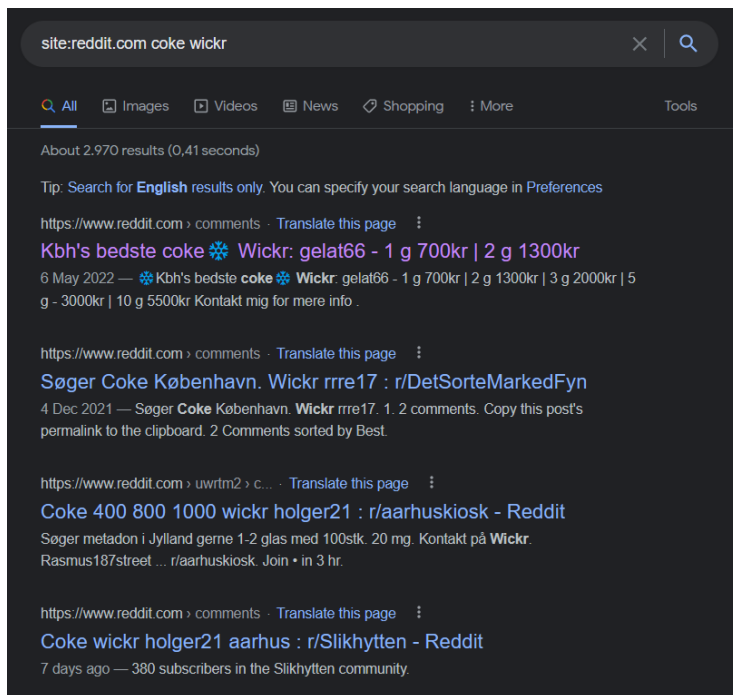
The social networking site Reddit is another place where active drug dealing has been identified. Reddit is a social network where people can create anonymous profiles with just an email and post to user-created forums termed *subreddits*, where they can send direct messages to other users or comment on existing posts. The site is entirely partitioned into these smaller communities, allowing the user to tailor their experience with the website according to their own interests. This provides a good platform for forming and maintaining niche communities. Reddit is also comprehensively indexed, and therefore searchable through any search engine. (As such, due to its indexed content that is open to outside searches, Reddit is considered a clear web).

Reddit also proved extremely productive in terms of yielding drug-related content through simple searches (either through Reddit's own search function or by exploring the site via a search engine).

⁽¹⁾ https://www.reddit.com/r/German/comments/97440n/street_names_for_drugs/

⁽²⁾ <https://datareportal.com/reports/digital-2022-germany>

Figure 12: A search result from Google



Using a search index and narrowing down the results to posts from Reddit, you can search for relevant words or text. In this example, a search for cocaine and an encrypted messaging app yielded many results from different subreddits in Denmark advertising drugs for sale. This can be replicated with most drugs and most places, if the searcher has basic knowledge of drug names and other drug-related identifiers.

Figure 12 above shows how a very simple search not containing any coded language yields multiple successful links for drugs in Denmark. Following these links will lead users to local Danish drug markets where they can post to buy or sell different drugs. It is worth noting that neither coke nor the short name for the Wickr Me app, 'wickr', is explicitly Danish, suggesting that Denmark accounts for a uniquely large amount of drug activity on Reddit.

Figure 13: An example of a drug market board on r/slikhytten



The screenshot shows six posts from within 8 hours on the Danish drug subreddit. The posts advertise OxyContin and Xanax in bulk, cocaine to snort, smoke or inject, with a 30-minute delivery time, and different smokable cannabis products. Most posts include the name of a Wickr Me user. Wickr Me is an encrypted chat service through which the dealer can be contacted safely. Two posts ask the buyer to write to them through Reddit.

As shown in Figure 13, a single drug subreddit contains multiple daily posts advertising a wide assortment of drugs. This subreddit is not uniquely active or uniquely diverse. Once a user has found one subreddit with drug sales, it is very easy to swing from one to another. This can be done by clicking through to the profiles of people advertising drugs and seeing what other subreddits they post in, or simply by scrolling down through the page until a post appears advertising other groups.

While investigating Reddit, we interviewed a volunteer moderator on the biggest Danish forum r/Denmark. The moderator told us that they removed three to four drug-related posts a month, which each staying up for a couple of hours before being taken down. Although this is not a large amount of visible posts in itself, these posts may function as a way of leading new customers to the drug-specific subreddits. By clicking on the poster's username, a user is presented with their post history, effectively presenting them with multiple different subreddits established for selling drugs.

Figure 14: Post advertising other subreddits.



An anonymous user's post urging people to join three new and active groups: one for the Jutland region, another for the city of Aarhus and a third for morphine and OxyContin.

As shown in Figure 14 above, subreddit moderators (community moderators) and users are interested in expanding the membership of the drug subreddits as much as possible. This indicates that drug sellers and moderators of the drug-specific groups have a lot of confidence in the promised anonymity of their profiles and that they are not afraid of the increased moderation that greater visibility incites. They seem keen on building as large a user base as possible, unimpeded by any vetting process.

Reddit drug markets are very open compared to the Facebook markets, which was evident in 2017–2018 (Demant et al., 2018). In the present study we recorded a single post to one of these subreddits, where a user asked for access to drug-dealing Facebook groups. The comments on the post denied him access, saying that you 'can't just invite people you cannot vouch for'. Our research profile also tried asking for Facebook group invites. We also did not receive any responses with links and access to any closed Facebook groups. This suggests that there are still some closed (and hidden) Facebook groups used for advertising drugs, but that they are more closely guarded than is the case with subreddits. This could be a reaction to the increased moderation on Facebook. For the sellers, such changed moderation, would require them to necessitate stronger vetting (screening of inclusion of members in the groups). This also leads to the Facebook groups being more closed in their structure, which changes their character so that they are increasingly similar to closed Wickr Me or drug phone lists.

Reddit was found to host many active and remarkably open drug markets. The website's technical features and design are conducive to certain types of use and forming communities, which is very noticeable in the way drug markets emerge and function on the site. One element that sets Reddit apart from other platforms discussed here is that it relies heavily on user moderation, outsourcing local content moderation on its subreddits to community members. This creates a market where dealers can organise fairly large forums and act as moderators. Stable online markets are thus established where neither moderators nor community members have any interest in flagging or reporting illegal behaviour. When a subreddit specialising in dealing is taken down because a Reddit user or moderator from outside the subreddit has flagged it, multiple back-up sites exist. We identified 12 subreddits specifically for selling drugs in Denmark (see Table 1).

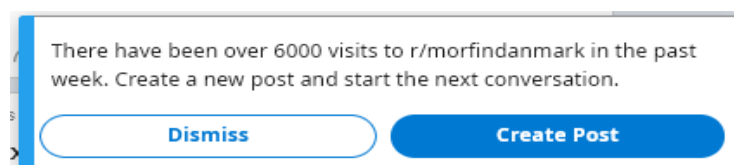
Table 1: Description of subreddits and members

Name of subreddit	Description	Members
/r/Slikhytten/	Very active subreddit for selling drugs across the whole of Denmark. Around 18 posts a day.	479 subscribed members
/r/morfindanmark/	Very active subreddit dedicated to selling morphine substances and prescription medicine.	400 subscribed members; 6 000 visitors a week
/r/kbhapotek/	Very active subreddit dedicated to selling drugs in Copenhagen. Mostly cocaine, MDMA, opiates and cannabis. Around 23 posts a day.	903 subscribed members
/r/DSMJ/	Inactive subreddit for selling drugs and other illegal goods. At the time of recording, the last post was 11 days before that. There used to be around 5 posts a day.	387 subscribed members
/r/DetSorteMarkedAarhus/	Not very active. Contains posts about different drugs in the Aarhus region. Around 4 posts a day.	191 subscribed members
/r/Hashjylland/	Moderately active subreddit for selling drugs in Jutland. Most drugs are sold, in spite of the cannabis-related name. Around 9 posts a day.	188 subscribed members
/r/DetSorteMarkedFyn/	Inactive subreddit. Last post was 4 months ago at the time of recording. It is clear that the subreddit had large amounts of traffic.	1 200 subscribed members
/r/SortMarkedDanmark/	Very active subreddit for all kinds of illegal sales across all of Denmark. Almost exclusively used for drugs. Very large selection of drugs. Around 21 posts a day.	650 subscribed members
/r/aarhuskiosk/	Very active subreddit for all kinds of drugs in Aarhus. Around 11 posts a day.	194 subscribed members; 1 000 visitors a week.
/r/jyllandslikhytte/	Moderately active subreddit for drug sales in Jutland. Around 9 posts a day.	92 subscribed members; 100 visitors a week.
/r/DetSorteHandelsSted/	Advertised as selling all kinds of illegal goods.	Closed by Reddit at the time of recording
/r/undergrund_sjaelland/	Moderately active subreddit for drugs in the Zealand region.	Closed by Reddit at the time of recording

Most of subreddits listed in Table 1 were very active, with multiple posts a day and a couple of hundred subscribed members. However, it is not necessary to be subscribed to the subreddit to browse, search or interact. Therefore, we can presume higher levels of activity than indicated by the number of subscribers. Users might feel that it is risky to subscribe or simply not wish to. As a result, it is hard to accurately gauge the traffic for each site.

Reddit had a helpful feature that encouraged our profile to partake in the drug community by telling them how many visitors some of the subreddits had (see Figure 15).

Figure 15: Reddit notification of user visits for specific subreddits



For example, the morphine-related subreddit /r/morfindanmark/ supposedly has around 6 000 visits a week, even though the community only has 400 subscribed members (Figure 15). Therefore, we can assume that traffic is much higher for the other subreddits than the number of subscribed community members would suggest.

The various subreddits were very similar and seemed to both serve the function of offering different local markets and provide back up for each other in the event that one was taken down. Many of the posts across the subreddits were identical to each other, suggesting that they were not distinct markets, but rather part of the same larger enterprise. In the two weeks in which we conducted netnography on the sites, two subreddits were closed down, suggesting a very high turnover rate (Table 1).

Open market – all kinds of drugs in the same place

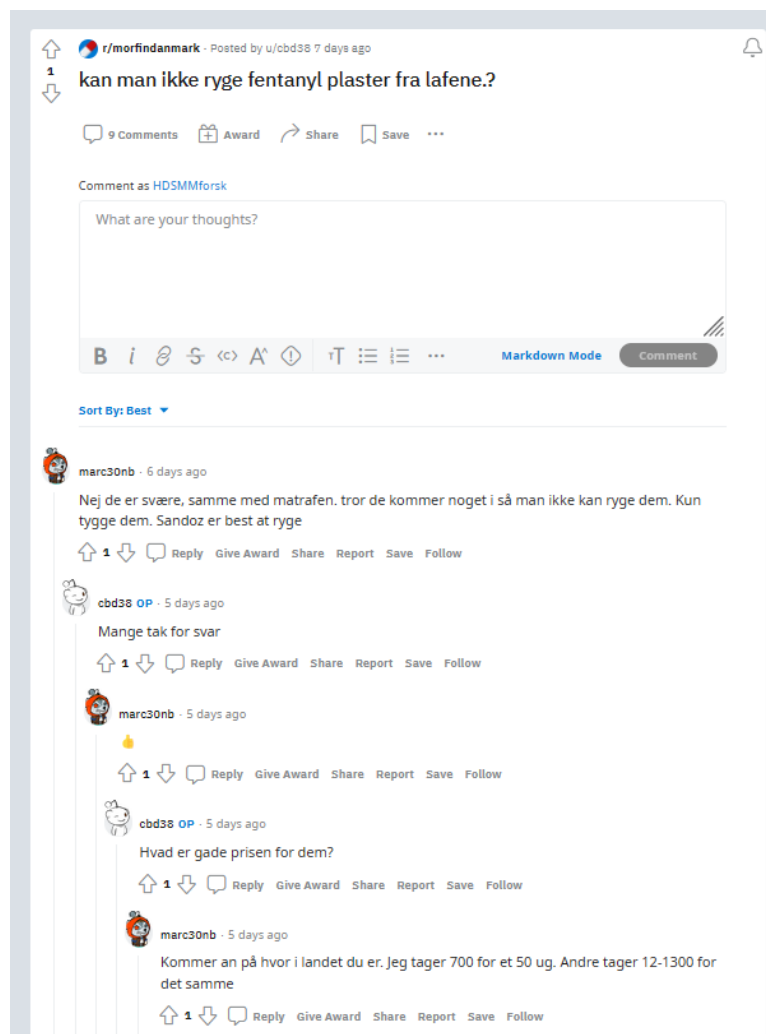
One of the central differences in market structure between Snapchat and Reddit is the users' ability to compare dealers' offers on Reddit. Once a user finds a subreddit, a long list of offers is available to any potential buyer. These offers compete in terms of quality, price, special offers, delivery and number of available products. In comparison, Snapchat is more restricted to the specific dealers that are related to the user profile's network.

The open nature of the Reddit markets creates a highly competitive environment where the buyer is not limited to the products or prices of the dealers in their network, but can browse different dealers' posts and offers in the same place. When browsing the subreddits, the breadth of advertised drugs is noticeable, especially compared to the range offered by Snapchat dealers, as described in the section on Snapchat above. This 'bazaar-like' structure of the Reddit markets makes it efficient for drug sellers of all kinds (both amateur and professional, as well as within different types of drugs) to advertise in the same space. As such, it is a buyers' market, where customers can choose between sellers and disregard advertisements for drugs they are not interested in.

These large open markets can result in introducing drug users to novel substances, larger amounts or cheaper prices than they would be able to find in their personal network. This creates the potential for drifting into the use of other drugs or moving to increasingly dangerous varieties and use patterns. When collecting data from the subreddits, we encountered commercials for all kinds of drugs: the usual party drugs (for example cocaine, MDMA and amphetamine) as well as cannabis products, ketamine, benzodiazepines, opioids, synthetic opioids, erectile dysfunction medication, psychedelics and hormonal treatments such as steroids. The user could purchase all these substances by simply writing to the Wickr Me contact provided in the posts, and all without creating an account for Reddit or leaving any noticeable digital traces.

If the user is looking for a niche drug or delivery to a specific place, they can create an account and make their request either in a post or in the live chat. This would attract the attention of numerous dealers or heavy users willing to meet their needs. In other words, once a buyer finds the Reddit drug markets, in practical terms they have wide access to most illicit drug types and different quantities. In Figure 16, we provide an example of a user asking for technical advice about the synthetic opioid fentanyl, which is both very dangerous and not commonly found in Denmark outside groups of dedicated opioid users.

Figure 16: Use advice and sales



A user asks why it is impossible to smoke a certain brand of fentanyl patch. Another user answers that another brand is easier to smoke, and also names his price for selling these.

This post shows how the large volume of traffic, message persistence and anonymity on Reddit support niche drug use. In Figure 16 technical advice is provided on which brands of fentanyl patches to smoke and which to chew. Fentanyl is an especially dangerous synthetic opioid currently causing a spike in overdose deaths in the US, but very rare in Denmark. The availability of fentanyl and the related consumption guides in these subreddits suggest that the buyers in these subreddits are more experienced both with drugs in general and with those that the literature identifies as highly addictive.

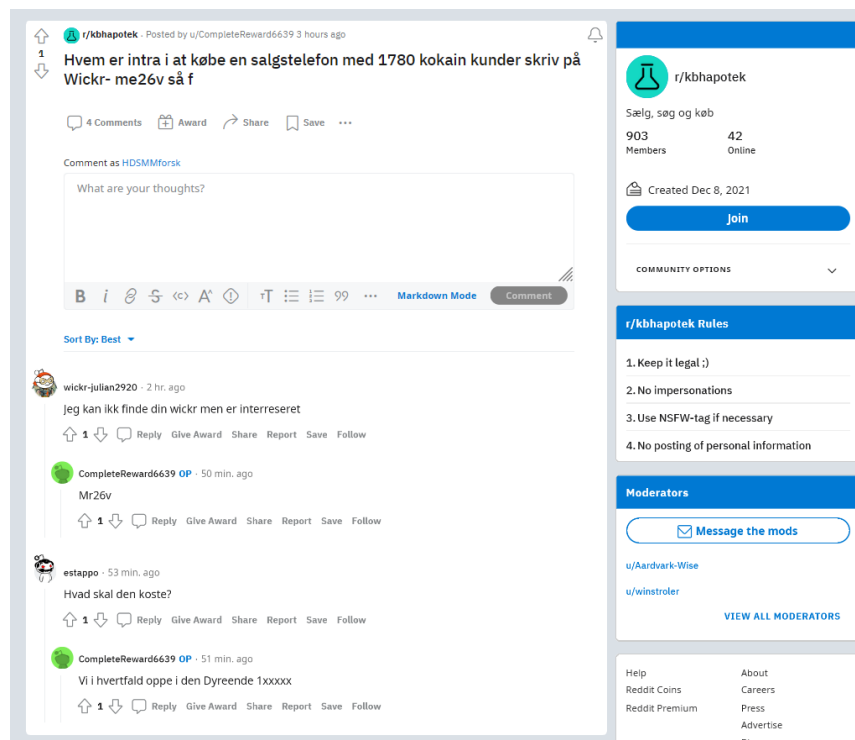
Although common recreational drugs such as cocaine are the most advertised goods on these subreddits, some sellers cater to users beyond the merely recreational. For example, it is not uncommon to see people who want to trade methadone for almost any other drug. Methadone is a common treatment for opioid dependency in Denmark, suggesting that the users are addicts with no money trying to swap methadone for something more enjoyable.

The structure of Reddit's open forum in combination with the high volume of traffic appear to attract people who are willing to buy and sell less popular drugs than it would be feasible for a network-based dealer to stock. This also results in users who are looking for relatively common drugs, such as cannabis or cocaine, to be presented with advertisements for all kinds of other drugs, potentially widening their understanding of acceptable drugs or tempting them to experiment with new ones.

Backstage black markets

These forums not only function as bazaars for personal consumption; the large collection of dealers on these subreddits also allows for selling drug quantities and equipment that are relevant only for professional dealers.

Figure 17: Post advertising a dealer phone for sale



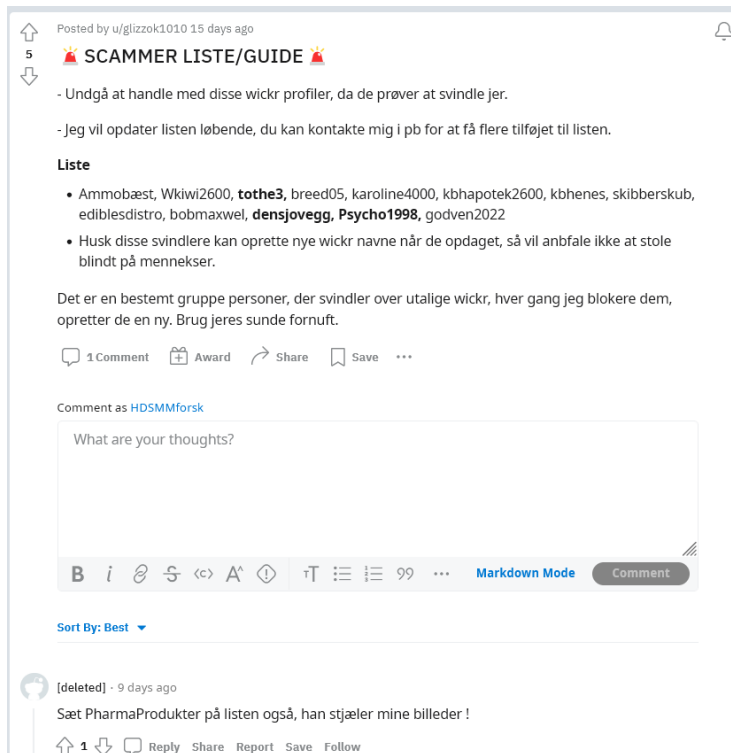
Post advertising a dealer phone for sale with 1 780 cocaine customers on it. Two people seem interested. The second one asks how much the phone costs. The original poster answers that it is going to be expensive, hinting that the price would be around 100 000 DKK.

The effective market qualities of the subreddits and the large user base of dealers frequenting them make these subreddits ideal places for advertising equipment for professional drug dealing. For example, in the case illustrated in Figure 17, a dealer phone (see Søgaard et al., 2019 for an explanation) is offered for sale, effectively including an entire network of potential buyers, along with the reputation tied to the number. Although the subreddits support sales from small-time dealers and heavy users selling their personal stash, it is clear that they are also used by highly professional dealers, who, for instance, can expect to find a buyer for a phone associated with cocaine dealing for 100 000 DKK (13 500 EUR) or more. In our data collection, we also encountered drug buyers seeking large quantities of drugs, often multiple kilos, that are unlikely to be intended for personal consumption. The markets in these ways also provide a platform for resale and bulk drug dealing.

Reputation systems and vigilante justice

Reddit drug markets connect buyers and sellers without recourse to personal networks. This creates an environment prone to scams and fraud. This problem is addressed by creating a local reputation system that the users and moderators uphold. In most of the subreddits, the first post on the site is a pinned post containing a list of known scammers. Users can ask the moderator to add other users to the list.

Figure 18: Example of a scammer list

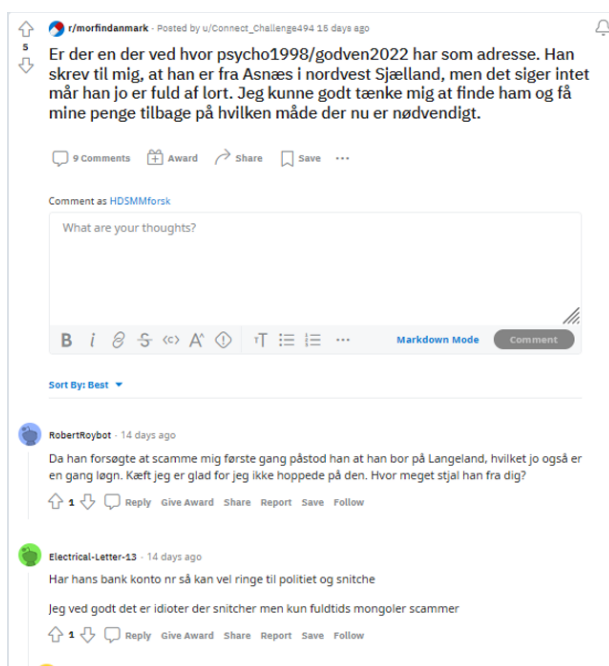


Example of a scammer list from r/aarhuskiosk: a pinned post from the moderator of the forum. The moderator warns people not to conduct business with these profiles, identified by their Wickr names. The moderator updates the list and asks users to suggest other scammers to add to the list. The moderator also warns that grifters will create new Wickrs. Users should therefore be on their guard and not trust profiles blindly. A deleted user suggests adding a new name to the scammer list because they have stolen the user's picture.

Figure 18 shows how groups organise their own reputation system in an attempt to screen out potential scammers. This illustrates the market's stability. Actors stay active within the market for longer periods, allowing reputation systems to build. These systems serve the buyers: they can steer clear of already identified scammers or choose to buy from a seller with a long posting history. However, they also serve the dealers, who can distance themselves from fraudulent behaviour by singling out specific people as problematic.

The result of being labelled a scammer can be damaging. The post in Figure 19 shows how a reputation for being a scammer is established and how a dissatisfied buyer can seek vigilante justice.

Figure 19: Vigilante justice in drug markets



A user asks for information about a seller who scammed them. They want to get their money back by any means necessary. The scammer's username is also on the scammer list in Figure 18. People in the comments encourage the user to involve the police. Further down, but not recorded, a man's personal information is presented as the identity behind the profile. His ownership of the profile is later disputed.

This post from the morphine-specific subreddit includes the outing of a profile, threats of snitching to the police and what also seem like threats of violence. A buyer is asking for personal information on a seller who allegedly scammed them. Multiple people seem to know the profile and they share the original poster's anger. They discuss whether to get the police involved or if the scammer works with people who would enact revenge. Later in the thread (redacted from the screenshot), a man's personal information was doxed, publicly tying his identity to this scammer's profile. Other users commented that this man no longer controlled the profile, but had sold it to finance his Xanax addiction.

The post provides a rare insight into how reputation systems are established and maintained. This subreddit reputation system is also clearly marked by the specific affordances of hybrid online/offline markets on Reddit. In the nature of hybrid markets, buyers and sellers meet up to complete the deal, which compromises the anonymity of the Wickr Me profile because it connects a face and a geographic locality to the Reddit profile. This poses a risk to the seller and buyer of being identified, and, as such, of being doxed on the subreddit (and beyond). Furthermore, if their profile or phone number is resold, the identity associated with the phone is at risk of repercussions associated with the profile's or phone number's future reputation.

Reddit's message-board-like structure offers the possibility for multiple users who have bought from the same profile to share their frustration and knowledge about a specific profile, which creates a highly effective and dangerous form of vigilante justice while simultaneously proposing a very stable reputation system.

Expanding beyond Denmark

After completing the investigation into Danish subreddits, we tried to expand the search into Norway, Sweden and Germany.

We identified two very small subreddits that focused on drug selling from Sweden that had far fewer members, less activity and used much more coded language in the drug posts. It was clear that Reddit was a much less popular platform for conducting drug dealing in Sweden. A substantial part of the posts focused on discussing the forum's quality and whether people could be trusted not to report each other. It seems that these Swedish subreddits experience more flagging than the Danish subreddits do.

We could not identify any subreddits hosting drug markets in Norway or Germany, either through search engines or through Reddit's own search feature.

Summary of Reddit netnography

We conclude that Reddit supports a large and active drug market in Denmark. Drugs can easily be found via a search engine, Reddit's own search feature or exposure through periodic posts in larger forums probably designed to attract new customers' attention.

Reddit's features and moderation structure make it easy for dealers to create multiple back-up forums that link to each other, catching the spillover when one is shut down. This creates fairly stable markets. Specific users or subreddits might be taken down from the site, but the larger market as a whole persists. The market remains stable enough to facilitate the establishment of reputation systems and distinct submarkets for different parts of Denmark, as well as supporting a separate market site for opioids and other prescription drugs.

The structure of Reddit's scrollable subforums, with easy-to-create anonymous profiles, combined with a large amount of traffic, supports the selling of less popular and often very potent drugs, greater quantities and equipment to begin professional drug dealing. The analyses show that these forums represent a backstage or a more subcultural element of drug dealing compared to the behind-the-scenes exposure a drug user would get on Snapchat or an encrypted messaging service. The subreddits host a complex mix of dealing for small-time recreational users, drug users with potential drug dependencies and sellers making a living by dealing drugs. Activity on the subreddits is in no way conspicuous because it barely uses any code words and is searchable through indexed search

engines. This would suggest that moderation is either non-existent or extremely unambitious on Danish-language subreddits.

Conclusion on the netnographic study

In conclusion, most platforms have been successful in moderating searchable drug-related content. Meta has been effective in limiting access to drug markets through keyword searches. TikTok too has maintained a tight moderation praxis, preventing us from finding any drugs on the site. However, on both Snapchat and Reddit, it is very easy to gain access to drug markets. On Snapchat, a potential buyer can immediately find sellers, as well as being exposed to multiple new sellers from algorithmic suggestions expanding the drug network, and confronted with promotional material upselling drug quantities. This was evident in Denmark, Norway and Sweden, but not in Germany. On Reddit, a novice drug user can search through Google or Reddit to find numerous forums facilitating an extensive drug market, where all imaginable drugs are available. This was primarily evident in the Danish-language subreddits.

Conclusion

In conclusion, we found that social media drug markets are still very active in Denmark, and in more differentiated ways in other countries. The differences are summarized in the below table 2.

Table 2: Activity by country and platform

	Meta	Snapchat	Reddit	General
Denmark	Few highly hidden and referral-based FB groups	Very active markets identified	Very active markets identified	High social media markets
Sweden	None identified	Very active markets identified	Moderately active markets identified	High social media markets
Norway	None identified	Very active markets identified	None identified	Medium social media markets
Germany	None identified	None identified	None identified	Limited social media markets

Facebook and Instagram show a clear improvement in moderation compared to their performance in this area as highlighted in earlier research. We did not access any drug-related content through searching these sites.

On Snapchat, we found and documented large amounts of drug-selling activity that any user could easily access. Indeed, the app suggested dealers, expanding the network to a degree where one of the profiles was presented with the possibility of becoming a paid cocaine deliverer. The potential for drift through having widespread access to illicit drugs and being invited into an exclusive criminal network is hard to overstate.

On Reddit, we identified a number of dedicated Danish drug-dealing forums offering a diverse array of drugs. These markets appeared to be very active, highly structured and professional. Drugs such as fentanyl were also advertised in the same places a user would go to find cannabis products, thus offering the potential for drifting into more problematic drug use.

A small subset of Swedish markets was found. No Norwegian or German markets were identified.

Although moderation has increased on some platforms, other platforms with no or low moderation have absorbed the markets, hosting extremely open and effective markets for buying and selling illegal drugs online in Denmark.

Discussion

Although Facebook and Instagram have improved their services' drug content management to a point where basic searches will not result in access to drug-dealing forums, Snapchat seems to have absorbed this market activity. In other words, increased moderation on one platform results in displaced activity to another platform, and, in this case, an app with a worryingly young user base.

Low or no moderation combined with the promise of anonymity, the temporal nature of messages and easily searchable usernames make Snapchat ideal for illicit use.

On a general level, we find that the drug markets on social media have changed. The former markets, which were characterised by more stable platform types of dealing (larger open groups), are still evident to some degree. The subreddits in Denmark confirm that. However, at the same time, the markets have evolved substantially into more hybrid forms. The markets on Snapchat provide an intermixed market structure, whereby they are, at one level, very local and closed in nature, while also simultaneously making use of the platform's social affordances to stay open and able to communicate with new users.

Limitations

Although the report's findings are clear, there are some central limitations to note.

The netnography's findings unambiguously prove the existence of social media drug markets on Snapchat and Reddit, but our zero finds do not necessarily prove an absence of drug markets on other social media sites. Other uses, different profiles or prior membership in communities that occupy adjacent online spaces to drug markets might have yielded access to these markets. However, this does not change the study's conclusions. The goal remains to understand and identify easily reached markets on surface-level social media. When the study did not find any markets with simple searches and without prior networks, this should not be interpreted as proof that there are no markets on these platforms. However, we can conclude that there are adequate barriers to access these markets (given that they exist) on the specific platforms we looked at.

Different adaptations of social media for drug dealing suggest that national differences in user behaviour is a highly relevant factor in understanding how these markets are formed. Although the analytical perspective of affordances can help explain inter-platform differences in markets, material and social differences between countries are also hugely influential. This is exemplified in the demand for Swedish alcohol dealers and the lack of demand for Snapchat markets in Germany, where Snapchat adaptation is low. Hence, drug buyers do not expect to find dealers on Snapchat and dealers do not expect to find buyers.

One glaring limitation is the lack of response from the social media platforms themselves. As described in the report, social media drug markets are very susceptible to changes in moderation and features reacting to platform decisions. This is why we felt it was important to interview platforms to understand their moderation efforts and their knowledge in this area, as well as present them with our findings for further comment. This has unfortunately not been possible, thus we are left with only a very superficial understanding of current moderation policies.

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