

Digital ethnography in cybercrime research: some notes from the virtual field

Nicholas Gibbs and Alexandra Hall

Introduction

Ethnography has a long and vibrant history in criminology. Whilst it may not be the most widespread methodology in the discipline, the immersive cultural lens offered by the ethnographic approach has produced some of the twentieth century's most illuminating and memorable in-depth accounts of crime and crime control. Ethnography was initially established by anthropologists to explore cultural groups by observing and engaging with them in their local environments over an extended period of time. However, ethnography must now confront the multi-sited, digital and mobile nature of social, cultural and economic life. To come to terms with this shift the ethnographer must now look beyond the traditional local research site to global, transnational and virtual spaces. As a result, the use of digital ethnography, which is basically traditional ethnographic methods modified to interact with online communities and environments, has steadily increased in anthropology and the social sciences.

Criminologists are also beginning to make use of this method in response to the increasing need to account for the complex digital features of contemporary forms of criminality, victimisation, policing and punishment. In this chapter we offer some initial reflections on the use of digital ethnography in criminology by outlining some of our experiences as ethnographers conducting research in virtual environments; specifically, Hall's research on the trade in illicit medicines and Gibbs' PhD research on the market in image and performance-enhancing drugs (IPEDs). We cover key issues that range from practical challenges and ethical quandaries through analytical capabilities to epistemological issues. As we outline the possibilities and pitfalls of this nascent methodological approach, we argue that criminological ethnographers must balance both online and offline research if we are to keep pace with the contemporary landscape of crime, harm, and control.

The ethnographic tradition in criminology

Although we do not intend to provide a thorough history of criminological ethnography in this chapter (for this, see Treadwell, 2020), it is worth highlighting some important aspects of the approach's rich heritage. Ethnography's entrance into the study of crime and deviance can be traced back to the Chicago School of the 1920s. Early ethnographers responded to Robert Park's now famous appeal to "go get the seats of your pants dirty in real research" (Park, quoted in McKinney, 1966) by getting out onto the city's streets to uncover the experiences and narratives of everyday life. Characterised by Maguire (2008) as a "minority tradition" in criminology, ethnography nevertheless flourished in the 1960s and 1970s as researchers sought to explore the highly nuanced and personal nature of deviance in order to generate valuable empirical and theoretical insights. Having weathered the 'dark ages' of the 1980s and 1990s (Hobbs, 1993; Ferrell and Hamm, 1998), criminological ethnography has experienced something of a revival (Fleetwood and Potter, 2017; see also Hall and Winlow, 2015).

Ethnography is an inherently messy, hands-on research methodology (Liebling, 2001). Settling on a definition of ethnography is therefore quite difficult (Gobo, 2008). Traditionally, the principal aim of ethnographic research was to gain insights into the everyday meanings and practices that allow individuals to live together in specific local contexts. At the core of this method is participant observation. Sustained contact with the field and its inhabitants allows the researcher to produce rich and nuanced data. However, different approaches to this method have proliferated in recent years to reflect a diverse and changing research landscape. Digital ethnography, auto-ethnography (Jewkes, 2011) and visual ethnography (Van de Voorde, 2012) now underpin a diversifying ethnographic sensibility in the contemporary era and highlight criminology's versatility and relevance in a world characterised by accelerated cultural and technological change.

"Going digital": moving criminological ethnography online

Today, engagement with the online world is a mundane daily occurrence for many people, particularly in the global North (Hine, 2013; Powell et al., 2018). Criminology must now reach beyond the well-versed 'cybercrimes' of the Web 1.0 era to explore the impact of digitisation on criminal and harmful

activities as diverse as child sexual exploitation, state crime, gang violence, drug markets and far-right extremism. Moving beyond the traditional understandings of computer integrity, computer-assisted crime and computer content crime (Wall, 2007), criminology has begun to explore the alteration in criminal subjectivities brought about by Web 2.0 (see Yar, 2012) and how the ubiquity of online platforms such as social networking sites (SNS) has affected traditionally offline offences, including hate crime, organised crime and even murder (see Yardley and Wilson, 2014). In line with this shift, the long-held principles of ethnographic study have been reimagined to reflect increasing digitisation. Put simply, digital ethnography refers to any ethnographic study undertaken on platforms that use binary code (Horst and Miller, 2012). Though this seemingly straightforward methodology belies a rather fractious history (see Abidin and de Seta, 2020), its current iteration can be traced back to Hine's (2000) concept of "virtual ethnography", which, when first proposed, acted as something of a harbinger of our current view of the internet as a site of interaction in itself, and thus a space in which the toolkit of traditional ethnography could be repurposed following the mass uptake of home computing. Following this first iteration, ethnographic research in the digital world has splintered to incorporate a vast array of specialised "buzzword" approaches, ranging from "social media ethnography" (Postill and Pink, 2012) and "trace ethnography" (Geiger and Ribes, 2011) through to "networked anthropology" (Collins and Durington, 2014) and "netnography" (Kozinets, 2010). Whilst we accept the worthiness of these increasingly specialised approaches, we advocate for a more holistic and versatile definition of digital ethnography that can be adopted by researchers from varying backgrounds to explore every aspect of digital lifeworlds. For this reason, our understanding of digital ethnography is deliberately open-ended, and we encourage criminological ethnographers to be adaptive and flexible as they explore this approach in the context of their research.

Our own work offers two examples of digital ethnography in criminology. We will explain the practicalities in more detail below (see also Hall and Antonopoulos, 2016; Antonopoulos and Hall, 2016). Alongside our work, for those considering moving their ethnography at least partially online

(more common during the COVID-19 global health crisis), several recent noteworthy examples highlight the strength and reach of digital qualitative and ethnographic research in criminology. These include Forrest Stuart's *Ballad of the Bullet* (2020), an excellent mix of online and offline ethnography exploring the lives of Chicago's urban youth, who, living precarious lives amidst poverty and gang violence, have begun to use social media profiles as a marketing strategy to capitalise on the public fascination with ghetto culture and DIY drill music. Similarly, Keir Irwin Rogers (2020) provides a UK-based account of violence, drug markets, online performances and identities. Sarah Lageson's *Digital Punishment* (2020) offers a fascinating and much-needed analysis of the digital life of criminal records in the US, where criminal justice agencies have turned to private IT companies in the search for cost-effective criminal record-keeping. The result is a system of "digital punishment" with collateral damage impacting every facet of private and civic life in America. A budding sub-field is now emerging in drug studies, which includes innovative work on user and supplier communities on darknet markets (Martin et al., 2019) and social network sites (SNS) (Demant et al., 2020). Similarly, new work now focuses on aspects of "organised" crime and illicit markets operating online, for instance the role of technology in counterfeit markets in Brazil (Dent, 2020) and illegal moneylending in China (Wang et al., 2020). These are just some of the most recent examples of an ever-expanding body of literature in criminology. In the next section we draw on our own experiences to provide some reflections and practical guidance for those planning to conduct ethnographic fieldwork in virtual environments.

Conducting a digital ethnography

The practice of conducting a digital ethnography can be broken down into two broad phases: non-reactive and reactive (Janetzko, 2008). The non-reactive phase, sometimes referred to as "lurking", simply requires the ethnographer to inhabit the online field-site, passively observing subjects' behaviours and the platforms' norms to learn the cultural language of the space. For Hall and Antonopoulos (2016), this entailed lurking on a range of platforms including online pharmacy (OP) surface websites, public drug-related forums and SNS, and building a dataset of screenshots tracing

the interactions and transactions taking place, which were then coded and analysed. To focus the research in a mass of online information, decisions were made after general searches, observations and discussions with experts to ascertain which online sites were most commonly used by users and suppliers of pharmaceutical drugs; for example, forums that related to specific topics with links to pharmaceutical consumption, such as bodybuilding, men's and women's health, drug forums and their prescription drug sections. Similarly, Gibbs (forthcoming) observed both the consumption and supply of gym-related IPEDs during the non-reactive stage, familiarising himself with the community-specific norms and lexicon on various SNS. Crucially, this aspect of the digital ethnographic process uncovered what Enghoff and Aldridge (2019) term "unsolicited" data, which, given its organic, entirely user-generated nature, represents the most unmediated content online. Screenshots were then contextualised with researcher fieldnotes to paint a basic picture of the online field-site.

The reactive phase involves interacting with participants in online spaces and physically shaping the field-site to elicit data. Just like the traditional ethnographer builds relationships and negotiates access in the field, here the digital ethnographer follows the norms of the platform under study, interacting with forum users, creating social media accounts, and generating content. In the reactive phase, Hall (Hall and Antonopoulos, 2016) established social media and forum profiles alongside email accounts through which she interacted with customers and sellers of pharmaceutical drugs. Similarly, in Gibbs' (forthcoming) reactive phase, he created two SNS profiles on Instagram and Facebook, through which he solicited interviews with users as well as generating posts and liking/sharing his sample's content. Both of these profiles used the researcher's real name as well as his institutional affiliation and a brief 'bio' explaining his research interests. The reason for this was two-fold. First, as many participants who were initially approached online went on to interact with Gibbs face-to-face, any attempt to obscure his identity would have been damaging to his relationships in the field. Second, as Gibbs' reactive phase involved him producing content that mirrored his sample's SNS use, using his own images to post updates of his lifestyle and gym progression worked to add a certain degree of authenticity to the accounts, and allowed him further insight into the community's norms and

practices as a ‘researcher participant’ (Gans, 1967). Notably, the initial wave of participants that Gibbs approached appeared reticent to engage with these accounts until they were sufficiently populated and appeared as legitimate. This illustrates the challenges in cultivating a credible online presence for digital ethnographers. Following the creation of the profiles, Gibbs sampled fifty users who had geotagged¹ their posts to two local gyms under study and followed them to populate the account. Alongside this sample, Gibbs used a hashtag to search for IPED supplier accounts and requested to join several open and closed IPED Facebook groups. From here, he sent initial messages to the sample, inviting them to take part in online and offline interviews. This helped triangulate the data and provide a more robust analysis.

Digital ethnographers understand that platforms like SNS, online forums and webpages constitute field-sites just as much as physical spaces (Dalsgaard, 2016). Data collection can take the form of online interviewing, screenshots of meaningful interactions, images and text from publicly available webpages, audio or video recordings, documents of varying types and, of course, ethnographic fieldnotes. Reactive and non-reactive phases of the research may overlap during the research process and should not be treated as discreet, sequential stages. Instead, the reactive and non-reactive phases work alongside one another to facilitate a thorough immersion in the field.

Readers can find detailed discussions of the ethics of online research elsewhere in this collection (see also Hall and Antonopoulos, 2016), but one issue we thought worthy of mention in relation to digital ethnography is that of consent. This is perhaps the most divisive ethical issue for budding digital ethnographers to navigate, especially with regard to the technique of “lurking” without deceiving participants. This issue fundamentally rests upon the degree to which data on the internet are considered public or private (Lingel, 2012; McKee, 2013; Hall and Antonopoulos, 2016; Woodfield and Iphofen, 2018) – see also Part III of this book. It begs the question of whether user-generated content

¹ This term refers to Instagram users tagging their posts to a certain location, for example a landmark or business premises.

on SNS is public (due to its universal accessibility) or private (given that the user has generated it). Scholars writing on issues of informed consent tend to either advocate for consent regardless of context or platform (see Bond et al., 2013; Michaelidou et al., 2016), or suggest that, due to the public nature of SNS, data constitutes public property, particularly when anonymised (see Beninger et al., 2014; Alim, 2014). This division is, to some extent, premised on the extent to which an average user is understood to be aware of their platform's data usage policy, which often contain clauses about third party data use (Townsend and Wallace, 2016). However, in the case of SNS, terms and conditions go unread by most users (Denecke, 2014) and, even if one wishes to access them, they are in a state of constant flux (Beninger et al., 2014). Further, Boyd and Crawford (2012) contend that simply because data is publicly available, this does not necessarily make it acceptable to use.

The ethical quagmire of 'public versus private' was played out in the first author's Facebook data collection as he took screenshots of members' and admins' posts on a number of closed groups. These technically *public* platforms are perhaps best described as *semi-public* (Irwin-Rogers, 2019), given that one needs to be accepted by administrators in order to join. As a result, ambiguity surrounds the availability of data on these pages, particularly as the users' intended audience was presumably those in the private group rather than the public at large (or indeed a criminological researcher). Although we offer no definitive solution to this dilemma, Gibbs operated in line with Helen Nissenbaum's (2010) notion of "contextual integrity", wherein the need to receive informed consent was calculated on a case-by-case basis, regardless of the publicly-available nature of the data being gathered. This was consistent with the AoIR's (2019) advice that researchers make an ethical judgement call rather than rigidly following guidelines. Thus, data that the researcher adjudged to be in the public realm (including posts in these semi-public groups) were included, on the condition that users were anonymised and the post did not include any indicators of their location or other personal information.

Epistemological possibilities at the crossroads between online and offline worlds

A crucial question for ethnographers and social researchers in general is how much data should be collected online or offline. Depending on the nature of the research aims, ethnographic methods can be conducted entirely online. However, the research we conducted had important online and offline dimensions. Throughout our respective projects, we were acutely aware of academia's tendency to dichotomise "online" and "offline" research (Wilson et al., 2012) and the subsequent label attached to "virtual" researchers. Such dichotomous thinking, which can be traced back to the initial academic forays into "cyberspace" (see Taylor, 1999; Sunden, 2002), is unhelpful but unfortunately common within criminology and, more broadly, cybercrime research. Instead, we wish to stress the utility of applying a digital ethnographic approach to myriad forms of criminological inquiry, beyond the traditional focus on cybercrimes. Through a combination of online and offline methods, we were better able to research beyond the narrow confines of mainstream criminology's focus on legal definitions of crime, to reveal nuanced and contextualised meanings in the research, and to ensure the validity of our research findings. In other words, our research questions demanded both online and offline elements which often merged, and a certain degree of flexibility in our approach.

To overcome some of the potential challenges, Gibbs' work made explicit use of a connective approach, which is concerned with the interconnections between online and offline spaces. Despite being coined by Hine (2000), this approach has its roots in education studies, where Leander and McKim (2003) first mobilised dual online/offline observation of adolescent teens in a learning environment. The practitioners of connective ethnography, as originally conceived, tend to dispute the notion that space is "static" (Leander and McKim, 2003, p.217) and instead view the internet not as a separate realm but as part of one's journey through the world. Importantly, the concept of online and offline are not disregarded, and practices can still be said to be "online" (e.g., creating a social media post) or "offline" (e.g., speaking to a friend in person). However, Leander and McKim (2003) accept that these realms are "blended" and inevitably impact on one another. Prince (2019) employs the terms "influence" and "flow" in connective ethnography to describe the continuum of online and offline. He talks of a state of "oneness", whereby no divide exists between the two. Here, *influence*

describes the impact that one realm has on another, for example offline behaviours being replicated online. *Flow*, on the other hand, describes “the continuous back and forth movement between realms, making the boundaries between one realm and another progressively indistinguishable” (Prince, 2019, p.47). Put simply, the concept of flow acts as the crux of connective ethnography, acknowledging that subjects and everyday practices drift in and out of online and offline spaces, thus advocating that researchers must do the same to elicit accurate data.

Crucially, from its inception, and in a move that contradicts most previous research, connective ethnography has acknowledged that “experiences in cyberspace are often not seen as exceptional by participants” (Leander and McKim, 2003, p.218). Therefore, scholars ought to integrate online or digital ethnography because the use of the internet and online communication is an accepted and mundane reality for most people living in the global North (Hine, 2013). As discussed by Abidin and de Seta (2020), linguistically, the spectre of this virtual/real divide can be found in the multiple online ethnographic methods that fall within the label of connective ethnography. Indeed, Hine’s (2000) coinage of the term connective ethnography follows her former commitment to “virtual ethnography”. The term “virtual” here is restricted to the historic moment of its inception, when the virtual world was viewed in opposition to the offline experience and, therefore, even in its most recent iteration, a hangover from this dichotomous view remains. Following Abidin and de Seta (2020), fluidity and messiness are now central considerations of this method.

A note on leaving the digital field

Whilst a number of ethnographers have addressed the challenges of leaving the field after gathering the required data (see Snow, 1980; Iversen, 2009; Tickle, 2017), relatively little has been written around the unique struggles of disengagement from *digital* ethnography. Here we will reflect on the first authors’ recent research to offer some insights.

The researcher’s SNS accounts that successfully facilitated large swathes of the data collection brought up an unexpected issue when it became time to withdraw from the field. Indeed, as both profiles were

deleted upon completion of Gibbs' fieldwork in the name of ethical propriety, the participant network and all of the associated data stored on the platforms inevitably had to be surrendered. For this reason, what Lofland and Lofland (1995) term the "etiquette of departures" was unable to be followed in the traditional sense. Instead, prior to deleting both accounts, a message of gratitude was posted for participants to see, alongside a short explanation of the researcher's withdrawal from the field. Inevitably however, not all of the digital sample would have been privy to this post had they not logged onto their SNS accounts during this time period. As a result, to some it would have appeared that the digital ethnographer simply vanished into thin air, with all publicly available traces of his online presence erased from existence, besides a number of archived conversations and now-defunct notifications. Clearly, this poses some ethical concerns, particularly about the assurances that were given to participants around their right to withdraw and, more broadly, their ability to contact the researcher after the completion of data collection. Though admittedly never truly mitigated against, the researcher's email address and contact number were included in the consent form that was distributed to all *active* participants, and therefore this means of communication was deliberately left open to ensure the interviewees' sustained informed consent.

However, despite Gibbs' resolute exit, the question of whether the digital ethnographer ever truly leaves the field-site does not have as clear-cut an answer as one would assume (see also Chapters 26 and 27). Hammersley and Atkinson (2019) note that ethnographers inevitably retain certain key relationships and friendships even after data collection is complete by virtue of their sustained involvement in the field and the numerous social bonds they build during data collection. This is particularly apt within the discipline of criminology, as insider ethnographers like Winlow (2001), Treadwell (2012) and Ancrum (2013) cannot be said to have truly exited the field due to their key contacts and locations being a mainstay in their lives long before the fieldwork itself. Similarly, Smith (2014) notes that, despite his formal disengagement from the field, his forays in the local night-time economy inevitably saw him interact with former participants in the bars and pubs of his research site. Therefore, given the authors' sustained involvement in their respective research areas, we cannot be

certain that our relationships with participants ceased, even after online profiles were dismantled and online data were deleted.

Furthermore, it would have been both a personal loss and an act of academic self-sabotage to erase all contact with the digital sample. With this in mind, the first author exchanged additional contact details with a number of key participants prior to formally withdrawing from the online field-site. Ultimately, just as he was able to build a robust sample through the tools of SNS, the people under study remain just a simple search away to this day. Therefore, the digital ethnographer cannot be said to have truly *left* the field as much as stepped away from the screen. Given the relatively uncharted territory that digital ethnographers currently traverse (Gatson, 2011), this is yet another example of situational decision-making in the field. As such, rather than providing a prescriptive “how to” guide within this chapter, we simply wish prospective digital ethnographers to remain vigilant to the complications precipitated by withdrawing from the field, and therefore advise others to bear the first author’s experiences in mind in their own research.

Conclusion

Online research methods are expanding and changing just as new technologies continue to develop and enter our social worlds in new and complex ways. This is a matter that impacts research not only in terms of methodology but epistemology, of the conditions of the possibilities, sources and limitations of knowledge. In this chapter, we have outlined some selected details of our experiences as ethnographers conducting research in virtual worlds in the hope our reflections go some way in helping budding digital ethnographers in criminology.

For us, immersion in a field-site using the central technique of participant observation is still key to ethnography, whether the field-site is virtual or not. However, staying flexible and opening up the possibilities of the research to other field-sites and methods is also fundamental if research is to adequately trace and interpret the complexity of everyday life at a time when networked technologies continue to develop at a staggering pace. That is not to say an ethnographic study cannot be situated

entirely within a virtual world, but that the research should be driven by the research questions, rather than a priori assumptions about social interactions and cultural activities (Boellstorff et al., 2012). If research is rigorous, there is no reason for ethnographers to feel they must be selective about real versus virtual or single versus fixed field-sites (O'Reilly, 2009). As Boellstorff and colleagues (2012, p.4) suggest:

“while the specificities of [virtual] spaces prompt their own set of considerations, the ethnographic research paradigm does not undergo fundamental transformation or distortion in its journey to virtual arenas because ethnographic approaches are always modified for each fieldsite, and in real time as the research progresses”.

How researchers keep pace with technological change beyond the Web 2.0 era is still an open-ended question. Ethnographic researchers in virtual worlds will increasingly find themselves compelled to balance their focus on people versus machine in an age when the Internet of Things (see Greengard, 2015) is set to outstrip human interpretation and interaction. If our focus is on digital technologies more broadly, we must expand our empirical and theoretical nets to capture not only social media platforms and darknet markets but also machine learning, automation and artificial intelligence. These new fields present their own challenges for ethnographers interested in extending their research online. We look forward to exploring these issues with established academics and the new generation of researchers, for whom networked technologies and online worlds form an important part of their scholarship.

References

- Abidin, C. and de Seta, G. (2020). 'Private messages from the field: Confessions on digital ethnography and its discomforts'. *Journal of Digital Social Research*. 2 (1), pp.1-19.
- Alim, S. (2014). 'An initial exploration of ethical research practices regarding automated data extraction from online social media user profiles'. *First Monday*. 19 (7), pp.105-127.
- Ancrum, C. (2013). 'Stalking the margins of legality: Ethnography, participant observation and the post-modern underworld'. In: Winlow, S. Atkinson, R. *New Directions in Crime and Deviancy*. Abingdon: Routledge, pp.113-127.

Antonopoulos, G.A. and Hall, A. (2016). 'Gain with no pain': Anabolic-androgenic steroids trafficking in the UK. *European Journal of Criminology*. 13 (6), pp.696-713.

AoIR. (2019). *Internet Research: Ethical Guidelines 3.0 Association of Internet Researchers*. Available: <https://aoir.org/reports/ethics3.pdf>. Last accessed 04/01/2021.

Beninger, K. Fry, A. Jago, N. Lepps, H. Nass, L. Silvester, H. (2014). *Research using social media; users' views*. Available: <http://www.natcen.ac.uk/media/282288/p0639-research-using-social-media-report-final-190214.pdf>. Last accessed 23/06/20.

Boellstorf, T. Nardi, B. Pearce, C. Taylor, T.L. (2012). *Ethnography and Virtual Worlds*. Princeton: Princeton University Press.

Bond, C. Ahmed, O. Hind, M. Thomas, B. Hewitt-Taylor, J. (2013). 'The Conceptual and Practical Ethical Dilemmas of Using Health Discussion Board Posts as Research Data'. *Journal of Medical Internet Research*. 15 (6), pp.E112.

boyd, D. Crawford, K. (2012). 'Critical questions for big data'. *Information, Communication and Society*. 15 (5), pp.662--679.

Collins, S. Durington, M (2015). *Networked Anthropology: A primer for ethnographers*. London: Routledge.

Dalsgaard, S. (2016). 'The Ethnographic Use of Facebook in Everyday Life'. *Anthropological Forum*. 26 (1), pp.96-114.

Demant, J., Bakken, S.A. and Hall, A. (2020), 'Social media markets for prescription drugs: platforms as virtual mortars for drug types and dealers', *Drugs and Alcohol Today*, Vol. 20 No. 1, pp.36-49.

Denecke, K. (2016). 'Ethical aspects of using medical social media in healthcare applications'. *Stud Health Technol Inform*. 198, pp.55-62.

Dent, A.S. (2020) *Digital Pirates: Policing Intellectual Property in Brazil*. Stanford: Stanford University Press.

Enghoff, O. Aldridge, J. (2019). 'The value of unsolicited online data in drug policy research'. *International Journal of Drug Policy*. 73, pp.210-218.

Ferrell, J. Hamm, M. (1998). *Ethnography at the Edge: Crime, Deviance and Field Research*. Boston: Northeastern University Press.

Fleetwood J, Potter, G.R. (2017) 'Ethnographic research on crime and control: Editors' introduction'. *Methodological Innovations*. 10(1), pp.1-4.

Forrest, S. (2020). *Ballad of the Bullet: Gangs, Drill Music, and the Power of Online Infamy*. Princetown, NJ: Princetown University Press.

Gans, H. (1967). *The Levittowners: Ways of Life and Politics in a New Suburban Community*. New York: Columbia University Press.

- Gatson, N. (2011). 'The methods, politics, and ethics of representation in online ethnography'. In: Denzin, N. Lincoln, Y. *The SAGE handbook of qualitative research*. 4th ed. California: SAGE Publications Ltd. pp.513–527.
- Geiger, R. Ribes, D. (2011). 'Trace ethnography: Following coordination through documentary practices'. In *2014 47th Hawaii International Conference on System Sciences*. IEEE, pp.1-10.
- Gibbs, N. (forthcoming). 'Insta-muscle: Examining the performance enhancing substance trade and male gym culture'. PhD Thesis, University of Northumbria, Newcastle Upon Tyne.
- Gobo, G. (2008). *Doing ethnography*. London: SAGE Publications Ltd.
- Greengard, S. (2015) *The Internet of Things*. Massachusetts: MIT Press.
- Hall, A. Antonopoulos, G.A. (2016). *Fake Meds Online: The Internet and the Transnational Market in Illicit Pharmaceuticals*. London: Palgrave Macmillan UK.
- Hall, S. Winlow, S. (2015). *Revitalizing criminological theory: towards a new ultra-realism*. Abingdon: Routledge.
- Hammersley, M. Atkinson, P. (2019). *Ethnography: Principles in practice*. 4th ed. Abingdon: Routledge.
- Hine, C. (2000). *Virtual Ethnography*. London: SAGE Publications Ltd.
- Hobbs, D. (1993). 'Peers, Careers and Academic Fears'. In: Hobbs, D. May, T. *Interpreting the Field: Accounts of Ethnography*. Oxford: Clarendon Press. pp.45-68.
- Horst, A. Miller, D (2012). *Digital anthropology*. London: Berg Publishers.
- Irwin-Rogers, K. (2019). 'Illicit Drug Markets, Consumer Capitalism and the Rise of Social Media: A Toxic Trap for Young People'. *Critical Criminology*. 27, pp.591–610.
- Iversen, R. (2009). "'Getting Out' in Ethnography: A Seldom-told Story". *Qualitative Social Work*. 8 (1), pp.9-26.
- Janetzko, D. (2008). 'Nonreactive Data Collection on the Internet'. In: Fielding, N. Lee, R.M. Blank, G. *Online Research Methods*. London: SAGE Publications Ltd. pp.161-174.
- Jewkes, Y. (2011). 'Autoethnography and Emotion as Intellectual Resources: Doing Prison Research Differently'. *Qualitative Inquiry*. 18(1), pp.63-75.
- Kozinets, R. (2010). *Netnography: Doing ethnographic research online*. London: SAGE Publications Ltd.
- Lageson, S. E. (2020) *Digital Punishment Privacy, Stigma, and the Harms of Data-Driven Criminal Justice*. Oxford: Oxford University Press.
- Leander, K. McKim, K. (2003). 'Tracing the Everyday "Sittings" of Adolescents on the Internet: A Strategic Adaptation of Ethnography Across Online and Offline Spaces'. *Education, Communication, Information*. 3 (2), pp.211-240.

- Liebling, A. (2001). 'Whose Side Are We On: Theory, Practices and Allegiances in Prison Research'. *British Journal of Criminology*. 41 (3), pp.472-484.
- Lingel, J. (2012) 'Ethics and Dilemmas of Online Ethnography'. Presentation at *CHI 2012*, Austin, Texas, USA, May 5-10.
- Lofland, J. Lofland, L. (1995). *Analyzing Social Settings: A guide to Qualitative Observation and Analysis*. California: Wadsworth Publishing Company.
- Maguire, M. (2008). 'Researching Street Criminals: A Neglected Ar. In: King, R. Wincup, E. *Doing Research on Crime and Justice*. 2nd edn. Oxford: Oxford University Press. pp.264-289.
- Martin, J. Munksgaard, R. Coomber, R. Demant, J. Barratt, M. (2020) 'Selling Drugs on Darkweb Cryptomarkets: Differentiated Pathways, Risks and Rewards'. *The British Journal of Criminology*. 60 (3), pp.559-578.
- McKee, R. (2013) 'Ethical Issues in Using Social Media for Health and Health Care Purposes'. *Health Policy*, 110, pp.298-301.
- Mckinney, J. (1966). *Constructive Typology and Social Theory*. New York: Meredith Publishing Company.
- Michaelidou, N. Moraes, C. Micevski, M. (2016). 'A scale for measuring consumers? ethical perceptions of social media research'. In: Obal, M. Kray, N. Bushardt, C. *Let's Get Engaged! Crossing the Threshold of Marketing's Engagement Era*. Cham: Springer. pp.97-100.
- Nissenbaum, H. (2010). *Privacy in Context: Technology, Policy, and the Integrity of Social Life*. Stanford: Stanford Law Books.
- O'Reilly, K. (2009) *Key Concepts in Ethnography*. London: Sage.
- Postill, J. Pink, S. (2012). 'Social media ethnography: The digital researcher in a messy web'. *Media International Australia*. 12 (145), pp.123-134.
- Powell, A. Stratton, G. Cameron, R (2018). *Digital Criminology: Crime and Justice in Digital Society*. Abingdon: Routledge.
- Smith, O. (2014). *Contemporary Adulthood and the Night-Time Economy*. London: Palgrave Macmillan UK.
- Snow, D. (1980). 'The Disengagement Process: a neglected problem in participant observation research'. *Qualitative Sociology*. 3, pp.100-122.
- Sunden, J. (2002). 'Cyberbodies: Writing gender in digital self-presentations'. In: Fornas, J. Klein, K. Ladendorf, M. Sunden, J. Sveningsson, M. *Digital borderlands: Cultural studies of identity and interactivity on the Internet*. New York: Peter Lang. pp.79-111.
- Taylor, T. (1999). 'Life in virtual worlds: Plural existence, multimodalities, and other online research challenges' *American Behavioral Scientist*. 43 (3), pp.436-449.

- Tickle, S. (2017). 'Ethnographic Research with young people: methods and rapport'. *Qualitative Research Journal*. 17 (2), pp.66-76.
- Townsend, L. and Wallace, C. (2016). *Social Media Research: A Guide to Ethics*. Available: www.gla.ac.uk/media/media_487729_en.pdf. Last accessed 23/06/20.
- Treadwell, J. (2012). 'From the car boot to booting it up? eBay, online counterfeit crime and the transformation of the criminal marketplace'. *Criminology & Criminal Justice*. 12 (2), pp.175-191.
- Treadwell, J. (2020). *Criminological Ethnography*. London: SAGE Publications Ltd.
- Wall, D. (2007). *Cybercrime: The Transformation of Crime in the Information Age*. Cambridge: Polity Press.
- Wang, P., Su, M. and Wang, J. (2020) 'Organized crime in cyberspace: How traditional organized criminal groups exploit the online peer-to-peer lending market in China'. *The British Journal of Criminology*. Online First. <https://doi.org/10.1093/bjc/azaa064>.
- Wilson, R., Gosling, S. and Graham, L. (2012). 'A review of Facebook research in the social sciences'. *Perspectives on Psychological Science*. 7 (3), pp.203-220.
- Winlow, S. (2001). *Badfellas: crime, tradition and new masculinities*. Oxford: Berg Publishers.
- Woodfield, K. Iphofen, R. (2018). 'Introduction to Volume 2: The Ethics of Online Research'. In: Woodfield, K. *The Ethics of Online Research*. Bingley: Emerald Group Publishing. pp.1-12.
- Yar, M. (2012). 'Crime, media and the will-to-representation: Reconsidering relationships in the new media age'. *Crime, Media, Culture*. 8 (3), pp.245– 260.
- Yardley, E. and Wilson, D. (2014). 'Making Sense of 'Facebook Murder'? Social Networking Sites and Contemporary Homicide'. *The Howard Journal of Criminal Justice*. 52 (2), pp.109-134.