Health and Justice

RESEARCH Open Access

Understanding the access to and use of digital technology by people in the criminal legal system: empirical findings from Wales

Gemma Morgan[1*], Charlotte Walker[1] and Faye Taxman[2]

Abstract

Background There is growing recognition of digital technology's role in supporting desistance and improving the well-being and social inclusion of people in the criminal legal system (CLS). However, it remains significantly under-researched within England and Wales despite its implications for prison and probation policy and practice. This article provides empirical insights into the access to and use of digital technology and the digital competency of 41 people with offending histories in Wales, UK. The study utilises and supports Reisdorf and Rikard's (American Behavioural Scientist 62:1273-1290, 2018) digital rehabilitation model, which highlights the interconnectedness of the digital and social world and the need for CLS support to integrate digital competency skills and access to digital technology to help people desist from crime.

Results The study revealed that people experience varying levels of digital exclusion, from not owning any digital hardware (smartphones, laptops, computers, and tablets) to being unable to afford data for their devices and lacking the digital competency to use digital technology effectively. We highlight the implications for people accessing support that can facilitate desistance and the need for training to improve digital skills.

Conclusion Our findings further support Reisdorf and Rikard's (American Behavioural Scientist 62:1273-1290, 2018) digital rehabilitation model. We argue that online and offline spaces are intertwined, and understanding and addressing the digital needs of people in the CLS is essential to prevent further marginalisation and support desistance and other positive outcomes.

Keywords Digital rehabilitation, Digital exclusion, Digital competency, Digital justice

Introduction

The Internet and digital devices have become ubiquitous over the past twenty years. As technology pervades every aspect of our lives, navigating and accomplishing tasks using technology is crucial (Zivanai & Mahlangu, 2022). Fears of a 'digital divide' (Van Dijk, 2005) and 'digital inequality' (DiMaggio et al., 2004) were expressed over fifteen years ago when internet usage was far less commonplace. Within the general population, current levels of access mean that internet non-users form an increasingly small minority. According to the Office of National Statistics, 96% of households in the UK were connected to the Internet (ONS, 2020), with only 16% of the adult population not using the Internet (Ofcom, 2020). Despite growing recognition that digital technology can play a significant role in supporting desistance, the digital exclusion and competency of individuals in the criminal legal system (CLS) in England and Wales (particularly those on probation) remains a black box

*Correspondence:
Gemma Morgan
g.h.morgan@swansea.ac.uk
[1] Swansea University, Swansea, United Kingdom
[2] George Mason University, Fairfax, USA

(Knight et al., 2024a, 2024b; Reisdorf & DeCook, 2022; Reisdorf & Jewkes, 2016; Reisdorf & Rikard, 2018).

A large body of research highlights that certain factors can help people desist from crime. For example, employment, education, pro-social leisure activities, a reduction or cessation of drug and alcohol use, good physical, emotional and mental health, positive relationships with pro-social friends, families, and partners, stable housing, financial stability, and the development pro-social identities (Bonta & Andrews, 2024). Contemporarily, accessing services and opportunities that can help people desist from crime will inevitably involve using the Internet and digital technology (Knight et al., 2024a, 2024b; Reisdorf & DeCook, 2022). Research has highlighted that people who do not/cannot use the Internet face additional difficulties in finding employment and higher-paying jobs, managing their finances, accessing healthcare and healthcare information and accessing online education opportunities (Holmes & Burgess, 2022; Park, 2017; Robinson et al., 2015; Watts, 2020). In today's society, the online and offline realms are entangled and cannot be viewed in silos. Particularly since the COVID-19 pandemic, vast parts of the social world have moved online (Robinson et al., 2020). 'Digital competency' no longer refers to a basic understanding of how technology works but increasingly alludes to whether an individual can use digital devices to achieve goals and solve tasks (Bauer et al., 2017). A study by Lloyds Bank (2023) highlighted that only 6% of the general population in the UK are considered to lack basic digital competency skills, and this is associated with older people (aged over 75), do not work, live alone, have no formal education, and have sensory impairment. The levels of digital competency of people in the CLS in the UK are unknown.

Well over a decade ago, Jewkes and Johnston (2009) warned that depriving incarcerated people access to modern technology was creating 'second-class citizens', leading to a situation whereby the people will be as ill-equipped for modern life as a 'caveman'. Within prisons, technology is largely used for surveillance and monitoring purposes, with some prisons introducing technology to facilitate contact with families, such as videoconferencing and digital programs focused on behaviour change (Morris & Knight, 2018; Knight et al., 2024b). However, incarcerated people's access to digital technology and the online world is severely restricted for reasons of security or fear of backlash from the general public of incarcerated people having the "luxury" of internet access (Riesdorf & Jewkes, 2016; Jewkes & Reisdorf, 2016; Van de Steene & Knight, 2017; Hadlington & Knight, 2022). More recent research has highlighted that the lack of access to digital technology in prisons continues upon re-entry and acts as a barrier to desistance (Knight et al., 2024a; Ogbonnaya-Ogburu et al., 2019; Reisdorf & DeCook, 2022; Reisdorf & Jewkes, 2016; Reisdorf et al., 2022). However, very little is known about people on probation's access to and use of digital technology. Notably, Reisdorf and DeCook's (2022) study highlighted the compound vulnerabilities linked to the digital inclusion of formerly incarcerated people in the USA. Poverty has been closely linked to the increased likelihood of digital exclusion and a lack of digital competency, with poverty also being closely linked to offending (Holmes & Burgess, 2022; Knight, 2023; Reisdorf & DeCook, 2022). Despite the growing recognition of digital technology's role in desistance, it has remained absent in prison/re-entry/probation policy and practice.

Additionally, limited research has explored the digital exclusion/inclusion of people with offending histories in jurisdictions outside the USA. As such, this article provides empirical insight into the access to and use of digital technology in the community of people with offending histories in Wales, UK, and their confidence in using digital technology. The study aimed to explore:

- Do people have access to the Internet, and how and where do they access it?
- Do people own or have access to digital hardware such as smartphones, computers, laptops and tablets?
- What do people use digital technology for?
- How competent and confident are people using digital technology?

As with Reisdorf and DeCook's (2022) research in the USA, our exploratory study investigated an under-researched area with a focus on Reisdorf and Rikard's (2018) model of digital rehabilitation. Reisdorf and Rikard's (2018) model highlights how the social and digital worlds are deeply intertwined, and people in the CLS need access to digital technology and digital competency to access services and support that facilitate desistance. As such, this article contributes to digital inclusion and digital rehabilitation in three key ways. Firstly, our empirical findings add to the international literature of a significantly under-researched area to provide greater insight into people's access to and use of digital technology, their digital competency and its implications for desistance. Secondly, with a drive from the Ministry of Justice (MoJ) in England and Wales to advance digital technology in the CLS (MoJ, 2022), it is vital to understand whether people can access and use technology. Therefore, we provide policy and practice recommendations to improve the digital inclusion of people in the CLS. Finally, our results support Reisdorf and Rikard's (2018) model of digital rehabilitation,

which argues that improving digital inclusion and digital competency must be a vital part of the support provided by CLS organisations. We concur that the online and offline spaces are intertwined, and more attention needs to be paid to the role of digital technology in supporting or impeding desistance. We need to understand and address the digital needs of people to avoid further excluding already marginalised people.

Literature review

England and Wales have one of the highest prison populations per 100,000 per capita in the Western world. The most recent figures reveal 87,869 people were incarcerated as of March 2024 (HM Prison & Probation Service (HMPPS)/MoJ, 2024). Between October and December 2023, 11,931 people were released from prison, with 238,765 under probation supervision as of December 31st, 2023 (HMPPS/MoJ, 2024). The combination of significant numbers of people in the CLS and the continued advancements and reliance on digital technology in navigating our social world places even more impetus for paying more attention to the nexus between the digital and social realms and desistance. Digital inclusion and digital competency are essential components of social integration for people involved in the CLS (Knight et al., 2024a; Reisdorf & DeCook, 2022; Reisdorf & Rikard, 2018; Zivanai & Mahlangu, 2022). For example, finding a job and housing and accessing support services and state benefits are increasingly being done in the digital realm. These tasks often rely on people having access to digital technology and the digital skills to navigate the online world effectively.

Existing models of rehabilitation/desistance have failed to pay adequate attention to the role and importance of digital technology in the desistance process (Zivanai & Mahlangu, 2022; Reisdorf & DeCook, 2022; Van De Steene & Knight, 2017; Knight et al., 2024a). Watts (2020) identifies three contributing factors to digital exclusion: lack of access to the technology, primarily due to poverty; lack of motivation among those who do not believe digital technology is relevant or worth learning to use; and lack of digital skills/knowledge. Studies have also highlighted the compound vulnerabilities of people in the CLS, particularly the link between poverty/socioeconomic adversity exacerbating digital exclusion as well as the intersectionality of other factors, including age, sex and race, that can widen the digital exclusion of people in the general population and people in the CLS (Homes & Burgess, 2022; Reisdorf & DeCook, 2022; Reisdorf et al., 2022). These are all key considerations when understanding barriers to accessing and using digital technology.

Digital rehabilitation theory

Only in recent years has digital technology been included in rehabilitation/desistance theorisations. Building on Helsper's (2012) corresponding fields model, which highlights the interconnectedness of the online and offline realms of everyday life, Reisdorf and Rikard (2018) developed a model of digital rehabilitation. Reisdorf and Rikard (2018) applied Helpser's (2012) model to the context of prison and post-prison. They argue that digital exclusion within prison exacerbates digital exclusion upon re-entry and, thus, impedes social inclusion in the community (Residorf & Rikard, 2018). Previously, theories of rehabilitation/desistance have only focused on offline factors and have failed to comprehensively consider the role of digital technology and the online space in the desistance process. Reisdorf and Rikard note:

> *As parolees transition into the community, the resources of various fields during incarceration may negatively affect re-entry and readjustment. We contend that the digital realm could contribute to successful re-entry, yet the digital realm is not currently considered in re-entry practices and theories. Therefore, we depict the digital realm surrounded by a broken line rather than a solid line (2018: 1280).*

Reisdorf and Rikard's (2018) model posits that social and digital exclusion are deeply intertwined, operating within interconnected spheres that influence and reinforce each other. As illustrated in Fig. 1. Reisdorf and Rikard's (2018) model retains the corresponding fields from Helper's model (social, cultural, economic, and personal) and includes health as a separate field due to the complex health needs and barriers of people in the CLS (see Skinner & Farrington, 2023). These fields are linked to factors that can support desistance, social inclusion and improved well-being.

The diagram illustrates a downward flow from prison to re-entry, indicating the transitional phase where individuals move from incarceration back into society and the interplay between the digital world and the social world across the corresponding fields and resources that help to facilitate desistance and social inclusion (e.g. employment). Reisdorf and Rikard's (2018) model highlights how digital exclusion in prison creates a cascading effect that extends into the community, leading to broader social exclusion across the corresponding fields. Addressing digital exclusion through targeted interventions at each phase (prison and re-entry) can help support rehabilitation and reintegration (Reisdorf & Rikard, 2018). The following sections provide an in-depth explanation of Reisdorf and Rikard's (2018) corresponding fields and resources to unpack the implications of the digital realm for re-entry, community supervision and desistance.

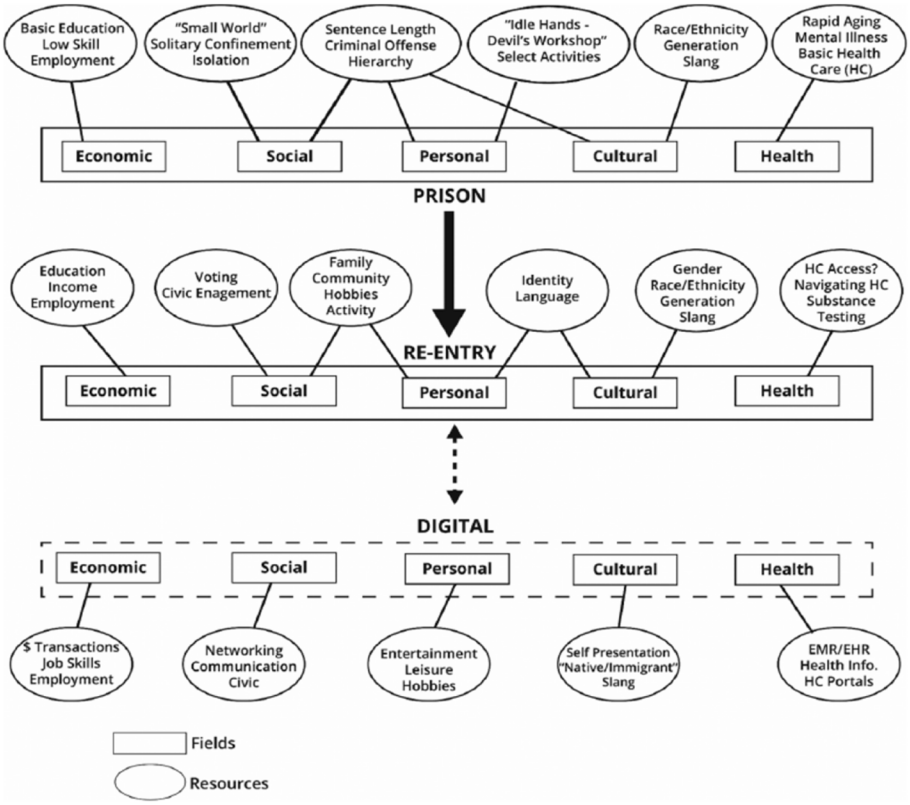

Fig. 1 Digital rehabilitation model. Source: Reisdorf & Rikard, 2018

Economic field

The economic field covers critical components of a person's life that can provide them with financial support and stability, such as employment/education, financial management and housing. Digital and financial poverty go together (Holmes & Burgess, 2022; Knight, 2023); these are often interconnected with other issues, such as lack of employment and housing, leading to multi-layered 'deep exclusion' (Helsper, 2012). Legitimate employment is a protective factor supporting desistance (Bonta & Andrews, 2024). It is well established that a custodial sentence disrupts work by physically removing the person from the workforce and inhibiting their ability to obtain/retain work post-release. Unemployment, underemployment, and benefit dependency are significant problems for people in the CLS (Loosemore et al., 2020). In 2023, the MoJ reported that only 19.3% of people released from prison were employed within six weeks, and 31.1% were employed within six months, with around 75% of the general population being in employment (MoJ, 2023). People in the community are already disadvantaged when seeking employment due to the stigmas attached to being an 'offender' (Obatusin & Ritter-Williams, 2019). Digital exclusion and a lack of digital competency can act as further barriers to employment. For example, job advertising and applications have increasingly moved online. Without access to digital technology and the skills and capabilities to use the technology, people are excluded from employment opportunities, which Reisdorf and Rikard (2018) call economic relocation from a legitimate workforce.

Additionally, if someone successfully secures employment, salaries are usually paid virtually into people's bank accounts. Over the last decade, there has been a drive towards online banking, and in more recent years, there have been significant closures of physical bank branches (Clark et al., 2023). Banks as profit-making entities favour geographical populations which offer the lowest risk, retreating from less affluent and, therefore, less profitable areas where people with offending histories are more likely to live (Caplan et al., 2021). Even if someone has a local branch where they can access support from the bank's staff, opening an account can pose difficulties for people. Opening a bank account requires proof of address and a form of official ID. Many people may leave prison without a fixed abode and no ID. Applying for a passport, driver's licence or citizen card is more conveniently done online or requires travel to a post office (which incurs further costs). Also, to pay for ID, if

done online, a payment card is required—a bank account is usually needed to obtain a payment card. Furthermore, the shift to online applications for Universal Credit and Jobseeker's Allowance (state benefits) creates significant challenges for individuals with limited digital skills. This is especially problematic for people leaving prison who receive only a £76 discharge grant. For them, the ability to apply for benefits quickly is crucial.

Within the general population, figures highlight that Universal Credit rates are 21% lower for those under 25 (Department for Work and Pensions, 2022), making it difficult for some young adults to survive financially and pushing them towards insecure housing (Ahmed et al., 2021). People in the CLS already face stigma and discrimination when securing housing (Berry & Wiener, 2020). Stable housing is also a key protective factor for desistance (Low et al., 2023). However, stable housing relies on financial stability through state benefits or employment. For those unable to use digital technology to manage their finances and access employment/educational opportunities, this may also be a further barrier to housing. Social housing applications have increasingly moved online, and private housing searches are largely done online. There is a nexus between employment, finance/poverty, housing, and the digital space, particularly within the economic field. Without the digital hardware and skills to complete tasks related to housing, employment/education and financial management online, people in the CLS may face further economic exclusion (Reisdorf & Rikard, 2018).

Social field

Positive relationships with friends, families, partners, and the wider community are essential in supporting desistance (Weaver, 2015). People coming out of prison and serving community orders face challenges reintegrating into their families, friendship groups, and, of course, the wider community. This is no easy task; research highlights that people in the CLS are significantly socially excluded and experience poverty, loss of social capital, stigma, and political exclusion (Murray, 2007; Musa & Ahmad, 2015). Particularly for people relocated to areas where their families do not reside, the digital space can be essential for maintaining ties to positive people via social media and video calling. Social networks are increasingly maintained through online spaces, and smartphone users tend to have more digital connections with friends and more 'online only' friends (Park & Lee, 2015). The digital realm offers further opportunities for people to build new pro-social networks via social media, which links to resources in the personal field below.

Personal field

The personal field is seen mainly as people's leisure activities – engagement in pro-social leisure activities helps to support desistance (Bonta & Andrews, 2024). During incarceration, people's activities are restricted to the prison regime and available resources (Reisdorf & Rikard, 2018). Within the community, formerly incarcerated individuals participate in fewer leisure activities than their peers who are not involved in the CLS (Farnworth, 2000). Participation in leisure activities in the community may be restricted due to poverty, stigma and discrimination, lack of skills to identify leisure opportunities, or a chaotic lifestyle (Link & Williams, 2017). The digital realm allows people to explore what leisure opportunities are available in their community, access promotional discounts to reduce costs and sign up for free trials. Engaging in pro-social leisure activities may also expand people's social circles and positive connections to support desistance further in the social field.

Cultural field

Identity plays a vital part in desistance theories—people's identities can change and are shaped by social experiences (Fox, 2015). The intersectionality of race, gender, age and sexuality forms people's identity and affects their CLS experience and desistance journey (Kreager et al., 2017; Reisdorf & Rikard, 2018). Reisdorf and Rikard (2018) argue that the digital realm enables people to present themselves in a positive light and disassociate themselves from an 'offender' (outlaw) identity. Reisdorf and Rikard (2018) noted that, depending on their age and prison length, those re-entering the community may identify as digital natives or digital immigrants (see also Prensky, 2001). Digital technology changes rapidly, and the intersectionality of people's identities may affect how quickly and effectively they adapt to digital culture in technology-dependent societies. Different societal groups experience varying degrees of digital exclusion (Homes & Burgess, 2022). As such, CLS responses must consider and respond to the individual characteristics of people that may influence their digital inclusion and competency.

Health field

People in the CLS have poorer physical and mental health than the general population (Skinner & Farrington, 2023). The National Probation Service (NPS) (2019) recognises that many people in the CLS face challenges in accessing primary care, which is required for basic healthcare and access to more specialist services. Generally, there is low engagement from people in the CLS with the National Health Service (NHS) primary care services (the NHS is nationwide free healthcare for people residing in the UK)

(NPS, 2019). The stigma of being labelled as an 'offender' has been cited as one of the barriers that prevent people in the CLS from accessing healthcare (Schnittker & John, 2007). Lang et al. (2014) report that people serving community orders in an outer London borough had difficulty registering with a primary care physician (PCP), mainly because they did not have a secure address, which is linked to the issues mentioned in the economic field in terms of the difficulties in obtaining ID and secure housing and employment. Additionally, in recent years, there has been a move towards accessing healthcare through digital technology, for example, via online booking systems for PCP appointments, reminders of NHS appointments by text message and digital check-in terminals in PCP surgeries. During the COVID-19 pandemic, there was a move from face-to-face appointments to 'telehealth' appointments via video or telephone call, further restricting access for those experiencing digital exclusion (Eddison et al., 2022).

Methodology

The data collection for this study took place from May 2022 to September 2022. The research occurred in a community-based drop-in/support centre called the 'Hub' in South Wales, UK. The Hub is a service that supports people who are and have been in the CLS. Our participants had either been recently released from prison, were currently on probation, or had been on probation in the past but not in prison. For example, 39% ($n=16$) of the participants had been released from prison within the last 24 months ($n=2$ with the last 3 months, $n=3$ with the last 9 months, $n=6$ with the last 12 months and $n=5$ with the last 24 months). Other participants had been on probation within the last 24 months or were currently on probation. The majority of studies that have examined the digital exclusion of people in CLS have focused on people who have been incarcerated (Van De Steene & Knight, 2017; Reisdorf & DeCook, 2022; Reisdorf & Jewkes, 2016; Reisdorf et al., 2022), with little attention being paid to people on probation. As such, this study fills a crucial gap in understanding the digital exclusion of people on probation and its implications for access to resources in Residorf & Rikard's (2018) model of digital rehabilitation.

Convenience sampling was the most practical and appropriate method for this exploratory work. It allowed the researchers to base themselves at the Hub, where we were more likely to see the phenomena we were interested in investigating (Emmel, 2013). The Hub staff and researchers agreed that members were unlikely to be responsive to formal invitations to engage in the research. They would react more favourably to being asked directly by the team while we were in the Hub as it was a setting that the members felt comfortable in. Potential participants' attendance at the Hub was unpredictable, and not everyone who attended could be approached. For example, some members came to the Include Hub whilst very angry or distressed or under the influence of drugs and alcohol. Building trust and rapport with the Hub members was crucial. As such, the researchers spent considerable time in the Hub before data collection began. We operated as volunteers, which involved making the members feel welcome; we served them teas and coffee, chatted with them, and helped them with information about accessing support services. The time in the Hub was vital for us to become 'familiar faces' to foster trust and engagement with the members. A total number of 41 members completed the survey and engaged in the observations. While we did not consistently collect data on the specific needs of our participants, the Hub staff reported that people who access the Hub often experience a range of complex needs. These include substance use issues, homelessness, unemployment, socioeconomic adversity, neurodiversity, and physical and mental health disorders. Table 1 provides contextual and demographic information about our sample group.

Data collection & analysis

The study used a mixed methodology to collect data – surveys and overt observations (with unstructured conversations) were used to understand people's access to and use of digital technology. We utilised Reisdorf and Rikard's (2018) digital rehabilitation model to inform the development of an online survey. For digital rehabilitation to be possible, people must be able to access and use digital technology confidently. Without access and the skills to use technology, people may be unable to gain resources in Reisdorf and Rikards's (2018) corresponding fields (social, cultural, economic, personal, and health). As such, the survey included questions that explored the members' access to and use of digital technology, barriers to using digital technology, and their levels of competence and confidence with digital technology.

The survey comprised thirty-eight questions and used primarily quantitative Likert scales, where people indicated their responses ranging from strongly disagree to strongly agree (see Appendix 1). For example, we used statements such as: 'I feel confident using a laptop/computer/tablet', 'I feel confident using a smartphone'. We also asked closed questions with 'yes'/ 'no' responses to establish ownership and access to digital technology and data. For example, we asked participants: 'I have broadband/internet access where I live', 'I own a smartphone', 'I own a laptop/computer/tablet'. The survey also included qualitative questions for people to state what tasks they used different digital devices for. For example, we asked participants, 'what do you use

Table 1 Participant Demographics

Demographic	Number of Participants	Percentage of Participants
Sex		
Male	35	85%
Female	6	15%
Age Range		
18–25	2	5%
26–35	8	20%
36–45	17	41%
46–55	6	15%
56–65	7	17%
Over 65	1	2%
Ethnicity		
White	36	88%
Mixed or multiple ethnic groups	1	2%
Asian or Asian British	2	5%
Not stated	2	5%

We have only included the fields in which people self-disclosed aspects of their identity. For example, no one identified as Black, African, Caribbean or Black British. All participants were asked for their gender identity, and all identified as either male or female

a laptop/computer/tablet for?' and 'what do you use a smartphone for?'. We avoided using closed questions with options of what people might use digital technology for to avoid leading them. The purpose of these questions was to examine if and what corresponding fields of Reisdorf and Rikard's (2018) digital rehabilitation model people's usage of digital technology aligned to. Due to the relatively small number of participants, basic descriptive analysis was undertaken on the quantitative data, and we analysed the qualitative data from the survey thematically (see Bryman, 2016).

The survey was designed to be completed by participants on an iPad, but approximately 50% of the sample needed help to complete the survey. Literacy levels tend to be lower among people in the CLS than among the general population (Hurry et al., 2005; Prisoner Learning Alliance (PLA), 2020). Some participants stated they could not read at the required level, while others felt they lacked sufficient digital skills to use a tablet independently. As such, we had to read the questions aloud and enter responses for some participants. This had several unexpected effects. Many participants wanted to explain or justify their responses, providing significant information about their use of digital technology. While we did not intend to interview participants, these spontaneous disclosures provided rich contextual information that complements the survey's quantitative data.

Additionally, overt observations were used to gain more holistic insight into the members' use of digital technology. In summary, we observed and discussed what type of hardware members were using, what tasks they used technology for, and their difficulties using it. A total of 187 h were observed in the Hub. Due to the busy nature of the drop-in centre, it was not practical to record our conversations with members. Instead, field notes were generated and analysed thematically to better understand digital technology's role in the members' lives. Thematic analysis 'is a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) *across* a data set. Through focusing on meaning across a data set, thematic analysis allows the researcher to see and make sense of collective or shared meanings and experiences' (Braun & Clarke, 2012: 57). We first coded the data specifically looking for themes across the qualitative responses from the survey and fieldnotes that were related directly to our research questions and Residorf and Rikard's (2018) model of digital rehabilitation. In the second round of coding, we analysed the data looking for other common themes and outliers, i.e. things that did not come up in all of the field notes but stood out as important points of analysis to advance research in this area. Two members of the team were involved in the coding to ensure the reliability and validity of the data analysis. We found similar themes across the data, leading to a rich understanding of people's use of digital technology and their use in terms of Residorf and Rikard's (2018) corresponding fields.

Ethics

Ethical approval was granted by Swansea University's Faculty of Humanities and Social Sciences Ethics and Research Committee. Participation was voluntary, and people were free to withdraw at any point. Informed consent was gained from all participants to participate in all research aspects and to disseminate the findings anonymously.

Results

The following section outlines the findings from our study. The findings are presented in the following themes: access to digital technology, use of digital technology, competence (confidence and skills) using digital technology and the need for training.

Access to digital technology

Participants were asked whether they owned digital hardware such as smartphones, computers/laptops/tablets, and if they could access the Internet. Consistent access to technology is one of the first steps toward digital inclusion and improving people's digital competency

(Ogbonnaya-Ogburu et al., 2019). People need the hardware and Wi-Fi/data to engage in the digital and social world.

Our findings revealed that 41% ($n=17$) of participants reported not having Wi-Fi where they lived (see Fig. 2). Given that it is expected that 97.4% of households in the UK are expected to have internet access by the end of the 2022–23 financial year (IBISWorld, 2022), this is a striking finding. One reason for the lack of Wi-Fi was the cost. 27.5% ($n=11$) of our participants agreed or strongly agreed that they could not afford Wi-Fi. This coincides with research highlighting the link between poverty and digital exclusion (Homes & Burgess, 2022; Knight, 2023). However, as illustrated in Fig. 3, 63% ($n=26$) of participants stated that accessing the Internet was easy for them.

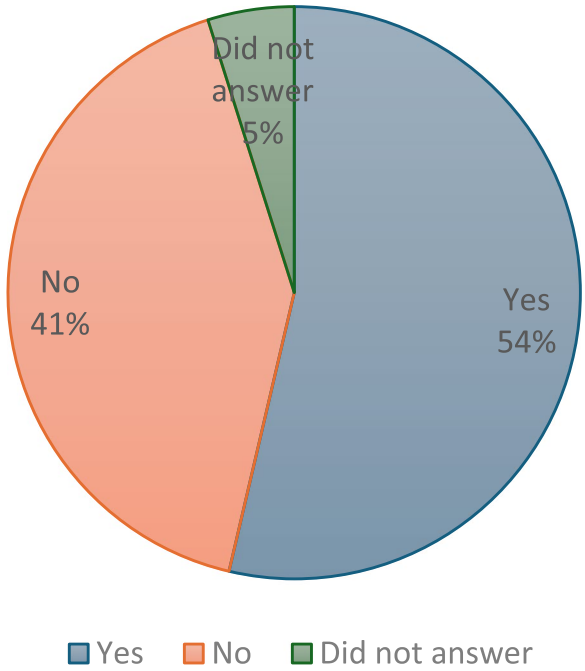

Fig. 2 The percentage (%) of people who have access to Wi-Fi where they live

People who did not have Wi-Fi at home would access the Internet in public spaces (mainly in the Hub and local libraries). 22% ($n=15$) of our participants strongly disagreed or disagreed that accessing the Internet was easy. Some people would stand outside the Hub building on the weekends when it was closed to gain a Wi-Fi connection. Local libraries were an essential lifeline for people. However, since 2010, nearly 800 libraries have closed in the UK, which may act as a further barrier to accessing hardware and the Internet, particularly if visiting the library incurs travel costs. Additionally, given the confidential nature of some essential Internet use, such as banking or benefits applications, conducting personal business in a public space may not be desirable.

Figure 4 illustrates participants' responses about owning a computer/laptop/tablet. Only 13 of our participants owned a tablet/laptop/computer, but 66% ($n=27$) stated that they could access a computer when needed.

As noted, some of our participants relied on accessing digital hardware in public places such as libraries and within the Hub. However, their access depended on these spaces' opening hours, and they could not freely decide when to use such hardware. For some, being able to access these spaces would involve costly and/or time consuming travel. Research has highlighted that consistent access to technology is important to build people's digital skills (Ogbonnaya-Ogburu et al., 2019; Reisdorf & DeCook, 2022).

In comparison, 70% ($n=29$) of people owned a smartphone (see Fig. 5). This is still significantly lower than the general population's 96% in 2021 (Statista, 2022).

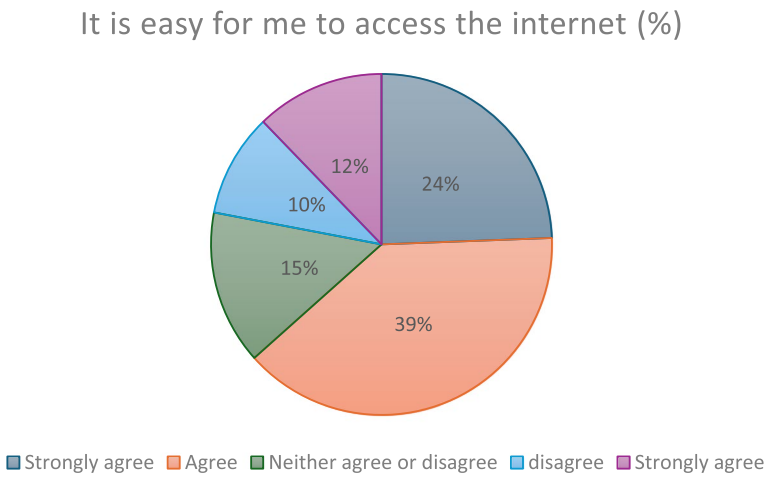

Fig. 3 Ease in accessing the internet

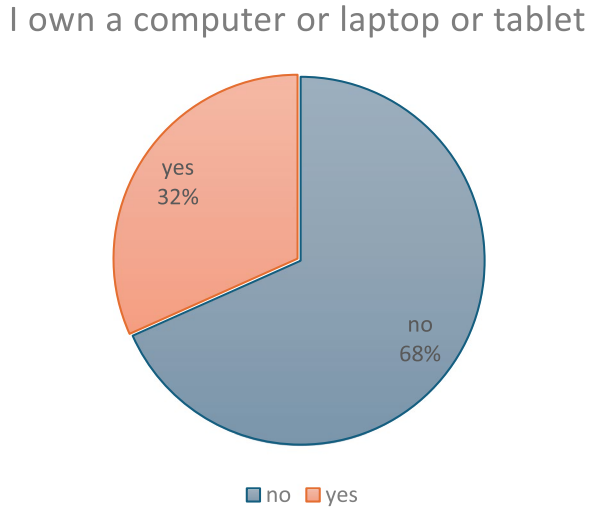

Fig. 4 The percentage of people who own a computer, laptop or tablet

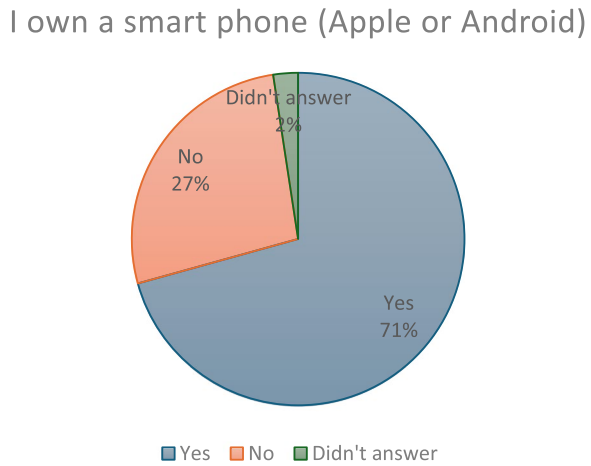

Fig. 5 The percentage of people who own a smartphone

Overall, ownership of digital hardware was lower than that of the general population.

However, 27% ($n=13$) of people found it hard to afford all the data they needed to use a smartphone. A small number of our participants were also reluctant to use smartphones as they feared they would be under surveillance by the Government and Police, and for some, there was a lack of trust in using the technology. Slightly over half (55% ($n=22$)) of the respondents stated that they worried about the privacy and safety of their information online. This may have implications for any technology introduced for people to use whilst in prison or on probation. If people have concerns about surveillance and safety, they may be reluctant to engage with the technology and face further exclusion or issues related to compliance.

The use of digital technology

We sought to understand what type of tasks people used smartphones and laptops/computers/tablets for and how this relates to Reisdorf and Rikard's (2018) corresponding fields. Some participants cited multiple uses of laptops/computers/tablets, as illustrated in Fig. 6.

When considering Reisdorf and Rikard's (2018) framework, the predominant use of laptops/computers/tablets falls within the personal and social fields. Our participants predominately used the technology to access social media sites (social field) such as Facebook, TikTok, Instagram, X, etc., as well as to watch videos and listen to music (personal field). Very few reported that they used the technology for tasks related to Reisdorf and Rikard's (2018) health, culture and economic fields. People were not maximising opportunities to find training/education/employment opportunities, apply for housing, benefits, or access health services. This was partly due to people lacking the digital skills and confidence to perform these tasks online. A lack of access and a lack of digital skills and confidence were the main reasons why ten people stated that they could not or did not use laptops/computers/tablets.

17% ($n=7$) strongly disagreed with the statement 'I know how to get apps for a smartphone'; some participants reported that they were only confident using a limited range of apps. 68% ($n=28$) of respondents preferred to make phone calls rather than text, perhaps reflecting that people in the CLS tend to have lower literacy levels than the general population (PLA, 2020; Hurry et al., 2005). As illustrated in Fig. 7, it was also clear that many smartphone owners in the sample were not using their devices to their full capability.

Despite the varied capabilities of smartphones, the most common activity undertaken was calls ($n=19$), followed by texts ($n=13$). Regarding specific apps, 11 people said they used social media such as Facebook or Instagram. Again, people's use was predominately within Reisdorf and Rikard's (2018) personal and social fields, with little evidence of use in the economic, cultural and health fields.

Confidence in using digital technology

Our participants felt marginally more confident using a smartphone than a computer/laptop/tablet (see Fig. 8). This may be largely due to more people owning smartphones than computers/laptops/tablets and, therefore, being more familiar with how they work due to spending a longer time accessing and using one.

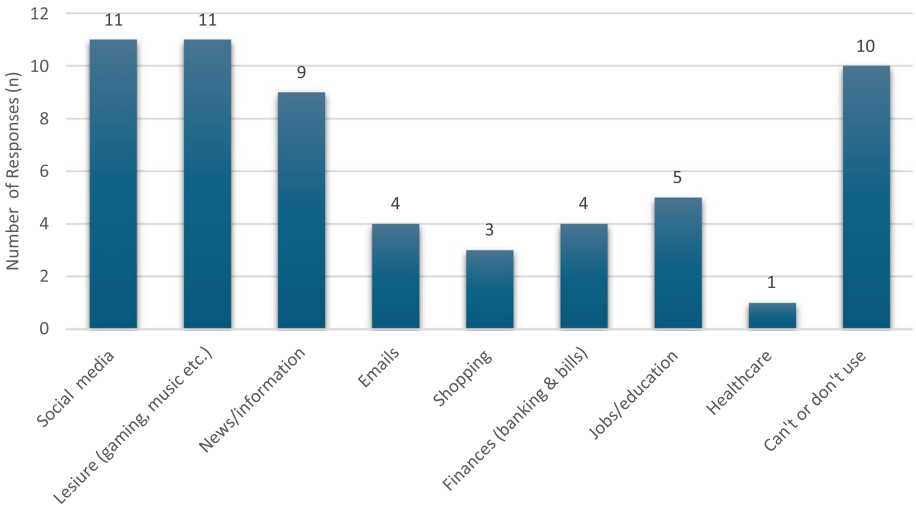

Fig. 6 The type of tasks people use laptops/computers/tablets for

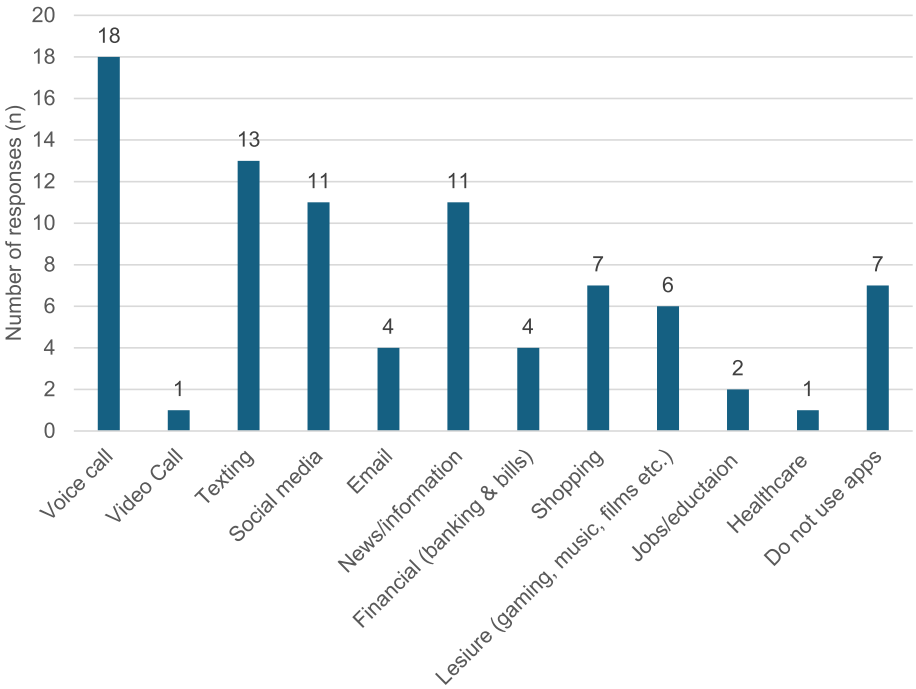

Fig. 7 The type of tasks people use smartphones for

Whilst people's confidence levels were relatively high, it did not necessarily translate into adequate digital competency in terms of their skills, which varied by task. For example, one female member used a computer for shopping but said that she did not understand email and would 'love' to be taught how to use it. Overall, women and the two participants aged 18–25 were less confident using digital technology. As the number of young people in the sample is so small, it is not possible to draw any inferences about the reasons for the lack of confidence. As noted, the people who were able to access and use digital technology predominately engaged with tasks/activities related to Reisdorf and Rikard's (2018) social and personal fields (e.g. using social media, browsing the web, listening to music, watching films) but did not or rarely used it for tasks/activities related to the economic, health and culture fields (job searches/application, online

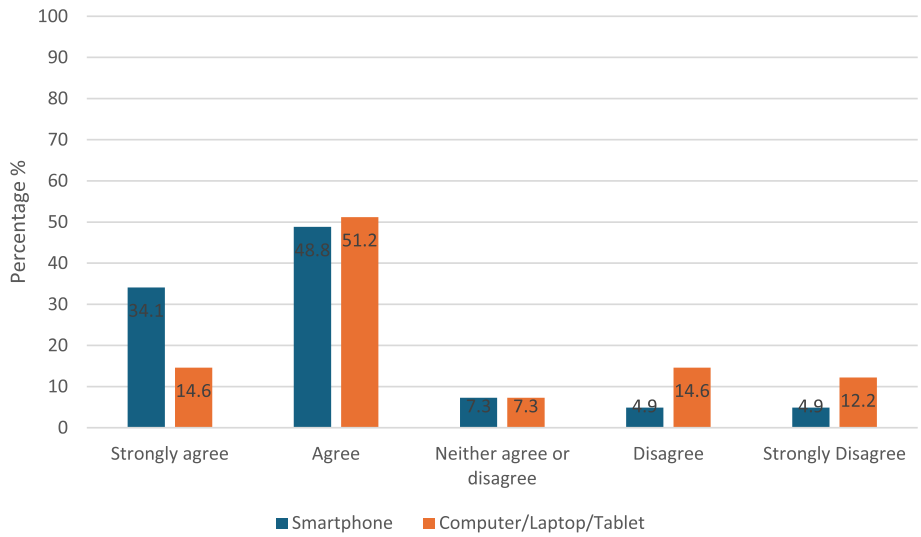

Fig. 8 Participants'responsestothequestions'Ifeelconfidentusingasmartphone'and'Ifeelconfidentusingacomputer/laptop/tablet'

education, training, financial management and applications, booking healthcare appointments etc.).

Some respondents stated they only felt confident doing a limited range of things. Some people expressed the fear of 'doing something wrong' when using digital hardware. 49% ($n=20$) of members surveyed agreed that the words people use about technology are confusing. Those who agreed or strongly agreed were less likely to own a computer, although the majority owned a smartphone. One white man in his forties stated words related to technology 'went in one ear and out the other!'. Yet, he could frequently be observed at the Hub using the public computer to access Wikipedia and Google Maps, highlighting he had a level of practical competence despite not being comfortable with terminology about technology. 42% ($n=17$) agreed or strongly agreed with the statement, 'I sometimes feel that technology is leaving me behind'. Some members mentioned the difficulties with basic issues such as setting up hardware. One man in his twenties stated that he had a game console at home but did not know how to connect it, so he had never used it. A woman in her thirties expressed an interest in using a projector for her voluntary work but appeared anxious about knowing how a projector worked and how to connect it to a laptop; she stated that help with this would be welcomed.

The need for training

Over one-third (13 of 40 participants (33%)) agreed or strongly agreed that they would like help using the Internet, which was a greater proportion than the 23% of respondents who disagreed/strongly disagreed with the statement 'I feel confident using the Internet'. Several members told us that they would like help using digital technology but did not feel able to join a formal college class because they felt uncomfortable in a classroom environment and/or needed one-on-one tuition. Many stated they would rather learn somewhere more informal, such as the Hub. 75% ($n=31$) of people felt that training to use digital technology and improve their digital skills should be available. For example, one participant stated:

> *'It would be handy for a lot of people to get more training in digital technology, especially for people who've been in prison a long time and they come out and everything's smartphones' (male, between 36 and 45 years old).*

Another participant stated:

> *'I would like some lessons in how to use a computer, maybe at the Hub. I think quite a few people would be interested in that' (female, between 56 and 65 years old).*

Many of our participants wanted to improve their lives, and 54% ($n=22$) agreed or strongly agreed that if they had better digital skills, they would be more likely to get a job or a better-paid job. Given the disparity in access to technology and varying degrees of digital competency, training would be one step in supporting our participants' becoming more digitally included.

Discussion

Our study has provided unique insight into the digital exclusions of people in the CLS by exploring their access to, use of, and competency in using digital technology.

This is the first study that has specifically explored the digital exclusion of people in the CLS in Wales, and as such, there is a lack of comparable data within the UK. As most aspects and tasks related to our lives move online, people in the CLS require digital technology and digital skills to access, support, and opportunities related to Reisdorf and Rikard's (2018) economic, social, personal, cultural and health fields. Our findings coincide with research in other jurisdictions and highlight the need to better understand and respond to the digital needs of people on a global scale to support desistance (see also Reisdorf & DeCook, 2022; Reisdorf et al., 2022) As such, our findings add to the international literature on digital exclusion and digital rehabilitation and provide data that supports Reisdorf and Rikard's (2018) digital rehabilitation framework. Our findings highlight that people reported lower access rates to digital technology than the general population, had lower levels of (digital) literacy, and engaged in few to no economic, health, or cultural uses. Our study further highlights the need to improve access to digital hardware, Wi-Fi and training for people to use technology competently and confidently to access resources in Reisdorf and Rikard's (2018) corresponding fields to support desistance. Our data can help inform how organisations, practitioners and policymakers can address the digital exclusion of people in the CLS, ensuring they are not further marginalised in an increasingly digital world.

Factors that impede digital inclusion

Our findings coincide with Watts (2020) in that key contributing factors to the digital exclusion of some of our participants was a lack of access to digital technology, which was mainly associated with economic adversity and a lack of digital competency and confidence (see also Knight, 2023; Reisdorf et al., 2022). For the people unable to access digital technology and/or cannot use it, their digital exclusion has significant implications across all of the corresponding fields (health, economic, personal, social and cultural) and potentially their ability to desist from crime. Their lack of access to hardware and the Internet means that they are excluded from important information and support in the digital realm. As noted, these people are unable to independently apply for training/education/employment online, apply and search for housing, carry out online banking, send and receive emails, use social media to keep in touch with friends/family and find and engage in online leisure activities. For most people, the aforementioned tasks are basic activities that are part of their daily lives. However, for a small number of people in our study, these tasks are completely alien to them. Further questions and challenges arise when considering how to get this group of people digitally included and digitally competent. This becomes even more difficult for people with more complex needs and chaotic lifestyles where digital upskilling may not be a priority for them.

As with Reisdorf and DeCook's (2022) study, there was evidence of compound vulnerabilities within our group regarding the ability to use digital technology, to afford the hardware and data, and their ability to complete basic tasks. Some of our participants could not read and write, which hindered them from using digital technology. Most of our participants also did not work or earn a living wage. As such, owning digital technology and having Wi-Fi/data at home was lower than in the general population. As our results revealed, buying devices and Wi-Fi/data was not possible for everyone. Ogbonnaya-Ogburu et al. (2019) highlight that a lack of stable access to devices and a lack of digital skills are key obstacles to digital equity. Poverty/affordability was a factor that acted as a barrier to digital inclusion for this group. Other research has also highlighted poverty as a factor in digital exclusion, with poverty being closely associated with people with offending histories (Homes & Burgess, 2022; Knight, 2023).

Through digital maintenance theory, Gonzales (2016) highlights how people continue to struggle to maintain physical access to digital technology with access being unstable, which was evident in our sample. Gonzales (2016) found that even short times of disconnection due to technology maintenance issues lead to adverse effects, such as loss of health benefits or loss of jobs. However, it was not just the lack of access to hardware that acts as a barrier to digital inclusion but also a lack of digital competency. We found that people lacked the skills and confidence to complete tasks predominately related to Reisdorf and Rikard's (2018) health and economics fields. As such, people need to be supported to engage in what Zillen and Hargittai (2009) term as 'capital-enhancing' uses of the Internet and digital technology. The economic field is particularly important as it refers to tasks related to gaining employment, a key factor supporting desistance (Bonta & Andrews, 2024). Along with consistent access to digital hardware, age, income, and education have also been identified as factors that affect people's digital skills (Reisdorf & DeCook, 2022).

Digital rehabilitation – is it possible?

As research into digital rehabilitation theory grows, theory and empirical data must be translated into evidence-based policy and practice guides. Unpacking and explaining what digital rehabilitation means in practical

terms for probation officers and other criminal legal (CL) practitioners is key to ensuring that appropriate CL 'interventions' are developed. This article has explained Reisdorf and Rikard's (2018) economic, social, cultural, personal, and health fields in terms of how digital exclusion can manifest. However, more must be done to develop tangible policy and practice responses. Our findings have highlighted that financial difficulties prevent some people from being able to afford digital hardware and/or data. Access is key to improving digital inclusion. However, this would require buy-in from the Government and the private sector to subsidise hardware and data and is dependant on the political agenda and will of politicians. Even if access is improved, our study also revealed issues with people not trusting digital hardware and, therefore, not wanting to use it. Other studies have also highlighted trust and privacy as barriers for people in the CLS to use technology (Taylor & Bartels, 2024; Gurusami, 2019; Seo et al., 2022). Trust between individuals and their probation officer is vital in developing therapeutic relationships and supporting desistance (Sturm et al., 2022). If people in the CLS do not trust their probation officers, they may not disclose information about their digital access, skills, and other key information. Coupled with a lack of trust in digital technology, people may be reluctant to engage with digital support if it is provided by probation services, which may act as another barrier to digital rehabilitation (Reisdorf et al., 2022). Digital rehabilitation presents challenges for prison and probation policy and practice, and further research is needed to understand and address some of the concerns and obstacles raised in this article.

Research, policy & practice recommendations

To date, studies that have explored the digital inclusion/exclusion of people in the CLS have (1) been relatively small, (2) focused on prisons and, (3)concentrated in certain geographical areas. Larger-scale studies are needed to gain an in-depth understanding of the extent of digital exclusion and the levels of digital competency of individuals in prison and on probation. As technology advances and changes rapidly, we must ensure that marginalised people are not further left behind. Whilst there is a growing body of research, the implications of digital exclusion for desistance remains under-explored. Future research must examine the intersectionality of digital exclusion and digital competency in the context of age, gender, ethnicity, class, sexuality, ability and neurodiversity. Understanding how digital exclusion affects different intersections of people will help to ensure that future policy and practice developments are responsive to different populations within the CLS, as one-size-fits-all approaches are likely to be ineffective.

To concur with Reisdorf and DeCook (2022), training to upskill people's digital competency is required in prisons, upon re-entry and within community settings for those serving community orders. As noted, the digital world is vital to providing people with resources and opportunities in the real world. Failing to provide digital technology training to enable people to complete tasks such as applying for jobs, online banking, and accessing support services is setting them up to fail. However, as our findings highlighted, due to the stigma associated with being in the CLS, training needs to happen in spaces where people feel comfortable (such as the Hub) to encourage participation. This is particularly important for people who do not believe that digital technology is relevant or worth learning to use (Watts, 2020). Training for people in the CLS is only the first step. People also need consistent access to reliable technology (see also Gonzales, 2016). Ensuring people have digital hardware and data is likely one of the biggest challenges; as noted, this has political and financial implications. Finally, research is required to understand whether probation officers and other CL practitioners are aware of the implications of digital exclusion to ascertain if and how this is factored into supervision arrangements and support.

Limitations

While our study has provided new insights into the digital exclusion of people in the CLS, it is not without limitations. First, our sample size is relatively small, and our findings are not generalisable to the wider CLS. Second, the people within our sample are not necessarily representative of all people in the CLS. As noted, further research is required with a broader range of people. Third, given the pilot nature of the project, we did not collect detailed information on the specific challenges faced by our participants (e.g., specific numbers of those experiencing poverty, homelessness, and substance use issues). While we have some of this information for some of our participants, we do not have it for all of them. This additional data would provide insightful contextual information for future studies to examine if there is any correlation between the complex needs of people and digital exclusion. Finally, our research focused on one specific geographical location in Wales, further limiting its generalizability.

Conclusion

The process of desisting from crime is intrinsically linked to overcoming significant socio-economic disadvantages, which for some can be exacerbated by digital exclusion (Reisdorf & DeCook, 2022; Reisdorf & Rikard, 2018). This paper has highlighted the multifaceted challenges individuals face within the CLS in Wales,

UK. Our study has provided much-needed empirical insight into an under-researched area and provides further support for Reisdorf and Rikard's (2018) model of digital rehabilitation. The rapid digitalisation of services post-COVID-19 has made digital competency essential for accessing critical protective factors in economic, social, cultural, personal, and health fields. However, digital exclusion remains a significant barrier, particularly for those who lack access to technology and the skills to use it effectively. Significantly more research is required to understand the levels of access to digital technology and the digital skills of people in prison and on probation. If one of the key aims of prison and probation is to reduce re-offending/support desistance, then more attention must be paid to the 'digital rehabilitation' of people.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s40352-025-00326-8.

Supplementary Material 1.

Acknowledgements
We want to thank The Hub staff for facilitating the research. We are especially grateful to the members who took the time to participate in the study and share their views and experiences.

Authors' contributions
GM & CW designed the methodology, collected and analysed the data. GM, CW & FT all contributed to writing the ms.

Funding
The research reported in the publication was supported by Welsh Government SMART Partnership funding (ref: 20210625SP042). The content is solely the responsibility of the authors and does not necessarily represent the official views of the Welsh Government.

Data availability
The corresponding author holds the data supporting this study's findings, which are not publicly available to protect the participants' anonymity.

Declarations

Ethics approval and consent to participate
The study was approved by Swansea University's Faculty of Humanities and Social Sciences Research and Ethics Committee. The research was conducted in accordance with Swansea University's Research Integrity, Ethics, and Governance Framework and the British Society of Criminology's Code of Ethics. All participants gave informed consent and verbal/written consent to participate in this study and for their data to be analysed and disseminated in scientific journals.

Competing interests
The authors declare no competing interests.

Received: 10 July 2024 Accepted: 17 February 2025
Published online: 20 March 2025

References

Ahmed, M., Cai, J., Ellis, B., Scott, N., Cretch, E., Harding, B., Mirza, N., Geddes, C., Zahra, S., Mayue-Belezika, E., Noble, M. & Brown, S. (2021). *Benefits to society: Homeless Young people's experiences of the social security system.* London: Centrepoint

Lloyds Bank (2023). *2023 Consumer digital index*. Available at: https://www.lloydsbank.com/assets/media/pdfs/banking_with_us/whats-happening/231122-lloyds-consumer-digital-index-2023-report.pdf. Accessed 03 May 2024

Bauer, M., Glenn, T., Monteith, S., Bauer, R., Whybrow, P., & Geddes, J. (2017). Ethical perspectives on recommending digital technology for patients with mental illness. *International Journal of Bipolar Disorders, 5*(6), 1–14.

Berry, M. C., & Wiener, R. L. (2020). Ex-offender housing stigma and discrimination. *Psychology, Public Policy, and Law, 26*(2), 213–232.

Bonta, J., & Andrews, D. A. (2024). *The psychology of criminal conduct* (Seventh edition.). Routledge.

Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), APA handbook of research methods in psychology, Vol. 2. *Research designs: Quantitative, qualitative, neuropsychological, and biological*. American Psychological Association. pp. 57–71. https://doi.org/10.1037/13620-004

Bryman, A. (2016). *Social research methods* (Fifth edition.). Oxford University Press.

Caplan, M. A., Birkenmaier, J., & Bae, J. (2021). Financial exclusion in OECD countries: A scoping review. *International Journal of Social Welfare, 30*, 58–71.

Clark, S., Newing, A., Hood, N., & Birkin, M. (2023). Retail banking closures in the United Kingdom. Are neighbourhood characteristics associated with retail bank branch closures? *Transactions - Institute of British Geographers (1965)*. https://doi.org/10.1111/tran.12656

Department for Work and Pensions (2022) *Benefits and pensions rates 2022–2023*. Online at: https://www.gov.uk/government/publications/benefit-and-pension-rates-2022-to-2023/proposed-benefit-and-pension-rates-2022-to-2023. Accessed 14 Nov 2023

DiMaggio, P., Hargittai, E., Celeste, C. and Shafer, S. (2004). *From unequal access to differentiated use: A literature review and agenda for research on digital inequality*. Available online at: http://www.webuse.org/webuse.org/pdf/DiMaggioEtAl-DigitalInequality2004.pdf. Accessed 04 May 2024

Eddison, N., Leone, E., Healy, A., Royse, C., & Chockalingam, N. (2022). The potential impact of allied health professional telehealth consultations on health inequities and the burden of treatment. *International Journal for Equity in Health, 21*(1), 1–91. https://doi.org/10.1186/s12939-022-01689-2

Emmel, N (2013). *Sampling and choosing cases in qualitative research: A realist approach*. London: SAGE

Farnworth, L. (2000). Time use and leisure occupations of young offenders. *American Journal of Occupational Therapy, 54*(3), 315–325. https://doi.org/10.5014/ajot.54.3.315

Fox, K. J. (2015). Theorizing community integration as desistance-promotion. *Criminal Justice and Behavior, 42*(1), 82–94. https://doi.org/10.1177/0093854814550028

Gonzales, A. (2016). The contemporary US digital divide: From initial access to technology maintenance. *Information, Communication & Society, 19*(2), 234–248.

Gurusami, S. (2019). The Carceral Web we weave: Carceral citizens' experiences of digital punishment and solidarity. *Punishment & Society, 21*(4), 435–453.

Hadlington, L., & Knight, V. (2022). Public acceptability of prisoners' access and use of digital technologies in the UK. *The Prison Journal, 102*(2), 237–255.

Helsper, E. J. (2012). A corresponding fields model for the links between social and digital exclusion. *Communication Theory, 22*(4), 403–426.

HM Prison & Probation Service/ Ministry of Justice (2024). *Offender management statistics quarterly: October to December 2023 and annual 2023*. Available at: https://www.gov.uk/government/statistics/offender-management-statistics-quarterly-october-to-december-2023/offender-management-statistics-quarterly-october-to-december-2023-and-annual-2023. Accessed 14 May 2024

Holmes, H., & Burgess, G. (2022). Digital exclusion and poverty in the UK: How structural inequality shapes experiences of getting online. *Digital Geography and Society, 3*, 1–9.

Hurry, J., Brazier, L., & Moriarty, V. (2005). Improving the literacy and numeracy skills of young people who offend: Can it be done, and what are the consequences? *Literacy and Numeracy Studies, 14*(2), 47–60.

IBISWorld (2022). *Percentage of households with internet access – United Kingdom*. Available: Percentage of households with internet access - United Kingdom | IBISWorld. Accessed 11 Nov 2023

Jewkes, Y., & Johnston, H. (2009). Cavemen in an era of speed-of-light technology: Historical and contemporary perspectives on communication within prisons. *Howard Journal of Criminal Justice, 48*(2), 132–143.

Jewkes, Y., & Reisdorf, B. (2016). A brave new world: The problems and opportunities presented by new media technologies in prisons. *Criminology and Criminal Justice, 16*(5), 534–551.

Knight, V. (2023) *The digital poverty of our prisons digital exclusion and the cost of living call for evidence*. House of Lords, DMU UK. https://hdl.handle.net/2086/22638

Knight, V., Elison-Davies, S., Farley, H., & Tangen, J. (2024a). The digital desistance manifesto. *In Holistic responses to reducing reoffending*. Routledge. pp. 62–80.

Knight, V., Ross, S., & Wood, M. (2024b). Digitalising corrections. *Journal of Criminology, 57*(3), 263–274. https://doi.org/10.1177/26338076241255536

Kreager, D. A., Young, J. T. N., Haynie, D. L., Bouchard, M., Schaefer, D. R., & Zajac, G. (2017). Where "old heads" prevail: Inmate hierarchy in a men's prison unit. *American Sociological Review, 82*, 685–718. https://doi.org/10.1177/0003122417710462

Lang, N., Hillas, A., Mensah, M., Ryan, S., & Glass, L. (2014). Linking probation clients with mainstream health services: Experience in an outer London borough. *Probation Journal, 61*(3), 278–285.

Link, A. J., & Williams, D. J. (2017). Leisure functioning and offender rehabilitation. *International Journal of Offender Therapy and Comparative Criminology, 61*(2), 150–170. https://doi.org/10.1177/0306624X15600695

Loosemore, M., Bridgeman, J., & Keast, R. (2020). Reintegrating ex-offenders into work through construction: A case study of cross-sector collaboration in social procurement. *Building Research & Information, 48*(7), 731–746.

Low, G., Lindsay Latimer, C., & Mills, A. (2023). Stable housing, 'home' and desistance: Views from Aotearoa New Zealand. *Criminology & Criminal Justice*, *0*(0). https://doi.org/10.1177/17488958231210990

Ministry of Justice (2022) MoJ digital strategy 2025. Available online at: https://assets.publishing.service.gov.uk/media/62446f6ce90e075f0e1447bc/moj-digital-strategy-2025.pdf. Accessed 03/05/2024

Ministry of Justice (2023). Employment on Release statistical release to March 2023. Available at: https://assets.publishing.service.gov.uk/media/646b794c382a51000c9fc520/Employment_Ad-Hoc_publication.pdf .

Morris J., & Knight, V. (2018). Co-producing digitally-enabled courses that promote desistance in prison and probation settings. *Journal of Criminological Research, Policy and Practice, 4*(4), 269-279.

Murray, J. (2007). The cycle of punishment: Social exclusion of prisoners and their children. *Criminology & Criminal Justice, 7*(1), 55–81.

Musa, A., & Ahmad, A. H. B. (2015). Criminal recidivism: A conceptual analysis of social exclusion. *Journal of Culture, Society & Development, 7*, 28–34.

National Probation Service (2019). *NPS health and social care strategy 2019–2022*. London: National Probation Service. Available at: NPS Health and Social Care Strategy 2019 Brochure (publishing.service.gov.uk). Accessed 21 Apr 2024

Obatusin, O., & Ritter-Williams, D. (2019). A phenomenological study of employer perspectives on hiring ex-offenders. *Cogent Social Sciences, 5*(1), 1–13.

Ofcom (2020). *Online Nation: 2020 report*. Available online at https://www.ofcom.org.uk/__data/assets/pdf_file/0027/196407/online-nation-2020-report.pdf. Accessed 03 May 2024

Ogbonnaya-Ogburu I.F., Toyama, K. & Dillahunt, T.R. (2019). Towards an effective digital literacy intervention to assist returning citizens with job search. *In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19)*. Association for Computing Machinery, New York, NY, USA, Paper 85, 1–12. https://doi.org/10.1145/3290605.3300315

ONS (2020). *Internet access – households and individuals, Great Britain: 2020*. Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/internetaccesshouseholdsandindividuals/2020. Accessed 03 May 2024

Park, E. A., & Lee, S. (2015). Multidimensionality: Redefining the digital divide in the smartphone era. *Info, 17*(2), 80–96.

Park, S. (2017). Digital inequalities in rural Australia: A double jeopardy of remoteness and social exclusion. *Journal of Rural Studies, 54*, 399–407. https://doi.org/10.1016/j.jrurstud.2015.12.018

Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon, 9*(5), 1–6.

Prisoner Learning Alliance (2020). *Prisoner Learning Alliance (PLA) submission to Education Committee Inquiry on Adult Skills and Lifelong Learning*. Available at: https://committees.parliament.uk/writtenevidence/9597/pdf/. Accessed 03 May 2024

Reisdorf, B. C., & DeCook, J. R. (2022). Locked up and left out: Formerly incarcerated people in the context of digital inclusion. *New Media & Society, 24*(2), 478–495. https://doi.org/10.1177/14614448211063178

Reisdorf, B. C., DeCook, J., Foster, M., Cobbina, J., & LaCourse, A. (2022). Digital reentry: Uses of and barriers to ICTs in the prisoner reentry process. *Information, Communication & Society, 25*(14), 2028–2045.

Reisdorf, B. C., & Jewkes, Y. (2016). (B)Locked sites: cases of Internet use in three British prisons. *Information Communication and Society, 19*(6), 771–786.

Reisdorf, B. C., & Rikard, R. V. (2018). Digital rehabilitation: A model of re-entry into the digital age. *American Behavioural Scientist, 62*(9), 1273–1290.

Robinson, L., Cotten, S. R., Ono, H., Quan-Haase, A., Mesch, G., Chen, W., et al. (2015). Digital inequalities and why they matter. *Information, Communication & Society, 18*(5), 569–582. https://doi.org/10.1080/1369118X.2015.1012532

Robinson, L., Schulz, J., Khilnani, A., Ono, H., Cotten, S. R., McClain, N., & Tolentino, N. (2020). Digital inequalities in time of pandemic: COVID-19 exposure risk profiles and new forms of vulnerability. *First monday, 25*(10).

Schnittker, J., & John, A. (2007). Enduring stigma: The long-term effects of incarceration on health. *Journal of Health and Social Behavior, 48*(2), 115–130. https://doi.org/10.1177/002214650704800202

Seo, H., Britton, H., Ramaswamy, M., Altschwager, D., Blomberg, M., Aromona, S., et al. (2022). Returning to the digital world: Digital technology use and privacy management of women transitioning from incarceration. *New Media & Society, 24*(3), 641–666.

Skinner, G. C. M., & Farrington, D. P. (2023). What we know and need to know about physical health and mortality in non-incarcerated offenders: A narrative review. *Aggression and Violent Behavior, 70*, 101827-. https://doi.org/10.1016/j.avb.2023.101827

Statista (2022). Ownership of smartphones in the UK 2021. Available at: Ownership of smartphones in the UK 2021 | Statista. Accessed 11 Nov 2022

Sturm, A., de Vogel, V., & Huibers, M. J. (2022). Two sides of the working alliance: A qualitative study from the perspective of both probationers and probation officers. *European Journal of Probation, 14*(1), 40–59. https://doi.org/10.1177/20662203211056486

Taylor, H., Van Rooy, D., & Bartels, L. (2024). Digital justice: A rapid evidence assessment of the use of mobile technology for offender behavioural change. *Probation Journal, 70*(1), 31–51.

Van De Steene, S., & Knight, V. (2017). Digital transformation for prisons: Developing a needs-based strategy. *Probation Journal, 64*(3), 256–268.

Van Dijk, J. (2005). *The deepening divide: Inequality in the information society*. London: Sage

Watts, G. (2020). COVID-19 and the digital divide in the UK. *The Lancet Digital Health*. https://doi.org/10.1016/S2589-7500(20)30169-2

Weaver, B. (2015). *Offending and desistance: The importance of social relations* (1st ed.). Routledge. https://doi.org/10.4324/9781315755915

Zillien, N., & Hargittai, E. (2009). Digital distinction: Status-specific types of Internet usage. *Social Science Quarterly, 90*(2), 274–291. https://doi.org/10.1111/j.1540-6237.2009.00617.x

Zivanai, E., & Mahlangu, G. (2022). Digital prison rehabilitation and successful reentry into a digital society: A systematic literature review on the new reality on prison rehabilitation. *Cogent Social Sciences, 8*(1), 1–14.

Publisher's Note