

Implementing digital technologies in prisons: Inmate uptake and perceived value of in-cell digital tablets

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Aims

To develop an understanding of inmates' uptake of digital tablets following their implementation in two NSW correctional centres. The study examines the extent of inmates' tablet use, the features they are most likely to use, and their views of having access to tablets. The study also examines whether both the quantity and quality of inmates' tablet use are associated with their perceptions of social climate, wellbeing and autonomy.

Methods

A cross-sectional design was used whereby a self-report survey was administered to all inmates with tablet access in two NSW correctional centres. The sample included both male and female inmates ($N = 208$) who were advised of the survey via an email-style 'facility message' sent directly to the tablet, as well as communication via recruitment fliers posted around the centre.

Results

Inmates reported frequent use of the tablets and identified the phone calls feature as the most used feature. They felt access to tablets improved their ability to connect with family and friends, and their overall experience of life in gaol. Their experience of the impact of tablet access on their life in gaol was positively related to perceptions of the social climate, while their perception of tablets' impact on their ability to connect with family and friends was positively associated with general wellbeing and a sense of autonomy.

Conclusion

Findings from the current study indicate digital tablets were widely accepted by inmates. Despite the tablets being in the early stage of rollout with limited features, inmates regularly utilised many of those features. The study provides early indications that providing inmates access to such technology could have positive implications for their relationships with significant others, experience of life in prison, and psychological wellbeing. Additional features planned for the tablets are likely to further enhance inmates' engagement with the tablets and associated outcomes.

INTRODUCTION

The last two decades have seen a rapid growth in digital technology due to a range of advanced new tools that have transformed how societies function (United Nations (UN), 2020). At the centre of this advancement are a range of media and information technologies that provide individuals with the ability to access and exchange information and communicate with others. Consequently, there has been a shift in the way many services are delivered, moving towards greater digitisation and 'smartification' (Kaun & Stiernstedt, 2020).

This process of 'smartification' is also very common, and somewhat advanced, in prisons around the world (Van De Steene & Knight, 2017). For many years, however, new technologies adopted by prison authorities were focused on improving the security and management of inmates, while extremely limiting, if not completely blocking, inmates' direct access to the internet and digital devices. This limited access is a consequence of prison authorities' need and preference to prioritise security and punishment over benefits for inmates (Jewkes & Reisdorf, 2016; Mufarreh et al., 2021).

Riesdorf and Jewkes (2016), however, note that having limited access to technology can consign one to a 'digital underclass'. van Deursen and van Dijk (2014) argue that this type of underclass can reinforce existing inequalities in society, with members being excluded from the capital enhancing activities that the internet (and technology in general) can bring, and consequently, the opportunity for upward mobility. Inmates are often seen as part of this underclass, which has consequences for their relationship with the rest of society, as well as their ability to rehabilitate and thrive in the technologically developed outside world (Jewkes & Reisdorf, 2016; Kaun & Stiernstedt, 2020). Upon incarceration, inmates cease to have access to developing technology, limiting their ability to utilise

tools that are critical for their reintegration into society (Blomberg et al., 2021).

Providing inmates with access to digital technologies has the potential to change how inmates spend their time in prison, the extent to which they can access and engage in rehabilitative and educational programs, how official information is shared, and how requests or applications are processed and managed (e.g., Palmer et al., 2020). As part of the NSW Premier's Priority to reduce adult reoffending, Corrective Services NSW (CSNSW) has introduced a range of initiatives that aim to transform inmate rehabilitation through digital technology. A central initiative is the introduction of tablet devices that allow inmates to communicate with family and friends and access various services, programs and information. The current study provides an initial evaluation of the rollout of tablets in two centres, including the extent to which inmates use the tablets and its various features, and how access to the tablets has impacted inmates' experiences in gaol.

Digital technology in corrections

In recent years there has been increasing acceptance and uptake of digital technologies in prisons throughout Europe, the United Kingdom and the United States (e.g., Coppola, 2017; Lindstrom & Puolakka, 2020; McDougall et al., 2017; Palmer et al., 2020). For example, prisons in a number of Western European countries have introduced self-service technology to assist with both administrative management and rehabilitation support, with a variety of models and technology across, and even within, jurisdictions (Krikorian & Coye, 2019). The functions made available through these technologies include access to e-learning, online job-search, public service websites, and the ability to communicate with family and friends. In many cases though, these services are reserved for minimum security inmates or those preparing for release (Krikorian & Coye, 2019).

The aim of self-service technologies is to increase autonomy for inmates and improve staff-inmate relationships, through reducing the administrative burden on staff and de-escalating frustrations for inmates (Krikorian & Coye, 2019; McDougall et al., 2017; Palmer et al., 2020). Giving inmates regular practice with digital devices while in prison has been argued to substantially increase their skills and confidence in dealing with digitally enabled services on release (Blomberg et al., 2021; McDougall et al., 2017; Palmer et al., 2020). Inmates would therefore feel more equipped to cope with life in the community in a non-criminal manner, in turn reducing the risk of reoffending. An additional function of self-service technology in prisons, currently in the early stages of implementation in a variety of jurisdictions, is the delivery of behaviour change and education programs (Krikorian & Coye, 2019; McDougall et al., 2017). Such functions are aimed at extending the reach and impact of existing interventions by improving inmate access and increasing completion rates and dosage.

Evaluations of digital technology in prisons in the UK have identified positive outcomes for inmates both within prison and following release (e.g., McDougall et al., 2017; Palmer et al., 2020). For example, McDougall et al. (2017) evaluated self-service kiosks that allow inmates to order food, make purchases from the prison shop, check account balances, apply for education and rehabilitation programs, and book appointments and visits. The authors noted a reduction in both adjudications and proven reoffending following the introduction of the kiosks. They also found that when inmates were able to self-manage their enrolment in, and have direct access to, education and offending behaviour programs, there was an increase in program completions. They argued that access to digital technology improved inmate behaviour in prison, and subsequent post-release behaviour, through its contribution to a change in the prison culture.

Palmer et al. (2020) further identified that the introduction of technology, especially in-cell telephones, can reduce tension among inmates and between inmates and staff. Inmates reported improved ability to maintain contact with family and friends and having more privacy and time to make calls. The technology, especially in-cell telephones, was also reported to improve inmates' psychological wellbeing. Both McDougall et al. (2017) and Palmer et al. (2020) identified that the technology had positive impacts on inmates' feelings of agency and autonomy, with inmates reporting greater control over their lives, as well as greater capability to deal with technology in the modern world.

Digital technology is also seen as an incentive for good behaviour among inmates (Coppola, 2017; Palmer et al., 2020). Inmates indicated they particularly valued the benefits of in-cell telephones and are less likely to engage in behaviour that would jeopardise that access (Palmer et al., 2020). Coppola (2017) reported a similar finding following the introduction of digital tablets in a US prison. The tablets were considered to play a role in inmate management as they were taken away from inmates for a period following misbehaviour, encouraging them to behave. Coppola (2017) reported reductions of at least 50% in suicides, inmate-on-inmate assaults and inmate-on-staff assaults in the 12 months following introduction of the tablets, compared to the 12 months prior. The report also noted that both staff and inmates acknowledged an overall improvement in the jail environment.

A number of Australian jurisdictions also provide meaningful, though limited, opportunities for inmates to use digital technology and devices (Kerr & Willis, 2018). For example, most Australian correctional facilities allow inmates access to computers for specified reasons (e.g., work, education, legal, or training), but with heavily restricted internet access. Videoconference facilities were identified as relatively common, as were digital kiosks that inmates could use for accessing

information about the centre, booking appointments, and making requests or purchases (e.g., 'buy-ups'). These technologies are again aimed at assisting inmates with rehabilitation and reintegration into society (Kerr & Willis, 2018). However, the technologies are rarely available for inmates to use in-cell, and access to such technologies varies both within and between facilities (Kerr & Willis, 2018).

Digital tablets in NSW correctional centres

Implementation of digital technologies in NSW correctional centres is a key initiative aimed at transforming prisoner rehabilitation and reducing reoffending. The technologies are designed to increase the range and reach of services that address offenders' needs; improve prison environmental conditions that support individual strength building and reinforce attitudinal change among offenders; increase offenders' engagement in processes of behaviour change and planning for reintegration; and streamline and promote offender agency in administrative tasks.

NSW correctional centres provide inmates with access to computers and videoconferencing in designated areas. The introduction of digital tablets goes one step further, allowing inmates to access pre-approved content and contact family and friends from the privacy of their cell. Internet-enabled tablet devices specifically designed for the prison context are being rolled out across NSW correctional centres. Substantial developments in wi-fi connectivity across centres and secure internet portal infrastructure and protocols allow for the safe and secure implementation of digital technologies in these facilities. Tablets were first introduced in two correctional centres, John Morony and Dillwynia, in October 2020 as part of a pilot program, and are the subject of the current evaluation.

The devices provided to inmates are mid-sized digital tablets with a full-colour touchscreen and wireless internet access. Inmates have access to paid and free services on the tablet. As of July 2021, paid services only include voice calls to approved phone numbers, while free services include several applications and selected websites, such as:

- Pre-approved ('white-listed') websites, including news and entertainment, education resources, health and wellbeing, and welfare services (read-only access);
- Entertainment (i.e., select games);
- Centre administrative information and forms;
- Facility Messaging, allowing centre staff to send email-like notices directly to inmate tablets.

Inmates in both John Morony and Dillwynia Correctional Centres are given the tablets every afternoon shortly before they are locked in their cells. The phone calls feature of the tablet is available until 10pm; inmates may otherwise use the tablets freely until the morning, when they are collected by staff and placed in charging bays.

The current study

The current study aims to develop an understanding of how inmates use the digital tablets, and how tablets impact their experiences of life in prison. In addition to reporting on inmate use of the tablets and their perceptions of tablet access, we also explored whether inmates' tablet use and perspectives of tablet access were related to their views of the social climate in their centre, their general wellbeing, and their perceived sense of autonomy.

A particular focus area for this study was how inmates used tablets for communication with their approved contacts (most importantly, family and friends). Research has previously identified the importance of inmates maintaining positive social connections with family and friends while in prison

and following their release (e.g., Cooper & Berwick, 2001; Gullone et al., 2000; Jacoby & Kozie–Peak, 1997; Liebling, 2004; Wooldredge, 1999). A key objective of various implementations of digital technologies in prisons has been to provide a means through which these relationships can be maintained (e.g., Krikorian & Coye, 2019; Palmer et al., 2020). Several studies have identified that the introduction of in–cell phones enabled inmates the freedom and privacy to contact family at the times they are available, and improve their connection with them (e.g., Jewkes & Reisdorf, 2016; Palmer et al., 2020).

Previous research on digital technologies in prisons has also identified a link between the introduction of these technologies and a reduction in friction and violence among inmates and between inmates and staff, resulting in a more positive prison environment (e.g., Coppola, 2017; McDougall et al., 2017; Palmer et al., 2020). This prior research has also identified associations between the implementation of technology and inmate wellbeing, as well as feelings of autonomy and control over their lives (e.g., McDougall et al., 2017; Palmer, 2020).

Based on this previous research, the current study aims to address five key research questions:

1. What is the extent of tablet use among inmates? What inmate factors are associated with extent of tablet use?
2. What types of applications and services do inmates access on the tablets?
3. How satisfied are inmates with (a) the available features, and (b) the level of privacy they have when making calls?
4. Do inmates feel access to tablets improves (a) their ability to connect with family and friends, and (b) their overall experience of life in gaol?
5. Are there associations between the quantity and quality of inmates’ tablet use and (a) their perceptions of the social climate of the prison,

- (b) their general wellbeing, and (c) their perceived sense of autonomy?

This report represents the first phase of this research, with a quantitative focus on the general experiences and views of inmates who use the digital tablets. The second phase will examine inmate experiences of the tablets in greater qualitative depth based on follow–up interviews with a random selection of those inmates who completed the survey and agreed to future contact.

METHOD

Design

The current study employed a cross–sectional design. Self–report surveys were administered via the tablets to inmates in two NSW correctional centres where digital tablets have been made available.

Procedure

The research team conducted a survey of inmates in John Morony and Dillwynia Correctional Centres during July and August 2021. Both centres are part of the Francis Greenway Correctional Complex in Sydney, NSW. The John Morony Correctional Centre is a medium security correctional centre for remand and sentenced male offenders, while the Dillwynia Correctional Centre is a minimum/medium security correctional centre for women. At the beginning of the survey period in August 2021, there were 424 inmates placed at John Morony Correctional Centre, and 208 at Dillwynia Correctional Centre.

The survey was delivered to inmates via the digital tablets, with a link to an online survey being made available among the approved ‘white–listed’ websites on the tablets. The survey was made available for inmates to complete for a period of 3 weeks. To limit the chances of duplicate responses, and to allow inmates to save the survey and continue at any time, respondents were asked to enter their

Master Index Number (MIN) before accessing the survey.

A local staff member working at each centre advised the research team about the practicalities of accessing inmates in their centre and assisted with managing the promotion of the survey to inmates. At the launch of the survey at each centre, and during the survey period, a local staff member at each centre sent email-style 'Facility Messages' to inmates' tablets providing information about the survey and how to access it from their tablet. The local staff members also posted recruitment fliers provided by the research team in communal areas and informally notified inmates about the survey during muster and other interactions.

Participants

All inmates who were present at John Morony and Dillwynia Correctional Centres at the beginning of the survey period were invited to participate in the survey. Data for the final survey sample indicated satisfactory rates of overall survey completion, with total of 208 responses out of 632 eligible inmates who were invited to complete the survey (response rate = 32.9%). Table 1 details inmate demographic characteristics and sentencing factors for the full sample of survey respondents.

Measures

The survey consisted of two sections. The first asked inmates about their tablet use; its various features; how satisfied they were with the tablet and the level of privacy they have when making calls; and whether access to the tablets had improved their ability to connect with family and friends, and their overall experience of life in gaol. The second section included validated psychometric measures covering inmates' perceptions about the social climate in the centre, their general wellbeing, and their perceived sense of autonomy.

Table 1. Selected characteristics for all survey respondents

Variable	M (SD)	%
Age at survey completion	35.27 (10.32)	-
Gender (correctional centre)		
- Male (John Morony)	-	50.5
- Female (Dillwynia)	-	49.5
Aboriginal or Torres Strait Islander status		
- Yes	-	26.4
- No	-	73.1
- Unknown	-	0.5
Relationship status (Married/De facto at reception)		
- Not in a relationship	-	64.9
- In a relationship	-	33.2
- Unknown	-	1.9
Dependent children (at reception)		
- Yes	-	63.5
- No	-	35.6
- Unknown	-	1.0
Time in custody for index episode (years)	1.27 (2.16)	-
Total time in custody (years)	2.71 (3.66)	-

Social climate

The Essen Climate Evaluation Schema (EssenCES) was developed by Schalast et al. (2008) to assess the essential traits of the social and therapeutic atmosphere of forensic psychiatric wards. The instrument has since been adapted to assess general prison atmosphere (Day et al., 2011; Tonkin et al., 2012). The instrument used in this research includes 15 items, as well as unscored opening and closing items, covering three identified dimensions of social climate: Hold and Support from staff (5 items; e.g., "Staff members take a lot of time to deal with inmates"), Inmates' Social Cohesion and Mutual Support (5 items; e.g., "There is good peer support among inmates"), and Experienced Safety (5 items;

e.g., “There are some really aggressive inmates in this unit”).

Originally developed in German, the English translation has been repeatedly validated in both UK and Australian prison settings (Day et al., 2011; Howells et al., 2009). Tonkin et al. (2012), found reliability ratings between .79 and .92 for the three scales in a custodial setting. The current study used a total composite score measuring overall social climate (Cronbach’s alpha = .82). Items are measured on a 5-point Likert scale (1 = Not at all; 5 = Very much) with a higher score indicating more positive views of overall social climate. All items were rescaled to baseline to create a total score of 0–60.

Wellbeing

The Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) is an instrument for assessing the mental wellbeing of a population (Taggart et al., 2015). It was developed by Tennant et al. (2007) as a scale with a single underlying structure, encompassing a broad range of attributes associated with mental health wellbeing (e.g., “I’ve been feeling optimistic about the future”). The instrument comprises 14 items asking how often the respondent experiences each state. The items are measured on a 5-point Likert scale (1 = None of the time; 5 = All of the time); scores range from a minimum of 14 and maximum of 70, with a higher score representing more positive wellbeing. Tennant et al. (2007) found the instrument to have good face validity and internal consistency (Cronbach’s alpha = .91) and low risk of desirability bias in responding patterns. The current study reports a Cronbach alpha of .93.

Autonomy

A measure of autonomy was derived from the Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS) developed by Chen et al. (2015). The scale covers three psychological identified needs: Autonomy, Relatedness, and Competence. The Autonomy scale includes eight items: four about

needs satisfaction (forward-scored; e.g., “I feel a sense of choice and freedom in the things I undertake”) and four about needs frustration (reverse-scored; e.g., “I feel forced to do many things I wouldn’t choose to do”). Items are scored on a 5-point Likert scale (1 = Not true at all; 5 = Totally true), with a higher score representing a greater sense of perceived autonomy. The Cronbach alpha for the autonomy scale is .76, similar to that reported by Chen et al. (2015) and Deci et al. (2001) in samples from Belgium, Bulgaria and the United States.

Inmate demographic characteristics

The research team obtained inmate demographic characteristics from the CSNSW Offender Integrated Management System (OIMS) for each respondent. Key information sourced included:

- Age
- Indigenous status (Indigenous; Non-Indigenous)
- Marital status (Married/De Facto; Single/Divorced/Separated)
- Dependents (Yes or No)
- Total time spent in custody for the index episode of incarceration (reported in years)
- Total time spent in custody across all episodes of incarceration (reported in years)

Gender was also included as an additional variable but was sourced based on the respondent’s centre (i.e., John Morony solely houses male inmates; Dillwynia solely houses female inmates).

Analytical Plan

The current study addresses the research questions in a two-staged approach. First, we use descriptive statistics to understand inmates’ tablet uptake. Second, we use a series of regression analyses to examine whether inmates’ quantity and quality of

tablet use are associated with their views of social climate, wellbeing, and autonomy.

Data was first inspected for any anomalies. This included checking the total time inmates spent completing the survey (average = 12 minutes; range = 1 minute to > 2 hours), as well as unusual patterns of responding on psychometrics (e.g., > 90% of items with the same response). We opted to remove psychometric data for three inmates based on a pattern of responding that emerged in surveys taking less than 10 minutes to complete. No data regarding tablet use was removed as these responses were considered valid, therefore the total sample remained at $N = 208$.

Inmates' tablet use and views about tablets

Descriptive statistics were used to index various aspects of inmates' tablet use and the perceived value they placed on tablet usage. A series of cross-tabulations and bivariate correlations were also used to examine the connection between inmates' previous experience with technology and uptake of the digital tablets, as well as the relationship between privacy afforded by tablets and inmates' ability to connect with family and friends.

An Ordinary Least Squares (OLS) multiple linear regression analysis was also used to assess individual factors associated with inmates' extent of tablet use. To measure quantity of tablet use we calculated a composite measure based on how many days inmates reported using the tablets on average (ranging from 'Rarely (less than once a week)' to 'Daily (or near daily)'), and how long they would use the tablet for in a session (ranging from 'Less than 10 minutes' to 'More than 2 hours'). The composite measure of the tablet use involved multiplying the weekly tablet use by the amount of time tablets were used to derive a single continuous measure of quantity. This composite measure was entered as the outcome variable in the regression model, and various inmate demographic and sentencing factors

were entered as predictor variables, including age, gender (male; female); Indigenous status (non-Indigenous; Indigenous); relationship status (single; married/de facto); dependent children (no; yes); amount of time in custody for the index episode (years); and total time in custody for all episodes (years). Inmates' previous digital technology experience was also entered as a predictor.

Relationships between the quantity and quality of inmates' tablet use and perceptions of social climate, general wellbeing and autonomy

Three OLS hierarchical regression analyses were conducted to examine associations between dimensions of inmates' tablet use and their ratings of prison social climate, wellbeing, and autonomy. We anticipated that both the extent or quantity of inmates' tablet use, as well as the perceived value or quality of their tablet use, may be relevant to these outcomes. Our index of quantity was the composite use variable described above. To gain indicators of quality, we used two individual survey items as predictors. For these items, inmates were asked whether they agree or disagree with two statements: "Access to the tablets has improved my ability to connect with family and friends" and "Access to the tablets has improved my experience of life in gaol". The items were measured on a 5-point Likert scale (1 = Strongly disagree; 5 = Strongly agree).

For each of the analyses, variables were entered in three blocks. Inmate demographic and sentencing factors were entered in Block 1 as covariates. That is, the association of these variables on the outcome measure of interest was partialled out so we are able to better understand the contribution of the key independent variables added in Blocks 2 and 3. Quantity of tablet use was entered in Block 2, and the two variables measuring quality of tablet use were entered in Block 3. Three outcome measures were examined: overall views of social climate; inmates' general wellbeing; and inmates' perceived sense of

autonomy. A p-value of .05 was used as the cut-off for interpreting significance across all analyses.

RESULTS

Inmates' tablet use

What is the extent of tablet use among inmates?

Figure 1 and Figure 2 show the extent of tablet uptake among inmates who responded to the survey. They reported extremely high levels of tablet use, with 87% identifying they used the tablet daily, and less than 2% indicating they used the tablet less than once a week. Inmates also reported using the tablet for long periods of time, with nearly half indicating

they use it for more than two hours each day they use it. In total, 45% of respondents reported using the tablets every night for more than two hours.

We also asked inmates about their previous use of tablets to understand their level of experience or skill with digital technology. As shown in Figure 3, more than three quarters of inmates reported having used digital tablets or smartphones 'quite a bit' or 'all the time'. Only 7% of respondents indicated they had 'never' used a digital tablet or smartphone previously, with another 7% indicating they had used this type of technology 'very little'. As may be expected, those who reported less experience with digital technology had spent more time in custody ($r = -.401, p < .001$).

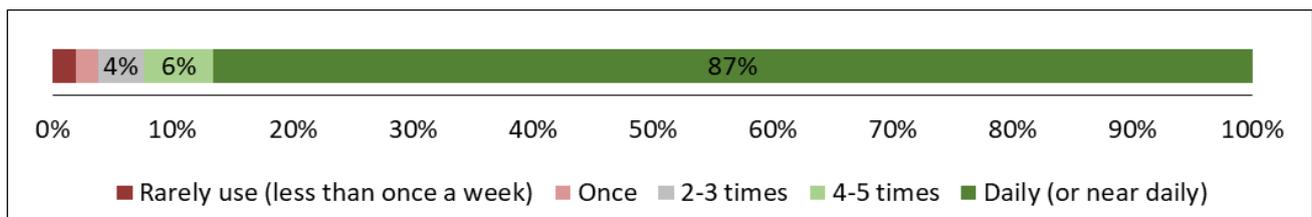


Figure 1. How many days would you use the tablet (for any purpose) in a regular week? (N = 208)

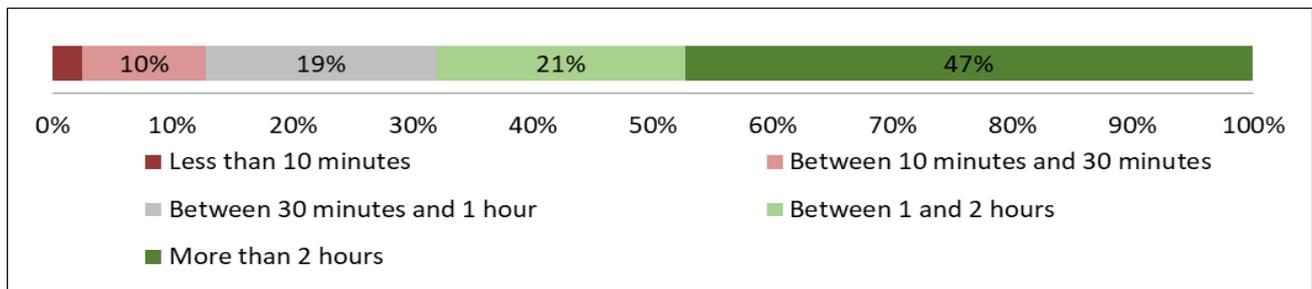


Figure 2. On a day when you use the tablet, how long would you likely use it for (for any purpose)? (N = 203)

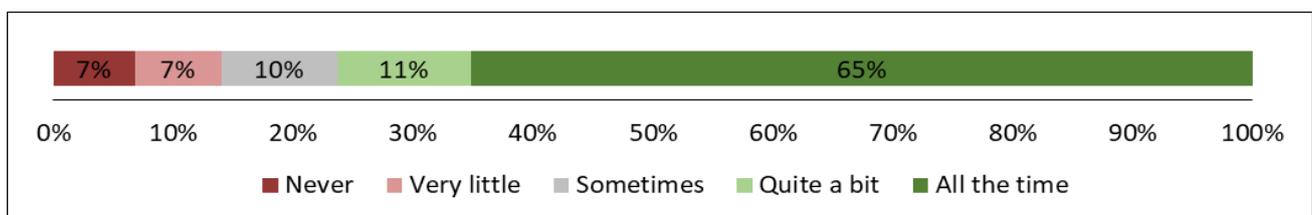


Figure 3. Before being introduced to these tablets, how often had you used a digital tablet or smartphone before? (N = 207)

What inmate factors are associated with extent of tablet use?

To examine which inmates tend towards more or less frequent use of tablets, a multiple linear regression was conducted (see Table 2). Inmate demographic characteristics, sentencing factors and previous experience with digital technology were added as predictors, with quantity of tablet use as the outcome measure. The overall model was significant [$F(8, 194) = 3.09, p = .003$], with 11.3% of the variance explained by inmate characteristics. Both gender ($\beta = -.245, p < .001$) and previous experience with digital technology ($\beta = .215, p = .005$) were significantly related to quantity of tablet use. The

results indicate male inmates used the tablets more often and for longer periods of time, while those who had more previous experience with tablets or smartphones were also likely to use the tablets more often and for longer.

Of those inmates with little to no previous experience using digital tablets or smartphones, more than two thirds reported they now used the tablet daily and for at least 30 minutes each time (see Table 3). More than a quarter of inmates who had no previous experience also reported they now used the tablets daily and for 2 hours or more. Very few inmates reported using the tablets for less than 4–5 days per week and less than 30 minutes when they did use it.

Table 2. Regression analysis examining the relationship between inmate characteristics and frequency of tablet use

Predictor	<i>B</i>	<i>SE_B</i>	β
Age	.036	.047	.056
Gender (0=Male; 1=Female)	-3.205	.959	-.245***
Indigenous Status (0=Non-Indigenous; 1=Indigenous)	.058	.075	.060
Relationship Status (0=Single; 1=Married/De facto)	-.023	.038	-.047
Dependents (0=No; 1=Yes)	-.034	.056	-.049
Index Episode (years)	-.001	.296	.000
Total Time in Custody (years)	.147	.151	.082
Previous Tablet Use	1.110	.393	.215**
Constant	14.696	2.544	
<i>R</i> ²		.113	
<i>R</i> ² Δ		.113	
<i>F</i>		3.088**	
<i>df</i>		8, 194	

* $p < .05$; ** $p < .01$; *** $p < .001$; *B* = unstandardised coefficient; *SE_B* = standard error of *B*; β = Beta (standardised coefficient)

Table 3. Inmates' quantity of tablet use based on previous experience with digital technology

Previous experience	<i>n</i>	Rarely 30+ min	Once 30+ min	2–3 days 30+ min	4–5 days 30+ min	Daily 30+ min
Never	10	0.0	0.0	0.0	14.3	57.1
Very little	13	0.0	0.0	7.1	14.3	71.4
Sometimes	18	0.0	5.0	5.0	5.0	75.0
Quite a bit	20	0.0	0.0	4.3	8.7	73.9
All the time	116	0.0	0.0	0.0	3.0	84.8

Note: Inmates who reported using the tablet for less than 30 minutes each time they used it are not captured in this table

What types of applications and services do inmates access on the tablets?

Inmates reported broad use of the tablet features, with more than half using all features listed (i.e., phone calls, entertainment, news, education, information about the centre, information about administration (e.g., Centrelink, Housing NSW)). As shown in Figure 4, phone calls were by far the most used feature, with 85% reporting that they used this feature either 'often' or 'all the time'. Inmates also frequently accessed the entertainment and news features on their tablets, with more than half reporting they accessed each of these features either

'often' or 'all the time'. Other features, including education, and both centre and administration information, were used less frequently, with around half of inmates reporting that they either 'rarely' or 'never' used these features.

As previously noted, inmates with little to no previous digital technology experience reported frequent use of the tablets, though they were most likely to access the phone calls feature, followed by entertainment, news and education (see Table 4). Tablet features related to information, news and education were more likely to be accessed by inmates with more previous digital technology experience.

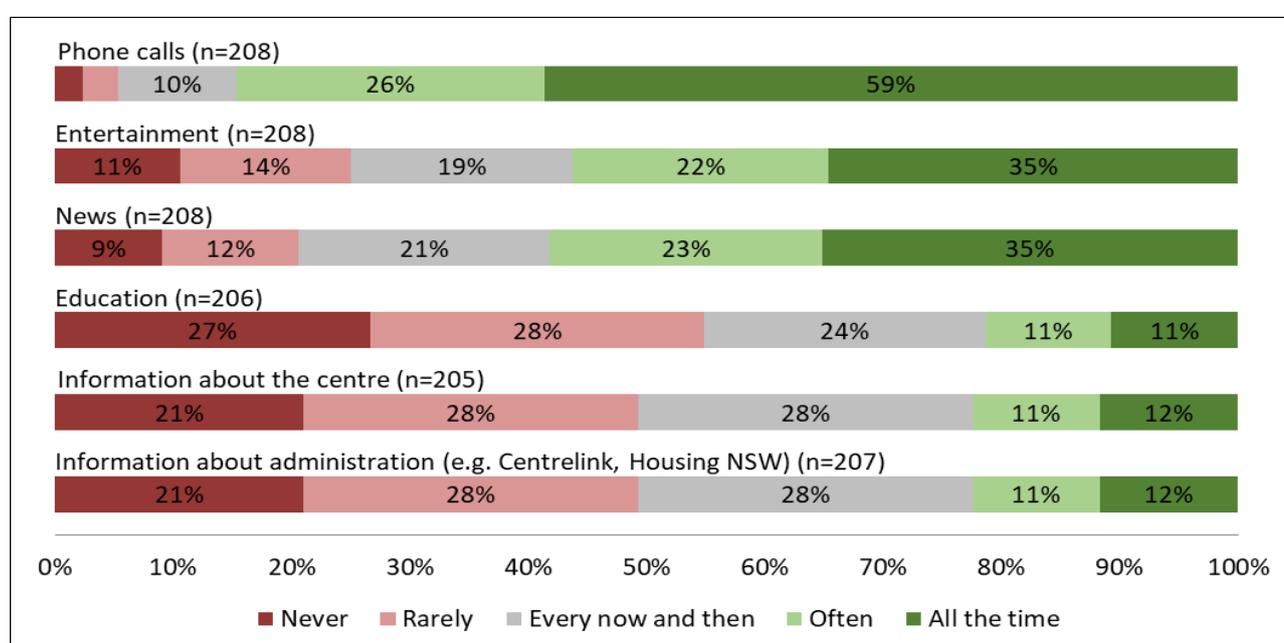


Figure 4. How often do you use each of the following features of the tablet?

Table 4. Inmates' use of tablet features based on previous experience with digital technology

Previous experience	n	Phone	Entertainment	News	Education	Centre information	Gov't services
Never	14	100.0	64.3	64.3	64.3	61.5	50.0
Very little	15	93.3	93.3	93.3	80.0	86.7	53.3
Sometimes	20	100.0	90.0	90.0	75.0	85.0	60.0
Quite a bit	23	100.0	91.3	95.7	78.3	73.9	78.3
All the time	135	97.0	91.1	92.6	72.2	79.7	69.4

Note: features are reported based on whether inmates indicated they used the feature to some extent (includes 'Rarely', 'Every now and then', 'Often' and 'All the time')

Inmates' views about tablets

How satisfied are inmates with the available features?

Overall, inmates reported being moderately satisfied with the current features of the tablet. While less than 10% indicated they were not at all satisfied with the current features of the tablet, only 5% indicated they were completely satisfied. Around one third of inmates reported being 'mostly' or 'completely' satisfied with the current features of the tablet, with another third reporting they were 'somewhat' satisfied (see Figure 5).

How satisfied are inmates with the level of privacy they have when making calls?

Inmates were also asked to indicate whether they were satisfied with the level of privacy they had when speaking with family and friends over the tablet. A little over a quarter of inmates indicated they were 'not at all satisfied' with their level of privacy. Around one third indicated they were either 'mostly' or 'completely satisfied', while many reported being either 'a little' or 'somewhat satisfied' (see Figure 6).

Do inmates feel access to tablets improves their ability to connect with family and friends?

Given that tablets provide inmates with an opportunity to make calls over a longer period of the day and without having to queue for a unit phone, they were asked about whether access to tablets had improved their ability to maintain contact with family and friends. The majority of inmates (85%) either 'agreed' or 'strongly agreed' that access to the tablets had improved their ability to connect with people in the community. Only 5% of inmates felt the tablets had not improved their ability to connect with family and friends (see Figure 7). As may be expected, people who felt they had more privacy using tablets felt they were able to better connect with family and friends ($r = .319, p < .001$).

Do inmates feel access to tablets improves their overall experience of life in gaol?

Inmates were also asked whether access to tablets had improved their overall experience of life in gaol. More than two thirds of responding inmates indicated they either 'agreed' or 'strongly agreed' that having access to tablets had improved their experience of life in gaol (see Figure 8). Only a little more than 10% did not feel tablets had improved their overall experience of life in gaol.

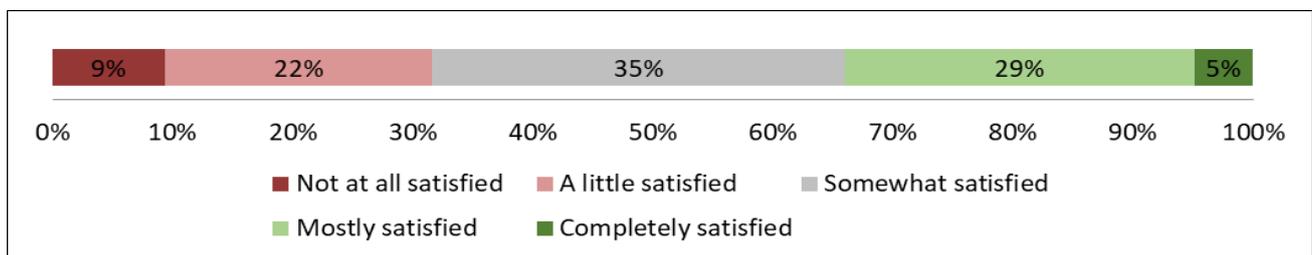


Figure 5. Overall, how satisfied are you with the current features of the tablet? ($N = 203$)

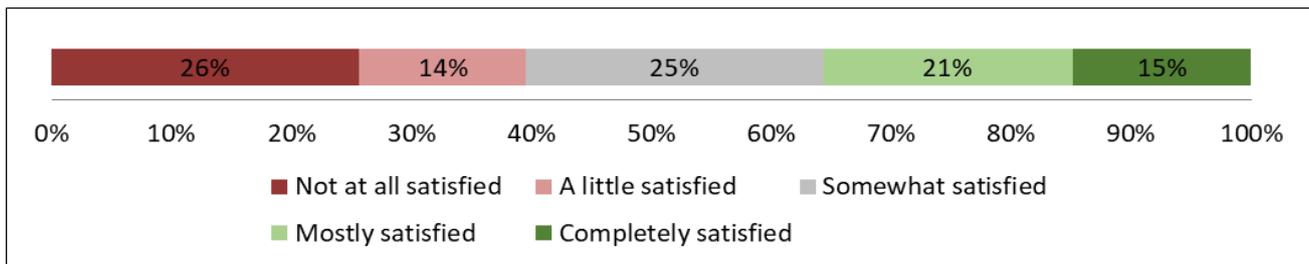


Figure 6. How satisfied are you with the level of privacy you have when you speak with family and friends over the tablet? (N = 202)

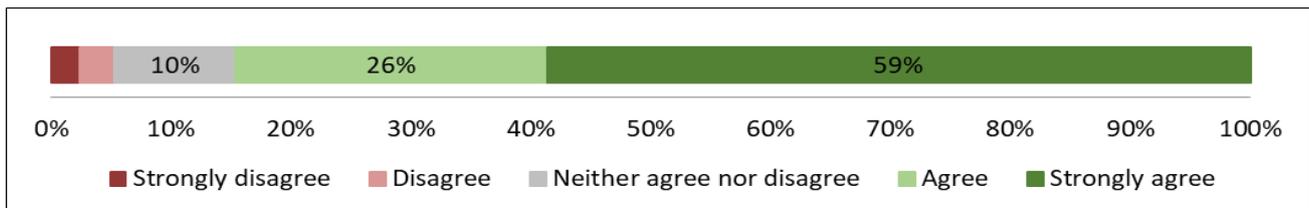


Figure 7. Overall, to what extent do you agree or disagree with the statement "Access to the tablets has improved my ability to connect with family and friends": (N = 203)

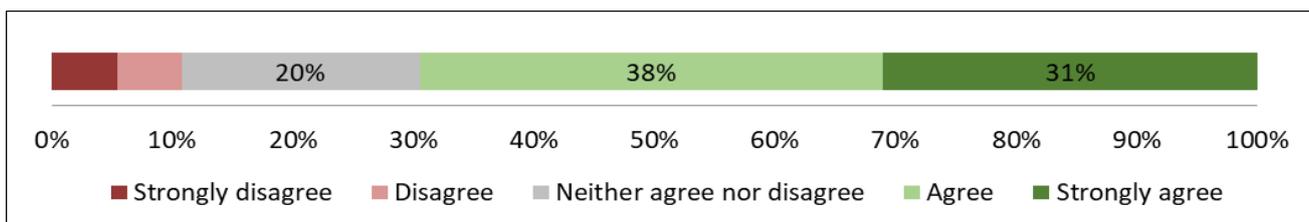


Figure 8. Overall, to what extent do you agree or disagree with the statement "Access to the tablets has improved my experience of life in gaol": (N = 203)

Relationships between the quantity and quality of inmates' tablet use and perceptions of social climate, general wellbeing and autonomy

A secondary aim of the study was to examine outcomes that may be related to inmates' tablet use and the perceived value of tablet usage. In this section, three multiple hierarchical regression analyses examined whether the quantity and quality of inmates' tablet use were related to inmate perceptions of the social climate of the centre, their general wellbeing, and whether they feel a sense of autonomy. For each analysis, seven inmate demographic and sentencing factors were entered in Block 1, followed by quantity of tablet use in Block 2,

and two variables representing quality of tablet use in Block 3.

Is there an association between the quantity and quality of inmates' tablet use and their perceptions of prison social climate?

The first regression analysis examined whether there was a relationship between the quantity and quality of inmates' tablet use and their overall perceptions of the centre's social climate. After controlling for covariates, the overall model for Block 2 was not significant, indicating quantity of tablet use was not significantly related to inmate perceptions of social climate (see Table 5). However, at Block 3, the overall model was significant [$F(2, 157) = 4.999, p = .008$], accounting for 11.3% of the total variance in social climate. Here, there was a significant positive

relationship between inmates' perceived value of tablets for improving their overall experience of life in gaol and their views of the centre's social climate ($\beta = .195, p = .030$). At this final step, the relationship between quantity of tablet use and social climate also became significant ($\beta = -.170, p = .045$). The finding indicates that once quality of tablet use is accounted for, the extent that inmates use tablets has a negative association with views of the social climate in the centre.

Is there an association between the quantity and quality of inmates' tablet use and their general wellbeing?

A second regression analysis examined the relationship between quantity and quality of inmates'

tablet use and their general wellbeing (see Table 6). After controlling for covariates, the overall model for Block 2 was again not significant, indicating the quantity of tablet use was not related to inmates' general wellbeing. The overall model at Block 3, however, was significant [$F(2, 160) = 10.928, p < .001$], with 16.4% of the variance explained. At this step, there was a significant positive relationship between inmates' perceived value of tablets for improving their connection with family and friends and inmates' perceived general wellbeing ($\beta = .262, p = .004$). After accounting for quality of inmates' tablet use, there was a negative association between the quantity of inmates' tablet use and their general wellbeing ($\beta = -.238, p = .004$).

Table 5. Regression analyses examining the relationship between quantity and quality of inmates' tablet use, and overall social climate

Predictor	Block 1			Block 2			Block 3		
	<i>B</i>	<i>SE_B</i>	β	<i>B</i>	<i>SE_B</i>	β	<i>B</i>	<i>SE_B</i>	β
Age	.120	.072	.140	.123	.072	.144	.119	.070	.139
Gender (0=Male; 1=Female)	-.936	1.464	-.053	-1.287	1.498	-.073	-1.002	1.484	-.057
Indigenous Status (0=Non-Indigenous; 1=Indigenous)	.123	.115	.096	.131	.115	.103	.130	.113	.102
Relationship Status (0=Single; 1=Married/De facto)	.027	.058	.042	.023	.058	.036	.017	.056	.026
Dependents (0=No; 1=Yes)	-.006	.086	-.007	-.011	.086	-.012	-.016	.084	-.018
Index Episode (years)	.604	.448	.149	.589	.448	.145	.252	.451	.062
Total Time in Custody (years)	-.171	.225	-.071	-.165	.225	-.069	-.054	.223	-.022
Tablet Use	-	-	-	-.118	.108	-.088	-.228	.113	-.170*
Connection with Family and Friends	-	-	-	-	-	-	.979	.895	.101
Experience of Life in Gaol	-	-	-	-	-	-	1.569	.717	.195*
Constant	28.813	2.607		31.172	3.382		23.210	4.351	
<i>R</i> ²		.049			.057			.113	
<i>R</i> ² Δ		.049			.007			.056	
<i>F</i>		1.190			1.196			4.999**	
<i>df</i>		7, 160			1, 159			2, 157	

* $p < .05$; ** $p < .01$; *** $p < .001$; *B* = unstandardised coefficient; *SE_B* = standard error of *B*; β = Beta (standardised coefficient)

Table 6. Regression analysis examining the relationship between quantity and quality of inmates' tablet use and their general wellbeing

Predictor	Block 1			Block 2			Block 3		
	<i>B</i>	<i>SE_B</i>	β	<i>B</i>	<i>SE_B</i>	β	<i>B</i>	<i>SE_B</i>	β
Age	-.007	.110	-.006	-.002	.110	-.001	.005	.104	.004
Gender (0=Male; 1=Female)	-1.865	2.250	-.069	-2.503	2.298	-.092	-2.455	2.203	-.091
Indigenous Status (0=Non-Indigenous; 1=Indigenous)	.265	.177	.134	.279	.177	.141	.303	.168	.153
Relationship Status (0=Single; 1=Married/De facto)	-.051	.088	-.051	-.057	.088	-.057	-.071	.084	-.071
Dependents (0=No; 1=Yes)	-.170	.131	-.121	-.180	.131	-.127	-.189	.124	-.134
Index Episode (years)	1.089	.688	.174	1.062	.687	.169	.301	.669	.048
Total Time in Custody (years)	.179	.346	.048	.189	.346	.051	.457	.331	.123
Tablet Use	-	-	-	-.214	.165	-.103	-.494	.168	-.238**
Connection with Family and Friends	-	-	-	-	-	-	3.923	1.328	.262**
Experience of Life in Gaol	-	-	-	-	-	-	2.091	1.065	.168
Constant	43.552	4.007		47.837	5.191		28.372	6.459	
<i>R</i> ²		.039			.049			.164	
<i>R</i> ² Δ		.039			.010			.114	
<i>F</i>		0.956			1.676			10.928***	
<i>df</i>		7, 163			1, 162			2, 160	

** $p < .01$; *** $p < .001$; *B* = unstandardised coefficient; *SE_B* = standard error of *B*; β = Beta (standardised coefficient)

Is there an association between the quantity and quality of inmates' tablet use and their perceived sense of autonomy?

The final regression analysis examined the relationship between the quantity and quality of inmates' tablet use and their perceived sense of autonomy (see Table 7). Again, after controlling for covariates the overall model at Block 2 was not significant. The model became significant at Block 3 [$F(2, 147) = 11.716, p < .001$], with 19.6% of the variance explained. Here, there was again a

significant positive association between inmates' perceived value of tablets for improving connections with family and friends and their perceived sense of autonomy ($\beta = .368, p < .001$). The findings indicate that inmates who felt access to the tablets improved their ability to connect with family and friends were also more likely to feel a greater sense of freedom and choice. Finally, there was again a negative association between quantity of tablet use and inmates' perceived sense of autonomy ($\beta = -.277, p < .001$) once the quality of tablet use had been considered.

Table 7. Regression analysis examining the relationship between tablet uptake, inmate perspectives of tablet use, and inmate wellbeing and sense of autonomy

Predictor	Block 1			Block 2			Block 3		
	<i>B</i>	<i>SE_B</i>	β	<i>B</i>	<i>SE_B</i>	β	<i>B</i>	<i>SE_B</i>	β
Age	-.007	.006	-.113	-.007	.006	-.108	-.006	.005	-.091
Gender (0=Male; 1=Female)	-.121	.114	-.091	-.160	.117	-.120	-.186	.111	-.140
Indigenous Status (0=Non-Indigenous; 1=Indigenous)	.003	.005	.058	.002	.004	.049	.002	.004	.036
Relationship Status (0=Single; 1=Married/De facto)	-.010	.007	-.142	-.010	.007	-.150	-.011	.006	-.155
Dependents (0=No; 1=Yes)	.007	.009	.075	.008	.009	.085	.011	.008	.109
Index Episode (years)	.011	.018	.060	.011	.018	.063	.025	.017	.138
Total Time in Custody (years)	.059	.035	.191	.057	.035	.186	.020	.034	.066
Tablet Use	-	-	-	-.013	.008	-.130	-.028	.008	-.277***
Connection with Family and Friends	-	-	-	-	-	-	.270	.067	.368***
Experience of Life in Gaol	-	-	-	-	-	-	.033	.054	.053
Constant	3.529	.204		3.794	.263		2.783	.325	
<i>R</i> ²		.052			.068			.196	
<i>R</i> ² Δ		.052			.016			.128	
<i>F</i>		1.182			2.493			11.716***	
<i>df</i>		7, 150			1, 149			2, 147	

p* < .01; *p* < .001; *B* = unstandardised coefficient; *SE_B* = standard error of *B*; β = Beta (standardised coefficient)

DISCUSSION

The primary aim of the current study was to develop an understanding of the implementation of digital tablets in two correctional centres. The study considered both the quantity and quality of inmates' tablet use, including the extent to which inmates used the tablets and its available features, as well as the perceived value they placed on the tablets for improving connections and experiences. A secondary aim of the study considered whether the quantity and quality of inmates' tablet use was associated with inmate perceptions of social climate, general wellbeing and autonomy.

Inmates' tablet use and views about tablets

Responses to the surveys indicated that the digital tablets have been widely accepted by inmates in both John Morony and Dillwynia Correctional Centres. The tablets are used regularly and often for extended periods of time by inmates. The phone calls feature is the most popular feature among inmates, with many reporting they used this feature often or all the time. The majority of respondents also reported that access to the tablets had improved their ability to connect with family and friends, further highlighting the importance placed on the phone calls feature. Previous research on digital technology and in-cell telephones supports this finding, where inmates reported both an improved ability to maintain contact with family and friends, as well as having

more privacy and time to make calls (McDougall et al., 2017; Palmer, 2020). The entertainment and news features were also popular among inmates, while education, information about the centre, and information about government services (e.g., Centrelink, Housing NSW) were the least used features.

Although the majority of inmates reported regular use of the tablets, those who had more experience using digital technology prior to entering gaol were likely to use the tablets more frequently compared to those with less experience. Those with more experience were also more likely to use tablet features related to information, news and education. These findings are supported by research that identified people who had more experience using the internet were more likely to engage in activities that were personally advantageous, while those with less experience are more likely to engage in fun activities (Howard et al., 2001; van Deursen & van Dijk, 2014). Previous research further identified that inmates who had served long sentences of 15–20 years or more were apprehensive about using digital technology due to a lack of skills and understanding about technology that had not been developed prior to them entering gaol (e.g., Jewkes & Reisdorf, 2016). A key goal of providing inmates with access to digital devices in prison is to increase their skills and confidence with technology that they will be required to use following their release (Blomberg et al., 2021; McDougall et al., 2017; Palmer et al., 2020).

While the current study also identified that inmates who had spent more time in custody were less likely to have previous experience using technology, there was no significant link between inmates' time in custody and their use of the digital tablets in gaol. It was found that of those inmates who had never used a digital tablet or smartphone, many still reported using the tablets for at least 30 minutes per day, indicating little apprehension about technology among inmates in the current study. Although it is promising to see inmates engage with the tablets

regardless of previous experience, it should be noted that as the survey was administered via the tablets it may not have captured those inmates who do not use them. Follow-up in-depth interviews may identify those less likely to use the tablets and whether there are certain barriers that prevent them from doing so.

Male inmates were also found to use the tablets more frequently than female inmates. Previous research identified that men and women position themselves differently when it comes to technology; men are more likely to develop a closeness or fascination with technology, while women are more likely to distance themselves from it (e.g., Faulkner, 2001; Gill & Grint, 1995). Kelan (2007) found that men saw technology as a toy, while women saw it as a tool; that is, men were fascinated by technology and enjoyed playing with it, while women saw it as a means to an end. Male inmates may therefore simply enjoy playing with the various features of the tablets while female inmates use the tablets more intentionally, limiting their time on the tablet to tasks they need to complete or that serve them a specific purpose. Alternatively, the use of tablets may be understood in terms of the differences between the two correctional centres where these inmates reside. For example, at John Morony the male inmates are housed in cells, usually with one cellmate; they are locked in the cells in the early afternoon and let out early the next morning. At Dillwynia, on the other hand, many of the female inmates live in 6-person complexes; they have a shared living room and kitchen, and their own private bedroom. At Dillwynia, the female inmates therefore have more opportunity to socialise after being locked down in the afternoon and they have additional amenities to use. Male inmates may therefore be more inclined to use the tablets more often or for longer to alleviate the boredom they experience when locked into a small cell with just one other person to socialise with.

In general, while inmates reported that access to tablets had provided positive experiences regarding their connection with family and friends and

experiences of life in gaol, there were only a small number who were completely satisfied with the current features of the tablet. This satisfaction may be related to either the availability or functionality of the current features. It should be noted, however, that the current study has only focused on the initial implementation of the tablets, during which a limited number of features were made available. Additional features have since been added to the tablet with plans for further content and resources to be included, which may have implications for inmates' satisfaction.

Outcomes associated with inmates' quantity and quality of tablet use

We further examined whether inmates' quantity and quality of tablet use were related to their perceptions of social climate, general wellbeing and autonomy. The quantity of tablet use measure considered the extent that inmates used the tablets, including how often they used them in any given week and how long they used them for each time. On the other hand, the quality of tablet use was intended to reflect the value inmates placed on their use of tablets for improving their connection with family and friends, and their experiences of life in gaol overall. The results identified that quality of tablet use had strong positive associations with each of the three outcome measures, while quantity of tablet use produced weaker negative associations with each of the outcomes only after quality of tablet use was considered.

The perceived value inmates placed on tablets for improving their experience of life in gaol was positively associated with their perception of the overall social climate in the centre. There were also positive associations between inmates' perceived value of tablets for improving their connection with family and friends, and their perceived general wellbeing and sense of autonomy. While these patterns of associations are perhaps unsurprising,

they suggest that some of the potential benefits afforded by tablet use may have significant and holistic influences on inmates' experiences of prison life overall, including perceptions of the prison social climate and feelings of personal wellbeing and autonomy while incarcerated. In turn, there is the potential to strengthen inmate-staff relationships and reduce conflict and tension within the centre. Previous research also supports this argument. For example, Palmer et al. (2020) identified that digital technologies removed tension points, reduced conflict and generally improved relationships between inmates and staff, and among inmates. The technology, particularly in-cell phones, was also reported to have positive implications for improving inmates' psychological wellbeing, as well as their sense of autonomy as they felt they had greater control over their lives and greater capability to deal with technology following release (McDougall et al., 2017; Palmer et al., 2020).

Given it was the improved connection with family and friends that was related to inmates' sense of autonomy in the current study, this is likely attributable to the increased freedom inmates have for making phone calls from their cells throughout a longer period of the day. The remaining features available to inmates at the time of the survey, however, did not include many of the self-service features identified in the literature that tend to be associated with an increased sense of autonomy. For example, McDougall et al. (2017) identified a number of frequently used features that represented inmates being able to take responsibility for managing their lives (e.g., accessing account information, ordering buy-ups online, topping up phone accounts, and reviewing their own schedule). As similar features are added to the tablets used by NSW inmates, it is expected that a more pronounced association between tablet access and autonomy will emerge.

In contrast, after accounting for perceived quality of tablet use, inmates' quantity of tablet use was negatively associated with each of the three outcome

measures. Taking the results of regression modelling together, this suggests that the mere extent of inmates' tablet use may have distinct and possibly negative effects on their experiences of prison life, relative to the quality of their tablet use. One possible explanation for the findings may be reflected in the literature on passive and active social media use (e.g., Escobar-Viera et al., 2018; Thorisdottir et al., 2019). Passive use was defined as activities that include reading discussions, comments, or reviews, and watching videos or viewing pictures; active use involved responding to someone and sharing or posting content. It was found that active use was associated with lower levels of anxiety and depressive symptoms, while both passive use and more time spent on social media were associated with higher levels of depression and anxiety (e.g., Escobar-Viera et al., 2018; Thorisdottir et al., 2019). With regard to the tablet features available to inmates at the time of the survey, the phone and entertainment features could be associated with active use, while the remaining features could account for passive use as they are often restricted to simply reading content. As a result, inmates who spend the majority of their time using the more passive features of the tablet, rather than features that represent active use, may be less likely to experience positive outcomes. McDougall et al. (2017) noted that digital technology was not expected to be an active agent of change on its own but may rather be the instrument through which change could occur. The results of the current study highlight that the potential benefits of tablets may not be achieved by more extensive availability and use of digital technologies alone; and that it is important to accompany the rollout of such technologies with development of content and practices that are designed to encourage prosocial experiences and change.

Limitations and future directions

Some limitations of the current study are noted. Of most significance is the administration of the survey via the tablets. As a result, the survey sample is likely skewed towards inmates who already use the tablets, with little evidence of the views and experiences of those who choose not to use the tablets. In-depth interviews with inmates, taking place at the time of writing this report, are expected to provide more nuanced insight into who is likely to use the tablets, how they engage with each of the tablet's features, and the outcomes they associate with tablet use and access.

The features of the tablets available to inmates at the time of the survey were also only those made available for the pilot phase of the tablet rollout. At that stage, tablets had a select range of features that centred around in-cell phone calls, entertainment, news, education, information about the centre, and information about government services (e.g., Centrelink, Housing NSW). As previously noted, additional features added to the tablets that allow inmates to take more responsibility for and control over their lives are also likely to elicit stronger associations with positive outcome measures such as a perceived sense of autonomy. Ongoing evaluation as these additional features are made available is crucial for understanding the impact of such features.

The current study has also only addressed inmate perspectives on the introduction of digital tablets. Previous research has identified positive outcomes for staff as well. For example, Palmer et al. (2020) identified that increased administrative automation and consistency, such as allowing inmates to complete previously paper-based applications and buy-ups via the tablets, was able to reduce staff stress and further improve relationships between staff and inmates.

Finally, the cross-sectional design of the study should be noted. The aim of this study was to evaluate how inmates have taken up use of the digital tablets since their introduction. However, cross-sectional designs simply consider what is occurring at a single point in time (Bechhofer & Paterson, 2000). Such a design does not allow us to assess a cause-and-effect relationship whereby we can assert that the positive outcomes associated with tablet access are *because* inmates have access to tablets. This is particularly relevant to analyses of inmates' tablet use as explanatory variables for ratings of social climate and psychological wellbeing; in this regard our analyses were intended to be an initial exploration of the associations between these constructs rather than an evaluation of causal mechanisms. Future evaluations may be able to better explore such relationships through a longitudinal pre-post design where measures of social climate, wellbeing and autonomy are assessed before and after the introduction of digital tablets across several correctional centres.

Conclusion

The current study examined the initial implementation of digital tablets in two NSW correctional centres. At the time of the study the tablets were in the early stages of development with limited features available. Surveys administered via the tablets indicated the tablets were widely used and well-received. Inmates reported extensive use of the tablets, even when their previous experience with similar technology was limited. The phone calls feature was the most utilised tablet feature, allowing inmates to improve their ability to connect with family and friends. Our analyses indicated that this connectivity function of the tablets may have a significant bearing on inmates' experiences of wellbeing and autonomy while in prison. Many inmates also associated their access to tablets with improved overall experiences of prison, with lead on

effects on their perceptions of the social climate of their centre.

The second phase of this research, involving in-depth interviews with inmates, will provide further insights into how and when inmates use the tablets, their overall experiences with the tablets and the perceived benefits they associate with having access to the tablets. As additional features continue to be added to the tablets, such as self-service administration and enhanced education and rehabilitative applications, it is anticipated that further benefits will emerge around providing inmates with a greater sense of autonomy, improving staff-inmate relationships and in the longer-term supporting reintegration and reducing reoffending. Ongoing evaluation of the digital tablets will help track inmates' continued use of the tablets and the outcomes of their use, as additional features are added and become available to increasing numbers of people across NSW correctional centres.

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