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Digital life as a cabaret, old chum: A dramaturgical analysis of older digitalised home residents and their wider caring networks

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ABSTRACT

The use of smart and assistive devices for remote healthcare monitoring is becoming increasingly popular for older people in their homes. However, the lived and long-term experiences of such technology, for the older residents and their wider caring networks remains unclear. Using in-depth qualitative data collected between June 2019 and January 2020 from older people living in their own homes in rural Scotland, we highlight that although such monitoring could improve the experiences of older people and their wider caring networks, this may create additional care and surveillance. We employ the concept of dramaturgy, which understands society to be a stage on which actors perform, allowing us to explore how different residents and their networks make sense of their experiences with domestic healthcare monitoring. We found that some digitalised devices may reduce the degree to which older people and their wider caring networks can live authentic and truly independent lifestyles.

Introduction

Older people have increasingly expressed the desire to live at home for longer (Van Dijk, Cramm, Van Exel, & Nieboer, 2015) and have greater control of their healthcare (Beer & Owens, 2018). The increased accessibility and affordability of smart technology (Strengers & Nicholls, 2017), coupled with demographic ageing (Van Hoof, Demiris, & Wouters, 2016), mean the opportunities for ageing-in-place at home have increased. Digitalised homes, using smart and assistive technologies, are offered as a way to enable older people to live independently at home for longer. This may include a range of telecare, telehealth and smart technology devices obtained formally (i.e., through health or social care professionals) or informally (via private means i.e., 'off the shelf'). These devices include smart thermostats, energy monitors, lighting, home security systems, wireless speakers, Alexa™/Siri™, remote door locks, and even the smartphone. Others are utilised more directly for healthcare purposes (i.e., telecare and telehealth devices) such as remote blood pressure monitors, fall alarms and motion sensors. Telecare devices monitor "aspects of an individual's activity, or related activities, in the home (e.g. fall alarms and motion sensors)" (Currie, Philip, & Roberts, 2015: 2). Meanwhile, telehealth devices "require active involvement from the patient to take readings (e.g. blood pressure), that are regularly submitted for review by health professionals" (Currie et al., 2015: 2). Finally, smart home devices are connected to "the Internet of Things" (Bennett, Rokas, & Chen, 2017) to automate and monitor in-home systems, such as smart thermostats, energy monitors, lighting, home security systems, wireless speakers, virtual assistants such as Alexa™ or Siri™, remote door locks, and even the smartphone. We incorporate all these devices under our definition of "smart and assistive devices", utilising a broad definition to reflect the constant evolution of these.

Research around the health and digitalised homes has tended to come from healthcare or technocentric domains (Mano et al., 2016; Sixsmith & Sixsmith, 2008). Studies thus far tend to have: a) adopted shorter-term or "laboratory" settings with individual residents rather than in-depth research including their wider caring networks (Marikyan, Papagiannidis, & Alamanos, 2019); b) focused on only older people's desires to age at home (Liu, Stroulia, Nikolaidis, Miguel-Cruz, & Rios Rincon, 2016; Vasara, 2015); and thereby, c) offered limited acknowledgement that experiences are constantly evolving. In contrast, this paper extends understandings of how devices may be used to control and monitor the health and wellbeing of older family members under the auspices of care, important with the expected increases in the use of smart and assistive technologies to support older people at home.

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Literature review: Dramaturgy, technology, and ageing

The dramaturgy approach argues that individuals perform their lives as though they were actors in a play. Within these plays, actors have on-stage roles or performances (in which they, to perhaps varying degrees of awareness, modify their behaviour because they know they are being watched), and backstage performances in which they can "drop their mask" and behave more naturally. Applying the dramaturgical approach in the context of home, an audience (for both stages) may include other members of the household, frequent visitors such as health and social care professionals, family members or even technology company workers observing a user through a smart or assistive device.

For such performances to be convincing, three aspects are necessary: 1) a specific setting which represents the scene that enables the actor to perform; 2) the appropriate appearance of items and equipment that are necessary for the performance to be convincing; and 3) manners that highlight how the performer will conduct themselves and what the audience should expect from the performance (e.g. an older person would need to interact with the devices appropriately). After the "performance", the performer then goes backstage where no audience is present.

In terms of smart and assistive devices, an example of the backstage could be the way in which a person behaves when they are not using their fall alarm at a time when they may need it. The front-stage portrayals of different roles are known as "dramatic realisations" (Goffman, 1971), which are often idealised performances of aspects of their character they want to share with an audience. In other words, these are the "performances" that people enact when they know that others are watching them. In terms of smart and assistive devices, the frontstage performance could be in how the resident behaves (i.e., performs) when they know they are being recorded on CCTV. However, as Serpa and Ferreira (2018:76) suggested, "the question remains about what is the analytical ability to approach backstage in an increasingly technological and online context, in which the demarcation between backstage and front stage is more tenuous". Nevertheless, numerous authors utilising Goffman's approach in online and digital settings have recognised that the differences between the frontstage and backstage in today's digitalised world can be more diluted than Goffman's original definitions.

Key themes emerging from existing literature include the implications of an increased frontstage and reduced backstage (as evidenced in existing research on digital communications), the impacts such changes may have on the relationships between home-dwellers and their wider networks, as highlighted by Burrows, Coyle, and Gooberman-Hill (2018), and the changing degree of surveillance which may be emerging from a move to increased ageing-place, which may include healthcare at home. Throughout these themes is an understanding of the symbiotic (or relational) nature of relationships, which is further emphasised through an exploration of our data using a dramaturgical lens.

Goffman's work has also been employed to understand digital identity and digital lives (most often with younger people, or people of mixed ages). For instance, Corrigan and Beaubien (2013) discussed the sustained importance of Goffman's dramaturgy in understanding digital relationships and behaviours within organisations, arguing that recent criticisms of dramaturgy in the digital age have been overstated.

Burrows et al. (2018) adopted a dramaturgy-inspired framework to understand how people negotiate new borders and boundaries created by smart and assistive healthcare technologies within their homes. They found that boundaries within the home (i.e., a higher degree of privacy and control) were being permeated: it was difficult to know where the front stage became back stage and vice versa due to a lack of control over how the information generated (by their healthcare technologies) about themselves and their households was interpreted. Meanwhile, Marson and Powell (2014) discussed the "infantilisation" of older people within residential care settings, whereby older people are treated as childlike in their abilities. Such use of the term "infantilisation" first occurred within nursing in the 1970s and 1980s (Dolinsky, 1984; Gresham, 1976) and within sociology of health in the 1980s (Lyman, 1988) when discussing care for older individuals living with dementia. However, more recently, Marson and Powell's study also highlighted how older care home residents tried to meet caregivers' expectations for fear of otherwise losing quality care. Furthermore, care recipients and caregivers had different impressions of their care interactions. Burrows et al. (2018) called for further research with wider caring networks, whilst Marson and Powell (2014) suggested their findings be tested within non-total institution settings (i.e., the private home rather than a care home). Whilst there have been studies which have highlighted connections between Goffman and digital interactions and digital forms of communications, few have explored dramaturgy as a conceptual lens for understanding older people's interactions with digital devices, especially considering potential surveillance and power aspects.

With increasing moves to digital-by-default and greater use of smart and assistive devices in the home (further proliferated through COVID lockdowns) (Creaney, 2021), there is a need for more research into the impacts of these devices on older people and their networks, especially in home settings. Goffman's dramaturgy framework provides a potentially useful lens for such studies, due to his recognition that there is not always a singular audience, and that different performances and behaviours can be promoted for different audiences. In this paper we explore whether the dramaturgy approach is useful when reflecting on aspects of older people's identities. Particularly in recognising links to power and control that can manifest when considering the popular and influential depictions of ageing (Fealy, Mcnamara, Treacy, & Lyons, 2012; Peine & Neven, 2020), as well as when trying to understand the impacts of multiple audiences and competing relationships within these settings.

Methods: An ethnography of ageing with technology

The research design aimed to better understand the experiences of living with smart and assistive devices for older residents and their wider caring networks, particularly the symbiotic nature of relationships between users of smart and assistive devices and their audiences (i.e., their wider caring networks). We employed an ethnographic approach to investigate assumptions, identified by Creaney, Reid, and Currie (2021) that have been promoted within digitalised home and ageing-in-place narratives. Such assumptions included: the importance of independence (Hillcoat-Nallétamby & Ogg, 2014); continuation of sense of home (Darby, 2018; Gram-Hanssen & Darby, 2018); and impacts of technology on the boundaries of the body and the home (Lupton & Maslen, 2018).

Five older people living at home with smart and assistive devices and a total of 11 people from their wider caring networks comprised the study participants. They were recruited through Twitter, lunch clubs and community workers. Wider caring networks are more important for people as they age, particularly if they have to undertake new activities, such as technology use (Currie et al., 2015), and in this study included friends, family and professional contacts who played a substantial or important role in the older person's life. This approach of involving both older people and those from their wider caring network allowed the relational aspect of digitalised home living to be considered, which is a novel contribution of this paper.

A small sample was purposefully chosen to enable greater depth and length of engagement with participants like other longer-term studies within the setting of the home (c.f., Visser, 2018). While qualitative studies do not aim to generalise their findings, strengths arise in the nuance that can be devised from the data and the multiple methods of data collection. Enacting an ethnographic approach allowed for long-term and in-depth observations (Moeran, 2007) to gain an understanding of local knowledge, values and practices from the participant's point of view (O'Reilly, 2012), as well as to allow observation and understanding of everyday interactions. Indeed, if only single visits to older

people been undertaken (i.e., a cross-sectional design was used) there would have been greater chance that interviews would have remained frontstage performances (to make a good impression in the research), however, such a risk was reduced through multiple, longitudinal visits and the associated trust-building that ensued.

Ethical approval was gained from the University Teaching and Research Ethics Committee (UTREC). Consent was freely given from the older people and their wider networks, including that the data provided was fully identifiable. This allowed the researcher(s) to discuss the responses and experiences shared by the older person with those interviewed from their wider caring network, and vice versa. Updates on the research were shared with participants during each visit and a research summary was sent when the project was completed. Data were collected between June 2019 and January 2020 by one member of the research team. Ethnographic methods employed were observations and (unstructured and semi-structured) interviews, as will now be discussed.

Between two and six separate days were spent using observations and unstructured interviews with each older person across the study period, allowing meaningful and trusting relationships to be developed (Fetterman, 2009). This occurred in the older people's homes, recognising that homes have also become places of research to better understand how people utilise and make sense of such spaces (Cieraad, 1999; Lupton & Maslen, 2018; Pink, Mackley, Morosanu, Mitchell, & Bhamra, 2017). Field notes were gathered through a mix of written accounts directly after visits and transcribed notes from recordings on a digital voice recorder. Broad topics covered during the visits included information about their wider caring network, sense of home, the importance of independence, and interactions with technology. As well as conversations, interactions on all the activities undertaken were recorded, even if they seemed mundane (Mackley, Mitchell, Pink, Escobar-Tello, & Bhamar, 2013), including the thoughts and feelings of the researcher in line with a sensory ethnographic approach (Pink, 2009) to add to a reflexive journal (Hay, 2016). The number and timing of visits varied due to the depth of conversations, changes in participant circumstances and (to a lesser extent) the onset of COVID (i.e., no follow-up interviews were possible at later dates due to emerging COVID lockdowns). Interviews with the older people were predominantly unstructured, and with their wider networks, interviews were either semi-structured or unstructured. For each older person we envisaged talking with up to 4 people who they felt were part of their wider caring network. Older people themselves identified their wider caring network to the primary researcher. The number of network members involved in this research reflects the ability to access network members; the number of visits with older people themselves; and the willingness of the older people interviewed to identify those in their wider caring network. For one of our older participants, no members of their wider caring network were interviewed due to the participant dropping out of the research process early on.

An interpretative phenomenological analysis (IPA) approach (Desjarlais & Throop, 2011; Smith, Flowers, & Larkin, 2009) was adopted to gain a better understanding of the lived experiences of how varying and competing roles may manifest in digitalised homes. We aimed to identify such real experiences by examining a single experience from the perspective of multiple people: the older person and those in their (self-identified) wider caring network. IPA also complimented the dramaturgical conceptual framework to identify the nuance within a performance (i.e., through the front stage and backstage views). All data (e.g., interview data, observations, diary entries, etc.) were transcribed and analysed with aid of NVivo software. All data was analysed using the same process (i.e., identification of themes) to ensure consistency across a range of datasets and participants. The themes that were identified in the analysis stage included home, family, power, support, and future planning. As a summary, Table 1 identifies the older people's names, smart and assistive devices used and wider networks.

Table 1
Specific devices used by older participants.

Older participant's Name (Age)	Number of visits (Total number of hours spent)	Smart and assistive devices used by the older participants	Context	Relevant carers who were interviewed
George (79)	6 visits (Totalling 18 h)	Assistance fall cords; Assistance intercom Smart phone; Voice assistant (Alexa™); Laptop; ECG heart rate monitor Smart TV; Fitbit activity tracker	Lives alone in sheltered type accommodation	Daughter; Lunch club manager
Geoff (77)	4 visits (Totalling 8 h)	Speaking tablet; Speaking watch; Speaking alarm clock; Tabletop magnifier; Liquid level; Audio-book reader; Laptop; Smart phone	Lives with wife in a semi-detached house	Wife; Daughter; Lunch club manager
Georgette (77)	4 visits (Totalling 8 h)	Fall alarm bracelet; Voice assistant (Alexa™); CCTV remote cameras; Kindle; Tablet; Electric wheelchair; Smart phone	Lives alone in a flat tailored for wheelchair user	Daughter; Home-help; Dog-walker; Wheelchair assistance team
Iain (73)	2 visits (Totalling 3 h)	Voice assistant (Alexa™); Specialised smartphone (for dictation); Tablet; Kindle; Electric wheelchair; Laptop	Lives alone in a detached house	none
Angela (93)	2 visits (Totalling 2 h)	Fall alarm bracelet; Remote blood pressure monitor; Laptop; Phone	Lives alone in a large, terraced house	Lunch club manager

Results: The frontstage and backstage roles

Drawing on dramaturgy to frame the results, we explore the range of roles that the participants appeared to play. We reflect on frontstage roles, before considering backstage roles to highlight some of the power imbalances and conflicting experiences. Within this analysis, the audience is generally the older person's wider caring network and the wider society in which they are situated, and for the wider caring network, the wider society, and the older person themselves.

The frontstage roles: Maintaining relationships

We identified a range of frontstage roles: 1) the 'good' older person, 2) the 'good' parent and child and 3) the 'good' partner/ carer. They arise from discussions about positive and productive identities for older people, as the word 'good' intends to signify.

The good older person

Throughout data collection, our older participants often highlighted themselves as an asset to their families and communities: in other words, a 'good older person'. This was manifest in several ways: accepting a new device; efforts to reduce dependence on people and services; in fulfilment of commitments; and, by signalling their previous contributions to society. For instance, George spent much of his career caring for others (as a teacher, social worker and in the Army), and reminisced about these times.

> *"So, what I do is, I keep a photograph of how I was when I was in the Army up there [on the mantlepiece], just to remind myself when I get up, 'you weren't always like this, you were quite a fit person, so it's not the end of the world'… It helps a wee bit.*"
>
> (George, Visit 6, January 2020)

George used some smart and assistive devices (e.g., voice assistants, tabletop magnifier and his Synaptic tablet) to continue being a 'caring individual'. Alexa™ (his smart speaker) helped him remember his upcoming appointments and events, ensuring he could fulfil his commitments.

> *George: "That's why I got Alexa™ because it was getting to the point that…for instance, when you phoned, I immediately said, 'Alexa™, make a reminder'".*
> *Alexa™: "What's the reminder for?"*
> *George: "There you go. That's quite good for…".*
> *Alexa™: "When should I remind you?"*
> *George: "*[to Alexa™] *Stop! … It helps me. We don't sit and have conversations, but it helps me order my day. So, I put it in the diary but that's not enough, because I forget to look at the diary. So, I tell Alexa™ and I get her to remind me when I'm sitting here and having my coffee, ten o'clock ish, doctors' appointment, or whatever. Because it's really bad. I once was about to step out onto the street without my trousers on, not here, but in my old house. I remember getting to the front door and I remember putting my hand out on the door and I looked down. I was about to step out and I realised I was wearing navy blue long johns and not trousers. So, I went back and put my trousers on. It's dreadful!"* (George, Visit 1, June 2019).

George also performed this role of 'good older person' by caring for others at the lunch club, helping other attendees with their computer issues:

> *"A guy I met in the lunch club, he's 93, and he was going on about how he couldn't understand Windows 10, so I said I'll come up. So, I said I'll come up and Jesus, he was using Windows 7. So, I set it all up and showed him how to use Windows 10. I said to him, his email was Windows 7, stop using Windows 7 because you're incredibly vulnerable to being ripped off. It was only then that he told me that previously he had lost thousands being ripped off on his laptop, through using Windows 7. So, I told him how he should be downloading a decent security, malware. He's lost thousands of pounds, poor man."*
>
> (George, Visit 2, July 2019)

Iain, who was developing his own purpose-built smart home, was motivated to do so, not just to improve his capabilities, but to reduce his dependence on the State.

> *"Given his MS [multiple sclerosis], Iain was reliant on carers several times a day to help him with daily living tasks such as cooking and cleaning. He was reluctant to rely on more visits from carers to assist him in the future. Iain was a 'good member of society' in his younger days, working as a local solicitor in various locations around Scotland. Although he accepted his MS, Iain was always clear that he did not want it to define him; his MS was simply one aspect of his life. As such, and because he had the financial means to do so, he attempted to reduce his burden on wider society (i.e., carers) by building his digitalised home."*
>
> (Condensed fieldnote from visits with Iain, 2019)

There were therefore several ways in which our older participants demonstrated frontstage performances of being a 'good' older person. For some, particularly those with partners and/or children this performance of a 'good' older person role was further expanded via their relationship with their child(ren).

The good parent/ child relationship

For our older participants with children, there was a united desire to be a 'good parent'. This included hiding the extent of their (potentially risky, as viewed by the child) activities, their everyday difficulties with their devices, and/or their health concerns. Maintaining this 'protective shield' helped our older participant retain some control of their identity, as 'good parents' in protecting their children. Some also afforded their children the opportunity to perform the role of 'good child', helping their parents with healthcare and daily activities.

For instance, an Alexa™ was used as a way for Geoff to be entertained and to allow his stepdaughter an additional means of contact with him and his wife.

> *"It's quite clever. It tells you the time. It tells you the weather. You can use it as a phone. If Tracey* [Geoff's stepdaughter], *Anne's daughter is at home and wants to talk to us but doesn't have her phone, it goes beep and you just press it and you just say, 'yes' and you can talk to each other. It's really clever. Her and the kids bought it for me for my birthday. It's absolutely brilliant."*
>
> (Geoff, Visit 4, September 2019)

And for Georgette and Lynne the devices enabled a form of independence for each of them.

> *Rachel: "When I went to see Lynne, she was joking that she'd have you all tagged and stuff. At least she hasn't done that. The camera isn't as obtrusive as that."*
> *Georgette: "Oh yeah, she'd be in jail. Oh aye, she's got one in the lobby and one here."*
> *Rachel: "It gives her peace of mind."*
> *Georgette: "Oh aye, that's it. If it wasn't for Lynne, I would never have half that stuff at all. I would never think about it."*
> *Rachel: "Yeah, often it's not if you want it or not, but if you know about it."*
> *Georgette: "That's a certain thing too, right enough."* (Georgette, Visit 4, November 2019).

These examples, of Geoff and Georgette interactions with their devices and their children, highlight that the performances can be both two-way. For instance, whilst Geoff was excited and saw the benefits of using the Alexa™ suggested by his family, for Georgette, it appeared this performance was undertaken to give peace of mind to her daughter Lynne.

The findings showed that the role of a good parent can be performed in different ways for different audiences. As Geoff lived with his wife Anne, whilst Georgette lived alone, there was perhaps a greater need for Georgette to be a good parent and accept the devices to give her family peace of mind – to highlight that she could live alone and was not a risk to herself. The good parent role can be extended include caring for pets. For instance, as well as offering companionship and routine, the caring for, walking and feeding of their dogs was emphasised that they could still care for others.

The other side of the coin here is the role of 'good child'. Within the 'good child' role, the children of our older participants tried to satisfy two aims by introducing devices into their parents' home: firstly, to satisfy their parents' desires to age at home independently, and secondly, to reduce their guilt concerning their ageing parent's health deteriorations. This is illustrated below by a fieldnote and interview excerpt from a visit to Georgette.

> *"Lynne is keen to try and get her mum to use more technology in her home, for her own peace of mind, and to help her mum. She's looking at things like Alexa™, as you can get an Alexa™ with a screen so you can sort of Skype call."*
>
> (Fieldnote from Visit 1 with Lynne, July 2019)

Yet by the third visit, in reaction to her fall which Georgette had since the prior visit, Lynne had bought an Alexa™ for Georgette.

> *Rachel: "So, Lynne didn't convince you to get an Alexa™ yet?"*
> *Georgette: "Oh, be quiet, she bought one! She said that last night on the phone. I said, what you wasting your money for? She said it's not wasting money; I got an offer. Oh jeez! I had an Alexa™ on the Kindle™ and I wouldn't have thought anything of it but having it on the Kindle™ as well!"* (Georgette, Visit 3, September 2019).

However, this 'good' child role also often included learning how to use, maintain and fix the devices for their parents when problems arose. Thus, there are multiple facets to the good parent and child relationship, just as there was in the relationship between older person and their partners/carers which we turn to now.

The good partner or carer

The good partner role can be highlighted via Geoff and Anne's relationship, and consideration of their roles. Although, similar to the role of a 'good parent' and 'good child', the 'good partner' role differs because they live within the same house. When the home would in other cases be the backstage, the private space in which the older person can be themselves, the existence of a partner or carer in the home changes this as is illustrated below by Anne and Geoff's experience. It is also important to recognise that although Geoff was independent in many ways, Anne was legally recognised as Geoff's primary carer.

> *"The only thing he's not allowed to do is use the shower when I'm not here, which he has done once because I was late getting back. 'Could you not have waited?' 'No'. That's it you see, if he wants to do it, he will, he's a bit stubborn. He does it when he wants to, not when I do. That's the bit I get a little uptight about because I think to myself, you're putting me under pressure. If I go out shopping, he'll ask how long I'll be and I'll say about two and a half hours. If I'm back before then that's fine, but if I'm not…"*
>
> (Anne, Interview 2, July 2019)

Like the good child, the good partner or good carer may need to take on the role of 'technical assistant' in knowing how to fix and maintain the technological devices in the home. As illustrated below, this was a role that Anne had not expected, but she had to learn and adapt as she continued to care for Geoff at home.

> *Geoff: "You can manage most things."*
> *Anne: "Yeah, I manage most things, it's just sometimes silly little things like…".*
> *Geoff: "I was saying about the Synaptic thing when you phoned…".*
> *Anne: "Oh yeah, when I phoned when he had a problem with his Synaptic and I phoned. I did say to the man, 'You've been very patient'. He said, 'It's alright, I have all the time in the world'. I said to him 'What's wrong' and he said, 'You need to tap it three times quickly', and I didn't do it quite quickly enough. He said, 'Try again, don't stress over it, just take your time'. Anyway, we got there. He said do this and do that and we sorted it. I went around to my son-in-law because he couldn't get into it and it said, 'Ahh, I didn't tap it quick enough'. If he'd have tapped it, we'd have been okay. Sometimes there's a couple of little things that go on with it and I think please, please, and cross my fingers and click it and nine times out of 10 it works."* (Geoff (and Anne), Visit 2, July 2019).

These good partner/carer examples highlight that the use of digital devices requires changes in routines and behaviours (i.e., performances) from not only the older person but also those in their wider network, especially when they cohabit the same space.

Frontstage summary

For all of these 'good' roles, older people often agreed to adopt certain smart and assistive devices in their homes to transfer some power to their children, reduce their children's guilt, and to present themselves as responsible older people who were both aware of their limitations but still eager to live independently. The effective portrayal of these 'good' roles was reinforced, and often only considered believable, with simultaneous concealment of a range of backstage roles, which will now be explored.

The backstage roles: Under increased surveillance

Backstage areas are traditionally those which are off-stage, where performers can behave more naturally with no audience. In this case of digitalised homes, however, these backstage areas are still often under surveillance. We now reflect on how our older participants concealed their true experiences of ageing.

Disguising ageing

Our older participants went to significant efforts to be 'good' people/parents/partners and presented themselves as assets to their families, communities, and wider society. However, there were instances when this was eroded, and the identity of being a 'burdensome older person' was apparent.

Some of the older participants, when experiencing ill health, tried to disguise it, or the extent of illness from their families, to avoid worrying them. As the following exchange between George, and his daughter Kate shows, this had the opposite effect, leading family members to put extra supports in place, whether additional devices, or by gaining more knowledge about how to support, as illustrated here by Kate.

> *"He has heart attacks, and he could quite easily have another heart attack. But what can you do? We were due to go away to…Eyemouth or something, within the week of that last event happening, but we went anyway. Unbeknownst to him, I did locate on my Satnav where the closest hospital was."*
>
> (Interview with Kate, November 2019)

Kate also explained that her father did not use his intercom system[1] as he should; instead phoning the emergency services directly. As such, she was often reliant on him giving her the right information about his health via mobile phone.

> *"The last time at Easter, he thought he was having a heart attack, I'm not sure he actually used the box, he probably didn't and probably just phoned 999. I'm sure they would have expected them to maybe have done that but I'm not sure if he did. All I get is a phone call, very matter of fact, 'I think I'm having a heart attack, yeah but I've phoned them they're on their way'. I'm like 'okay….'"*
>
> (Interview with Kate, November 2019)

To overcome this lack of information, Kate started to rely on her father's activity log on Facebook to know he was okay:

[1] The intercom system was linked to a fall alarm which contained a cord for George to pull in an emergency.

"Certainly, I am hugely grateful for the things that are assisting him to live how he does. For me to feel a little bit of security in the fact that if, for instance, he doesn't do what he should when that green light goes in the morning, somebody's on the case because we can go a few days not having much conversation. I know he's active because I can see he's been on Messenger, and on Facebook. God knows I know he's been on Facebook! George White shared, George White shared, George White comments. So generally, I know he's alive, but I'm really grateful knowing that he has that tech and people on call essentially. That's great!"

(Interview with Kate, November 2019)

Kate was relying on Facebook via her phone/laptop to check that her father was safe. The quotes above also highlight that the original device (the alarm system) had, as far as Kate was concerned, not been fit for purpose. Indeed, George appeared unaware of Kate's feelings towards his lack of cord use or at least the extent of her feelings. Instead, he tried to hide his feelings of burden and embarrassment over the accidental use of his fall cord with humour.

Rachel: "Yeah, and you see the way you've got the cord for the alarm. Does that make you feel that someone is always sort of listening?"
George: "Awk it does give me a sense of security. I have used it before, not that I meant to. But I remember, it got tangled up in my electric drill when I was doing something, and they were immediately on the intercom saying, 'are you alright Mr White?' And I had to say, yeah, stupid tradesman got it tangled up in his tools." (George, Visit 4, October 2019).

Thus, George and Kate's experiences with his devices differed in several ways. They could each see the benefit of the devices, but also recognised some downfalls which connected to feelings of burden and differing degrees of concealment (i.e., associated with backstage spaces and roles). In other interactions George expressed concern about being monitored by carers and/or community alarm staff and was seemingly unaware that Kate was keeping an eye on him via Facebook. In terms of Goffman's dramaturgy approach, this example of George and Kate highlights the differing experiences of a single event, but also the role of the audience in this situation. For George, the audience he is performing for is mainly the fall alarm company (i.e., joking about his accidental cord interactions). Additionally, he is maintaining some control of his heart attack situation by not using the alarms, and phoning Kate himself after the incident has occurred. However, Kate is not necessarily convinced by this 'performance' (hence checking Facebook), which also creates another audience that George is not even aware of.

Anne expressed the burden of becoming a carer for Geoff. We recognise this as a backstage role that Anne could not share with her wider circle of family or friends.

Anne: "There's nothing you can do about it, it's life.
Rachel: "It [the sight loss] affects both of you."
Anne: "It does. Sometimes people don't always see that. They just expect you to be you and get on with it. I sometimes think my daughter thinks that 'oh well, mum you have to get on with it', although she always says how am I. I never tell her if things are not quite as they should be as I don't want her to worry." (Geoff (and Anne), Visit 4, November 2019).

Anne highlighted that other people often do not realise that when your partner gets ill it has an impact on you (as the primary carer) too, but you just must 'be okay with it'. It also reinforced her desire to be a good parent (i.e., in not telling her daughter if things were tough). Anne also spoke of fears of not being able to leave Geoff alone for long, because he would insist on doing certain activities even if she was not at home, such as having a shower.

Anne: "I go out on a guild trip every year, but I only go if I know it's alright with my daughter. It's normally the first Monday in June when the kids are off, and most people are off work. I don't know why but it's just something they do in Scotland. But he always goes there for tea, and I leave him something for his lunch, and the kids pop in. It works fine. But people say do you worry about him today, and no I don't worry about him today. It's always there because I know he'll have walked the dog when I left and then he'll come back and he'll potter around, and put the telly on, probably have a sleep, have a bit of lunch, and walk Charlie and come back. It's fine." (Geoff (and Anne), Visit 2, July 2019)

These changes to, and loss of, identities are intertwined with prominent stereotypes of retirement and old age. Our older participants did not want to be identified by such stereotypes, such as their increasing age, or disabilities, and instead emphasised other aspects of their identity, such as their contributions to their families and wider society. However, these attempts to play down the impacts of ageing or health concerns did not always succeed, as was evidenced by Kate relying on her dad (or Facebook) directly to tell her about his health concerns or locating the nearest hospital as a precaution during their trips together.

Backstage summary

To summarise, a backstage space exists within these settings and this space has a different audience to the frontstage space. The specifics (and outcomes) of the relationship between the audience and the older resident is informed by data from digital devices and platforms which are initially utilised to support practices of care in the home. However, power dynamics also have a role to play in these relationships and associated outcomes, simultaneously leading to potential erosion or undermining of the front stage performance(s).

Discussion: Evolving stages, surveillance, and relationships

In this paper, we utilised the concept of dramaturgy to better understand how digitalised homes are changing the identities of, and relationships between, our older participants and their wider caring networks. Our older participants had to perform an increasing number of roles for an increasing range of audiences to convince others that they were capable and not a burden. Those in the wider caring networks were grateful for many of the smart and assistive devices which they perceived allowed their older family members more independence, capabilities and opportunities in their homes and lives. However, the use and uptake of these devices meant that the wider caring network played new roles which had an impact on their identities and everyday lives, such as carer roles, technical assistants, or observing via digital data (Facebook posts). We found that our older participants had to work harder to convince their audiences of their roles and identities in (increasingly) digitalised homes. These networks were important in helping to decide which older identity was accepted by both themselves and by the older residents. Such networks also helped establish the level of (dis)empowerment that the older residents could experience in digitalised homes.

Thus, multiple roles were played simultaneously, perhaps necessarily with the increased surveillance and the lack of privacy created by many smart and assistive devices. Relatedly too, there was often not a clear divide between frontstage and backstage roles, instead, they were relational and the degree to which the frontstage arena increased impacted on the degree to which the potential for a true backstage could occur/ exist. As such, we offer three areas for further discussion: (1) the increased frontstage and reduced backstage; (2) changing degree of surveillance; and (3) changing relationships.

Increased frontstage and reduced backstage

This paper has highlighted that multiple roles were undertaken simultaneously, for different audiences. These audiences may have different expectations from the performances, which may conflict with the expectations of another audience. Digitalised home devices are percolating backstage spaces, transforming them into places of increased surveillance and decreased privacy. This change was (at least initially) accepted by our older participants apparently due to resulting

opportunities for independence. Members of the wider caring networks were critical in this (i.e., 'it's in their best interests'). We now discuss this further, to show how dramaturgy is not just a useful frame for understanding the context of these various roles, but how the concept of dramaturgy itself could evolve better to consider the impacts of the reduced or absent backstage. For instance, if a performer has nowhere 'safe' to drop their mask, are they then always performing? And what are the implications of such sustained performances?

Our older participants were simultaneously navigating the health declines of older age (Fausset, Kelly, Rogers, & Fisk, 2011), pressures from their caring networks, and from society to behave in a particular way (Peine & Neven, 2020). They were increasingly being monitored through devices, were willing to 'put up with' more devices at home to prevent a move to a care home. However, with so much monitoring and surveillance, we argue that the difference between a fully monitored home and a residential care home decrease. As society becomes more risk-averse (Batteux, Ferguson, & Tunney, 2019), the settings in which our older participants had to perform the role of capable and independent older persons were increasing, but in different ways. In Goffman's terms, the space for the frontstage and the performance was increasing. Accordingly, and to give a convincing performance, older people must let others (e.g., children, care workers, technology companies) into their backstage (i.e., their homes and bodies) to offer a capable frontstage performance. For example, Georgette allowing Lynne to place CCTV cameras in her home, or Iain using new digitalised home so he could do more at home (i.e., cooking) and appear more capable to himself and his carers.

We found that the stage and type of audience can also differ depending on the specific device, building on Neven and Peine (2017) work which highlighted that there is not simply a divide between older and younger people, but a division between how technologies are pitched to, and for, people of various degrees of ageing. We also found differences between motivation and expectations of using various devices between our older participants and members of their wider caring network. For instance, George using Facebook to maintain social connections, and Kate using it to monitor her father's activity levels. The differentiation of devices for self-fulfilment and monitoring and surveillance should not be considered as a binary, as older people can and do use a mix of devices in shaping their identities. As suggested by multiple authors (Katz & Marshall, 2003; Wanka & Gallistl, 2018), binaries of normal versus pathological older age, or functional versus dysfunctional, are outdated when considering smart and assistive devices. The increasing proliferation of devices have transformed previous ageing binaries into a continuum of more and less acceptable older identities. Now multiple roles and identities are performed at once, and these can be a mix of active and inactive roles (i.e., caregiver and care-recipient) which may create new issues for maintaining and navigating identity in older age (Fealy et al., 2012). On the other hand, the children, partners, and carers of our older participants were also wary about burdening their other friends and family with their concerns, either around their parent's situation or the pressure they felt. As such, a caring network is not self-contained. Individuals can play a key or supporting role in multiple networks, simultaneously highlighting, and hiding multiple performances, a circumstance that digitalised homes can further complicate.

Changing degree of surveillance

For our older participants, the audience may not be simply one segment of society, but all of society. As surveillance-focused smart and assistive devices (e.g., fall alarms, motion sensors) are now virtually all-encompassing, they becomes conspicuous (Sadowski, 2020). By this we mean that many smart devices which undertake surveillance are becoming common in society. Surveillance in some form is being carried out by (for example) those receiving the readings from the fall alarms, but also wider society as the fall alarm bracelets can signify to wider society that i.e., a person needs closer (albeit well-meaning) surveillance. Smartphones are another example of increased surveillance, in terms of when, where and what we browse on the internet. In this section, we discuss this changing degree of surveillance. Specifically, we touch on the difficulties sustaining credible performances, the increased potential for mystification, and a convincing manner. All these factors were denoted by Goffman as important elements for a front-stage performance.

Disempowering events could be hidden backstage (i.e., not telling a carer or family member if you had had a fall) but this becomes difficult within a digitalised home, as residents are more often 'on show'. The impacts of performing may therefore be emotionally draining and negatively impact the relationship between older people and their caring network, because of the visibility of the backstage. Our older participants were motivated to use smart and assistive devices to reduce their dependence and enable ageing-in-place, but they also enabled the continuation or restart of online hobbies. Thus, digitalised homes can be found to be both empowering and disempowering in this study.

For our older participants to take advantage of the opportunities that digitalised homes can provide in terms of independent living and enabling a reconnection to old hobbies, they were forced to 'play the game' through the performances that they focused on and those that they hid. This performance needs to be carefully constructed (Aceros, Pols, & Domènech, 2015). Whilst the choosing of what to share and what to hide also likely occurred in the pre-digitalised home, digitalisation has arguably increased the need for and intensity of such performances. To participate, older people need to mould their bodies into not simply 'busier, smarter bodies' (Katz & Marshall, 2018) but also create busier and smarter performances using those bodies, moderating their behaviours so that their performances are convincing. However, this moderation of behaviours can be disempowering if the older residents are constantly having to play moderated versions of themselves, which can have impacts on their sense of home (i.e., no longer a private backstage space) or their relationships with their wider caring network who are monitoring them.

Changing relationships between residents and their networks

Older people are increasingly being categorised according to their abilities to undertake activities (e.g., work, cook, clean, or dress themselves), as Katz (2000: 142) states, "activity is not just something people do, but … is a measurable behaviour whose significance connects the worlds of elderly people to the largesse of expertise". Inactivity (e.g., lack of movement) is also becoming increasingly measured (Lupton, 2016). We argue that digitalised homes are changing the lifestyles of older people, both in what they perceive is possible, and what others expect of an older person. Crucially these perceptions are not always aligned, hence the need for the performance of various roles with implications for their relationships (e.g., trust and dictating the activities and routines of the older person).

Drawing on an ethics of care perspective (Kim, 2010), the relational aspect of this caring activity is of utmost importance. In many ways, digitalised home living is a selfless act, but also a powerless one. Most of our older participants adopted devices on the recommendation of their families, who encouraged digital device use from a place of care. The older person adopting the devices and the family member encouraging their adoption are different forms of caring. The motivation for device introduction may be, at least in some cases, to reduce guilt felt by the child that they cannot provide more in-person support due to working patterns or living far away (Hine, 2019).

Many devices promoted for independence potentially highlight a negative view of older people (e.g., fall alarms), as burdensome and in need of care, but other devices (e.g., smartphones and virtual assistants) require fixing if something goes wrong. In highlighting lower physical ability, they necessitate higher cognitive ability. In our research we found that the technical assistant role was taken on by family members

and learnt over time, which some felt was somewhat of a burden (Hine, 2019). Akin to the work of Christine Hine (2019), we found that for our participants who were in parent/child relationships, it appeared to be a fine balance between retaining some, but not all, control. Such a role may also be fulfilled by a formal carer, however, the emotional bond, and hence the sense of obligation, may not be as strong (Kim, 2010).

To put this in the context of dramaturgy, many smart and assistive devices require frequent monitoring from the wider caring network to see if (a) appropriate behaviours are being performed, and (b) if a health emergency has occurred. Whilst dramaturgy is useful to explain the moderating behaviours of the older digitalised home-dwellers, it does not necessarily explain the behaviours of those in the wider caring network. The case of digitalising homes to enable care from afar then offers a potential extension of Goffman's theory. Exploring the audience's (in this case family members) behaviours as well as the person 'on stage' (whether front or back) are just as important to understand the impacts of such performances or moderated behaviours.

Conclusion

Our paper has highlighted some potential impacts on the relationships, roles and levels of surveillance that may emerge from living with smart and assistive devices. Through a dramaturgical analysis, we have been able to emphasise these potential changes using examples from longitudinal ethnographic data with older people and their wider caring networks.

Many of these smart and assistive devices can create additional amounts of surveillance (in a simultaneous quest for increased independence), which in turn may alter the relationships between device users and people in their caring network. It may also alter the behaviour of the older people as they can feel disempowered or not be their authentic self. The adoption of smart and assistive devices by older adults can signal that these residents need constant monitoring. Complexity is added when smart and assistive devices are utilised for unintended purposes. For example, CCTV cameras are not designed to alert viewers to unexpected events (i.e., a health emergency), rather they are used as a means of surveillance (Foucault, 1995) (i.e., behaving well because they do not know when they are under surveillance), and as evidence after an event has occurred (i.e., to see how a health emergency occurred). Thus, many smart and assistive devices may require both older users and their wider caring network to perform more often to ensure that any health emergency is (1) unlikely to occur, and (2) immediately noticed by the wider caring network if one does occur.

We highlighted that although smart and assistive devices and digitalised homes have the potential to improve the health and home experiences of older people and their wider caring network, these often created the need for additional (and perhaps unnecessary) care and surveillance. Their adoption also influenced the existing power imbalances between older adults, their devices and their wider caring networks. Instead, and as was also argued by Burrows et al. (2018), these devices can promote the potential for objective (i.e., when, this reality can often be merely subjective) reality, leading to moderating behaviours that impact the sense of home, identity, and ultimately potentially the quality of the relationships involved. In other words, the devices can present an event/situation as static and unquestionable, when it is merely only highlighting another view of an event/situation (i.e., what can be viewed on the CCTV camera, or what is monitored by the fall alarm). We argued that although dramaturgy is useful to highlight some of the simultaneous frontstage and backstage roles that older adults and their wider caring networks play, the concept fails to recognise the relational character of these roles and the imbalances of power and the impacts on the audiences or those conducting the monitoring (i.e., the family member). As such, this paper helps to extend Goffman's approach since many smart and assistive devices require constant monitoring by the wider networks to create a sense of security.

Given the increased attention on informal caring practices, digitalised homes and smart healthcare devices due to the COVID-19 pandemic and lockdowns, additional research exploring the power imbalances and unintended consequences (on older people and their wider caring networks) of digitalised homes and devices is required. Greater investigation of the 'double-edged sword' of surveillance technology where the risks and benefits of these devices to the health and wellbeing of those who use them and those around them can be fully understood, is urgent and vital.

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Declaration of contribution of authors

The paper was devised by RC and written by all authors. The data collection and analysis were carried out by RC.

Declaration of Competing Interest

The authors have no conflicts of interest.

Data availability

Data will be made available on request.

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