

'The Internet Both Reassures and Terrifies': exploring the more-than-human worlds of health information using the story completion method

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ABSTRACT

Lay people are now encouraged to be active in seeking health and medical information and acting on it to engage in self-care and preventive health practices. Over the past three decades, digital media offering ready access to health information resources have rapidly expanded. In this article, I discuss findings from my study that sought to investigate health information practices by bringing together the social research method of story completion with more-than-human theory and postqualitative inquiry. Narratives of health, illness and embodiment are powerful ways to portray people's experiences and identify the shared cultural norms and discourses that give meaning and context to these experiences. The research method of story completion is a novel approach to eliciting narratives that involve participants' responses to hypothetical situations. Participants were asked to use an online questionnaire format to complete three stories involving characters faced with a different health problem. This approach sought to identify the human and non-human enabling resources with which the characters engaged as they tried to address and resolve their problem, with a particular interest in how both digital technologies and non-digital resources were used. This analysis highlighted the affective and relational dimensions of humans' enactments of health, illness and embodiment. The stories surfaced the relations of sense-making, embodiment and care and how they are distributed between humans and non-humans. Agential capacities were closed off by elements such as too much information online creating confusion or anxiety, self-consciousness about the appearance of one's body, feelings of embarrassment and shame, or not wanting to appear to be too weak or vulnerable. Capacities for change, wellness and recovery were opened by finding helpful information, making connections with others and finding therapeutic spaces and places.

INTRODUCTION

When people experience medical symptoms or want to improve their health and fitness, they are often faced with the problem of where and how to find appropriate and helpful information. In the past, people relied on seeking the advice of friends and family, consulting a medical or other healthcare professional, accessing media coverage of health and medical topics, reading books written for lay people, or attending self-help groups. Since the advent of the internet, the World Wide Web, websites and online discussion forums in the 1990s,

followed in the 21st century by the emergence of mobile computing, Wi Fi, social media services, mobile apps and wearable devices (such as smart-watches and fitness trackers), members of the public have an expansive and constantly up-dated range of health information resources they can access. Many of these digital resources can also be used by lay people to create and share health and medical information with each other, rather than rely on medical experts. Digital health technologies are currently actively promoted globally by their developers and also by government health promotion agencies, educational institutions, workplaces and healthcare providers as novel and effective ways for people to find information about, promote and manage their health and well-being.¹ People are now often expected to be 'digitally engaged' patients and healthcare consumers, taking responsibility for learning about the best ways to support their health, physical fitness and well-being using digital information resources.²

Previous research on how people use digital health technologies have identified that searching online for health information has now become a very common practice for lay people across age groups in the Global North.^{3–6} The importance of online support groups, discussion forums and social media groups for providing information and emotional support of people dealing with medical conditions has also been demonstrated in a multitude of studies.^{3–8} It has been demonstrated in this literature that these kinds of websites, platforms and forums provide opportunities for lay people to not only readily find information but to share details about their own experiences with peers. This can be particularly valuable for people who are living with chronic illnesses or stigmatised illnesses such as mental health conditions.^{9–12}

The value of health apps and wearable devices for providing information to lay people has been less researched. However, a growing body of social research on people's use of apps and wearable devices has begun to demonstrate that these technologies can help people achieve better knowledge of their bodies and health, self-care and fitness goals. This research has also shown that health apps and wearable devices can also demand invisible labour from users, while some people consider them to be overly intrusive.^{13–17} For some intended users, health apps or wearable devices are viewed as irrelevant, as they do not offer the information or support people need, or are viewed as being poorly



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designed for the specificities of people's lives.^{13 18 19} Furthermore, critical analyses of health app and wearable device content and promotional materials have noted the focus on individual agency and responsibility they tend to adopt, as well as their tacit assumptions concerning the embodied capacities, priorities and lifestyles of intended users.^{20–22}

In this article, I discuss findings from my study that sought to investigate health information practices by bringing together the social inquiry method of story completion with more-than-human theory and related postqualitative inquiry. Building on my previous research that used methods such as interviews and focus groups to directly ask people about their use of digital health technologies,²³ I wanted to experiment with an alternative method that could potentially generate further insights into people's practices and understandings related to resolving a health problem. Having read some interesting literature on the story completion method, I decided to take up this approach to attempt to access the complexities and specificities of health information seeking and use.

Story completion is a novel way of eliciting narratives that involve participants' responses to fictional characters in hypothetical situations. The method involves providing a story opening ('stem') involving fictional characters and inviting participants to write down their version of what happens next. While story completion is beginning to gather interest and momentum in social inquiry, it has not yet been taken up to investigate digital health topics, and nor has it been brought together with more-than-human theory. Yet the emphasis in the story completion method on inviting people to think creatively and speculatively resonates with many recent uses of creative and arts-based methods by researchers working with more-than-human theory and postqualitative inquiry. In my study, participants were asked to use an online platform to complete three stories involving characters faced with a different health problem. This approach sought to identify the human and non-human resources with which the characters engaged as they tried to address and resolve their problem and engage in sense-making. In designing the study, I was particularly interested in exploring the extent to which digital health technologies were introduced into the story arcs in the context of other ways of experiencing, knowing and learning about health, illness, care and embodiment. I also wanted to recognise and acknowledge the more-than-digital elements of health information seeking and use, investigating how digital and non-digital sources are used in relation to each other. This enables a broader perspective that both brings narrative to bear on understanding people's health information-seeking and acknowledges the role of embodiment, affect and relational connections with other people and with non-humans.

In what follows, I begin by providing an overview of the story completion method. I then introduce the more-than-human theoretical perspectives and concepts I worked with when designing the study and analysing the stories. I go on to outline the study and present the findings, focusing on identifying the elements of affective forces and relational connections and how they contribute to opening or closing agential capacities when humans gather with non-humans as part of health information-seeking and sense-making.

The story completion method—venturing into new directions

Previous research using story completion

The importance of narrative has long been recognised in social research on health and illness and the medical humanities. Stories are viewed as a medium by which human life is animated and

moved forward, shaping what people understand to be possible or credible.²⁴ Story tellers inevitably draw on their own lived experiences, their observations and knowledge of others' experiences and broader discourses when generating their stories. Stories are always shared and co-produced actors in people's lives, creating and reproducing the social. They can therefore provide insights into the biographical and sociocultural dimensions of health, illness, care and embodiment. Research has shown that storytelling can be a means of expression, interpretation and sense-making related to health and embodiment, a conduit to recovery, a resource for healthcare providers and physical educators. Storytelling can also be used as a research method for eliciting and understanding people's experiences and the meanings and context of these experiences (see eg,^{24–31}).

The benefit of using story completion as a method for inspiring narratives is that it allows participants to respond creatively and imaginatively, but to do so in ways that do not require them to directly reveal details about themselves or their own experiences.³² Story completion has its roots in psychoanalytic therapy and quantitative developmental research, used to uncover psychological attributes of the story writers.³³ It was initially adapted by Kitzinger and Powell³⁴ for the purposes of qualitative social research using a social constructionist perspective and the analytical technique of discourse analysis. This new approach worked to orient the method away from individuals' experiences to examining the shared social meanings, assumptions and norms expressed in the story completions.³⁵ While the method has not been widely used in social inquiry, in recent years it has received renewed interest from qualitative researchers interested in its possibilities,^{33 36} particularly for eliciting social meanings in the contexts of practices of sense-making and lifeworlds.^{35 37}

Thus far, story completion has principally been used in critical social psychology research, particularly by feminist psychologists. Previous research has often employed the method to investigate sensitive or confronting interpersonal issues such as anorexia and bulimia,³⁸ heterosexual negotiations of sexual encounters,³⁹ sexual infidelity,^{34 40} men's body hair removal practices³² and people's motivations for weight-loss.⁴¹ Discourse and thematic analyses are the main approaches that have been used with the materials generated. The emphasis has been on identifying sociocultural meanings, values, norms and discourses in the stories generated by participants.

More-than-human theory and postqualitative inquiry

In my study, I departed from previous research using the story completion method by developing a method drawing on concepts derived from more-than-human theory and postqualitative inquiry. Medical humanities scholarship is beginning to engage with more-than-human theory, as evidenced by recent investigations into human-animal relations and health,⁴² the development of an 'affective bioethics' approach⁴³ and narratives of therapeutic spaces.³¹ My current theoretical inspirations when conducting investigations into health-related and bodily-related knowledges and practices are drawn from perspectives that have been articulated in a range of literatures, including those discussing vital materialism, environmental humanities and the politics of care. Postqualitative inquiry (also sometimes referred to as 'posthuman inquiry' or 'the critical posthumanities') is a term used to refer to an approach to social research that draws on more-than-human theory.

The vital materialism theory with which I am currently working and thinking has been developed in the literature on Indigenous and First Nation cosmologies^{44–46} and in feminist

new materialism scholarship: particularly the work of Barad,^{47 48} Haraway,^{49 50} Bennett^{51 52} and Braidotti.^{53 54} All these approaches share an onto-ethico-epistemological perspective⁴⁸ that problematises and expands the category of 'the human'. These perspectives also recognise the generative capacities of human and non-human encounters in creating forces and agencies that are distributed between these actors. From the vital materialism perspective, humans are always more-than-human, moving through the world and coming together in dynamic assemblages of humans and non-humans. When these assemblages gather, affective forces, relational connections and agential capacities are generated and distributed between the actors in the assemblages. Barad⁴⁷ uses the term 'intra-act' to describe the ways in which agencies are relationally generated in human–non-human assemblages. Affective forces are understood by feminist new materialists (drawing on Deleuze and Spinoza) as working to impel action, movement and response when humans come together with non-humans. Relational connections are made between the actors in assemblages in response to or as outcomes of flows of affective forces. Together, affects and connections generate agential capacities that work to open or close off specific responses and actions.

My approach to narrative involves a focus on the ways in which storytelling can facilitate attentiveness and co-becomings. In the environmental humanities, attentiveness is defined as a key attribute of ethical engagements with more-than-human worlds. Attentiveness is more than noticing. It is 'the cultivation of skills for both paying attention to others and meaningfully responding'.⁵⁵ Van Dooren *et al* draw on Tsing's concept of 'passionate immersion', which they interpret as involving 'attentive interactions with diverse lifeworlds', 'becoming curious and so entangled', 'learning to be affected' and thus perhaps to understand and care a little differently'.⁵⁵ The Bawaka Country collective similarly describes the importance of being aware of connections and relationships, staying 'alert to the world in all its complexity'.⁵⁶ In the Aboriginal Yolngu cosmology of Bawaka Country (North-East Arnhem Land), humans and non-humans are viewed as all interconnected, but individual actors in Country are also distinguishable from each other: they have their own stories, experiences and knowledges. Actors intra-act with each other, generating new stories, experiences and knowledges—or co-becomings.⁴⁶

Scholarship on the politics of care has also contributed to my thinking about how narrative and poetic methods can be used for social inquiry. The work of Maria Puig de la Bellacasa employs new materialism approaches to understand care as a more-than-human phenomenon. Drawing in particular on Haraway's work, Puig de la Bellacasa calls for de-centring human agency in caring practices and recognising the distribution of capacities in human–non-human care assemblages. As she observes, thinking with care not only involves directing attention to the intersections of humans and non-humans in caring relations. It can also mean speculating on how things can be different.⁵⁷

Thinking with these more-than-human perspectives can generate a different perspective on the role of stories and storytelling in meaning-making and sense-making and human experience. Arts-based methods can be important access points for these curious and immersive experiences. So too, telling people's stories is an important way of becoming passionately immersed in their experiences and conveying their stories to others.⁴⁶ Storytelling 'has the potential to draw others into new relationships and accountabilities'.⁵⁵ Knowing other humans and non-humans better can be a way of cultivating 'worlds of mutual flourishing' and 'crafting better possibilities for shared life'.⁵⁵

The first step in this process is to acknowledge and identify the interdependencies and distributed agencies of human–non-human gatherings. This includes devoting attention to the social, cultural, political and ethical dimensions of care assemblages, and the affective forces and relational connections that emerge from these assemblages.

From a more-than-human perspective, therefore, just as research can be considered an assemblage,⁵⁸ the narratives created in the process of story completion exercises can be considered to be story assemblages that are generated in more-than-human worlds. These are elements of social inquiry that have long been recognised by critical qualitative researchers and are currently emphasised in the development of postqualitative inquiry. For scholars working in postqualitative inquiry, the very definition of research 'data' is subjected to critique, as are the positivist notions of validity, rigour and reliability in analysis of research materials.^{59–63} Instead, the focus turns towards the interpretation of experience and ideas by 'thinking with theory'⁶⁴: both in terms of how research participants interpret their lived experiences and ideas, and how the researcher analyses participants' interpretations.^{59 63} Denzin describes this approach as directed at identifying 'traces of presence' and 'making the mundane, taken-for-granted, everyday world visible' through interpretative practices.⁵⁹ This approach assumes that meaning and interpretation are always moving, partial and emergent, so that there can never be a final version of a performance, idea, feeling, action or practice and the other phenomena that make up humans' experiences of being-in-the-world.⁵⁹

Bringing together the story completion method with vital materialism theory is a way of encouraging researchers and research participants to engage in a process of co-becoming to work towards creating worlds of mutual flourishing. Inviting people to complete stories engages them in a mode of storytelling that encourages them to enter the worlds of the people in the stories, emphasise with them and imagine their futures. In doing so, story writers are responding to the stimuli provided drawing on their own embodied sensations and affective forces from their lived histories of health, embodiment and care. For their part, researchers are responding to the topics and interpretation of the stories generated by their participants in their own biographical, embodied ways that will be unique to every researcher. The very decision to choose the method of story completion is a result of the biographical and embodied elements of a researcher's life, as is their choice of story topics. It may be difficult for researchers to fully understand or articulate what drives their interest in the topics and methods they choose to research, whatever approach of inquiry they adopt. From this perspective, the researcher and their experiences, feelings and bodies should be considered co-producers of the story assemblage: along with the story writers and their lives, the materials used to record the words of the stories (analogue or digital) and the methods chosen by the researcher to interpret the stories. The stories and the interpretations of the stories emerge through these assemblages.

STUDY DETAILS

The objectives of the story completion study outlined here were to investigate what sources of information people would think of for their narratives and to contextualise these sources in the complex biographical and social dimensions of people's everyday lives. I was interested in the role played by digital technologies in the broader sociocultural environments in which these technologies may be used—or resisted or taken up but then discarded. These broader dimensions include identifying the affective

aspects of seeking health information to deal with a problem or challenge, the social relationships and connections involved, the role played by the affordances of health information technologies and sources and the multi-sensory experiences of health, embodiment and care. Affordances is a term that is used in media studies to describe the ways in which objects such as digital media and devices are designed with particular imagined uses, inviting users to engage with them in specific ways.⁶⁵ In developing this approach, I view the affordances of technologies and other things as intra-acting with the affordances of fleshly bodies in ways that may open up, or alternatively, close down agential capacities.²³ How did all these elements come together in the stories to generate agencies and what were the resistances or barriers to successfully achieving changes or improvements in health and well-being?

Using the SurveyMonkey online questionnaire tool, I created three story stems, each one inviting the study participants to respond to a scenario involving a hypothetical person who was dealing with a situation in which they wanted to improve or otherwise change something about their health and well-being and work out how best to achieve this. Drawing on my own and others' previous research on people's use of digital health technologies (some of which was reviewed earlier), I decided to use three stories because I wanted to include two common health problems or concerns (general health and physical fitness, mental well-being) as well as a sensitive health problem that can be difficult to manage because of its stigmatised nature (sexually transmissible disease). This allowed for participants to respond to story stems about quite different health problems, without over-burdening them by asking them to respond to too many.

Choosing to use three stories also enabled me to include one character each who was readily identifiable as female and male and another whose gender was ambiguous to enable a diversity of genders to be included. The gender of the first two fictional characters was made apparent from the use of the common (at least in Anglo-European cultures) names Isabelle and Tom, while the third fictional character was given the name of Alex as a gender-neutral option. No details about the age, geographical location or sexual preference of any character were provided, as I wanted to avoid restricting participants' responses by specifying these details.

Patient and public involvement statement

The project was approved by the University of Canberra Human Ethics Research Committee. The SurveyMonkey weblink created for this project began with an introduction to the study and an opportunity to agree to participate. Once this agreement had been provided, participants were guided to the next section, where they were asked to complete standard sociodemographic questions (age, geographical location, ethnicity/race, level of education). They were then provided with the following instructions and prompted to use an open textbox provided with each story stem, into which they typed their story details. Each story was revealed once the preceding story had been completed, so participants were unable to see all the stems simultaneously. However, they were able to go back to revise their responses if they chose before submitting their responses.

The wording providing on the Survey Monkey weblink created for the study was as follows:

Please read the following hypothetical stories and complete the story by writing in full sentences. Be as creative as you like—there are no right or wrong ways to complete the story.

1. Isabelle wants to improve her health and fitness but doesn't know how to go about this.
2. Tom has been feeling unusually sad and anxious for a few months. He wonders whether this is normal and what he should do about it.
3. Alex has been sexually active over the past year and has recently noticed some unusual symptoms that could be signs of a sexually transmissible infection (STI). Alex needs further information to work out what is going on and what to do.

What happens next? (Please write four or more sentences in the box provided below to finish this story.)

A total of 43 participants took part. They were recruited via my Twitter networks and a Facebook group on innovative social research methods that I convene. I attached the link to the SurveyMonkey project tool, announced that I was experimenting with using the story completion method and asked whether any of my followers would be interested in participating so that they too could see how the method operated from the perspective of someone completing the stories. I closed the project after 2 weeks, after having read through the stories that had already been completed and deciding that there was enough material to generate some interesting analysis.

The participants' sociodemographic characteristics were reflective of the kinds of people who follow my Twitter feed and have signed up to my Facebook methods group. The participants were mostly in the 30 to 49 years age group (25 people), with two participants aged between 18 and 20, four aged between 21 and 29, and 12 aged over 50 years. Thirty-seven participants identified as women and six as men. All participants had university-level education. Most participants came from Australia (13 participants) or the UK (12 participants). Six were from North America, five from continental Europe, three from Asia, two from Africa, one from the New Zealand/Pacific region and one from South America. In terms of ethnicity/race, the majority identified as white/Caucasian (34 participants), with seven people identifying as Asian and two as mixed ethnicity.

Analysis

Adopting a more-than-human theoretical perspective to bear to think with the stories that are generated from this process directs attention to the intra-actions between technological and fleshly affordances and the role of affective forces and relational connections in opening or closing off agential capacities when humans and non-humans come together and come apart. These approaches are different from social constructionist approaches to storytelling in acknowledging the agency of non-humans, and that agencies are not pre-existing but are distributed in and with assemblages of humans and non-humans. Bringing a more-than-human theoretical inflection to the story completion method allows for a specific micropolitical focus when designing participant activities and engaging in analysis of the research materials.

Working with these theories, my analysis sought to identify the entanglements and complexities of human-non-human intra-actions as they are enacted with and through people's storied imaginaries about how to deal with a health problem or objective. The stories were analysed from a theory-driven perspective—the 'thinking with theory' approach⁶⁴ advocated in more-than-human and postqualitative inquiry I outlined earlier. In my analysis of the research materials, I adopted the more-than-human perspective that generation of stories, like any mode of inquiry, are research assemblages.⁶⁶ Research assemblages are always partial and always created and made sense of from specific standpoints.⁶⁰ Even before the stories are considered as part of

a larger collection, they are co-productions and assemblages of meaning, practice and feeling. Stories are generated with and through gatherings of researchers, methods, participants, language and practices. Drawing on the relational ontology put forward by feminist new materialists^{47–50} and postqualitative researchers,⁶⁷ the stories can be considered as always relational: responding to the elements of these assemblages.

Analysing the stories, therefore, is also a relational task. The researcher seeks to discover relationships within the stories (the narrative arc and flow), between the stories (what preoccupations, feelings and practices reappear across the stories) and beyond the stories (what do the stories reveal about the broader sociocultural and political contexts and specificities in which they were imagined). Each completed story represents an agential cut, in Barad's⁶⁸ terms—a choice among infinite others of representation. My interpretation of the stories as presented in this article are also a series of agential cuts, as were the story stems to which I asked participants to respond. Therefore, all these narratives can be viewed as performances of sense-making and meaning-making. As the person conducting and writing the analysis of the narratives, however, I acknowledge that I have the ultimate power in making these agential cuts and thereby making the final interpretation of the participants' narratives as they are presented here.

I was particularly interested in the following concepts I have drawn from more-than-human theory: affordances, relational connections, affective forces and agential capacities. I kept these concepts in mind as I read through my participants' stories, acknowledging that these elements are always interacting when story writers are giving sense and meaning to the imaginaries they have been prompted to generate. My analysis involved mapping the figurations of these elements within and across the stories, looking for ways in which they are related to each other. In what follows, I first present an analysis of the story completion materials using quotations taken from the stories. As a way of structuring the findings, the analysis is presented under the headings of 'affective forces', 'online and app affordances', 'in-person affordances' and 'online with in-person connections', bearing in mind that these elements are inevitably intertwined.

FINDINGS

Affective forces

Affective forces were highlighted in most stories. All three characters were described as struggling with feelings of vulnerability in response to their attempts to address their health problems. The affective forces described in the narratives included: concern, dislike, self-consciousness, feeling judged, anxiety, guilt, shame, lack of motivation or enthusiasm, uncertainty, embarrassment, confusion, doubt, hopelessness, discouragement, vulnerability and fear, but also feelings of pleasure, happiness, enjoyment, trust, relief, reassurance, contentment, hope and accomplishment. Not all stories ended with a positive ending. Some story writers provided story arcs that ended with the characters accepting that their situation was too difficult to resolve.

Feelings related to physical appearance was a central element in stories about Isabelle. Several stories made reference to Isabelle being very self-conscious and embarrassed about the way she looked—too fat, not attractive in Lycra, owning only unfashionable or old and worn exercise clothes. She was therefore described as being unwilling to exercise where other people could see her. In these stories, gyms were presented as offering

little help to Isabelle or as actively avoided because she does not feel comfortable about inhabiting the space and exposing her body to others.

Isabelle hates gyms and group exercise because she always feels self-conscious, judged. If only there was a magic pill for loving fitness so that feeling self-conscious didn't matter. Whoever decided Lycra was a necessity didn't have fat rolls to deal with. (female, 40–49 age group, Australia)

Isabelle is also often portrayed as finding many images of fit bodies online, but then as losing motivation and becoming disheartened because the strategies she is presented with seem too difficult. She is then described as giving up her efforts to improve her health and fitness in response to viewing this content.

At first Isabelle does some internet research. She does some video searches on YouTube to see if there are any fitness videos that she might be able to use. None of it seems to inspire her. It all looks daunting and more trouble than it is worth. (female, 40–49 age group, North America)

Isabelle goes on Instagram suggestion page and clicks the 'Fitness' tab. 'GOD', she utters as she scrolls through the feed filled with exercise videos and snapshots of all the before-and-afters. Few more swipes later, she puts her phone down and rolls under her duvet. 'Well, forget that.' (female, 30–39 age group, UK)

Stories about Tom sometimes referred to his inability to deal with his feelings of sadness and anxiety, discuss them with others or seek professional help. Several stories described Tom's recourse to alcohol as a form of coping with his sad feelings, in the absence of any other form of help. He was also commonly described as feeling self-conscious and too ashamed or embarrassed to talk to other people face-to-face as a way of finding information or help. It was suggested in many portrayals of Tom that his struggles with challenges to his mental well-being included difficulties in communicating his feelings to other people and feeling alone.

Tom feels like he's the only one who feels unhappy and soon he starts feeling sad all the time. Tom's friends don't seem to notice anything, and he wonders whether the easiest thing to do is to just 'grin and bear it'. A few months pass and Tom is starting to feel a bit better again. He doesn't feel like he needs to really see anyone anymore, but he's aware that he hasn't really dealt with his underlying issues either. (male, 30–39 age group, UK)

These features of Tom's response to his dilemma typically described as it a problem related to him not being able to properly acknowledge or articulate his feelings:

Tom doesn't want to go to his GP; there's nothing 'wrong' with him and the last thing he wants it to come across like some sort of crazy, and he certainly doesn't want pills. Tom wants to talk to someone about how he feels, but he doesn't really know how to put it into words and doesn't want to make a big deal about it, and anyway he doesn't know who to talk to for the best. (male, 30–39 age group, UK)

In some stories, comparisons were made between Tom's situation and those of other men in his life who seemed unable to resolve their feelings of sadness or loneliness. These narratives suggested that the difficulties faced by Tom were associated with the expectations of normative masculinities and men's inability to communicate their feelings:

There's been a lot going on for Tom, work, relationships, friendships are not really making him happy. He's thought about his father and

how as he got older, he got more withdrawn and silent. Tom doesn't want to end up like that, everyone hated how his dad was back then. (female, 70–79 age group, Australia)
He googles sadness in men... it takes him about 5 years of therapy and experimentation to realize he is mired in toxic masculinity narratives. (female, 30–39 age group, Australia)

Other stories emphasised the negative social implications of men like Tom revealing their mental health difficulties, contributing to his reluctance to talk about his problems with others:

He had seen his workmates ridicule other blokes at the office who were diagnosed with mental health problems. (female, 40–49 age group, Australia)
What is this sadness anyway? He thinks about talking to his brother about it but can't get himself to do it. What would John tell him? Being the tough one of his brothers, John would probably tell him to grow a pair. No, this is not the way to do it. Maybe this just passes eventually. (female, 30–39 years, continental Europe)

The character of Alex was variously portrayed as female, male, heterosexual, bisexual, gay or lesbian or with no ascribed gender or sexual identity. Regardless of the gender or sexual identity ascribed to Alex, they were also often depicted as struggling with intense feelings. In this case, these feelings related to the uncertainty of their symptoms and the stigmatised nature of STIs. The character was frequently described as 'panicking', 'freaking out' or being 'terrified'.

Trying not to panic, Alex isolates himself in his home office to work out a list of places he has been and all the men and women he had met in the last few months. The list was rather substantial. Failing to stay calm, Alex calls the emergency hotline. 'I need help. Please, I think I'm dying. The internet says I don't have much time. PLEASE.' He cries. (female, 30–39 age group, UK)

In the Alex stories, the information they found online was often described as heightening their emotional state:

Alex stared at the pictures Dr Google presented – they were terrifying. (female, 50–59 age group, Australia)

Online and app affordances

Searching for relevant information online (often glossed as 'googling') was a common practice mentioned across the three stories as an initial way of managing the feelings inspired by the characters' dilemmas. Online information sources were sometimes described as helpful, informative or reassuring, but in other cases as arousing uncertainty, confusion, hopelessness or anxiety. Stories about all three characters often suggested that the internet offers a wide range of information, but it can be difficult to determine which is the most valid or trustworthy information source.

Isabelle seeks information. To do this, she googles 'ways to improve health and fitness' but finds way too much information. Some of this is contradictory, some confusing, some nonsensical. (female, 21–29 age group, UK)

One morning, as Tom waits for his coffee to brew, he takes out his laptop to find 439,000,000 results for his heavy-hearted Google enquiry – 'Am I depressed?' (female, 30–39 age group, UK)

It is notable that popular social media platforms such as Facebook, Instagram or Twitter and content-sharing platforms such as YouTube or Pinterest were not mentioned very often across the three stories. In the Isabelle stories, Facebook was mentioned

in two stories, Instagram twice and YouTube twice. Some of these stories outlined a scenario in which Isabelle finds helpful information on these platforms that she can then act on:

She starts by googling health and fitness for women, which provides some links to sites to visit. She opts to follow a link to YouTube where she finds numerous videos on a range of health and lifestyle activities. (female, 50–59 age group, Australia)

All the steps and advice are there in front of her on Facebook, and there are products and books she can buy, so she feels like she is investing in her future self. (female, 40–49 age group, Australia)

In other stories, it was observed although there is a lot of information Isabelle is able to access on these platforms, most of it is not particularly helpful. As noted earlier, in some of these stories, Isabelle is described as finding the online content she finds disheartening, as the fitness regimens and 'fitspo' bodies she sees seem too difficult to achieve.

Few other digital technologies were mentioned as resources in the stories. In stories about Isabelle, smartphone apps were mentioned in four stories and fitness bands only twice. These devices were represented as helpful for Isabelle to monitor her health and fitness, which in turn leads to greater motivation to pursue exercise routines.

Finally, Isabelle decides she just needs to do one thing to take the first step towards a healthier life. She starts to walk more every day and uses a step counter to help her track her progress. She notices an improvement in her sleep and energy, so this helps to motivate her to keep going. (female, 30–39 age group, continental Europe)

In Alex's case, the stories portrayed a certain ambivalence about the value of online information for their situation. Only a small number of stories ended with Alex feeling reassured by finding information online.

Of course, she googles the symptoms first. You don't want to go to your gynaecologist for no reason. And maybe this just goes away on its own. The google search was helpful, it doesn't have to be something serious, just an infection like Gardnerella or something. Annoying but easy to treat. She calls her gynaecologist to make an appointment. (female, 30–39 age group, North America)

In other stories, this information was represented problematic, particularly in arousing greater fear and anxiety. As one story writer put it:

The internet both reassures and terrifies Alex. (female, 40–49 age group, New Zealand/Pacific)

There was no mention in stories about Alex of apps or social media, and only two about online forums. In neither story mentioning online forums is this resource portrayed as helpful. In one story, an online forum is presented as serving only to exacerbate Alex's fear.

Alex googles it and gets even more paranoid – and writing an anonymous question in a health-something forum is not the best idea. (female, 30–39 age group, continental Europe)

In another story, the information provided by others in an online discussion group is depicted as helping Alex to work out what the problem is. However, the action Alex takes in response to advice they see on the forum is problematic, involving purchasing an alternative remedy that was advertised on the forum.

Alex googles the symptoms he is experiencing. He is led to a number of chat forums and he reads the comments to identify that he has indeed got an STD. He finds a natural product advertised that guarantees to clear it up in 10 days. He gets his credit card out and orders some as he is too embarrassed to seek traditional medical help. (female, 50–59 age group, Australia)

While the stories about Tom often described him as seeking information online using Google Search, story writers did not refer to him using social media such as Facebook or content-sharing platforms like YouTube. However, a small number of stories portrayed discussion forums as providing important emotional support for Tom. This resource was presented as connecting Tom online with other people dealing with similar problems and experiencing relief at realising that he is not alone.

He googles depression and is worried by the answers he sees. Things don't get better. He joins a forum where he talks about how he's feeling with other men. After a while he starts to feel better but continues to use the forum where's he made supportive connections with others. (female, 40–49 age group, UK)

One of Tom's stories mentioned an app, but it is represented as contributing to rather than ameliorating his feelings of failure and sadness.

He starts to google 'sadness' and 'anxiety' – there are a lot of results and he feels a bit overwhelmed. The results often say to practice mindfulness, so Tom downloads an app. The app seems to promise all sorts of things, and although Tom tries, he just can't get into the meditation and mindfulness. He wonders if it is just him – is he a failure at life? (female, 40–49 age group, Australia)

In-person affordances

The affordances of in-person social networks were important in many of the stories. The role of friends and family members in offering emotional support, understanding and advice was a central element in the narratives. Several stories described Isabelle as seeking advice from friends in the first instance about what she should do, especially those who appeared to be regular exercisers, and following their example. In other stories, Isabelle finds a friend or relative who is willing to exercise with her, thereby helping her be motivated and overcome feelings of shyness or self-consciousness.

She decides to speak to her friend Sally who seems to be very active and looks very healthy. Sally says that she enjoys running and being part of a running club. She invites Isabelle to join her on one of her runs. Isabelle finds running a bit of a chore but enjoys being outside. She decides to start thinking about other activities she could try outside and asks Sally to join her on a hike next weekend. (female, 30–39 age group, continental Europe)

Tom's social relationships were complex. In some stories, his in-person relationships with others were portrayed as contributing to his mental health difficulties, including his observations of how men were treated by others when they were struggling (described earlier). Some story writers also positioned Tom's difficulties as originating from unhappiness and stress in his workplace caused by co-workers.

Life at work changed drastically since the new manager was appointed. New routine, new rules and more administration. Tom realised that he has to make serious decisions about his future. He enjoyed his colleagues, but the work environment is destroying him. (male, 50–59, Africa)

In many other stories, however, for Tom it was the in-person relationships that he already has that help him the most. He is described as finding help by talking to a close friend, or more commonly, his partner about his difficulties. In some stories, Tom's partner is portrayed as taking action to encourage Tom to seek help from a healthcare professional.

Tom doesn't want to see a psychologist, he's not crazy, just having a hard time. But he's also seen lots of stuff online and on tv about the black dog and depression, urging people to seek help. Tom doesn't want his relationships to end, he likes his friends and his partner, but he's really struggling. He talks it over with his partner and they agree to see if they can find someone he feels ok to talk to about what to do next. (female, 70–79 age group, Australia)

His symptoms don't improve so his girlfriend hassles him to see the GP. She makes him an appointment and gets accessed for anxiety and depression and starts on a 5-session mental health plan. (male, 30–39 age group, UK)

As these stories suggest, face-to-face interactions with trusted others in one's social circle or geographical location can be important to motivate people to take the step to seek professional help or take up exercise or therapy and continue with it. General practitioners and other experts such as psychologists or fitness trainers were also important sources of connection as experts who could help with providing information, a diagnosis and therapies and with interpreting information that was provided from other sources.

Tom goes to the GP who suggests he might be depressed, they offer medication but after a discussion Tom decides to use diet, exercise and talking therapy first and to go back to his doctor in 4 weeks. Once he names his experience and is proactive in getting peer support things gradually start to get better. (female, 40–49 age group, UK)

Isabelle has never really fancied the gym but because her friend Wendy has been so helpful, she decides to give it a go and is inspired by the session with the trainer who makes reaching her goals seem possible. Isabelle joins the gym for 3 months to start with to see how it goes. She meets Wendy for decaf coffee at the gym which motivates her to go 3 times a week. (female, 50–59 age group, UK)

Friends and family were not often mentioned as sources of information for Alex, with the rationale provided that the character was too embarrassed to speak to people they knew. Alex would rather seek the anonymity of the internet and then see a medical expert if they judged it was necessary. Alex is also presented as being concerned that their partner would discover they might have an STI, so there is a need for secrecy:

I'd better get it cleared up before my boyfriend gets back from that work trip. He's gonna ask questions, and now's not the time to tell him I've been fooling around with girls. (Female, 40–49 age group, Australia)

Online with in-person connections

The story arcs also frequently presented a scenario in which the three characters first search online and then find opportunities to engage with others in face-to-face encounters, thus finding a solution to their health problem. Stories about Isabelle recounted her experiences of undertaking online searches that led to finding local gyms, exercise or support groups.

Isabelle looks on the internet for information. She discovers some local activity classes in her area. She joins a Pilates class and goes for her first session. (female, 30–39 age group, UK)

Stories about Alex recounted how after an online search they were able to find medical professionals to provide appropriate care. In many cases, the initial feelings of distress and fear that Alex is described as having when they google their symptoms are resolved by seeking expert advice:

Alex looks online and finds a clinic that offers STI diagnosis and treatment. It all feels a bit grubby, but Alex goes along and is pleasantly surprised by the staff and how easy it all is. (female, 70–79 age group, Australia)

At first Alex starts googling his symptoms, but this starts to worry him as he realises he could have something very mild or very serious and this is just making him more anxious. He tries to pretend his symptoms will just go away and ignores what his happening to him. His symptoms start to get worse and he finally decides to go to his doctor reluctantly. He finds out that he has an easily treatable STI and wishes he had seen someone sooner. (male, 30–39 age group, UK)

Some stories described Tom first searching for information online, reading others' accounts or advice and noting that several people online had found help from medical professionals, and then making an appointment with his GP.

Tom goes online and googles 'why am I feeling so sad and anxious?' He clicks on the first link that comes up in his search results, which is a forum where someone has posted about anxiety and depression. He reads the post and then googles 'anxiety and depression.' He reads two of the suggested websites in his search results, one about anxiety and the other about depression. Both websites suggest seeing the doctor as the first step to recovery, so Tom rings his doctor to book an appointment. (female, 21–29 age group, Australia)

DISCUSSION

The approach outlined in this article, bringing story completion together with more-than-human theory as a method of postqualitative inquiry, adds to previous research on people's use of digital health by approaching this topic in a different and more oblique way. I have experimented with an approach that does not directly ask people about their use of digital health. Instead, it encourages participants and researchers to co-produce narratives, and in doing so, develop attentiveness. As I explained earlier, attentiveness is a key attribute sought in more-than-human and postqualitative approaches to generating and analysing research materials. It involves cultivating skills of noticing and responsiveness. In practising attentiveness in constructing their stories, the participants in my study were considering how a fictional character might respond to a health problem, without being directly asked about the potential use of digital health technologies. They demonstrated sensitivity to the affective dimensions of responding to the challenges faced by the characters, in many cases drawing attention to the vulnerability of the characters and the poignancy of their situations. The stories they wrote frequently referred to the feeling states of the characters. The stories recognised and surfaced the affective and embodied challenges that continuing lifestyle behaviour change (in the case of Isabelle), coping with feelings of sadness if you are a man (Tom's story) and dealing with a sensitive and stigmatised health condition (Alex's story) can mount for people who are faced with these problems.

This approach also inspired responses that recognised the more-than-digital elements of finding information and support for health problems. Duff uses the term 'enabling resources' to describe the social, material and affective conditions working together when young people recover from mental illness.⁶⁹ My

study also identified enabling resources leading to assemblages of health. I was particularly interested in how the stories depicted the ways in which humans assemble with other humans and with non-humans to open or close off agential capacities. The stories demonstrate the vibrancies of fleshly and technological affordances, relational connections and affective forces as they come together in generating agential capacities.

Despite the current attention directed to the use of digital health technologies in healthcare and preventive health policy, the stories highlighted the integral role of in-person social connections as enabling resources. Many story writers outlined scenarios in which face-to-face connections with family, friends or healthcare providers were more helpful than online support. In the stories, searching online was portrayed as often leading to confusion or distress when people were confronted with a vast array of details or information that frightened them. The characters were frequently positioned as requiring in-person help to interpret online information or act on it. As previous scholarship on therapeutic places has demonstrated, place and space can be important enabling resources and contexts for health-related sense-making and recovery.^{31 70 71} Some of the stories highlighted the role of place and space in contributing to people's feelings of safety and security, or alternatively, their feelings of discomfort, anxiety, distress or vulnerability. These places and spaces included gyms, medical clinics, the workplace and the outdoors.

Therapeutic spaces can also be digitally-mediated,¹⁷ and this was evident in the stories. Online discussion forums were singled out over other digital media as key spaces where people could find reassurance, comfort, feeling less alone and solutions for how they should address or resolve their health problems. These findings build on previous research which has demonstrated the continuing value of online peer groups for helping people find both health information and emotional support, particularly for sensitive or stigmatising health conditions.^{9–12} Notably, social media, apps and wearable devices were not as prominent in the stories as were other digital resources. Some stories also outlined the close nexus between online and in-person modes of engagement with others, demonstrating that these modes often work together rather than being mutually exclusive. People came together with other people using the affordances of digital technologies and in-person engagements to solve (or in some cases, fail to resolve) their problems.

The complexity of negotiating health problems was also highlighted by the story writers. While many stories followed the traditional narrative arc of ending with a resolution to a problem, this was not the case for all. The stories about Alex were for the most part resolved more positively than those about Isabelle and Tom. Several stories ended with the character still not sure about how best to deal with their problem. This was particularly the case for Isabelle, due to the difficulties of taking up long-term lifestyle changes that would effectively lead to her being able to achieve her goals of improving her health and fitness.

While medical practitioners are mentioned in some Isabelle stories as a possible source of helpful information, in most cases, where stories present a happy ending for her, what works is trying just a small change, recognising what is most important to her, making a clear plan, taking the advice of friends and finding an exercise routine that fits well into her life or that she can do with friends. Tom's situation is complicated by the stigmatisation of mental illness, the constraints of normative masculinity, and not being able to find the right form of help for his needs. Many of the stories about Tom end with him accepting that he can't find help and that he just has to deal with his sadness alone, or at least learn to live with it. Where

Tom's story ends well, it is when he finds it in himself to seek help from other people. Of the three health problems outlined in the story stems, Alex's health problem was represented as most amenable to ready solutions of finding information and seeking the help of a medical professional, which then resolved the problem. Although Alex must battle affective forces of anxiety, embarrassment and fear, in most stories, this character manages to pluck up the courage to find help and be reassured or effectively treated.

CONCLUSIONS

In bringing together story completion method with more-than-human theory, I have developed an innovative approach that seeks to engage creatively to foreground the productive ways in which agential capacities can be opened for humans and the enabling resources that can be drawn on. This approach proved to be a generative way to engage with the complexities of health-information seeking. The analysis of the stories written for this study worked to highlight the affective and relational dimensions of humans' enactments of health and embodiment. The stories surfaced the relations of sense-making, embodiment and care and how they are distributed between humans and non-humans.

In summary, the agential capacities identified in the stories that work to resolve the characters' dilemmas including being able to find help, advice and appropriate care, make lifestyle changes, change habits and create new ones. These capacities were facilitated by affordances of such digital technologies as search engines, online discussion forums and information websites, but less so by social media, apps or wearables. The relational connections established in social relationships worked as key enabling resources: the value of friendship, being able to do things with other people or receiving support and encouragement from them. For Isabelle and Tom, finding ways to be with other people or to engage in simple exercise activities such as walking, dancing or swimming were integral to opening up their capacities to achieve better health and well-being, while for Alex, the opportunity to seek anonymous information and help online was an integral first step to resolving their problem.

Given the homogeneous nature of the participants' sociodemographic characteristics (overwhelmingly female-identifying young to middle-aged adults, white, highly educated and living in countries in the Global North), it would be interesting to use the same story stems with people from different social groups to see if there are any major differences in the ways that they may respond. There are many other possibilities for employing this more-than-human approach to story completion in ways that facilitate understanding of people's engagements with digital health, place and space and other enabling resources. Applications of the approach could invite healthcare professionals or tech developers to engage in story completions as a pathway to attentiveness and co-production of health sense-making and care narratives. A future-oriented approach, involving story stems positioning characters into worlds ten, 20, 50 or more years hence, would also potentially provide an intriguing way of inviting participants from any sector of healthcare and digital health to engage in speculative imaginaries concerning the development and application of technologies for health information-seeking and sense-making.

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