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Proceedings of the

QUIS17

The 17th International Research Symposium on Service Excellence in Management

Valencia, Spain
January 12-14, 2022

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

Congresos UPV
Proceedings of the QUIS17 – The 17th International Research Symposium on Service Excellence in Management

Los contenidos de esta publicación han sido evaluados por el Comité Científico que en ella se relaciona y según el procedimiento que se recoge en http://ocs.editorial.upv.es/index.php/QUIS/QUIS17/about/editorialPolicies

© **Publisher**
Editorial Universitat Politècnica de València, 2022
www.lalibreria.upv.es / Ref.: 6109_01_01_01

ISBN: 978-84-1396-019-7

DOI: http://dx.doi.org/10.4995/QUIS17.2022.15169

Hosted by:

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

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QUIS Paper Proceedings

We are pleased to edit the paper proceedings of the research presented at the QUIS17 conference. The research including 88 unique studies reflect five broad themes that provide new and important insights about the current and future challenges faced by service-intensive organizations. The first theme focuses on ***service design*** where scholars are examining the nature of and structural characteristics associated with shared services, service ecosystems, and a wide array of service contexts from public service and non-profit organizations to pop ups and B2B relationships. In addition, there is considerable emphasis on service innovation and the implications for design, primarily in response to the competitive conditions that have evolved over the past two years.

The second theme covers several traditional and emerging topics within the *consumer behavior, consumer experience, and co-creation area*. Continued attention is being given to constructs such as delight, involvement, and voice, as well as segmentation. There is also increasing attention to the co-creation process, including models that may be unique to online settings. Additionally, scholars are exploring more granular psychological and physiological explanations of consumer attitudes, values, intentions, and behaviors.

The third and fourth themes address *service technologies* and *business disruption* . The implications of digitization, robotics, and AI are being examined in numerous settings and contexts. In addition, research on environmental forces causing business disruption continues, particularly the ongoing consequences of and mitigation strategies for the current pandemic.

The fifth theme considers several important and emerging *sustainability* topics. Again, in response to the effects of the COVID-19 pandemic, many scholars are examining that factors that may influence employee mental health and well-being, especially among those in front-line, customer-contact roles. There are also several new developments in research on environmental impact and social responsibility that offer important insights for service settings.

The studies presented at the conference represent diverse methodological approaches, including literature reviews, bibliometric analyses, and conceptual papers. Empirical studies employing both quantitative and qualitative approaches were conducted in several different sectors, including tourism, hospitality, healthcare, retailing, and business-to-business. Some of the foundational theories used include neuroscience, service management, service-dominant logic, pragmatist sociology, consumer culture theory, and transformative service research.

Overall, the papers presented at the conference are indicative of the ongoing, emergent research conducted in the global service research field. We would like thank all of the QUIS17 authors for their contributions, and we encourage the service scholar community to build on the excellent work that is represented in these proceedings and continue taking rigorous steps to advancing the extant body of knowledge.

Kristina Heinonen, *Hanken School of Economics*
J. Bruce Tracey, *Cornell University*

More than 30 years have passed since the first edition of QUIS symposium was held in Sweden in 1988. QUIS takes place every second year and attracts around 200-250 leading researchers and executives from all over the world.

The QUIS symposium brings together the best interdisciplinary academic research and management practices in a forum to advance the study of service management, service dominant logic, service leadership, customer experience, technology and innovations in service.

The pursuit of service excellence is a never-ending quest by organizations seeking to achieve outstanding performance in their field. Benchmarking one's own approaches against other organizations best practices and gaining insights from their experiences are powerful means for enhancing results.

The objectives of QUIS' unique high-level sharing and networking events are to:

- Promote the continuing improvement of service quality in all economic sectors around the world
- Gather thought leaders from the international business and academic communities for an open exchange of insights and experiences
- Share and advance the state of the art in theory and practice through presentation and discussion of scholarly research and successful business strategies
- Provide a forum for intensive international dialogue between researchers and executives and to offer guidance for future academic study and business practices

In January 2022, QUIS headed towards Valencia Spain in its 17th edition, for what it was going to be the first major face-to-face service conference after the declaration of the COVID-19 pandemic.

The delicate situation in terms of infections due to Omicron variant in the last days of December 2021 and the firsts two weeks of January 2022 in Spain, resulted in a very difficult scenario and forced QUIS17 to turn to a hybrid mode.

I want to express my gratitude to the members of Organizing Committee, the Doctoral Consortium organizers and collaborators and the Conference Co-chairs, for their compromise in the success of this QUIS conference. Hopefully, the next editions will be in a complete face-to-face format. I also want to express my gratitude to all the researchers and participants, especially those who travelled to Valencia, for their positive input that have allowed us to gather this excellent event.

Prof. Marival Segarra-Oña (UPV)
Conference Co-Chair

QUIS17 has been hosted by Polytechnic University of Valencia in collaboration with School of Business and Management, VinUniversity, Vietnam; CTF, Service Research Center, Karlstad University, Sweden; Cornell University, USA; Yonsei University, South Korea and W.P Carey School of Business Arizona State University, USA.

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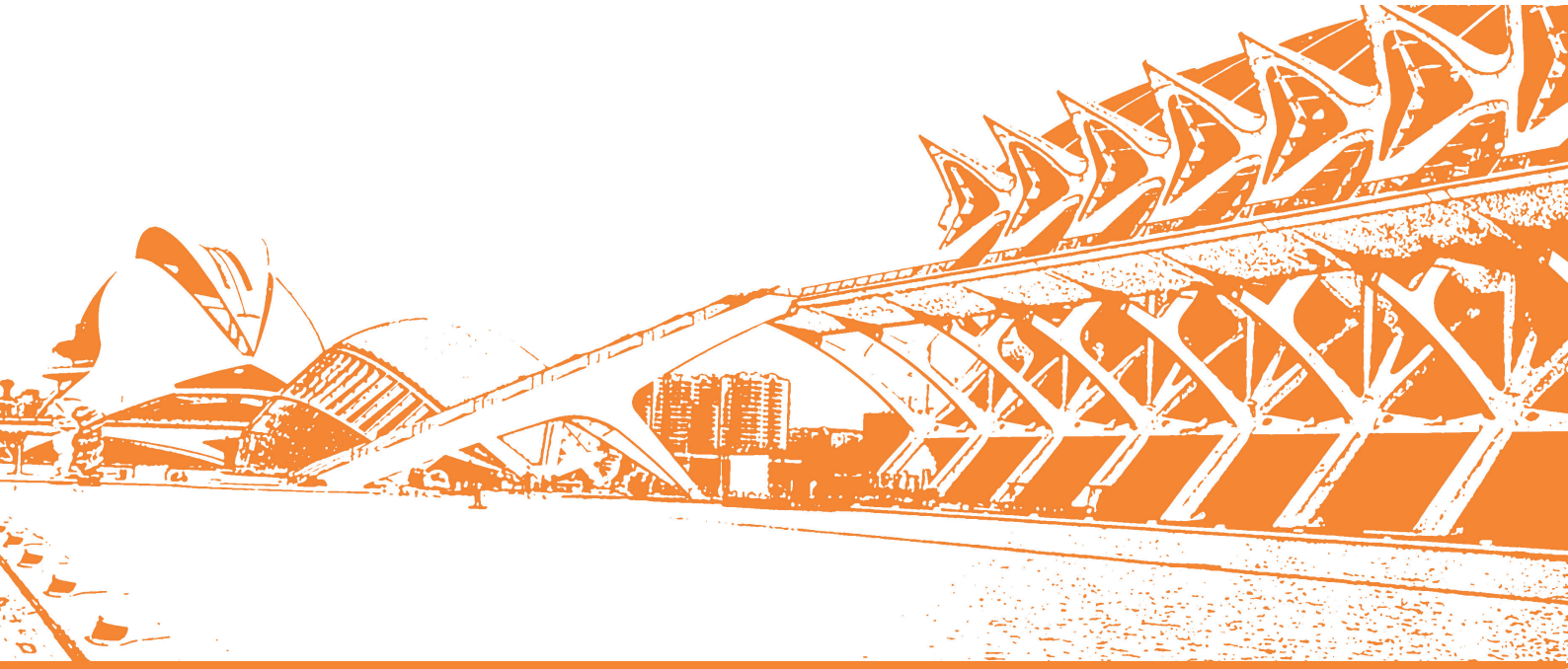

Service design

"LET'S KEEP TALKING": WHAT THE PANDEMIC HAS TAUGHT US ABOUT MENTAL HEALTH SERVICE DELIVERY

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ABSTRACT

This paper is based on an evaluation of a telemental health service, 'Let's Keep Talking', based in Liverpool, England. Telephone interviews were conducted with service users and volunteers, exploring both the utility of the service model in the pandemic context and its long-term viability. Findings highlight multiple benefits of this model, which has the potential to generate transformative change within the lives of both clients and volunteers. However, the particular benefits of face-to-face contact were also emphasised, ultimately supporting an argument for blended models of care. Key recommendations pertain to blended care and revisiting the service communications strategy.

INTRODUCTION

Long before the onset of the global COVID-19 pandemic, psychological researchers and practitioners were lamenting national and global 'epidemics' of mental illness, for which health services were already dangerously ill-equipped (e.g. Tucci and Moukaddam, 2017). Despite large-scale attempts to increase access to psychological therapies in the UK since 2008, through the Improving Access to Psychological Therapies (IAPT) programme (e.g. Clark, 2012), mental health services have retained low rates of successful penetration, with long waiting lists and reduced services in many areas due to the impact of austerity measures (Cummins, 2018; Stuckler *et al.*, 2017). Furthermore, public mental health services in the IAPT era have been criticised for a 'one size fits all' approach, taking a narrow view of mental wellbeing and not allowing those with mental health issues to exercise real agency or choice (Dalal, 2018; McPherson, Evans, and Richardson, 2009; Morgan-Ayres, 2014; Newnes, 2016).

In addition to a general need for further and broader research into effective mental health service delivery, the specific question of the effectiveness of telehealth in delivering healthcare more generally has been of increasing interest. Questions relating to this form of healthcare delivery have been highly pertinent throughout the pandemic and particularly during lockdown periods, in which the importance of 'social distancing' to reduce the spread of the disease necessitates decreasing person-to-person contact as much as possible (e.g. Venkatesh and Edirappuli, 2020). Telehealth can also be beneficial in helping to overcome barriers associated with geographical location and time limitations (e.g. Perle and Nierenberg, 2013), and may prove effective as a longer-term solution to some of the aforementioned issues within the current UK mental health system.

In addition to reducing the accessibility of face-to-face services, the COVID-19 pandemic is also believed to have negative implications for mental wellbeing across the country. During the first lockdown, one survey found that 24 per cent of UK adults and 44 per cent of young people (aged 18-24) reported experiencing loneliness during the lockdown period (Niedzwiedz *et al.*, 2020), while the most recent predictive model developed by the Centre for Mental Health (in collaboration with the NHS) has estimated that up to 10 million people (almost 20 per cent of the population) in England could require new or additional mental health support as a direct consequence of the crisis. The majority of these are expected to need support for anxiety, depression, or both, with a significant number also struggling with bereavement and/or trauma (O'Shea, 2020).

While this is not a complete picture, with evidence that effects of the pandemic on mental health have varied drastically in accordance with socioeconomic factors (McBride *et al.*, 2020), the combination of additional

economic stressors, isolation, and reduced access to mental health services faced by many suggest that this is nonetheless an important area of enquiry. The Liverpool City Region, in which this study is based, has been particularly affected by both the chronic underfunding of mental health services and the government advice on shielding (Johnson and Aru, 2021; Tyrrell, 2021).

This paper is based on the evaluation of one telemental health service, 'Let's Keep Talking', a free telephone support service established during the early days of the pandemic and delivered by the Liverpool-based Psychological Therapies Unit. The service is entirely free and open to anyone in need. There are no long waiting lists and no assessment process to determine eligibility. Clients are also not limited on the number of calls they can receive, and call length is dependent on their individual needs and preferences, though these are generally limited to a maximum of around 30 minutes. Calls are centred around chatting with clients about what is helping them to keep going and how they'd like to be coping, also allowing space for people to talk openly about their issues without being told what to do.

This evaluation seeks to provide direct insights into if and how this specific service is effective, and more broadly, contributes to an emergent research base regarding the delivery of mental health services during the global coronavirus pandemic (e.g. Johnson *et al.*, 2021; Li *et al.*, 2020; Thome *et al.*, 2020). The purpose was to explore both the utility of the service in the current context and its potential long-term viability, seeking to establish if this was best understood as a temporary adaptation or a permanent transformation of service delivery (Berry *et al.*, 2020). We explore this subject through a Transformative Service Research (TSR) lens, seeking to understand the extent to which this form of telehealth has 'the ability to uplift and transform communities' (Ostrom *et al.*, 2010, p.10) and looking for evidence of transformative vs. habitual value creation (Blocker and Barrios, 2015). While habitual value serves to maintain order and stability, transformative value is associated with 'positive disruption' and meaningful long-term change (Blocker and Barrios, 2015, p.5). Transformative value creation can be especially important for people experiencing vulnerability, including many of those with mental health issues, who are typically less likely to realise maximum value from service encounters (e.g. Hill and Sharma, 2020; Mick *et al.*, 2012).

METHODS

Research design

After receiving full ethical approval from the University of Liverpool, researchers collaborated with the Let's Keep Talking team to gain access to participants. Different procedures were followed for client and volunteer participant groups, which are explicated below.

Clients: The service manager sent out texts to current and former clients, letting them know about the evaluation and asking if they would be interested in being interviewed. Those interested were asked to get in touch with one of the researchers, either via email or via a freephone number linked to their personal phone. Those who chose to participate were then sent a Participant Information Sheet and Consent Form, either via email or (for those who did not use email) in the post. They were also asked to provide their availability for an interview, and to specify if they would prefer for this to take place over the phone or using a form of video software.

Volunteers: A brief overview of the study was sent to the organisation's director to share with all volunteers via email, including the email address of the researcher conducting the volunteer interviews. Volunteers were asked to contact this researcher if interested. A volunteer Participant Information Sheet and Consent Form was emailed to those who chose to participate, who were asked to sign and return the Consent Forms via email and to indicate how and when they would like to be interviewed.

All participants were offered the right to withdraw from the study at any time and were assured by researchers that their responses would remain anonymous. After being interviewed, participants were emailed a debriefing sheet, briefly summarising the nature and purpose of the study and providing a list of helplines they could contact should they experience ongoing distress related to the contents of the interview. The few who did not have access to email were verbally debriefed.

Empirical data was collected through semi-structured interviews with clients (n=10) and volunteers (n=5), all of which were conducted either over the phone or using video software (e.g. Zoom). Interviews were guided by sets of questions but followed participants' leads in terms of the focus of the conversations. Client interviews lasted between 15 minutes and one hour 23 minutes. Volunteer interviews lasted between 35 and 55 minutes.

Sample

The majority of interviewees were female: eight out of ten in the case of clients and four out of five in the case of volunteers. Other demographic data was not collected.

Data analysis

Each interview was audio recorded with permission, transcribed verbatim and then subjected to rigorous in-depth thematic analysis in order to identify common themes. Three researchers each conducted independent analysis, combining use of NVivo software with manual thematic analysis. Individual findings were compared, and conclusions were determined.

FINDINGS

There was a high level of consistency between clients' and volunteers' accounts of the benefits of the service. Benefits were largely divisible into four overriding categories: accessibility and immediacy, building of trust, collaboration and flexibility, and the mitigation of isolation. The ease and speed with which clients were able to access the service was identified as a key point of difference with past service experiences, while accessibility of support was also key for volunteers entering into an often-unfamiliar mode of service delivery. Furthermore, the consistency of service provider proved important for building mutual trust and understanding over time, enabling service users to confide in their callers and to feel more supported in their day-to-day lives. Collaboration and flexibility related to the quota of sessions, the content of calls, and (for volunteers) the nature of supervision. Both clients and volunteers often viewed the calls as something to rely on, ameliorating feelings of isolation and giving some structure to their otherwise derailed lives.

Both clients and volunteers also described particular benefits associated with phone contact. These included flexibility in hours and location, for example avoiding the expenses and inconveniences associated with travel and providing or receiving support outside of usual office hours. Moreover, some clients highlighted how the (mental and/or physical) inability to leave the house was a long-term issue outside of the context of the pandemic, making some form of telehealth the only viable option. A few clients also found it easier to open up over the phone than in person, while some less experienced volunteers found this was beneficial in reducing distractions and helping them to focus on honing their skills. However, another common theme among clients was the importance of nonverbal communication and a common sentiment that phone contact was inherently unsuited to addressing more serious issues, associated with widespread intentions to seek face-to-face therapy after the lifting of restrictions. Some volunteers also described unique difficulties that arose from working from home, with the lines between work and personal life being increasingly blurred.

When asked whether they would continue to use Let's Keep Talking post-pandemic, clients largely fell into one of three categories:

a) Would continue using the service as a primary source of mental health support.
b) Would continue using the service but in conjunction with face-to-face therapy.
c) Would stop using the service and seek face-to-face therapy.

The vast majority of clients stated either that they planned on continuing to use the service or, if they were no longer receiving calls, that they would get back in touch if they found themselves needing it again. All volunteers expressed enthusiasm for continuing to play a role in the service after the pandemic, referring to both an ongoing need for the service and the benefits they personally derived from being involved. Combined with the accessibility of support, these benefits may be crucial for ensuring the long-term viability of the service from a provider perspective, reducing the likelihood of volunteer burnout, which is often a major issue among mental health professionals (e.g. Johnson, Corker, and O'Connor, 2020).

While all interviewees foresaw some kind of postpandemic purpose for the service, there was substantial variation in the extent to which this was experienced as personally transformative. Several clients did describe a turning point of sorts, and a shift in their thinking with real-world effects persisting outside of the calls. However, there was a common perception that the service was unsuited to the most serious mental health issues, which some felt could only be addressed face to face. Overall, findings suggest that the service has transformative potential but does not detract entirely from the value of 'human touch' (e.g. Eastwood, Snook, and Luther, 2012), supporting the case for (postpandemic) 'blended care' combining telehealth and face-to-face support (e.g. Wentzel *et al.*, 2016).

RECOMMENDATIONS

Revisiting the service communications strategy

There was some evidence that clients were confused as to the full scope of the service. The complete elimination of confusion and misunderstandings seems unlikely, particularly for elderly clients and those engaged in multiple, somewhat similar services. Nonetheless, efforts to provide greater clarity at the beginning of clients' service experiences may be beneficial here. Ensuring all clients are given a clear (possibly written and/or visual flowchart) overview of the nature and remits of the service may be beneficial in shaping more accurate and/or positive expectations of the service.

Exploring opportunities for blended care

Overall, findings point towards the viability of a longer-term model of 'blended care' combining telehealth and face-to-face support (e.g. Wentzel *et al.*, 2016). As Let's Keep Talking is a project of the Psychological Therapies Unit, who do provide face-to-face therapy, it may be that combining the two is an effective way to provide integrated ongoing support. Given sufficient time, funding, and collaboration, it may also be possible for Let's Keep Talking to build upon and increase their relationships with other organisations, in taking referrals from a wider range of sources and/or adopting a more active role in signposting clients to other organisations. Ultimately, some of the key strengths of Let's Keep Talking (accessibility, immediacy, and a collaborative/client-centred approach) may be able to contribute towards improving clients' experiences not only of individual mental health services but also of broader mental health systems.

REFERENCES

Allwood, L. and Bell, A., 2020. 'Covid-19: understanding inequalities in mental health during the pandemic'. *Centre for Mental Health*: London, UK.

Berry, L.L., Danaher, T.S., Aksoy, L. and Keiningham, T.L., 2020. 'Service safety in the pandemic age'. *Journal of Service Research*, 23(4), pp.391-395.

Blocker, C.P. and Barrios, A., 2015. 'The transformative value of a service experience'. *Journal of Service Research*, *18*(3), pp.265-283.

Clark, D.M., 2012. *The English improving access to psychological therapies (IAPT) program. Dissemination and Implementation of Evidence-Based Psychological Interventions* (ed. RK McHugh and H. Barlow), pp.61-77.

Cummins, I., 2018. 'The impact of austerity on mental health service provision: a UK perspective'. *International journal of environmental research and public health*, 15(6), p.1145.

Dalal, F., 2018. *CBT: The cognitive behavioural tsunami: Managerialism, politics and the corruptions of science.* Routledge.

Eastwood, J., Snook, B. and Luther, K., 2012. 'What people want from their professionals: Attitudes toward decision-making strategies'. *Journal of Behavioral Decision Making*, *25*(5), pp.458-468.

Foley, T. and Woollard, J., 2019. 'The digital future of mental healthcare and its workforce: A report on a mental health stakeholder engagement to inform the Topol Review'. *NHS Health Education England*.

Hill, R.P. and Sharma, E., 2020. 'Consumer vulnerability'. *Journal of Consumer Psychology*, *30*(3), pp.551-570.

Johnson, J., Corker, C., and O'Connor, D. B. 2020. 'Burnout in psychological therapists: A cross-sectional study investigating the role of supervisory relationship quality'. *Clinical Psychologist*, *24*(3), pp.223-235.

Johnson, M. & Aru, D. 2021, Feb 10. 'More than three times as many people are shielding in Liverpool compared to the first lockdown. Liverpool Echo'. Retrieved from https://www.liverpoolecho.co.uk/news/liverpool-news/extreme-pressure-mental-health-services-20015215.

Li, W., Yang, Y., Liu, Z.H., Zhao, Y.J., Zhang, Q., Zhang, L., Cheung, T. and Xiang, Y.T., 2020. 'Progression of mental health services during the COVID-19 outbreak in China*'. International journal of biological sciences*, *16*(10), p.1732.

McPherson, S., Evans, C. and Richardson, P., 2009. 'The NICE Depression Guidelines and the recovery model: Is there an evidence base for IAPT?'. *Journal of Mental Health*, *18*(5), pp.405-414.

McBride, O., Murphy, J., Shevlin, M., Gibson-Miller, J., Hartman, T.K., Hyland, P., Levita, L., Mason, L., Martinez, A.P., McKay, R. and Stocks, T.V., 2021. 'Monitoring the psychological, social, and economic impact of the COVID-19 pandemic in the population: Context, design and conduct of the longitudinal COVID-19 psychological research consortium (C19PRC) study'. *International journal of methods in psychiatric research*, *30*(1), p.e1861.

Mick, D.G., Pettigrew, S., Pechmann, C.C. and Ozanne, J.L. eds., 2012. *Transformative consumer research for personal and collective well-being.* Routledge.

Morgan-Ayres, S., 2014. 'The ethics and practicality of compulsory therapy'. *Self & Society*, *42*(1-2), pp.26-28.

Newnes, C., 2016. *Inscription, diagnosis, deception and the mental health industry: How Psy governs us all.* Springer.

Niedzwiedz, C.L., Green, M.J., Benzeval, M., Campbell, D., Craig, P., Demou, E., Leyland, A., Pearce, A., Thomson, R., Whitley, E. and Katikireddi, S.V., 2021. 'Mental health and health behaviours before and during the initial phase of the COVID-19 lockdown: longitudinal analyses of the UK Household Longitudinal Study'. *J Epidemiol Community Health*, *75*(3), pp.224-231.

O'Shea, N., 2021. 'Covid-19 and the nation's mental health'. Retrieved from https://www.centreformentalhealth.org.uk/sites/default/files/publication/download/CentreforMentalHealth_COVID_MH_Forecasting4_May21.pdf.

Ostrom, A.L., Bitner, M.J., Brown, S.W., Burkhard, K.A., Goul, M., Smith-Daniels, V., Demirkan, H. and Rabinovich, E., 2010. 'Moving forward and making a difference: research priorities for the science of service'. *Journal of Service Research*, *13*(1), pp.4-36.

Perle, J.G. and Nierenberg, B., 2013. 'How psychological telehealth can alleviate society's mental health burden: A literature review'. *Journal of Technology in Human Services*, *31*(1), pp.22-41.

Smith, A.C., Thomas, E., Snoswell, C.L., Haydon, H., Mehrotra, A., Clemensen, J. and Caffery, L.J., 2020. 'Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19)'. *Journal of telemedicine and telecare*, *26*(5), pp.309-313.

Stuckler, D., Reeves, A., Loopstra, R., Karanikolos, M. and McKee, M., 2017. 'Austerity and health: the impact in the UK and Europe'. *European journal of public health*, *27*(suppl_4), pp.18-21.

Thome, J., Coogan, A., Fischer, M., Tucha, O. and Faltraco, F., 2020. 'Challenges for mental health services during the 2020 COVID-19 outbreak in Germany'. *Psychiatry and clinical neurosciences*, *74*, p.407.

Tucci, V. and Moukaddam, N., 2017. 'We are the hollow men: The worldwide epidemic of mental illness, psychiatric and behavioral emergencies, and its impact on patients and providers'. *Journal of emergencies, trauma, and shock*, *10*(1), p.4.

Tyrrell, N. 2021, March 9. 'Extreme pressure on mental health services as demand expected to grow. Liverpool Echo'. Retrieved from https://www.liverpoolecho.co.uk/news/liverpool-news/extreme-pressure-mental-health-services-20015215.

Venkatesh, A. and Edirappuli, S., 2020. 'Social distancing in covid-19: what are the mental health implications?'. *BMJ*, 369.

Wentzel, J., van der Vaart, R., Bohlmeijer, E.T. and van Gemert-Pijnen, J.E., 2016. 'Mixing online and face-to-face therapy: how to benefit from blended care in mental health care'. *JMIR mental health*, *3*(1), p.e9.

PROMOTING INNOVATION IN HOMELESSNESS AND MENTAL HEALTH SERVICE DESIGN

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ABSTRACT

It is the ultimate aim of this study to establish valuable insights into client experiences of integrated homelessness and mental health support. This is achieved through the adaptation and application of the Trajectory Touchpoint Technique (TTT), a service evaluation technique employing a rich pictures methodology. An adapted version of the TTT is first developed and then applied to evaluate three integrated residential services. Building on recent work on value cocreation in contexts of vulnerability, this research explores facilitators and prohibitors of the cocreation of transformative value in the experience, highlighting opportunities for innovation across the customer journey.

INTRODUCTION

Over recent years, the field of service research has undergone a paradigm shift, due in large part to increasing interest in (and recognition of) the central role of customers in value creation. The shift towards a more customer-centred outlook is strongly associated with the growing popularity of service-dominant logic (SDL; Vargo and Lusch, 2004), which frames value as uniquely and phenomenologically determined by a beneficiary, through processes of cocreation expanding beyond a customer/provider dyad to incorporate service networks and institutional arrangements (e.g. Grönroos and Voima, 2012; Lusch *et al.*, 2010; Lush, Vargo, and O'Brien, 2007; Vargo, Akaka, and Vaughan, 2017; Vargo and Lusch, 2004, 2008, 2014). However, some critics have asserted that much of SDL does not do enough to incorporate customers' individual networks and internal processes into interpretations of value creation, influencing the conceptualisation of value in the experience (VALEX) (Grönroos, Strandvik, and Heinonen, 2015; Heinonen and Strandvik, 2020; Heinonen *et al.*, 2013).

Despite disagreements on what exactly value entails, the achievement/improvement of consumer wellbeing in some form is now widely accepted as a key outcome of value creation (Ballantyne and Varey, 2008; Grönroos, 2008; Seppänen *et al.*, 2017; Vargo and Lusch, 2004, 2016). Consumer wellbeing is at the heart of transformative service research (TSR; Anderson *et al.*, 2013), which seeks to explicitly centre the enhancement of wellbeing through innovation and improvement in service (Anderson and Ostrom, 2015; Anderson *et al.*, 2013; Berry and Bendapudi, 2007). Developed within TSR, the concept of transformative value denotes a specific form of value creation, involving 'positive disruption' and resulting in meaningful long-term change (Blocker and Barrios, 2015, p.5). TSR and transformative value have been identified as especially important in contexts of consumer vulnerability, which are associated with reductions in wellbeing and a reduced likelihood of realising maximum value from service encounters (e.g. Anderson *et al.*, 2013; Mick *et al.*, 2012; Baker, Gentry, and Rittenburg, 2005; Rosenbaum *et al.* 2017; Russell-Bennett *et al.*, 2020).

The importance of customer wellbeing as a service outcome has also proved increasingly influential within the discipline of service design. Service design is a creative, human-centred, and multidisciplinary approach for service innovation (e.g. Yu and Sangiorgi, 2018), which involves 'understanding customers and service providers, their context, and social practices, and translating this understanding into the development of evidence and service systems interaction' (Teixeira, Patrício, and Tuunanen, 2018, p.373). The use of service design to benefit vulnerable consumers has been identified as a key service research priority (Fisk *et al.*, 2018; Ostrom *et al.*, 2015), while synergies between service design and TSR have been highlighted and expanded upon through the concept of transformative design (e.g Bate and Robert, 2007a; Burns *et al.*, 2006; Junginger, 2008; Junginger and Sangiorgi, 2009; Thackara, 2007).

Two specific groups who have frequently been defined as vulnerable are those with mental health issues (e.g. Brennan *et al.*, 2017; Hill and Sharma, 2020; WHO, 2018) and those experiencing or at risk of

homelessness (e.g. Banerjee and Bhattacharya, 2020; Curry *et al.*, 2017; Dobson, 2019). Mental health issues are a highly prevalent concern on both a national and a global scale, having been identified as the leading cause of the UK burden of disease (Ferrari *et al.*, 2013) and amongst the leading causes of the overall global burden (Vigo, Thornicroft, and Atun, 2016; Whiteford *et al.*, 2013). Furthermore, this burden is shouldered disproportionately by the most disadvantaged in society (Hewett, Hiley, and Gray, 2011; Lee *et al.*, 2019), sometimes referred to as base of the pyramid (BoP) consumers. BoP consumers are defined as those who are frequently unable to reach 'consumption adequacy' (Baron *et al.*, 2018), associated with a state of vulnerability and likely disempowerment by factors such as discrimination and poverty (e.g. Mick *et al.*, 2012). Included within this category are many of those experiencing homelessness and insecure housing, who are more likely than most both to experience mental health issues and to encounter insurmountable barriers to engagement with the appropriate services (Department of Health, 2010; Homeless Link, 2010).

Despite increased recognition of the importance of active customer participation in healthcare (e.g. Lammers and Happell, 2003; Nambisan and Nambisan, 2009) and a heavy reliance upon patient satisfaction measures, there remains a dearth of research and tools advancing an in-depth understanding of customer journeys (Gill, White and Cameron, 2011). A more expansive and customer-centred approach to service evaluation has, however, been incorporated in multiple design and evaluation tools, such as service blueprinting (e.g. Bitner, Ostrom and Morgan, 2008) and customer journey mapping (CJM) (Rosenbaum *et al.*, 2017). Conversely, even these tools have been criticised (e.g. Glushko, 2013; Zomerdijk and Voss, 2010) for inadequate customer involvement and for operating on the flawed assumption that all customers' service experiences are structured by the same points of contact, or touchpoints (e.g. Barile *et al.*, 2016; Lemon and Verhoef, 2016; McColl-Kennedy *et al.*, 2012).

In contrast to the history of (at least mainstream) homelessness and mental health service research, this research seeks to adopt an innovative approach to service design and evaluation through the use of the Trajectory Touchpoint Technique (TTT; Sudbury-Riley *et al.*, 2020). The TTT is a service evaluation technique which employs a rich pictures methodology to explore customer journeys (further details given in Methodology), with the purpose of eliciting detailed narrative accounts and identifying opportunities for value cocreation.

The setting of this study is an organisation henceforth referred to as 'Company X'. Specifically, this research focuses on three of Company X's residential services, in which housing is provided in conjunction with mental health and practical support. Two of the three services covered by this research (Services 1 and 2) can be categorised as tertiary, providing housing and support to people who are currently homeless and/or have histories of homelessness. The other (Service 3) is a secondary intervention, targeting a group that is considered to be at high risk of homelessness due to severe mental health issues (Rogers *et al.*, 2020).

Findings are intended to address three research questions (RQs) –

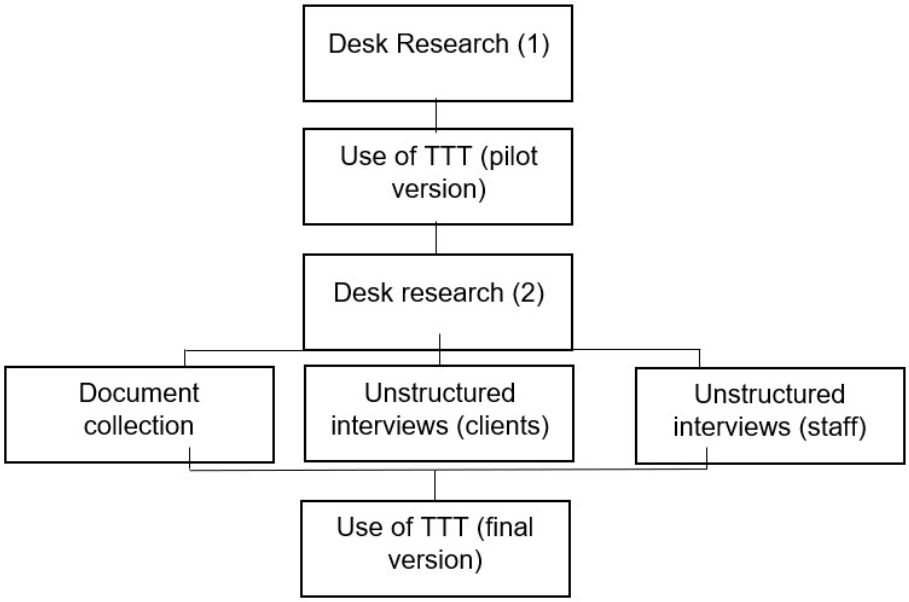
RQ1: What are the most important stages and touchpoints within a residential programme for those with housing and mental health issues?
RQ2: What are the key elements and processes underlying the cocreation of transformative value in the experience in this context?
RQ3: How useful is the Trajectory Touchpoint Technique, a service design technique, in uncovering opportunities for innovation in residential homelessness and mental health services?

METHODOLOGY

Originally developed for the purpose of hospice care evaluation, the Trajectory Touchpoint Technique (TTT) employs a rich pictures methodology to elicit detailed customer experience narratives, structured around a set of identified service stages/elements and associated touchpoints. The TTT is administered through presenting customers with a series of cards, each representing a different stage of a service experience and featuring a set of related images. This proved highly effective in identifying opportunities for innovation in the original context of palliative care and in later applications within related (i.e. hospital) and unrelated (i.e. veterinary) services (Sudbury-Riley *et al.*, 2020). These successes raise the question of if and how the TTT can be effectively applied elsewhere, both within and outside of healthcare.

An overview of the data collection methods used in this study is provided in Figure 1.

Figure 1: Data collection methods.



In order to assess the feasibility of using this methodology with this population, a pilot version of the adapted TTT was first developed on the basis of a literature review encompassing various strands of homelessness, mental health, and service literature and policy documents. This was then successfully applied within another Company X service, a tenancy support service providing integrated mental healthcare, and was found to be highly effective in uncovering processes of and opportunities for value cocreation (Spence, 2019). Having established that the methodology was appropriate for a population similar to that targeted by the main study, a more in-depth literature review was conducted.

Stage 1 of data collection for the main study consisted of unstructured interviews with clients (n=5), frontline staff (n=3), and management (n=2), which were all conducted either over the phone or using video software (e.g. Microsoft Teams). This allowed for insights both into the formal operation and structure of the services, as perceived by staff, and the subjective perceptions and emotions that were the most influential and memorable for service users themselves. Data from these interviews informed the development of the adapted TTT, resulting in the production of eight cards (see Table 1). The development of these cards was also shaped by the literature review, findings from the pilot study, and access granted by Company X to their service specification documents.

In Stage 2 of main study data collection, narrative accounts were accrued from Company X residential service users (n=20) using the finalised adapted TTT. Conversations were again conducted over the phone and using video software. These consisted of going through the cards one at a time, asking participants to comment on as many or as few of the pictured touchpoints as they considered relevant and also providing opportunities for identifying and elaborating upon any additional touchpoints.

Data from both sets of interviews was analysed using a combination of NVivo tools and manual thematic analysis. At the time of writing, the process of analysis for Stage 2 data remains ongoing.

FINDINGS

The identification of key stages and touchpoints within the research context (RQ1) was facilitated by unstructured interviews carried out with service users and staff, in conjunction with the literature review, the original TTT (Sudbury-Riley *et al.*, 2020), and findings of the pilot study (Spence, 2019). These are represented in the eight cards of the final adapted TTT (see Table 1).

Table 1: Overview of touchpoint cards.

Card	Touchpoints
Pre-Arrival	Past engagement with housing services; engagement with medical professionals; worries and concerns; unanswered questions; referral process; signposting; waiting period.
Arrival	Available information; moving process; unanswered questions; welcome process; first impressions; feelings (or lack of) of trust; paperwork; worries and concerns.
Assessment and Goal Setting	Aspirations and hopes; care/support planning; choice and dialogue; feeling (or not feeling) listened to; progress over time; risk assessments; tenancy support meetings.
Practical and Emotional Support	Assigned support workers; bills and paperwork; encouragement; accessibility of staff; planning for the future; relationship with other service users; telephone/text support.
Facilities and Shared Spaces	Bedrooms; bathrooms; kitchens; gardens and outdoor spaces; sound and impact of other users; food and drink; cleanliness; computers, TVs, Wi-Fi.
Building Skills and Resources .	Art and creativity; budgeting; confidence, resilience, and strength; cooking and meal planning; financial difficulties; gardening; health and safety.
Connecting to Broader Support Network	Connection to physical healthcare; coordination between different parties and services; ease of navigation between services; medication management; signposting; telephone support; family involvement.
Moving On	Paperwork and planning; personal development; moving process and procedures; unanswered questions; ease of contact if needed; help, assistance, support, guidance, advice; wellbeing and quality of life.

As data analysis remains ongoing, findings pertaining to the elements and processes underlying cocreation of T-VALEX (RQ2) and opportunities for innovation (RQ3) are still under development. However, preliminary analyses have uncovered substantial evidence of T-VALEX cocreation, which appears to be facilitated by a combination of environmental (e.g. access to outdoor space), relational (e.g. familial-style relationships), and practical factors (e.g. assistance with paperwork). Initial impressions of areas for innovation include enhanced opportunities for peer support and training of agency workers. As these findings continue to develop, so too will understanding of which of the identified stages and touchpoints are the most significant for service users, potentially leading to identification of additional touchpoints and/or removal or alteration of original touchpoints.

REFERENCES

Anderson, L. and Ostrom, A.L., 2015. Transformative service research: Advancing our knowledge about service and well-being.

Anderson, L., Ostrom, A.L., Corus, C., Fisk, R.P., Gallan, A.S., Giraldo, M., Mende, M., Mulder, M., Rayburn, S.W., Rosenbaum, M.S. and Shirahada, K., 2013. Transformative service research: An agenda for the future. *Journal of Business Research*, *66*(8), pp.1203-1210.

Baker, S.M., Gentry, J.W. and Rittenburg, T.L., 2005. Building understanding of the domain of consumer vulnerability. *Journal of Macromarketing*, *25*(2), pp.128-139.
Ballantyne, D. and Varey, R.J., 2008. The service-dominant logic and the future of marketing. *Journal of the academy of marketing science*, *36*(1), pp.11-14.
Banerjee, D. and Bhattacharya, P., 2020. The hidden vulnerability of homelessness in the COVID-19 pandemic: Perspectives from India.
Barile, S., Lusch, R., Reynoso, J., Saviano, M. and Spohrer, J., 2016. Systems, networks, and ecosystems in service research. *Journal of Service Management*, *27*(4), pp.652-674.
Baron, S., Patterson, A., Maull, R. and Warnaby, G., 2018. Feed people first: A service ecosystem perspective on innovative food waste reduction. *Journal of Service Research*, *21*(1), pp.135-150.
Bate, P. and Robert, G., 2007. *Bringing user experience to healthcare improvement: The concepts, methods and practices of experience-based design.* Radcliffe Publishing.
Berry, L.L. and Bendapudi, N., 2007. Health care: a fertile field for service research. *Journal of service research*, *10*(2), pp.111-122.
Bitner, M.J., Ostrom, A.L. and Morgan, F.N., 2008. Service blueprinting: a practical technique for service innovation. *California management review*, *50*(3), pp.66-94.
Blocker, C.P. and Barrios, A., 2015. The transformative value of a service experience. *Journal of Service Research*, *18*(3), pp.265-283.
Brennan, S.L., Irwin, J., Drincic, A., Amoura, N.J., Randall, A. and Smith-Sallans, M., 2017. Relationship among gender-related stress, resilience factors, and mental health in a Midwestern US transgender and gender-nonconforming population. *International Journal of Transgenderism*, *18*(4), pp.433-445.
Burns, C., Cottam, H., Vanstone, C. and Winhall, J., 2006. Transformation design. *RED paper*, *2*.
Curry, S.R., Morton, M., Matjasko, J.L., Dworsky, A., Samuels, G.M. and Schlueter, D., 2017. Youth homelessness and vulnerability: How does couch surfing fit?. *American Journal of Community Psychology*, *60*(1-2), pp.17-24.
Department of Health. Primary care & community services. Inclusion health: improving primary care for socially excluded people. London: TSO, 2010. http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_114365.pd
Dobson, R., 2019. Complex needs in homelessness practice: a review of 'new markets of vulnerability'. *Housing Studies*, pp.1-27.
Ferrari, A.J., Charlson, F.J., Norman, R.E., Patten, S.B., Freedman, G., Murray, C.J., Vos, T. and Whiteford, H.A., 2013. Burden of depressive disorders by country, sex, age, and year: findings from the global burden of disease study 2010. *PLoS medicine*, *10*(11), p.e1001547.
Fisk, R.P., Dean, A.M., Alkire, L., Joubert, A., Previte, J., Robertson, N. and Rosenbaum, M.S., 2018. Design for service inclusion: creating inclusive service systems by 2050. *Journal of Service Management*.
Gill, L., White, L. and Cameron, I.D., 2011. Service co-creation in community-based aged healthcare. Managing Service Quality: An International Journal, 21(2), pp.152-177.
Glushko, R.J., 2013. Describing service systems. *Human Factors and Ergonomics in Manufacturing & Service Industries*, *23*(1), pp.11-18.
Grönroos, C. and Voima, P., 2012. Making sense of value and value co-creation in service logic.
Grönroos, C., 2008. Service logic revisited: who creates value? And who co-creates?. *European business review*.
Grönroos, C., Strandvik, T. and Heinonen, K., 2015. Value co-creation: Critical reflections. *The Nordic School: Service marketing and management for the future*, pp.69-81.
Heinonen, K. and Strandvik, T., 2020. Customer-dominant service logic. In *The Routledge Handbook of Service Research Insights and Ideas* (pp. 69-89). Routledge.
Heinonen, K., Strandvik, T., Mickelsson, K.J., Edvardsson, B., Sundström, E. and Andersson, P., 2010. A customer-dominant logic of service. *Journal of Service management*, *21*(4), pp.531-548.
Hewett, N., Hiley, A. and Gray, J., 2011. Morbidity trends in the population of a specialised homeless primary care service. *British Journal of General Practice*, *61*(584), pp.200-202.
Hill, R.P. and Sharma, E., 2020. Consumer vulnerability. *Journal of Consumer Psychology*, *30*(3), pp.551-570.
Homeless Link. (2010). The Health and wellbeing of people who are homeless: Evidence from a national audit. Available from: https://www.homeless.org.uk/sites/default/files/site-attachments/Health Audit. Findings_National evidence_2010.pdf.

Junginger, S. and Sangiorgi, D., 2009. Service design and organisational change. Bridging the gap between rigour and relevance. In *International Association of Societies of Design Research* (pp. 4339-4348). KOR.

Junginger, S., 2008. Product development as a vehicle for organizational change. *Design issues*, *24*(1), pp.26-35.

Lammers, J. and Happell, B., 2003. Consumer participation in mental health services: looking from a consumer perspective. *Journal of Psychiatric and Mental Health Nursing*, *10*(4), pp.385-392.

Lee, J. O., Jones, T. M., Yoon, Y., Hackman, D. A., Yoo, J. P., & Kosterman, R. 2019. Young adult unemployment and later depression and anxiety: does childhood neighborhood matter?. *Journal of youth and adolescence*, *48*(1), pp.30-42.

Lemon, K.N. and Verhoef, P.C., 2016. Understanding customer experience throughout the customer journey. *Journal of marketing*, *80*(6), pp.69-96.

Lusch, R.F., Vargo, S.L. and O'Brien, M., 2007. Competing through service: Insights from service-dominant logic. *Journal of retailing*, *83*(1), pp.5-18.

Lusch, R.F., Vargo, S.L. and Tanniru, M., 2010. Service, value networks and learning. Journal of the academy of marketing science, 38(1), pp.19-31.

McColl-Kennedy, J.R., Vargo, S.L., Dagger, T.S., Sweeney, J.C. and Kasteren, Y.V., 2012. Health care customer value cocreation practice styles. *Journal of Service Research*, *15*(4), pp.370-389.

Mick, D.G., Pettigrew, S., Pechmann, C.C. and Ozanne, J.L. eds., 2012. *Transformative consumer research for personal and collective well-being*. Routledge.

Nambisan, P. and Nambisan, S., 2009. Models of consumer value cocreation in health care. *Health care management review*, *34*(4), pp.344-354.

Rogers, M., Ahmed, A., Madoc-Jones, I., Gibbons, A., Jones, K. and Wilding, M., 2020. Interrogating the prevention approach of the Housing (Wales) Act 2014 for people with mental health needs who are homeless. *Social Policy and Society*, *19*(1), pp.109-120.

Rosenbaum, M.S., Otalora, M.L. and Ramírez, G.C., 2017. How to create a realistic customer journey map. *Business Horizons*, *60*(1), pp.143-150.

Rosenbaum, M.S., Seger-Guttmann, T. and Giraldo, M., 2017. Commentary: vulnerable consumers in service settings. *Journal of Services Marketing*.

Russell–Bennett, R., Mulcahy, R., Letheren, K., McAndrew, R. and Dulleck, U., 2020. The transformative service paradox: the dilemma of wellbeing trade-offs. *Journal of Service Management*.

Seppänen, K., Huiskonen, J., Koivuniemi, J. and Karppinen, H., 2017. Revealing customer dominant logic in healthcare services. *International Journal of Services and Operations Management*, *26*(1), pp.1-17.

Storey, C. and Larbig, C., 2018. Absorbing customer knowledge: how customer involvement enables service design success. *Journal of Service Research*, *21*(1), pp.101-118.

Sudbury-Riley, L., Hunter-Jones, P., Al-Abdin, A., Lewin, D. and Naraine, M.V., 2020. The trajectory touchpoint technique: A deep dive methodology for service innovation. *Journal of Service Research*, *23*(2), pp.229-251.

Teixeira, J.G., Patrício, L. and Tuunanen, T., 2018, September. Bringing design science research to service design. In *International Conference on Exploring Service Science* (pp. 373-384). Springer, Cham.

Thackara, J., Brickwood, C., Ferran, B., Garcia, D. and Putnam, T., 2007. Design and the Growth of Knowledge. *(Un) Common ground creative encounters across sectors and disciplines*, pp.57-61.

Vargo, S.L. and Lusch, R.F., 2016. Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of marketing Science*, *44*(1), pp.5-23.

Vargo, S.L. and Lusch, R.F., 2008. Service-dominant logic: continuing the evolution. *Journal of the Academy of marketing Science*, *36*(1), pp.1-10.

Vargo, S.L. and Lusch, R.F., 2004. The four service marketing myths: remnants of a goods-based, manufacturing model. *Journal of service research*, *6*(4), pp.324-335.

Vargo, S.L., Akaka, M.A. and Vaughan, C.M., 2017. Conceptualizing value: a service-ecosystem view. *Journal of Creating Value*, *3*(2), pp.117-124.

Vigo, D., Thornicroft, G., & Atun, R. (2016). Estimating the true global burden of mental illness. *The Lancet Psychiatry*, *3*(2), pp.171-178.

Whiteford, H.A., Degenhardt, L., Rehm, J., Baxter, A.J., Ferrari, A.J., Erskine, H.E., Charlson, F.J., Norman, R.E., Flaxman, A.D., Johns, N. and Burstein, R., 2013. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. *The Lancet*, *382*(9904), pp.1575-1586.

World Health Organization. *Mental Health and Development: targeting people with mental health conditions as a vulnerable group.* World Health Organization, viewed 08 May 2018 <https://apps.who.int/iris/bitstream/handle/10665/44257/9789241563949_eng.pdf;jsessionid=232C16316A4A1F6672E4E3913202147A?sequence=1>.

Yu, E. and Sangiorgi, D., 2018. Service design as an approach to implement the value cocreation perspective in new service development. *Journal of Service Research*, *21*(1), pp.40-58.

Zomerdijk, L.G. and Voss, C.A., 2010. Service design for experience-centric services. *Journal of Service Research*, *13*(1), pp.67-82.

WELL-BEING COMPLEXITIES AND PARADOXES: INSIGHTS FOR TSR

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ABSTRACT

This research explores ways that well-being can emerge when individuals become interested in self-tracking and perform labour with self-tracking objects. Such objects include wearable devices and/or apps associated with tracking bodily movements and/or food consumption. By leveraging Deleuze-Guattarian thinking, and by drawing upon qualitative data generated from semi-structured interviews and diaries, diverse ways that well-being can manifest from self-tracking is illuminated. An original contribution is made by illustrating how in an area whereby individuals are assumed to be increasingly responsible for health and well-being, various and complex possibilities emerge from dynamic, collaborative relationships between human(s) and non-human(s).

PURPOSE AND MOTIVATION FOR THE STUDY

Coinciding with discussions regarding well-being and concerns for advancing the well-being of individuals and society (Anderson *et al.*, 2011), lies an opportunity to develop a greater understanding of ways in which well-being can emerge for individuals willingly pursuing an alternate direction in their everyday life through digital modes such as self-tracking. To further elaborate, corresponding with a growing cultural interest in a life informed by numbers (Ajana, 2018), and the development of self-tracking technologies such as smart wearables and applications which enable individuals to obtain, monitor, and understand personal data (Wittkowsi *et al.*, 2020), is a surge in recent years of individuals engaging with data such as biological, physical, environmental or behavioural data (Ruckenstein, 2014; Lupton, 2016a). Indeed, digital technologies such as wearable devices and apps associated with tracking bodily movements and/or food can have a significant presence in everyday life, and self-tracking is recognisably a popular phenomenon (Zakariah *et al.*, 2021). Self-tracking has notably attracted the attention of academic research, with publications drawing attention to an array of issues, including those such as privacy (e.g. Fotopoulou and O'Riordan, 2017), motives for self-tracking (e.g., Etkin, 2016; Canhoto and Arp, 2017; Ashman, Wolny and Solomon, 2018), and the potential to adhere to neoliberal ideals as a result of surveillance (e.g., Sanders, 2017; Charitsis, Yngfalk and Skålén, 2018), to name but a few.

There remains original scope, however, to direct explicit and detailed attention towards how the well-being of different individuals can be shaped by self-tracking in multiple, meaningful (and ongoing) ways and to examine the implications of this. Marketing materials including those leveraged by companies selling health and fitness wearables, or partners, typically promote self-tracking technologies as helpful, as enabling one to move closer to fulfilling goals in a personalised and interactive manner and to live better. Furthermore, self-tracking is acknowledged within the literature to be linked with improving an individual's well-being (Wittkowski *et al.*, 2020). In contrast, limited explicit attention to well-being changes generated by self-tracking exists as does the potential to interrogate ways in which insights regarding well-being and self-tracking can contribute to Transformative Service Research.

Hence, with the aim to understand how individuals come to connect with self-tracking technologies and to gain a detailed insight into whether and how lives can be transformed in meaningful and uplifting ways from self-tracking, this paper directs attention towards the diverse well-being implications produced from affective interactions (which vary in complexity) between individuals, devices, apps and data. Notably, individuals may

choose to self-track in a more private manner (Lupton 2016b). Alternatively, and coinciding with network augmentation (Wittkowski *et al.*, 2020), self-tracking may involve a communal aspect whereby data is shared with others (Lupton, 2016b). Ways in which well-being is implicated from involvement with different kinds of self-tracking assemblages is accounted for in this research.

THEORETICAL FOUNDATIONS

Well-being and service consumption are linked (Kuppelwieser and Finsterwalder, 2016) and research that better understands the role of services and service in creating uplifting changes and enhancing and improving lives is called for (Anderson *et al.*, 2013; Kuppelwieser and Finsterwalder, 2016). Indeed, improving well-being through transformative service is recognisably a priority (Ostrom *et al.*, 2010; 2015). Consequently, many related research projects have been conducted in recent years including drawing upon frameworks such as that of Anderson *et al.*, (2013) and giving attention to contact occurring between service entities and consumer entities and subsequent well-being outcomes. Also, research focusing on well-being in service contexts including, albeit not limited to, health care, whereby there are clear goals regarding well-being (Gardiazabal and Bianchi, 2021). For example, health and well-behaviours linked with the use of gamification have been explored (e.g. see Mulcahy *et al.*, 2018), as have active efforts between key human actors to integrate resources and co-create well-being to address health issues (e.g. see Chen *et al.*, 2020), for instance.

Though ways in which particular well-being outcomes are achieved are focused upon, limited attention has been directed towards paradoxical well-being relationships (Russell-Bennett *et al.* 2020). This is up until recently whereby different dimensions of well-being outcomes and well-being trade-offs are accounted for (see Russell-Bennett et al, 2020). Whilst arguing that relevant dimensions of well-being are contingent upon context, these authors find that within an electricity service context, compromises made by consumers, which are driven by aspects such as short-term and long-term gain or focus on who will benefit, are linked with physical, financial, and environmental well-being tensions. An argument regarding the oversimplification of the idea of using a service to improve well-being, as well as an endorsement for a multidimensional approach to wellbeing and a more holistic account of the implications of service is subsequently reinforced (Russell-Bennet *et al.*, 2020).

An observation from reviewing the literature is that whilst interactions between different entities are viewed to be central to achieving well-being (Kuppelwieser and Finsterwalder, 2016), there also appears to be scope to further explore more explicitly different ways in which dynamic and collaborative relations between human and non-human can have a range of implications for well-being. This is particularly so at a time when the importance of connections, and evolving and expanding roles of non-human technological objects, for instance, has grown within service research (Ostrom *et al.*, 2021).

Although not typical of TSR literature to date, taking inspiration from ideas relevant to the work of Deleuze and Guattari (1987, 2000) to explore well-being can be arguably advantageous for multiple reasons. In particular, in accounting for the participatory role of individuals for impacting well-being, of which emphasis has been given within service research (Bieler *et al.*, 2021), but also in focusing more on the central meaningful role of others. In turn, helping to activate a holistic and nuanced understanding of how well-being experiences can be produced when there is the capacity for certain human and non-human elements assembling to affect and be affected. Deleuze and Guattari (1987, 2000) suggest that the capacities of human and non-human entities (that is, what they can do) depend upon affective relations with others within a heterogeneous, dynamic, functional network, otherwise known as an assemblage. Without necessarily denying individuals' perceived agency, their thinking has been drawn upon in other contexts. It has enabled opportunities to explore and illustrate ways that well-being emerges in more limiting or enlivening ways and to evaluate ways in which well-being changes may be particularly welcoming or productive in light of prior encounters (e.g. see McLeod, 2017).

METHODOLOGY

Relevant data is produced from a qualitative study undertaken in the UK. The study sought to address several research questions, including the following: “What human and non-human components influence individuals to start interacting with health/fitness wearable devices and integrated apps, or standalone apps?” “How do individual’s interact with self-tracking technologies and (how) do interactions change across circumstances?” “How do individual’s interactions with self-tracking technology contribute to ways that well-being can emerge?” and “How do new well-being possibilities (opened up/concealed/overshadowed) from self-tracking compare with what individuals experience when not self-tracking with health/fitness wearable devices and integrated apps, or standalone apps?”. To address these research questions, qualitative data were generated from semi-structured interviews with 32 adults with experiences of self-tracking in everyday life. In addition to semi-structured interviews, data were generated from qualitative diary entries recorded by 15 adults. Follow-up interviews with eight diarists were also undertaken. Data analysis involved reviewing and making sense of themes generated.

FINDINGS

Findings indicate that a self-tracking assemblage is unique to the individual. Self-tracking may involve limited interactions with only a few data metrics. Alternatively, interactions with data may be more elaborate and several data metrics may be meaningful. Tracking may be done more privately, or involve socialising through activities such as sharing data, comparing data, and/or engaging in challenges. Understanding what steers people towards or away from technology is a pivotal concern (Ostrom *et al.*, 2021), however. Corresponding with the first research question aforementioned, findings illustrate that many individuals working with self-tracking technologies are not simply seeking confirmatory feedback, as questioned by Ostrom *et al.*, (2015), and are not simply choosing agents (Bettany and Kerrane, 2011), constructing goals to then strive for. Whilst desires such as to lose weight, avoid illness, enhance training performances, and do what evokes happiness are relevant, particular concerns associated with an initial turn towards self-tracking notably tend to emerge from a unique set of encounters with other human and/or non-human components, which lead individuals to direct attention to new opportunities and possibilities that could result from acting differently. As but one example, spontaneous viewings of photographs can be affective, heightening attention to particular bodily changes resulting from existing relations with food and provoking unfavourable appraisal and low hedonic feelings such as dissatisfaction. Whilst such feelings provoked are somewhat limiting, they are also productive, kick-starting a change in mindset with regards to lifestyle and the unlocking of new, meaningful capacities. One participant, for instance, refers to the significance of making changes to be happier with oneself but also to establish better social relationships. To provide another example, shared understandings arising between those engaged within a particular healthcare assemblage (e.g., patient, care professional), can also encourage individuals to want to make lifestyle changes.

Whilst particular relations assembling that provoke new concerns and interests can be significant, an openness towards what self-tracking objects can do (and enable) also can be relevant for encouraging individuals to turn towards self-tracking. What can also be pivotal, however, is gift relations or money relations. This suggests the potential for self-tracking to be exclusionary or harder to access for some, but which could be addressed by making resources available to help enable access (Fisk *et al.*, 2018).

Regarding interactions with self-tracking technologies, qualitative data generated sheds light on circumstances impacting the types of data engaged with and when, as well as labour exercised by individuals. Regarding the latter, and drawing attention to the capabilities of individuals (Ostrom *et al.*, 2021), individuals exhibit a cautious approach or particular receptiveness to data and/or capacity to experiment with data when becoming attuned with self-tracking objects. This, of which, is linked with an adjustment to, and familiarity with, self-tracking and its implications, and can be impacted by the material capacities of self-tracking technology and can be shaped by prior experiences, suggesting historical interactions can shape current ones (Hoffman and Novak, 2018). Labour is also performed, albeit to differing extents, when recording data,

when consulting data, or when socialising. Notably, advances in well-being from self-tracking can foster particular (ongoing) interactions with self-tracking objects, but there are also instances across some participants whereby well-being may be compromised by self-tracking or whereby well-being may be enhanced by de-territorialising to some extent from a self-tracking assemblage and by experiencing fulfilment in alternate ways.

Though the well-being of self-trackers can be enhanced from attuning to self-tracking and from ongoing interactions with self-tracking objects (often in ways which are notably disciplining but relishing), tensions can arise. To provide some examples, data regarding food consumed can be considered as a source of truth and potentially evoke less favourable emotions and be “rough” to read for some, but also be necessary for challenging denial and making changes deemed to be increasingly nutritious an in alignment with an envisioned food plan. Data visualised regarding physical activity, meanwhile, can become motivating, encourage movement (contingent upon others such as being located in an accessible space to be mobile), can produce favourable feelings, can transform the meaningfulness of a particular activity, and can also open up opportunities which were not as clearly present in other aspects of everyday life (e.g. recognition for efforts with a task; sense of confidence and belonging with others; motivation to partake in further self-care practices). Data can, however, in given circumstances, also provoke less favourable feelings such as disappointment or stress. Data can also become compelling, enticing individuals to engage in particular behaviours that can then also potentially become counterproductive or raise questions about the power of data.

In general, findings discussed comprehensively illustrate that self-tracking is not straightforward and the process of moving closer towards particular aspirations by becoming organised by data is rather fluctuating and contingent upon everyday situational events. Ways in which changes generated are more limited, welcome, less welcome, or potentially enlivening, for instance, are also accounted for in light of prior experiences which cannot be disentangled from self-tracking. This itself draws closer attention to the capacity for self-tracking to produce favourable, less favourable, or rather mixed feelings and actions. Paradoxes which can emerge in given situations assembling, including paradoxes recognised by Mick and Fournier (1997) are also discussed.

PRACTICAL IMPLICATIONS

Findings illustrate ways that well-being can be shaped by entities with the capacity to affect and be affected. The implications of such findings are of relevance to practitioners interested in developing and promoting attractive, accessible, and enduring well-being initiatives in everyday life. With regards to self-tracking, research findings can be useful for better understanding information that could be given to general members of the public to promote awareness about self-tracking and changes that can potentially be generated from turning to tracking to address particular struggles and/or newly established interests.

ORIGINALITY / VALUE

A distinct contribution is made to the TSR domain by weaving a range of concepts and literature and empirical insights which shed light on how well-being can be influenced in complex and potentially paradoxically ways when individuals become more, or less, organised by self-tracking technologies. Although there is increasing attention towards consumer responsibility for well-being (Ostrom *et al.*, 2021), this research draws further attention to the increasing role of a range of human and non-human components for significantly shaping the well-being of individuals as they navigate everyday life and the encounters such brings.

REFERENCES

Ajana, B. (2018) 'Introduction: Metric Culture and the Over-examined life' in Ajana, B. (ed) Metric culture: Ontologies of self-tracking practices. London: Emerald Group Publishing Limited

Anderson, L., Ostrom, A.L. and Bitner, M.J. (2011), "*Surrounded by services: a new lens for examining the influence of services as social structures on well-being*", Working paper, Arizona State University. W.P. Carey School of Business

Anderson, L., Ostrom, A.L., Corus, C., Fisk, R.P., Gallan, A.S., Giraldo, M. and Shirahada, K. (2013), "Transformative service research: an agenda for the future", *Journal of Business Research*, 66 (8), pp.1203-1210.

Ashman, R., Wolny, J. and Solomon, M. (2018) 'The Quantified Self: Self-regulation in cyborg consumers', in Solomon, M. . and Lowrey, T. (eds) *The Routledge Companion to Consumer Behavior*. London: Taylor & Francis.

Bettany, S. and Kerrane, B. (2011) 'The (post-human) consumer, the (post-avian) chicken and the (post-object) Eglu', *European Journal of Marketing*, 45(11/12), pp. 1746–1756.

Bieler, M., Maas, P., Fischer, L., and Rietmann, N. (2021). ,Enabling Cocreation With Transformative Interventions: An Interdisciplinary Conceptualization of Consumer Boosting'. *Journal of Service Research*, pp. 1-19

Canhoto, A. I. and Arp, S. (2017) 'Exploring the factors that support adoption and sustained use of health and fitness wearables', *Journal of Marketing Management*. 33 (1-2) pp. 32-60

Charitsis, V., Yngfalk, A. F. and Skålén, P. (2018) "Made to run": Biopolitical marketing and the making of the self-quantified runner', *Marketing Theory,* 24, pp. 1– 20.

Chen, T., Dodds, S., Finsterwalder, J., Witell, L., Cheung, L., Falter, M., Garry, T., Snyder, H., and McColl-Kennedy, J. R. (2020). 'Dynamics of wellbeing co-creation: a psychological ownership perspective'. *Journal of Service Management*. 32 (3), pp. 383-406

Deleuze, G. and Guattari, F. (1987) *A Thousand Plateaus: Capitalism and Schizophrenia. translation and foreword by Brian Massumi*. Minneapolis; London: University of Minnesota press.

Deleuze, G. and Guattari, F. (2000) *Anti-Oedipus. Capitalism and Schizophrenia*. 10th ed, SubStance. Minneapolis: University of Minnesota press.

Etkin, J. (2016) 'The Hidden Cost of Personal Quantification', *Journal of Consumer Research*. 42 (6), pp. 967–984.

Fisk, R. P., Dean, A. M., Alkire, L., Joubert, A., Previte, J., Robertson, N., and Rosenbaum, M. S. (2018). 'Design for service inclusion: creating inclusive service systems by 2050'. *Journal of Service Management*. 29 (5)

Fotopoulou, A. and O'Riordan, K. (2017) 'Training to self-care: fitness tracking, biopedagogy and the healthy consumer', *Health Sociology Review*. 26 (1), pp. 54–68

Gardiazabal, P., and Bianchi, C. (2021). Value co-creation activities in retail ecosystems: well-being consequences. *Journal of Services Marketing*. 35 (8), pp.1028-1044

Hoffman, D. L. and Novak, T. P. (2018) 'Consumer and Object Experience in the Internet of Things: An Assemblage Theory Approach', *Journal of Consumer Research*, 44 (6), pp. 1178–1204.

Kuppelwieser, V.G., and Finsterwalder, J. (2016) 'Transformative service research and service dominant logic: Quo Vaditis?'. *Journal of Retailing and Consumer Services.* 28. pp. 91-98

Lupton, D. (2016a) 'Personal data practices in the age of lively data', in Daniels, J., Gregory, K., and Cotton, D. (eds) Digital Sociologies. London: Polity Press Lupton, D. (2016b) 'The diverse domains of quantified selves: self-tracking modes and dataveillance', *Economy and Society*. 45 (1) pp. 101-122

Lupton, D. (2016b) 'The diverse domains of quantified selves: self-tracking modes and dataveillance', *Economy and Society*. 45 (1) pp. 101-122

McLeod, K. (2017) *Wellbeing machine: how health emerges from the assemblages of everyday life*. Carolina: Carolina Academic Press.

Mick, D. G. and Fournier, S. (1998) 'Paradoxes of Technology: Consumer Cognizance, Emotions, and Coping Strategies', *Journal of Consumer Research,* 25 (2), pp. 123–143.

Mulcahy, R. F., Russell-Bennett, R., Zainuddin, N., & Kuhn, K. A. (2018). 'Designing gamified transformative and social marketing services: an investigation of serious m-games'. *Journal of Service Theory and Practice*. 28 (1) pp. 26-51

Ostrom, A.L., Bitner, M.J., Brown, S.W., Burkhard, K.A., Goul, M., Smith-Daniels, V., Demirkan, H. and Rabinovich, E., (2010). 'Moving forward and making a difference: research priorities for the science of service'. *Journal of service research*, *13*(1), pp.4-36.

Ostrom, A. L., Parasuraman, A., Bowen, D. E., Patrício, L., and Voss, C. A. (2015). 'Service research priorities in a rapidly changing context'. *Journal of service research*, 18(2), pp.127-159.

Ostrom, A. L., Field, J. M., Fotheringham, D., Subramony, M., Gustafsson, A., Lemon, K. N., Huang, M., and McColl-Kennedy, J. R. (2021). 'Service Research Priorities: Managing and delivering service in turbulent times'. *Journal of Service Research*, 24 (3), pp.329-353.

Ruckenstein, M. (2014) 'Visualized and Interacted Life: Personal Analytics and Engagements with Data Doubles', *Societies*, 4 (1), pp. 68–84

Russell–Bennett, R., Mulcahy, R., Letheren, K., McAndrew, R., and Dulleck, U. (2020). 'The transformative service paradox: the dilemma of wellbeing trade-offs'. *Journal of Service Management*. 31 (4), pp. 637-663

Sanders, R. (2017) 'Self-tracking in the Digital Era: Biopower, Patriarchy, and the New Biometric Body Projects', *Body and Society*, 23 (1), pp. 36–63

Wittkowski, K., Klein, J. F., Falk, T., Schepers, J. J., Aspara, J., and Bergner, K. N. (2020). 'What gets measured gets done: Can self-tracking technologies enhance advice compliance?'. *Journal of Service Research*, 23 (3), 281-298.

Zakariah, A., Hosany, S., & Cappellini, B. (2021). 'Subjectivities in motion: Dichotomies in consumer engagements with self-tracking technologies'. *Computers in Human Behavior*, *118*, 106699.

TRANSFORMATIVE VALUE: THE ROLE OF VOLUNTEERS IN CREATING WELL-BEING IN HEALTHCARE SERVICE

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ABSTRACT

The article aims to analyze the value creation process by zooming in on the volunteers' activities in a healthcare ecosystem. A qualitative approach is adopted, and an empirical investigation is carried out in collaboration with Kids Kicking Cancer Italia, an association operating in the pediatric oncology wards. Empirical data was collected through 17 in-depth interviews and the analysis of volunteers' diaries.
The study identifies the actors involved in the value creation process of volunteering activities within the healthcare ecosystem. Moreover, four categories of volunteers' value co-creation practices are identified, together with the well-being outcomes generated for each category of actors.

INTRODUCTION

So far, poverty, discrimination, inequality, and vulnerability contribute to feeding the modern society crisis. Innovative solutions are needed to respond to these turbulent times and foster a more inclusive society. In accordance with the transformative service research (TSR), an inclusive society is characterized by a high level of individual and collective well-being (Anderson *et al.*, 2014; Rosenbaum *et al.* 2012; Ostrom *et al.*, 2010). Hence, it becomes a research priority to identify value creation processes that pursue the re-humanization of services (Field *et al.*, 2021). In this regard, healthcare is one of the most important services linked to individuals' well-being (Ungaro *et al.*, 2021). It is also a relevant sector to study relationships, dynamics and potentialities of TSR (Ostrom *et al.* 2015).

In the healthcare ecosystem, volunteering and co-therapy activities support traditional medicine and are carried out through the collaboration of multiple actors (i.e. hospitals, patients, voluntary associations) who integrate their resources to reduce the negative feelings associated with the disease and enhance patient and families' well-being (Guglielmetti and Menicucci, 2020). The volunteer represents an important actor who can play a pivotal role in building a more responsive and resilient healthcare service ecosystem and contributing to providing services for vulnerable consumers (Field *et al.*, 2021). A volunteer is a person that voluntarily decides to carry out activities in favour of the general good and social well-being without an economic reward (European Youth Forum, 2012). According to the service research priorities identified by Field *et al.* (2021), the volunteer actor can contribute to elevating the healthcare ecosystem and transforming it into a sustainable service ecosystem. Indeed, volunteers are key actors in the value creation process of the healthcare ecosystem, but so far, their contribution has received limited attention in service research (Mulder *et al.*, 2015). Hence, it becomes a priority to analyze how and why volunteering and co-therapy activities can contribute to designing a sustainable healthcare service ecosystem, building social cohesion and societal resilience (Field *et al.*, 2021). In line with the call of Rosenbaum *et al.* (2011), the present study contributes to investigating the supportive role that volunteers operating for the non-government organization can provide in the specific field of healthcare. Although volunteers play essential roles in care services, their contributions have not been much focused on in service research.

This article aims to empirically analyze the value creation process by zooming in on the volunteers' activities in a healthcare ecosystem. More specifically, the empirical context is the provision of co-therapy services to hospitalized patients and the role of volunteers in creating sustainable healthcare services. The focus is on (a) identifying the categories of actors interacting with the volunteers in the value creation process and (b) describing how the volunteers co-create value by exchanging resources with the other actors, and (c) analyzing the related well-being outcomes. In this direction, the paper investigates the volunteers' role in co-

creating transformative value and generating well-being outcomes for the whole ecosystem, as well as the broader perceptions of the charitable services provided as co-therapy within the hospitals.

The article provides two theoretical contributions. First, the study represents one of the first empirical research aimed to create new theoretical knowledge on sustainable service healthcare ecosystems focusing on the role of volunteers. Second, we contribute to TSR by identifying the main categories of well-being outcomes deriving from the co-creation process of volunteering activities carried out in the healthcare ecosystem.

Against the above backdrop, a qualitative approach is adopted, and an empirical investigation is carried out in collaboration with Kids Kicking Cancer (KKC) Italia, a volunteer's association operating in the paediatric oncology ward of many Italian hospitals. Empirical data was collected through in-depth interviews with volunteers and the analysis of one-year volunteers' diaries.

The article is organised as follow: first, an explanation of the methodology is provided to elucidate data collection and analysis; then, preliminary findings and discussion regarding the role of volunteers and the impact of their co-creation activities are presented; finally, authors outlined conclusions with limitation and future research.

THEORETICAL FRAMING

The study of service ecosystems' impact on human and planet well-being is an emerging priority for service research. The design of sustainable service ecosystems represents a pillar that needs to be deepened through empirical investigation, by analyzing three priorities: *large-scale and complex service ecosystem for transformative impact*; *platform ecosystems and marketplaces*; and *service for disadvantaged consumers and communities* Field *et al.*, (2021). To do research in line with these priorities, it is necessary to embrace a wider vision aimed to adopt a multi-stakeholder perspective to understand the contribution that each actor can play in developing a more sustainable value creation process in complex service ecosystem. According to this perspective, volunteers and volunteering associations are directly involved in transformative service (Mulder *et al.* 2015), especially the ones operating in the healthcare sector, contributing to create transformative and sustainable value for society. Healthcare service ecosystems evolve continuously and are characterized by high levels of complexity and specific actors (Frow et al 2019, Chandler and Vargo, 2011). A wide range of actors are involved in the process of co-creating value by combining and recombining resources, and developing coordinated collaboration mechanism at operational, political, social, economic, legal or ethical levels (Ciasullo et al, 2016: Polese and Capunzo, 2013). An important group that often are neglected is volunteers. They play an important role in healthcare in collaborating with and adding resources to the service provision, of particular importance for the well-being of engaged actors.

The European Volunteering Chart (European Youth Forum, 2012), answering to the need of a common and shared vision on the topic, defined the volunteers as "a person who carries out activities benefiting society, by free will. These activities are undertaken for a non-profit cause, benefiting the personal development of the volunteer, who commits their time and energy for the general good without financial reward". In Italy, the volunteers' role is regulated by the D.Lgs.117/2017 and he is defined as "A person which, by its own free choice, carries out activities in favour of the community and the common good, also for through an agency of the Third Party sector, making available his/her own time and ability to respond to the needs of people and communities benefiting from its action, in a personal way, spontaneous and free, without profit-making, not even indirect, and exclusively for the purposes of solidarity". Moreover, the activity of the person cannot be paid in any way even from the beneficiary, the institution of the Third-Party sector can reimburse only the expenditure documented based on the precondition established from the institution.

Hence, the volunteer works by his own free choice in favour of the community well-being. In this regard, Hasky-Leventhal *et al.* (2018) introduce the notion of "volunteerability", defining it as the individual's ability to overcome related obstacles and volunteer, and relating it with the concepts of willingness, capability and availability. Mulder *et al.* (2015) expanded the TSR literature by identifying a triadic relationship among volunteer, service provider and community to describe the transformative charitable experiences. However, in their article, the authors focalized the analysis mainly on the well-being generated for the volunteer, demonstrating how this actor is at the same time consumer and provider of the service in a charitable experience.

METHODOLOGY

The study was carried out in collaboration with the volunteering association Kinds Kicking Cancer (KKC) Italia. It was originally founded in United States in 1999 and in 2011 was established also in Italy. KKC Italia is a non-profit organization that helps children with cancer and severe chronic conditions and their families to cope and better manage the disease by teaching martial arts. These activities are developed with a supportive therapeutic aim to help patients in dealing with their illness. The association was selected because it operates with its co-therapy services in many Italian hospitals (i.e. Bambino Gesù, Policlinico Gemelli, Policlinico Umberto I, etc.) and multiple regions (i.e. Lazio, Campania, Umbria, Piedmont, Lombardy, etc.).

A qualitative study was carried out to describe and analyze the role of volunteers in the healthcare service ecosystems and how their value co-creation activities contribute to the well-being of the involved actors. A qualitative methodology is considered appropriate to study new and complex phenomena and to analyze individual's feelings about specific issues (McCusker and Gunaydin, 2015; Boulay *et al.*, 2014). The investigation was carried out integrating two methodological tools in-depth interview and diary analysis.

A total of 17 in-depth interviews were carried out at two different levels. Specifically, first the researchers carried out two in-depths interviews with the founder and the president of the association and five in depth interviews with the volunteers which manage the collaboration with hospitals. The objective of this phase was: i) to understand deeply the mission, the vision and the values of the association; ii) to get a clear picture of the activities carried out and comprehend the partnership process with hospitals; iii) to have a complete vision of the healthcare ecosystem with the involved actors and understand the volunteers' role; iv) to collect their perspective regarding the impacts of volunteering on the stakeholders' well-being. Then the authors performed 10 in-depths interviews with volunteers and analysis of one-year volunteer's diary to examine: i) the volunteer's works and responsibilities; ii) the volunteers' perception of the transformation generated on individuals and communities' well-being throughout the provision of co-therapy programs within hospitals; iii) the inner transformation and the effects on the volunteers' well-being. The interviews were carried out in November 2021.

Simultaneously, the authors coded and interpreted the diaries describing the volunteers' experiences during 2019 and in the second part of 2021. Due to the Covid-19 pandemic, the activities were postponed until the second part of 2021, hence it was not possible to collect further evidence during 2020. The diary is a research method that allows collecting in situ information from a large sample and data about daily activities, self-reflections, and opinions (Guglielmetti Mugion and Menicucci, 2020). The volunteer, at the end of each co-therapy experience, has to report out in a diary the following contents: general information (e.g. number of patients, names, age, and ward), activities performed (I.e. physical exercises, breathing technique and meditation), and emotions and feelings. These reports are collected by the association and shared with all the volunteers on a monthly base. Each monthly diary contains approximately 70 reports.

The transcription of the in-depth interviews and diaries were analyzed separately using a thematic analysis. In both the cases, the authors followed the six phases process identified by Braun and Clarke (2006). In the first, phase the researchers transcribed the interviews and collected the diaries. Each file was stored with name and date. During the second phase, the authors used the software MAXQDA Analytics Pro 2020 to manage and analyze the data. Multiple investigators were involved to guarantee the research rigor (Côté and Turgeon, 2005; Lincoln and Guba, 1985). The recurring topics where counted and coded. Then, the researches started the phase "Searching for Themes", by grouping relevant codes into themes (Braun and Clarke, 2006; Charmaz, 2001) considering the relevant literature on value co-creation activities implemented in the healthcare context (i.e. McColl-Kennedy *et al.*, 2012, Sweeney *et al.*, 2015; Lam and Bianchi, 2019). In the fourth phase, codes and themes were reviewed to verify their logical pattern and consistency with the research question. Afterward, authors assigned a name to each them, describing its content. Finally, in the "Producing the Report" phase a report was developed to depict findings and the final interpretation. To support the themes comprehension quotes from participants were reported (King, 2004). An example of the coding output process for diaries analysis is provided in Table 1, which include: the detected codes with their frequencies, the related identified final co-creation theme, the theme link to the literature, and finally, the description of the co-creation theme examined within the empirical context of volunteering in the healthcare sector.

Table 1: Example of Diaries coding process output

Codes	Frequencies	Final Theme	Theme Related literature	Description in context
Establish a contact	35	Connecting (co-created relationships)	*Mulder et al., 2015; Lam and Bianchi, (2019); McColl-Kennedy et al., (2012); Sweeney et al., (2015)*	Volunteers create relationships with all actors involved. Specifically, they need to engage with the young patients and their families to have the opportunity to carry out the activities and get positive results.
Encourage	25			

In the following section, the preliminary results of the ongoing analysis are presented.

RESULTS

This section presents the preliminary results of the in-depth interviews and the thematic analysis of the diaries. The analysis and results provided a basis for understanding how the association carry out co-therapy activities and the pivotal actors involved in the healthcare service ecosystem. In addition, the main volunteers' value co-creation activities are presented. Finally, the transformative outcomes in terms of well-being for all the involved actors are reported.

Generally, the volunteers attempt to build a connection with the young patients, and then they start the activity by practicing physical moves (when possible), breathing exercises and meditation practices helpful during painful therapies. In doing that, families are also involved in facilitating the patient's engagement and co-create shared moments of distraction and emotional well-being. From the volunteer's point of view, the activities allow the child to grow apart for a moment from the disease, and help him vent anger, have fun, relax, and manage pain. Moreover, activities can also positively impact family members who can participate in the activity together with children or take a moment for themselves and get away from the disease for a few minutes. Sometimes the volunteer must try to convince and stimulate the child to carry out activities because some patients may be reluctant. The parents could have an essential role in acting as an agent for setting the connection between the volunteer and the patient. On the other side, in some situations, the family may prevent the connection for fear or a sense of protection triggered by the vulnerability of children. In addition, The Covid-19 outbreak stopped activities that slowly resumed only in the second half of 2021 and in a partial manner. According to the volunteers, the pandemic waves negatively impacted patients who have been denied both the possibility of carrying out activities that amused and distracted them, and to which they were accustomed.

The actors involved in the co-therapy process can be grouped into four categories: the volunteers, the patients, their family and the hospital (including physicians, nurses, and administrative staff).
The investigation allowed the authors to understand the value co-creation activities performed by the volunteers and the potential effects on actors' well-being. In the diaries volunteers described their experience immediately after the activities and it allows researchers to collect more information about self-reflections and impressions going deeper in their instantaneous feelings. Simultaneously, the interviews put forward the possibility to go further in diaries results and add more data about volunteer's role and responsibilities, understand the drivers at the basis of volunteer's motivations and their perceptions of the generated well-being, even for them-self. After a first separate analysis, the authors examined together diaries and interviews results and to achieve the study objective and they identified the value co-creation activity's themes which are specific for volunteers in the healthcare ecosystem: *connecting, co-production, compliance with HSP requirements, manage patients and provide co-therapies*. The results are described in Table 2 and examples of quotes are used to support the understanding of the themes. Some of them were already recognized in literature as co-creation activities carried out by other stakeholders such as patients, families, customers (i.e. Mulder *et al.*, 2015; Lam and Bianchi, 2019; McColl-Kennedy *et al.*, 2012; Sweeney *et al.*, 2015) and the authors effort was to connect and interpret the literature examined in relation to the phenomenon under investigation and the specific actor.

Table 2: Volunteers' value co-creation activities

Volunteer's value co-creation activities	Description	Quotes
Connecting (co-created relationships)	Volunteers create relationships with all actors involved. Specifically, they need to engage with the young patients and their families to have the opportunity to carry out the activities and get positive results.	*"Initially the mother seems a bit uncertain, but we explain that the exercises can also be performed from the bed and so we start the activities with the ritual greeting".*
Co-production	Volunteers co-produce the activities in accordance with patients, families and HSP regulation which are all involved in the activity's implementation and design.	*"Fabio explains the importance of breathing exercises and the grandfather intervenes to tell us that he always tells him how useful and important it is to breathe".*
Compliance with HSP requirements	Volunteers must comply with the regulations communicated by the health facility regarding how to manage patients and how to use the spaces	*"The hospital provides us with directions and there are regulations that we must follow to get in touch with children, even more stringent during the covid-19"*
Manage patients and provide co-therapies	Volunteers help HSP to manage patients and they provide co-therapies that can help children deal with their illness.	*"For nurses it is difficult to manage patients all day and we help to do so, in addition children after activities are often more relaxed and happier and this is an additional help for health professionals".*

Moreover, based on respondent's point of view, authors highlighted the well-being dimensions which were impacted by the volunteers' value co-creation activities for the involved actors: patients (*emotional regulation, have fun*), families (*relax, positive thinking*) and volunteers (s*atisfaction and realization, empathy, burnout*) which are presented and depicted in Table 3. As previously, researchers started from categories already recognized in literature (i.e. Gross, 1999; Duhachek, 2005; Fagerlind *et al.*, 2010; Cordova *et al.*, 2003; Sweeney *et al.*, 2015; Mulder *et al.*, 2015; Mareike and Karsten, 2020; Watson *et al.*, 1998) linking them with the specific stakeholders of the current research, in this process the data reveal new well-being outcomes categories: relax (for families), burnout and empathy (for volunteers).

Table 3: Well-being outcome by actor

Actor	Well-being outcomes (volunteer's perspective)	Description	Quotes
Patients	Emotional regulation	Martial art therapy and volunteers' practices helps patients to cope with their emotions.	*"Alessandro began to laugh and seemed not to want to stop playing this game, his shots in the meantime had become so powerful that the shooter hit in sequence Roberto and me. Then he wanted to use the striker as a sword and threw himself into an epic battle".*
	Have fun	Participation in the exercises proposed by the volunteer allows children to have fun for a moment and forget the disease.	
Families	Relax	The intervention of the volunteer gives the possibility to the relatives to take some time for themselves and to have the possibility not to care for some moments the children.	*"In the final relaxation, aimed at removing the bad thoughts, even the mother falls asleep finding for a moment some peace".*
	Positive thinking	Seeing the child happy and amused allows the family member to develop a positive thinking that allows him to fight and better manage the disease.	

Volunteer	Satisfaction and realization	The volunteer feels satisfied and fulfilled when at the end of the activities with families and children he perceives that his intervention has allowed them to feel better, better manage the disease and have a little distraction.	*"I like to see the father's gloomy face lie down slowly and also the smile of the son".*
	Empathy	The experience allows volunteers to enhance their level of empathy.	*"Feelings are very strong and sometimes it is better to take breaks to overcome the negative feelings that you experience during volunteer activities".*
	Burnout (negative)	There is also a downside that volunteers can experience the burnout, determined by the inability to manage the strong emotions following volunteering.	

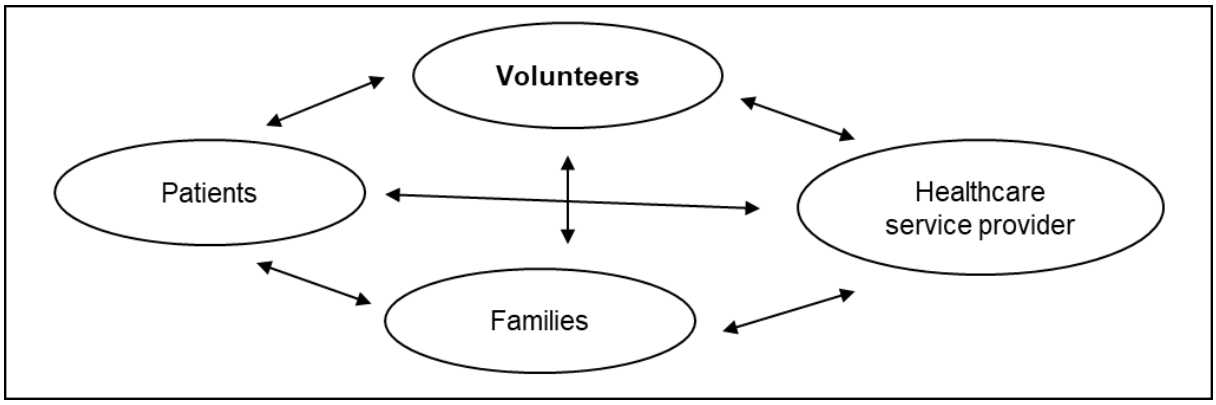
DISCUSSION

The presented preliminary results shed light on the essential role (tasks, activities, and outcomes) the volunteers play in the healthcare ecosystem.

The empirical results allow depicting the main actors involved in the value creation process of volunteering activities within the healthcare ecosystem: volunteers, volunteering associations, healthcare providers (including nurses, physicians, and no medical staff), patients and their families. It allows getting a picture of the healthcare service ecosystem (Figure 1) understanding how the volunteers are integrated into it. Specifically, the Mulder *et al.* (2015) framework is confirmed and adapted to the healthcare context, and an additional actor is included (families).

The empirical analysis, in addition, reveals that volunteers' activities contribute to co-create transformative value not only for the patients, instead generating well-being outcomes for all the actors involved. Mainly, combining existing literature and the results of the qualitative data analysis, four main categories of value co-creation depicted are: connecting (co-created relationships) (Mulder *et al.*, 2015; Lam and Bianchi, 2019; McColl-Kennedy *et al.*, 2012; Sweeney *et al.*, 2015), co-production (Lam and Bianchi, 2019; McColl-Kennedy *et al.*, 2012; Sweeney *et al.*, (2015), compliance with HSP requirements (Sweeney *et al.*, 2015), and manage patients and provide co-therapies (Mulder *et al.*, 2015; Guglielmetti Mugion and Menicucci, 2020).

Figure 1: Simplified representation of the Healthcare ecosystem and volunteering value creation process.



As pointed out by different authors, TSR is grounded on interactions characterized by collaboration, respect, and sustainability improvement (Mulder *et al.*, 2015; Rosenbaum *et al.*, 2011). In line with this perspective, this research allows pointing out that the co-therapy activities performed by volunteers within hospitals

generate transformative value for the healthcare ecosystem, namely to create well-being outcomes at both individual and community levels. This is enabled by the active collaboration of all the involved actors that cooperate to create value for the whole ecosystem.

In addition, the present research, not only confirmed that volunteers while operating create well-being for themselves ("volunteers may be served while serving", Mulder *et al.* 2015, p.877), but also identified the well-being outcomes generated by the volunteering activities for each category of actors operating in the ecosystem. For patients, *emotional regulation* and *having fun* are created (Gross 1999; Duhachek 2005; Fagerlind *et al.*, 2010; Cordova *et al.*, 2003; Sweeney *et al.*, 2015), while for their family *relax* and *positive thinking* are generated (Duhachek 2005; Fagerlind *et al.*, 2010; Cordova *et al.*, 2003; Sweeney *et al.*, 2015). Volunteers' well-being outcomes refer to *satisfaction*, *realization*, and *empathy*, but can also produce some adverse effects in terms of burnout (Mulder *et al.*, 2015; Mareike and Karsten, 2020; Watson *et al.*, 1998). For the hospitals and their staff, well-being outcomes are linked with a more well-structured organization of the entertainment of patients and their family which translates into a *better relationship* with the patient and, accordingly, a greater *staff satisfaction*.

Co-therapy services provided by volunteers and charitable organizations within the hospital helps to increase the well-being of the patients and allow extending the creation of transformative value for other actors involved and for the community in general. This is in line with the Gallan *et al.* (2019) study that pointed out the importance of connecting patients' ecosystems with those of others to contribute broadly to the community well-being. In addition, the volunteer throughout is activities allows *putting humans first* (Field *et al.*, 2021) into the healthcare ecosystem, developing trust, agility and resilience.

CONCLUSION

The aim of this paper is to identify the main categories of actors interacting with the volunteers in the value creation process and describe how the volunteers co-create transformative value by exchanging resources with the other actors. Finally, the article presents the analyse of the well-being outcomes for each category of actor involved.

This paper is one of the few to investigate the transformative phenomenon and the mechanism and outcome of value co-creation during volunteer activities in the healthcare context. Negative and positive impacts on the individual and collective well-being of involved stakeholders were highlighted. Indeed, the study contributes to the current knowledge, providing valuable insights into transformative value co-creation practices and related well-being in the healthcare sector. It highlights the pivotal role of volunteers and co-therapy services in triggering resources exchanging practices that generate well-being not only for patients but also for all the categories of actors. Accordingly, the present research attempts to provide empirical evidence to enrich the services research priorities identified by relevant authors (i.e. Field *et al.* 2021; Rosenbaum, 2015; Ostrom *et al.* 2015; Baron, Warnaby and Hunter-Jones, 2014; Ostrom *et al.* 2010) by advancing theories related to both TSR and sustainable service ecosystem.

The empirical analysis provides practical implications, generating beneficial implications for multiple actors. The role of volunteers and volunteering organizations in the healthcare ecosystem is recognized, and the transformative value co-creation practices are bought to the light. In addition, hospitals, healthcare service providers, and charitable organizations have access to evidence-based information to improve co-therapy and design new services to increase the patients' well-being.

Since the empirical case and qualitative data collected refer only to a volunteering association (KKC Italia) and its volunteers, the results could be affected by some bias related to the specific co-therapy activity performed (martial art therapy). Future studies may be carried out to confirm or extend the presented outcomes by including different co-therapy activities (e.g. horticultural, ceramic, etc.). In addition, the present research is contextualized in Italy, and it may be interesting to develop cross-country comparative research aimed to investigate how the social context and the institutional arrangement can affect both the co-creation practices and the well-being outcomes.

REFERENCES

Anderson, L. and Ostrom, A.L. (2015) 'Transformative Service Research: Advancing Our Knowledge About Service and Well-Being', *Journal of Service Research*, 18 (3), pp. 243–249.
Anderson, L., Ostrom, A. L., Corus, C., Fisk, R. P., Gallan, A. S., Giraldo, M. and Williams, J. D. (2013) 'Transformative service research: An agenda for the future', *Journal of Business Research*, 66 (8), pp. 1203–1210.
Baron, S., Warnaby, G. and Hunter-Jones, P. (2014) 'Service (s) marketing research: Developments and directions', *International Journal of Management Reviews,* 16 (2), pp. 150-171.
Bitner, M. J. and Brown, S. W. (2008) 'The service imperative", *Business horizons*, 51 (1), pp. 39-46.
Blocker, C. P. and Barrios, A., (2015) 'The Transformative Value of a Service Experience', *Journal of Service Research*, 18 (3) pp. 265–283.
Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative research in psychology*, 3 (2) pp. 77–101.
Chandler, J. D. and Vargo, S. L. (2011) 'Contextualization and value-in-context: How context frames exchange', *Marketing theory*, 11 (1), pp. 35-49.
Charmaz, K., (2001) 'Grounded theory'. In: Emerson, R. M. (Ed.), *Contemporary field research: perspectives and formulations*, Waveland Press, Illinois, pp. 335 – 352.
Ciasullo, M. V., Cosimato, S. and Pellicano, M. (2017) 'Service innovations in the healthcare service ecosystem: a case study', *Systems*, 5 (2), pp. 37.
Cordova, M. J., Giese-Davis, J., Golant, M., Kronnenwetter, C., Chang, V., McFarlin, S. and Spiegel, D. (2003) 'Mood disturbance in community cancer support groups: The role of emotional suppression and fighting spirit', *Journal of psychosomatic research*, 55 (5), pp. 461-467.
Côté, L. and Turgeon, J. (2005) 'Appraising qualitative research articles in medicine and medical education', *Medical teacher,* 27(1), pp. 71–75.
Creswell, J. W. (2003) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 2nd ed., Thousand Oaks, CA: Sage Publications.
Duhachek, A. (2005) 'Coping: A Multidimensional, Hierarchical Framework of Responses to Stressful Consumption Episodes', *Journal of Consumer Research*, 32 (1), pp. 41-53.
Elkington, J. (2018) 'The Elkington Report: Zen and the Triple Bottom Line'. Retrieved September 20, 2019, from https://www.greenbiz.com/article/zen-and-triple-bottom-line.
Fagerlind, H., Ring, L., Brülde, B., Feltelius, N. and Lindblad, Å. K. (2010) 'Patients' understanding of the concepts of health and quality of life', *Patient education and counseling*, 78 (1), pp. 104-110.
Field, J. M., Fotheringham, D., Subramony, M., Gustafsson, A., Ostrom, A. L., Lemon, K. N. and McColl-Kennedy, J. R. (2021) 'Service Research Priorities: Designing Sustainable Service Ecosystems', *Journal of Service Research*, 10946705211031302.
Frow, P., McColl-Kennedy, J. R., Payne, A. and Govind, R. (2019) 'Service ecosystem well-being: conceptualization and implications for theory and practice', *European Journal of Marketing*, 53 (12), pp. 2657-2691.
Gross, J. J. (1999) 'Emotion Regulation: Past, Present, Future', *Cognition & Emotion*, 13 (5), pp. 551-573.
Guglielmetti Mugion, R. G. and Menicucci, E. (2020) 'Understanding the benefits of horticultural therapy on paediatric patient's well-being during hospitalisation', *The TQM Journal*, 33 (4), pp. 856-881.
Hesse-Biber, S. and Johnson, R.B. (2013) 'Coming at Things Differently', *Journal of Mixed Methods Research*, 7 (2), pp. 103–109.
Lam, P. and Bianchi, C., (2019) 'Exploring the role of family in enhancing the well-being of patients with developmental disorders' *Journal of Services Marketing,* 33 (6), pp. 721-734.
Lincoln, Y. and Guba, E. G. (1985) *Naturalistic inquiry*, Sage Publications, London.
King, N., (2004) 'Using Templates in the Thematic Analysis of Text'. In: Cassell, C., & Symon, G. (Eds.). (2004). *Essential guide to qualitative methods in organizational research*, Sage publications, Great Britain, pp. 256 – 270.
Falter, M. and Hadwich, K. (2020) 'Customer service well-being: scale development and validation', *The Service Industries Journal*, 40 (1-2), pp. 181-202.
McColl-Kennedy, J. R., Vargo, S. L., Dagger, T. S., Sweeney, J. C. and Kasteren, Y. V. (2012) 'Health care customer value cocreation practice styles', *Journal of service research*, 15 (4), pp. 370-389.
Mulder, M. R., Rapp, J. M., Hamby, A. and Weaver, T., (2015), "Consumer transformation through volunteer service experiences", *Service Industries Journal*, 35(15–16) 865–882.
Ostrom, A.L., Bitner, M.J., Brown, S. W., Burkhard, K.A., Goul, M., Smith-Daniels, V. and Rabinovich, E., (2010) 'Moving forward and making a difference: Research priorities for the science of service', *Journal of Service Research*, 13 (1), pp. 4–36.

Ostrom, A., Mathras, D. and Anderson, L., (2014) 'Transformative service research: An emerging subfield focused on service and well-being', In *Handbook of Service Marketing Research*. Edward Elgar Publishing Ltd., pp 557-579.

Ostrom, A.L., Parasuraman A, Bowen, D.E., Patrício L, Voss CA., (2015) 'Service Research Priorities in a Rapidly Changing Context', *Journal of Service Research,* 18 (2), pp. 127-159 doi:10.1177/1094670515576315

Polese, F. and Capunzo, M. (2013) 'The determinants of translational medicine success-A managerial contribution, *Translational Medicine@ UniSa*, 6, 29.

Rosenbaum, M. S., Corus, C., Ostrom, A. L., Anderson, L., Fisk, R. P., Gallan, A. S. and Williams, J. D. (2011) 'Conceptualisation and aspirations of transformative service research', *Journal of Research for Consumers*, 19, pp. 1–6.

Rosenbaum, M. S. (2015s) 'Transformative service research: Focus on well-being', *Service Industries Journal*, 35 (7) pp. 363–367.

Rosenbaum, M. S. (2015b) 'Transformative service research: research that matters', *Service Industries Journal,* 35 (15–16) pp. 801–805.

Sangiorgi, D., (2011) 'Transformative services and transformation design', *International Journal of Design,* 5 (2), pp. 29–40.

Sweeney, J. C., Danaher, T. S. and McColl-Kennedy, J. R. (2015) 'Customer effort in value cocreation activities: Improving quality of life and behavioural intentions of health care customers', *Journal of Service Research*, 18 (3), pp. 318-335.

Venkatesh, V., Brown, S.A. and Bala, H., (2013) 'Research article bridging the Qualitative – Quantitative Divide: Guidelines for conducting mixed methods', *Mis Quarterly*, 37 (1), pp. 21–54.

Watson, D., Clark, L.A. and Tellegen, A. (1988) 'Development and validation of brief measures of positive and negative affect: the PANAS scales', *Journal of Personality and Social Psychology*, 54 (6), pp. 1063-1070.

MOTIVATIONAL INTERMISSIONS: OPTIMIZING FITNESS TECHNOLOGY FOR THE CO-CREATION OF MOTIVATION

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ABSTRACT

This study focuses on how fitness technology services can be designed in order to support the co-creation of motivation to sustain a healthy behavior. The study used an exploratory qualitative design in which we interviewed eight seasoned runners about their running routines and their use of fitness trackers. The result shows that the fitness routines require careful planning and deliberation, and that the maintenance of a healthy lifestyle relies more on what happens between the activities than during said activity. Thus, fitness trackers should focus on feedback that allows users to co-create motivation during intermissions between health promoting behaviors.

INTRODUCTION

There is a global interest to understand how governments and organizations can support the individuals to adopt a healthier lifestyle (UN General Assembly, 2015). Apart from the more obvious physical benefits of a healthy lifestyle (Marteau, 2018) several studies also show positive effects on psychological health aspects, such as improved mood, lower anxiety, better stress resilience, and higher self-esteem (Scully *et al.*, 1998; Young *et al.*, 2018). In contrast to what the name implies, lifestyle choices are influenced by both personal and external circumstances (Marteu, 2018). This paper explores how fitness technology can help users co-create better health by means of supporting better lifestyle choices.

The challenges of behavior change

Understanding behavior change is an integral part of psychology, and there are numerous theories for behavior change. One of the best-known is Bandura's social cognitive theory, which describes how social modeling influences a person's behavior; and includes the dual-system of Self-efficacy and Self-regulatory processes (Bandura, 1986). Self-efficacy regards a person's belief of success and mastery, and the effort he or she will expend for this success. Self-regulatory processes refer to self-monitoring of behaviors, which may result in either behavior change or reinforcement, depending on whether or not the behavior is deemed successful.

A behavior change model that includes the importance of the surrounding environment is the so-called COM-B model (Michie, van Stralen and West, 2011), which states that Behavior comprises three aspects: Capability, Motivation, and Opportunity. Capability is the individual's psychological and physical capacity to perform the desired behavior. Opportunity is the external conditions that promote the desired behavior. Motivation includes all processes that direct behavior, for example feelings and attitudes (Michie *et al.*, 2011). Another well-known behavior change model is Fogg's (2009), that includes three of the aforementioned aspects for behavior change: (a) Motivation (the person's willingness to change his/her behavior); (b) Ability/simplicity (the effort it will take the person to performed the desired behavior); and (c) Triggers/timing (the cues that may stimulate the performance of desired behavior). All in all, in order to successfully both attain and sustain behavior changes, several aspects need to be present both within and outside the individual.

In addition, we also need to understand why behavior change is often obstructed. Two general conclusions have been drawn from decades of research (Bouton, 2014): firstly, even if someone successfully manages a behavioral change - the old behavior is still latent. This means that the extinct behavior is merely inhibited, and can cause lapse or relapse under certain circumstances. Secondly, most behaviors are specific to a situation, that is, newly acquired healthy behaviors will be harder to maintain in some situations than others. For instance, a new healthy diet is easier to forgo under stressful or otherwise disruptive situations than

during “normal” circumstances. In addition, the new behavior needs to be learnt in several different situations for a sustainable behavior change (Bouton, 2014).

A similar way of understanding the challenges of behavior change is through Kahneman’s dual-system of heuristics (Kahneman, 2011). “System 1” is our fast and automatic way of thinking, feeling, and reacting; it is emotional and unconscious and basically a default decision pattern. “System 2” is slow, controlled, and logical; a conscious and informative way of thinking and reasoning. Both systems are equally appropriate in different situations (Dijksterhuis *et al.*, 2006), where System 1 saves cognitive energy in everyday life but also hinders behavior changes, as a new behavior demands System 2, as it is a controlled decision that takes effort and conscious thinking.

Individuals trying to change their behavior are increasingly relying on fitness technology to quantify and record their fitness regimes. Wearable fitness technology provides reminders and feedback about the quantity and intensity of an activity, by means of sensors that track and record behaviors (Sullivan and Lachman, 2017). The main task is to provide different kinds of feedback that will help users behave in accordance with a desired behavior, whether it regards adoption of a healthier lifestyle or disease prevention (Chia *et al.*, 2019).

Fitness technology and the co-creation of health

Wearable fitness technology is the leading trend in the fitness industry (Thompson, 2020). According to several service researchers (e.g., Bäccman *et al.*, 2020; Kristensson, 2019; Kunz *et al.*, 2019; Paluch and Tuzovic, 2019) service technologies are transforming our society rapidly and this has implications for both businesses and consumers. Fitness technology is thus a service whose purpose is to help, motivate or create more opportunity for behavior change (Sullivan and Lachman, 2017).

Despite the widespread use of fitness trackers, research has cast doubts on their effectiveness for behavior change (Nuss *et al.*, 2021). Schembre et al. (2018), showed that the efficacy of feedback on behavior change was only significant in four out of nine studies in their review. This is unfortunate as research on consumer well-being suggests that consumers may find opportunities to co-create important values for themselves by using technologies of various kinds (Gummerus et al, 2019). However, research on future service technologies also reveal that they are increasingly being designed using a company perspective, thus neglecting the value that the user has interest in (Kunz *et al.*, 2019). Taken together, the quality of the fitness technology and its ability to both attain and maintain behavior changes seem to vary considerably (Nuss *et al.* 2021; Mohr *et al.*, 2013). Most importantly, as pointed out by Fritz and et al. (2014), most studies are incapable of showing lasting behavior changes, that is validating a real value of fitness technology for actual behavior changes. Thus, there is a gap in the academic literature between the purpose of fitness trackers and its value for maintaining behavior changes.

Aim

The aim of this study was twofold: firstly, to explore how seasoned runners used fitness trackers to help them maintain a healthy behavior. In other words, how do fitness trackers motivate athletes to maintain an established fitness routine. Secondly, how can fitness technology services be designed in order to support the co-creation of motivation to sustain a healthy behavior.

METHOD

The design of this study was exploratory and used qualitative interviews as data. The term fitness trackers was used to include wearable fitness technology, such as watches and smartphones that was used for logging data from an exercise either as an end-feature or by means of an application.

Participants

The participants in this study were eight non-professional runners (five men, three women) aged between 30 and 65, who had run at least two years as part of their training routines. Participants ran twice or more times a week, ranging from 5 to 25 kilometers, and had used fitness trackers for at least three months on a regular basis. Three of the participants did other forms of exercise during the week or across the year, and considered

running a means for a more primary goal and one participant was actively training for a marathon. Thus, they were all maintaining healthy behaviors, rather than making behavioral changes.

Apart from the inclusion criterion of being regular runners, all participants were required to use or have used at least one of the following fitness trackers for at least three months: Runkeeper, Weight Loss Running, Endomondo, Runtastic, Nike+ Run Club, Strava, Run Tracker, Garmin Connect, Map My Run, and/or Runmeter.

Procedure

As the main purpose was to learn how the participants used fitness trackers in their exercise regimen, the interview questions regarded three broad themes: the exercise routine; use and user experiences of fitness trackers; and use of specific functions in the fitness tracker. Participants were also asked if they ran without the fitness tracker and if so, to describe what such a run would be like. The interviews did not specifically render a given number of questions but aimed to capture the participants' user perspective.

All participants had given their consent to participation in accordance with the principles of the World Medical Association (WMA, 2018), that is, informed consent to how data would be collected, processed and stored; that participation was voluntary and could be withdrawn at any time. The interviews lasted between 45 and 60 minutes and were conducted in person. All interviews were audio-recorded and transcribed verbatim. All audio files are stored on a protected server, and the transcripts have been anonymized.

Data analysis

The data analysis was made in NVivo 11 for Mac. The open coding in NVivo was conducted by one of the researchers and the results were discussed with the other researcher throughout all steps of the analysis.

The analysis was conducted according to thematic analysis where the semantic/explicit meaning of the interview is analyzed (Braun and Clarke, 2006). The analysis was iterative, but can be described as having six steps. The first step was to get to know the data from an overall, holistic perspective. The second step was extracting meaning from the interviews and coding these according to content. A code could range from one to several sentences, representing communalities within the code. The coding was kept close to the data, that is, the coding did not stray far from the explicit meaning of the code. The third step was interpretative, with the objective of finding protothemes from the initial coding. Here, the codes were combined or split according to a common theme and checked again for inconsistencies. In the fourth step, the themes were reviewed and reanalyzed according to the emergent protothema. All themes were examined so as to be distinct and separable, and that they contained coherent data. The fifth step was to further refine and define each theme and give them distinctive and representative labels. At this point, a unifying understanding of the data emerged from the themes, and a model was created to visualize the data. The sixth and final step was the writing up and reporting of the data and analysis.

RESULT

The analysis generated two general categories: *Exercise* and *Between exercises*. The category Exercise describes a process from the start of the actual running activity until the end. This includes themes related to pre- to post-exercise routines. Between exercises, refers to the time interval between workouts, and emerged from the themes that described the time in which the participants used the data from the fitness trackers for motivation. This interval may vary in duration from days to weeks, and seemingly even months in some cases, as in the case of those who do not run during winter. As this study focuses on maintaining behavioral change and how fitness trackers can be used for this, we only briefly outline categories related to the actual exercise routine.

Exercise

This general category consisted of three broader themes: *Pre-exercise, During exercise,* and *Post-exercise*. The first theme concerned the time just before the participant starts running and contained the following sub-themes: *Pre-routine, Calibration,* and *Hassles*. Pre-routine was the preparations before the run (for example,

“Well, I prepare while I change and put on my workout wear, and the best is to [run] first thing in the morning /…/”). Part of this is the Calibration of their fitness tracker, and this is also where the Hassles may occur. The latter is depicted in the following example: “At that point I found [the fitness tracker] difficult to wear on my arm, when I had a small bag on my arm and it was a hassle to put it in there”.

The second theme, During exercise, enclosed three sub-themes: *Feelings and thoughts, Real-time monitoring,* and *Failure to register.* The first, was the participants’ descriptions of how they felt when they ran, for example how their mind became occupied by thoughts. The sub-themes, Real-time monitoring and Failure to register, were related to the fitness trackers. Mainly the ability of the fitness trackers to accurately monitor and register activity data, in terms of time, pace, location, and so on. Failure to register, either due to faulty GPS signals or because the participant accidentally reset the fitness tracker, the participants describe this as “devastating”. Accurate registration of the exercise activity is a key aspect of why the participants use fitness trackers during exercise, as illustrated in the quote: “/.../ the times I have forgotten to start the watch when I am running /…/ it is like I haven’t done it at all /.../ Like being at work for free”

The final theme, Post-exercise, encompassed three sub-themes: *Feelings after, Routines after,* and *Faulty feedback*. Feelings after regarded how the participants felt after having completed the run; sometimes in depending on their performance, and sometimes regardless of their actual performance. Routines after were descriptions of what the participants did directly after their run, for example, if they stretched or just sat down at the kitchen table and looked at the registered data on their fitness tracker.

Faulty feedback comprises statements on how the participants felt and reacted if they discovered that the fitness tracker had failed to register the run correctly. This can be divided into sub-themes in terms of temporal consequences when the feedback fails: *Long-term effects* and *Short-term effects*. Short-term effects were the participants’ immediate reactions and feelings at discovery; Long-term effects, concerned the impact of failure to register activities on the possibility of evaluating an activity as part of reaching a certain goal.

Between exercises

The second category, *Between exercises,* concerns the time between one run and the next. Two themes emerged: the *Planning* of workouts and descriptions of the wearable as a crucial *Motivator*. Planning comprised sub-themes regarding how the participants planned their workouts, and *Exercise variation*. Careful planning and variation were ways of maintaining motivation and goal attainment. Planning also included strategies for staving off slacking, that is how the participants identified and neutralized *Threats to exercise.* For example, by going out running first thing in the morning, before anything else came up or because this was less intrusive on the rest of the family. Creating a permanent weekly routine was a common way to overcome Threats to exercises: “… No since I’m very intent, it is Tuesdays and Thursdays straight out after work”. Another way to stave off slacking was by using *Reminders*, such as putting out their running gear on the kitchen table to avoid forgetting their plans once they come home from work.

The second theme, Motivator, contains descriptions of how the participants were motivated by the wearable and its different functions, as illustrated in:

> *[The routine] would probably look pretty similar I think, it is mostly for myself, I want a confirmation on ‘yes now it went this fast’ or ‘yes but I felt that’; I can be pleased with myself if it went faster than the time before. A little carrot and stick to improve myself.*

Motivator, was connected to six sub-themes regarding the use of the wearable: *Self-worth of fitness trackers, Simplicity, External feedback, Ambivalence, Utility,* and *Lacking functions.* The first sub-theme, Self-worth of fitness trackers, represents an expressed inclination and interest of technical gadgets regardless of performance: “More functions in [the app] that I can lose myself in”. The second sub-theme, Simplicity, regarded the participant’s choice and use of fitness trackers, both of which were often due to a design of straightforwardness, promptness, and usability. The third sub-theme, External feedback, comprises statements regarding both social media and where a group of “friends” (real or digital) can train or compete in a private group. Social sharing could be about both becoming motivated or encouraging others, but could also be about wanting to show off.

The fourth, Ambivalence, regards the participants' conflicting thoughts and feelings toward their use of fitness trackers. Here the participants could express a compulsive need for the fitness trackers to give them feedback about their performance even if they claim not needing it. Ambivalence can also be about admitting that the pleasure of running would be greater without the fitness trackers, as depicted by the following quotes: "Maybe I would train better without an app as I would then have to listen to my physiological clock instead of a ticking clock". The fifth sub-theme, Utility, refers to descriptions of what functions in the fitness trackers the participants use and appreciate. This includes keeping track of time, distance, and pace, helping with interval training, or pulse-monitoring.

Deficiencies of Utility were coded in the sixth and final sub-theme. Here participants expressed displeasure with certain functions or missing the availability of other functions. Examples include problems with the GPS, not being able to turn of the timer register, and other pieces of information that were considered unwanted and not unrequested, such as: "But you're being put into context like the average person in my age, that's why I reacted, and [the information] is there first thing, it would be different if I had looked for it".

Lacking functions was also connected to the previously mentioned sub-theme, Long-term effects of Faulty feedback (Post-exercise in the general category of Exercise). The long-term effects of faulty logging may affect motivation, by having a deteriorating effect of the Utility of the fitness trackers in terms of Lacking functions, as illustrated by:

> *It shows that I ran on a lake /.../, when in reality I ran around a lake. That part could be improved. Be more exact in receiving GPS signals to more accurately show where you have run, so you can really stand for that round. Of course, it can be poor signals locally. It does not happen often, but it happens and when it does, and it is simply not correct, I become displeased.*

In sum, the results show that regardless of how long the participants had run for, they still needed a strategy for keeping up the running routine, and that the main reason for using a fitness tracker was to record data from the run. Although the data for progress during the run was used for knowing time and distance, the participants' experiences during the run were more described in terms of feelings and moods, than performance. In contrast, the recorded data was a validation of the activity that could be used for feedback later in time, sometimes as a way of motivating themselves to run on days where running felt like a chore.

DISCUSSION

The aim of the current study was twofold. One aim was to explore how fitness trackers are used to maintain healthy behaviors; here, sustain a physical activity. The second aim was to see whether and how the usage can be utilized in the design of fitness trackers to support the co-creation of motivation to sustain a healthy behavior. The results showed that the participants' exercise behaviors were maintained in two ways. One way regarded the data's motivational aspects *during* the actual exercise, as depicted in the general category Exercise. Here the importance of the fitness tracker to help the runner to keep track of the time, distance, or route, depending on their personal goal(s) with their training was emphasized. The information the fitness tracker provided during the actual workout seemed to have an immediate motivational reward and created a feeling of wanting to do it again for the sake of the positive experience in itself that increases in self-efficacy (Bandura, 1986). Thus, the "feel good" and the "can do" during exercises motivates repeat behavior.

The second way the participants' healthy behavior was maintained was by means of the data itself, and the fact that they had performed was emphasized, not the success of the performance. Thus, the fitness tracker's ability to record and save the data from the run was vital, and failure to download and save the data was considered disastrous. Fritz and et al. (2014) found similar results, where the participants reported that the recording of the activity was more important for both enjoyment and motivation than the activity itself. The feedback being key for behavior changes (Stragier *et al.* 2016). The saved data from the fitness tracker was an important motivator for the participants' next run. Registered data seems to increase self-efficacy and mastery by providing proof of success and thereby motivating the participants to continue their healthy behavior between exercises (Bandura, 1986). In other words, recorded data is used to encourage continuance of behavior.

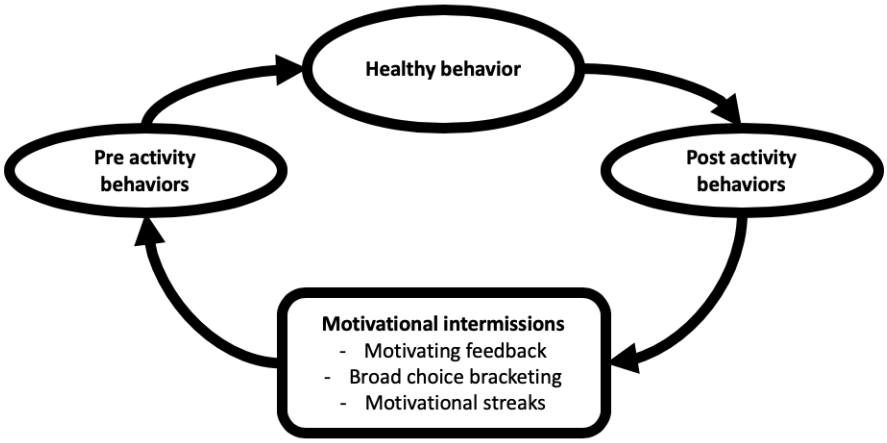
It is interesting to note that while the participants were seasoned runners, they were still vulnerable to everyday threats to exercise and this could be seen in their strategies before and between runs. This is in

line with previous research on behavior change showing that the old behavior is only latent and not extinct, which is why it is so easy to fall back to old habits (Bouton, 2014). Thus, behavior change is an ongoing, conscious activity, creating ample opportunity for service providers to support with both intrinsic and extrinsic motivation such as triggers and reminders.

Taken together, this study shows that the motivational force of fitness trackers is twofold: firstly, what happens during the activity (e.g., moods and feelings about the performance), and secondly, what happens between activities (e.g., the feedback and planning). However, since any level of activity is better than no activity at all, getting people to exercise should be a more important task than maximizing exercise effects. Consequently, motivating users to re-engage in healthy behavior during the intermission between activities should be a priority in fitness trackers. Participants' intermissions in this study could last from a day (a rest between workouts) to months (during winter, for example), and it was during this period, however long or short, that the participants planned, evaluated, and got themselves motivated for their next workout. This relates to the second aim of this study, which is to identify *how* the runners' use of fitness trackers, and can be utilized to improve the design to maintain healthy behavior.

Previous studies have shown that fitness trackers, at best, reinforce new behaviors (Nuss *et al.*, 2021). Similarly, our study clearly shows that the participants use recorded data for motivational purposes between runs. By focusing more on this aspect of the behavioral cycle, fitness trackers can be used to create *motivational intermissions* (see Figure 1). Motivational intermission is the time between activities that have the ability to increase the probability that the user will re-engage in the activity.

Figure 1: The model of motivational intermissions between activities.



Based on the model of motivational intermissions, the need to correctly register data can be understood in terms of the theory of choice bracketing. Here, a decision is made either in relation to a history of decisions, broad choice bracketing, or in isolation, narrow choice bracketing (Kahneman and Lovallo, 1993). Depending on which perspective the decision is based on, the assessment of its outcome will also vary. Broad choice bracketing is rarer than narrow bracketing, but will probably be a more realistic estimate (Kahneman and Lovallo, 1993), and will also change the perception of losses and gains, with an overall more positive view of its outcomes (Webb and Shu, 2017). In other words, by being able to keep a broad choice bracket perspective on our exercise routines and performances, we are able to make better decisions repeatedly. However, basing decisions on broad choice bracketing is difficult. Studies have shown that we tend to base our decisions on isolated cases, ignoring important realities (Kahneman and Lovallo, 1993), and that this kind of decision can be promoted by graphics that help give a more comprehensive view (Webb and Shu, 2017). Skipping a run may not seem especially problematic from a health perspective, but by framing the choice to exercise or not into a broad bracket, the accumulated effect of the series of choices becomes clear. Similarly, while the gain from the pending run (an isolated event) may at times not feel worth the exertion, having a run history on the fitness tracker enables users to overlook the current state of mind and adopt a long-term perspective. Having "the bigger picture", both in terms of memories and past experiences, and hard data from the fitness tracker, helps users sustain healthy behavior. This can be illustrated by one of the participants

who became motivated and empowered by looking at previous runs and seeing that he/she had run regardless of whether he/she felt a bit off or tired. Thus, the motivational intermission can help the participants make decisions to neutralize threats to healthy lifestyle choices.

Motivational intermissions can also utilize recorded data by focusing on the accumulation of successful accomplishments, often referred to as “streaks”. Run streaks have become a popular phenomenon on social media during the pandemic, and referred, for example, to a one mile or 20-minute jog every day for 100 days (or more). From a motivational perspective, a streak builds on the same principle of consecutive performances, but here it is the performance itself that counts and not the outcome of the performance. Once a user has started a streak, it tends to develop into a fixation to not break it, and the longer a streak continues, the more obsessive it is likely to become. These types of streaks are probably closely related to decision making in broad choice bracketing. We have not found any studies regarding streaks as motivators, but Fritz et al. (2014) found “a game-like phenomenon which [they] termed ‘number fishing’, in which participants reportedly engaged in activities explicitly for the system rewards” (p. 7). System rewards refers to explicit rewards for achievements or target goals, such as badges or numerical goals. The motivational aspect of the system rewards worked even if the participants knew that the reward was a false representation of their activity. Therefore, it was concluded that fitness technology should not only reward the number of steps, for example, but also how many days in a row the number of steps was achieved (Fritz *et al.*, 2014). Thus, this use of accumulated and external rewards is in line with our reasoning of motivational intermissions. As the streak seems to hold an enhancing quality that indirectly boosts a specific (and hopefully healthy) behavior, we refer to this as a *motivating streak*. A motivating streak is a series of actions or events that occur at specified intervals, where the upholding of the series becomes a means in itself. In other words, at some point you strive to uphold the streak more than the behavior in question.

From a service perspective, the present study shows that users indeed use technology to co-create value that is of interest for themselves (Gummerus *et al.*, 2019; Kunz *et al.*, 2019). Specifically, the study pinpoints the role of fitness technology for maintaining behavior changes, where the fitness technology also serves as a reminder of past activities. While several previous studies have acknowledged the importance of the feedback feature (Stragier *et al.*, 2016), they have not explicitly pinpointed how this promotes future activities. It is noteworthy that the results of the current study show that users themselves actively seek to use the stored data for reinforcing and motivational purposes, as opposed to being subjected to prompts generated by the intervening system, as has previously been proposed (Dallery, Kurti and Erb, 2015; Dallery *et al.*, 2019). The model of motivational intermissions bridges the current gap between the purpose of supporting behavior changes that fitness technology claims yet repeatedly fails at (Free *et al.*, 2013). Thus, a fitness tracker needs to be able to remind its user of past behaviors in order to create motivation for future behaviors, for example by badges representing short-term and long-term goals (Fritz *et al.*, 2014), clearly visualizing previous accomplishments to encourage repeat behavior.

Limitations and future research

The small sample size raises questions regarding the stability of the model. All participants in the current study were seasoned runners who considered themselves athletes, and this might have had an impact on their use and experiences of fitness trackers. In order to investigate possible boundary conditions of the model, it would be interesting to replicate the study, not only on a larger sample, but also on other types of samples. Finally, given the model’s potential to promote a healthy lifestyle, future studies should investigate the relative effectiveness of various motivating intermissions, utilizing elements such as gamification (Högberg, Hamari and Wästlund, 2019), time orientation (Otterbring, 2019) or motivational streaks.

CONCLUSIONS

Conclusively, the value of fitness technology when it comes to supporting healthy behaviors lies more on what happens during the intermission, that is between healthy behaviors, rather than during the actual behavior itself. Recorded data helps motivate the repetition of healthy behaviors in a way that mimics broad choice bracketing and behavioral streaks. Thus, fitness trackers should focus more on: the reinforcing and motivational aspects during the intermission than encouraging performance during the target behavior; and include features that create motivational intermissions to increase the likelihood of repetition of healthy behaviors, for example, by means of gamification or motivating streaks. These motivational intermissions are

the time when the feedback will help the users stay motivated, as this is the time when the everyday hassles and routines may derail a healthy behavior, even for seasoned runners.

REFERENCES

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.

Bhattacharya, A., Kolovson, S., Sung, Y.-C., Eacker, M., Chen, M., Munson, S. A. and Kientz, J. A. (2018). Understanding Pivotal Experiences in Behavior Change for the Design of Technologies for Personal Wellbeing. *Journal of biomedical informatics*, 79, 129-142.

Bouton, M. E. (2014). Why behavior change is difficult to sustain. *Preventive medicine, 68*, 29-36.

Braun, V. and Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Brouwer, W., Kroeze, W., Crutzen, R., de Nooijer, J., de Vries, N. K., Brug, J. and Oenema, A. (2011). Which intervention characteristics are related to more exposure to internet-delivered healthy lifestyle promotion interventions? A systematic review. *Journal of medical Internet research, 13*(1).

Bäccman, C., Bergkvist, L. and Kristensson, P. (2020), Elderly and care personnel's user experiences of a robotic shower, *Journal of Enabling Technologies, 14*(1), pp. 1-13. https://doi.org/10.1108/JET-07-2019-0033

Chia, G. L. C., Anderson, A., and McLean, L. A. (2019). Behavior Change Techniques Incorporated in Fitness Trackers: Content Analysis. *JMIR Mhealth Uhealth, 7(7)*, e12768.

Dallery, J., Kurti, A. and Erb, P. (2015). A New Frontier: Integrating Behavioral and Digital Technology to Promote Health Behavior. *The Behavior Analyst, 38*(1), 19-49.

Dallery, J., Raiff, B. R., Grabinski, M. J. and Marsch, L. A. (2019). Technology-Based Contingency Management in the Treatment of Substance-Use Disorders. *Perspectives on Behavior Science*.

Dijksterhuis, A., Bos, M. W., Nordgren, L. F. and van Baaren, R. B. (2006). On making the right choice: the deliberation-without-attention effect. *Science, 311*(5763), 1005-1007.

Fogg, B. J. (2009). *A behavior model for persuasive design.* Paper presented at the Proceedings of the 4th international Conference on Persuasive Technology.

Free, C., Phillips, G., Galli, L., Watson, L., Felix, L., Edwards, P., . . . Haines, A. (2013). The effectiveness of mobile-health technology-based health behaviour change or disease management interventions for health care consumers: a systematic review. *PLoS Med, 10*(1), e1001362.

Fritz, T., Huang, E. M., Murphy, G. C. and Zimmermann, T. (2014). *Persuasive technology in the real world: a study of long-term use of activity sensing devices for fitness.* Paper presented at the CHI.

Gummerus, J., Lipkin, M., Dube, A. and Heinonen, K. (2019), "Technology in use – characterizing customer self-service devices (SSDS)", *Journal of Services Marketing*, Vol. 33 No. 1, pp. 44-56.

Högberg, J., Hamari, J. and Wästlund, E. (2019). Gameful Experience Questionnaire (GAMEFULQUEST): an instrument for measuring the perceived gamefulness of system use. *User Modeling and User-Adapted Interaction, 29*(3), 619-660.

Kahneman, D. (2011). *Thinking, fast and slow*. London: Allen Lane.

Kahneman, D. and Lovallo, D. (1993). Timid choices and bold forecasts: A cognitive perspective on risk taking. *Management science, 39*(1), 17-31.

Kim, S.-i. (2013). Neuroscientific model of motivational process. *Frontiers in Psychology, 4*, 98.

Kristensson, P. (2019). Future service technologies and value creation. *Journal of Services Marketing*, *33*(4), pp. 502-506

Kunz, W. H., Heinonen, K. and Lemmink, J. G. (2019). Future service technologies: is service research on track with business reality? *Journal of Services Marketing*, *33*(4), pp. 479-487

Marteau, T. M. (2018). Changing minds about changing behaviour. *Lancet, 391*(10116), 116-117.

Michie, S., van Stralen, M. M. and West, R. (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science, 6*(1), 42.

Mohr, D. C., Burns, M. N., Schueller, S. M., Clarke, G. and Klinkman, M. (2013). Behavioral Intervention Technologies: Evidence review and recommendations for future research in mental health. *General Hospital Psychiatry, 35*(4), 332-338.

Nuss, K., Moore, K., Nelson, T. and Li, K. (2021). Effects of motivational interviewing and wearable fitness trackers on motivation and physical activity: A systematic review. *American Journal of Health Promotion,* 35*(2)*, 226-235.

Otterbring, T. (2019). Time orientation mediates the link between hunger and hedonic choices across domains. *Food Research International, 120*, 124-129.
Paluch, S. and Tuzovic, S. (2019), "Persuaded self-tracking with wearable technology: carrot or stick?", *Journal of Services Marketing*, *33*(4), pp. 436-448.
Schembre, S. M., Liao, Y., Robertson, M. C., Dunton, G. F., Kerr, J., Haffey, M. E., . . . Hicklen, R. S. (2018). Just-in-Time Feedback in Diet and Physical Activity Interventions: Systematic Review and Practical Design Framework. *J Med Internet Res, 20*(3), e106.
Stragier, J., Vanden Abeele, M., Mechant, P., & De Marez, L. (2016). Understanding persistence in the use of Online Fitness Communities: Comparing novice and experienced users. *Computers in Human Behavior, 64*, 34-42.
Sullivan, A. N. and Lachman, M. E. (2017). Behavior Change with Fitness Technology in Sedentary Adults: A Review of the Evidence for Increasing Physical Activity. *Frontiers in public health, 4*, 289-289.
Thompson, W. R. (2020), FACSM Worldwide survey of fitness trends for 2020, ACSM's Health & Fitness Journal, 23(6), 10-18.
UN General Assembly, Transforming our world : the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1. https://www.refworld.org/docid/57b6e3e44.html
Webb, E. C. and Shu, S. B. (2017). Is broad bracketing always better? How broad decision framing leads to more optimal preferences over repeated gambles. *Judgment and Decision Making, 12*(4), 382-395.
WMA. (2018). WMA declaration of Helsinki - ethical principles for medical research involving human subjects. https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/

EXPLORING COLLABORATIVE ECONOMY IMPACTS ON WELL-BEING

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ABSTRACT

The last decade has seen the emergence of the collaborative economy (CE) worldwide. Collaborative economy refers to a hybrid market model of a peer-to-peer sharing of access to underutilized goods and services at a lower cost and enabling its owners to make an extra income. However, CE social and economic effects on populations, communities, and individuals remain understudied, especially well-being impacts. Research has found that these services can have both positive and negative consequences, either intentional or unintended, on the well-being of the different actors in the service ecosystem. Well-being is multi-faceted, complex and interactive, and traditionally encompasses two types: hedonic and eudaimonic. The first describes emotions, while the second relates to the realization of potential. To address the challenge of uplifting well-being in collaborative economy models, this research aims to better understand well-being in these services by obtaining a deeper comprehension of the different types of well-being, its outcomes, and motivations to participate in the various actors in the service ecosystem.

INTRODUCTION

The collaborative economy has emerged as a disruptive approach to the traditional way of doing business. CE is also known as collaborative consumption, sharing economy, or peer economy (Muñoz and Cohen, 2017a). Over the years, it has gained attention from companies and individuals, attracting many users, thus boosting its growth and economic impacts. There is no doubt that the collaborative economy has been responsible for an enormous amount of wealth (Frenken and Schor, 2017). CE models facilitate the transaction of assets and services via community-based platform online services and highlight a more sustainable world by giving access to underutilized resources at lower costs to people who cannot or do not want to buy new products. The new services that have appeared offering "cost convenience without the responsibility of ownership," such as Uber and Airbnb, caused huge turbulence in well-established fields, such as the taxi and hotel industry (Kumar, Lahiri, and Dogan 2018). Furthermore, it provides a chance to make an extra income for those who already own underutilized resources (Jabłoński, 2018). One advantage compared with the traditional economy is the usage of fewer resources, which can have environmental and economic impacts. These economic changes also create trends in the markets, creating changes to consumption models (Benoit *et al.*, 2016). For example, consumers now usually prefer to borrow or rent goods from each other.

CE has been responsible for disrupting markets with some positive impacts; however, concerns regarding the well-being of actors have been raised across the world. For example, the negative impact on peer service providers (e.g., an Uber driver), social security, service professionalization, and employment. These can have important implications for their quality of life (Benoit *et al.*, 2016). Other studies have pointed out problems concerned with customer participation in a collaborative economy, like racial discrimination, gender bias, and profit-boosting caused by platforms offering refunds to buyers giving negative reviews (Edelman *et al.*, 2017). On the other hand, significant positive impacts also appear. CE models can reduce poverty; thus, it is imperative to understand how to achieve this goal (Hira and Reilly, 2017) and increase well-being.

The need for developing ways to ensure population well-being has been addressed in literature as transformative service research (TSR) (Ostrom, Parasuraman, Bowen, *et al.*, 2015). Understanding how TSR lessons can be used in collaborative economy models can be valuable to promote economic and social well-being by enabling new forms of business. This study aims to contribute to a deep understanding of the nature of well-being and its impacts on uplifting individual and collective well-being in collaborative economy service ecosystems. The challenge is a better understanding of how to leverage technology to innovate digital services and improve well-being. These new services need to adopt a human-centered approach bringing

together what is desirable from a human point of view and with what is technologically feasible and economically viable. Thus, both managerial and societal impact needs to be integrated.

METHOD

This study aimed to understand in-depth the nature and types of well-being in collaborative economy service ecosystems, and as such, a qualitative approach was adopted. Data were collected using in-depth interviews with customers and workers of two transportation services in Indonesia and two hospitality services in Portugal. In total, eighty interviews were undertaken to explore the underlying elements of the different types of well-being (eudaimonic and hedonic), its outcomes (positive, negative, intended, and unintended), motivations to participate, and expectations of both peer service providers and customers. The interviews were conducted from February to May 2021 and lasted around thirty minutes.

In the interviews, customers and workers were asked to detail the motivations for participating in the collaborative economy ecosystem, the challenges and problems they face, the positive and negative impacts on their personal life and well-being, satisfaction with the service, and to provide suggestions that would positively impact their well-being. Tables 1 and 2 shows participants' characteristics in both countries where data was collected, Indonesia and Portugal, respectively.

Table 1: Sample demographic characteristics

Participants	Sex	Age	Nationality	Marital Status	Education	Working experience (years)
Workers	Male 75%	20-30 75% 30-50 15% 50-70 10%	Indonesian	Married 65%	High school 75% College 25%	1 30% 2-3 60% 4+ 10%
Workers	Female 25%	30-50 75% 50-70 25%	Indonesian	Married 90%	High school 90% College 10%	1 10% 2 90%
Customers	Male 75%	20-30 50% 30-50 40% 50-60 10%	Indonesian	Married 55%	High school 80% College 20%	
Customers	Female 25%	30-50 55% 50-70 45%	Indonesian	Married 65%	High school 75% College 25%	

Table 2: Sample demographic characteristics

Participants	Sex	Age	Nationality	Marital Status	Education	Working experience (years)
Workers	Male 75%	30-50 50% 50-70 50%	Portuguese 80% Other 20%	Married 80%	High school 20% College 80%	1 30% 2-3 60% 4+ 10%
Workers	Female 25%	30-50 50% 50-70 50%	Portuguese 90% Other 10%	Married 90%	High school 90% College 10%	1 10% 2-3 90%
Customers	Male 75%	20-30 50% 30-50 40%	Portuguese 80%	Married 75%	High school 75%	

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