Contemporary digital qualitative research in sport, exercise and health

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Contemporary Digital Qualitative Research in Sport, Exercise and Health: Introduction

This paper provides an introduction to the Special Issue on Digital Qualitative Research in Sport, Exercise and Health. The aim is to spur qualitative researchers to new ways of thinking, new ways of doing, and new ways of representing with the ultimate goal of supporting new ways of knowing, through the lens of digital technologies. First, digital qualitative research is defined and articulated as research that engages in qualitative inquiry and meaning making through digital content, digital contexts and/or digital practices. In using this definition, an analysis of the articles published in sport, exercise and health reveal that most research to date has primarily focused on technology as method, the impacts of technologies on participants, technology as an empirical finding, and/or technology as a medium to represent research findings. Accordingly, and with the intent of advancing digital qualitative research in sport, exercise and health, the concept of practice architectures is used as a heuristic device to articulate the cultural, social and economic conditions that potentially support or constrain current and potential future research. Embedded in this discussion, is an overview of the papers in this Special Issue. Overall, these papers showcase the most innovative and world-leading digital qualitative research in sport, exercise and health to date, and provide inspiration and direction for moving forward. The papers use established qualitative concepts, theories and methodologies, offer challenges to existing frameworks, and illustrate contemporary understandings of sport, exercise and health through digital mediums.

Keywords: social media, podcasts, inquiry, physical activity, Internet, smart devices

Introduction

It has been nearly three decades since scholars of sport, exercise and health first ventured online to engage in digital qualitative research. It has been exciting to watch how researchers have reacted to the rapid development of various new 'gizmos and gadgets' and have created projects to explore the adoption of digital technologies by athletes, exercisers, young people, patients, practitioners and others. However, we have entered what some have called a post digital era – a time when technology is more notable in its absence than its presence (Negroponte, 1998). Some have referred to this as the 4th industrial revolution where the focus is less on having technology and more on how to use and harness the potential of technology for human development (Schwab, 2016). Either way, it no longer makes sense to focus on digital technologies as if they are a new phenomenon and/or separate from the rest of our existence. Digital

technologies are ubiquitous, situated, and embedded in our everyday lives and our societies and it is time to treat them as such. With this context, it is our position that future research will be most productive when the focus is on the entirety of how digital technologies are being used, to what ends they are being used and how this use shapes behaviours, societies, research and research practices. It is the intent of this Special Issue to signpost the value of qualitative research to generate data on the importance of digital technologies in sport, exercise and health.

Before venturing further, it is worthwhile defining what we mean by the term 'digital qualitative research.' Very broadly speaking, 'digital technology' refers to any equipment, platform, medium, tool, device or system that relies on information presented in numeric (most frequently binary) code. To give an example, a digital photograph is the image produced by a digital camera that reduces information about light and colour into numerical values that can be stored in the camera's memory. Those numeric values can be transmitted to other devices such as a computer or a phone or a printer, or uploaded to digital platforms such as Instagram, precisely because they are numeric. The ability to transmit information across contexts is the major affordance of digital technologies. However, the first step in any application of digital technology is the process of 'quantifying' or more specifically 'quantizing' the information that is being communicated - that is to take information and reduce and restrict the variables for easy transmission and replicability across platforms and contexts. In contrast, qualitative research is, as described by Denzin and Lincoln (2011), research that "locates the observer in the world", that "consists of a set of interpretive, material practices that make the world visible" and that "[attempts] to make sense of or interpret the meanings that people bring to them" (p. 3). Based on these definitions, one arrives at the conclusion that *digital qualitative research* is research that engages with digital

technologies with the intent of bringing understanding to the meaning(s) of digital technologies in our lives and our social worlds and making these meanings visible through interpretive practices. There is a paradoxical aspect to digital qualitative research in that it relies on technology that is by definition reductionist but does so through the lens of qualitative inquiry that inherently privileges nuance. For the purpose of this Special Issue, we have defined digital qualitative research as:

> Research that engages in qualitative inquiry and meaning making and includes: (1) digital content as a source of or representation of data, such as digitised texts, images or videos (2) digital contexts, such as online networks as research sites, and (3) digital practices such as interactions and engagements between social actors mediated or facilitated by technology.

In the editorial published in the first issue of this journal, Smith and Gilbourne (2009) wrote of their desire to spur qualitative researchers to new ways of thinking, new ways of doing, and new ways of representing with the ultimate goal of supporting new ways of knowing. This is our aim too. With that in mind, we start this paper with an outline of the maturity and scope of digital qualitative research in sport, exercise and health. Following this, we use the concept of practice architectures (Kemmis et al., 2014) as a heuristic device to articulate the cultural, social and economic conditions that potentially support or constrain the advancement of digital qualitative research. Embedded in this discussion, we present an overview of the papers in this Special Issue that demonstrate the ways that various international scholars have/are navigating challenges associated with digital qualitative research. These papers showcase what we believe to be the most innovative, world-leading digital qualitative research in sport,

exercise and health to date. Individually and collectively, the authors in this Special Issue provide us with inspiration and direction for moving forward.

Maturity and Scope of Digital Qualitative Research in Sport, Exercise and Health

As stated in our opening paragraph, digital qualitative research in sport, exercise and health is not new. The first appearances emerged in the 1990s and included publications predominantly by sociologists of sport. The timing of these publications generally coincided with the entry of the World Wide Web into our homes and our professional lives (Bundon 2016). The early Web was not easy to navigate and required a certain commitment and capital on the part of the user. Creating or contributing to online content was an onerous task and text-based content was the default. It is therefore not surprising that a lot of the research into sport and digital technology at the time explored the use of online communication in sport-related subcultural groups or fans associated with a particularly professional team, as it was largely within these already networked groups that the Web took off and online discussion boards and listservs provided an alternative to the 'fanzines' of previous generations (see for example Mitrano, 1999; Plymire and Forman, 2000; Wilson, 2002, 2008). In short, digital qualitative research in sport at the turn of the millennium reflected and represented the possibilities, potentials and affordances of the Web at that moment.

As digital technologies have evolved and proliferated, so too has digital qualitative research. In this journal alone, over 40 articles on the topic have been published since 2010. These articles have been diverse in topic and the use of digital technologies, and include research on digital technologies in relation to: (i) methods; (ii) impact on participants in sport, exercise and/or health; (ii) findings and/or recommendation; and/or (iv) representing the findings or sharing the research. The

research published has been diverse in terms of the groups and communities engaged with (e.g. athletes, young people, disabled people, coaches, teachers) and attentive to various socio-cultural forces and factors, including age, class, ethnicity, education, and gender. These articles have also been guided by different theoretical perspectives and disciplinary traditions, such as sociology, pedagogy, psychology and public health. However, the research is still fairly centralised in a small network of scholars, mainly from the UK and Canada.

In relation to 'technology as a method', the Special Issue on visual methodologies led by Phoenix (2010) has very much informed the design and conduct of digital qualitative research in this journal - this is evidenced by the sheer volume of papers published since that cite this issue as a key text to justify methodological choices. The Special Issue by Phoenix (2010) presented methodologies such as video diaries, photo-voice and photo-elicitation (see for example, Azzarito & Sterling, 2010; Cherington & Watson, 2010; D'Alonzo & Sharma, 2010). While these papers were published in a special issue on visual methods, it occurs to us that many of them would have equally 'fit' within our definition of digital qualitative research as they relied heavily on digital devices to capture or create visual elements. Indeed, we have observed that digital methodologies often build upon or overlap with 'older' methodological traditions. Here are a few examples: Taking photos or drawing sketches has a long history in ethnographic projects but wearable cameras (such as GoPros) have created new opportunities to capture data 'on the move' and in real time (Chin et al., 2020; Palmer, 2016; Washiya, 2018); Studies of sport media have expanded in scope to include all sorts of 'new' and 'social' media and this has opened up possibilities for projects that further theorize how variously positioned audiences consume *and* produce media about sport (Darko & Mackintosh, 2015; McMahon & Barker-Ruchti, 2016;

Thorpe, 2016); Research into highly stigmatized behaviours such as steroid use or extreme dieting have replaced interviews or focus groups with analysing the naturalistic discussions in online chatrooms (Cinquegrani & Brown, 2018).

In relation to the 'impact of digital technologies', a prominent focus has been on the quantified self, and understanding the impact of technologies that measure and record peoples' health-related attitudes, knowledge and behaviours. This work includes, for example, studies of wearable devices such as Fitbits or running apps, and social media sites (Esmonde, 2020; Goodyear, 2017) and builds on traditional technologies used for sport and exercise research, such as accelerometers (McCann et al., 2016). Academics have theorised relationships between technologies and impacts through analysing body-self-technology relationships (Sparkes et al., 2018), such as through concepts related to surveillance (Esmonde, 2020; Szto & Gray, 2015). This area is still somewhat emerging, but it is worthwhile to note that scholars such as Millington (2018) have made the point that (self-)surveillance of bodies and bodily activities is not new but the increased ability to measure and monitor more and more aspects of our daily lives through more and more devices is.

In relation to 'technology as a finding', several recent studies have reported technology as an expected and/or unexpected finding in non-tech driven research. For example, in explorations of relationships between cycling and wellbeing (Glackin & Beale, 2018) technology was reported to facilitate cycling performance. Similarly, in an investigation into physical activity in pregnant women (Darroch & Giles, 2017), it was reported that technology plays a key role in the development of culturally safe, relevant and creative health interventions. This work furthers our earlier post digital arguments on the embeddedness of technology in our lives and research.

In relation to 'technology as representation' there is emerging work in this journal that demonstrates the power of digital technologies to engage citizens in research findings. In particular, papers report on the role of digital technologies in data representation, and how digital technologies can function as a medium to share the products or outputs of research in engaging formats. Some examples include producing visual abstracts (Cauldwell, 2014), digital animated case study videos (Goodyear & Armour, 2019), digital ethnodramas (McMahon, McGannon, & Zehntner, 2017), and blog posts (Olive, 2013). Also in this category are podcast and blogs created for the express purpose of widely sharing and discussing sport, exercise and health research such as: Playing with Research in Health and Physical Education[1]; and Engaging Sports[2]. What is distinctive about this type of digital qualitative research is that the use of digital technologies is less the focus of the research topic and more an opportunity to share the work with different audiences and promote a different type of engagement than that typically achieved through publishing academic journal articles.

All of the examples above provide some insight into the changes that have occurred since the Web first entered our lives and how these changes have been taken up by qualitative researchers in sport, exercise and health. It is beyond the scope of this paper to fully elaborate on all the variations of the work and/or implications. However, it is worth noting that in all of the above examples there is a 'newness' to the work but also a grounding in much older methodological and disciplinary traditions. It is clear that digital qualitative research is an emerging field but also that it has not emerged out

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[1] Playing with Research in Health and Physical Education Podcast - https://anchor.fm/PwRHPE

[2] The Society Pages – Engaging Sports – https://thesocietypages.org/engagingsports/

of nowhere, rather it exists at this convergence between older methodologies and the affordances offered by technological developments.

In addition to these four different points described above where qualitative researchers have engaged with or employed digital technologies, we would like to comment on three trends that have shaped the types of research we are now seeing. First, the lines between online and offline are blurring (and we use the 'blurring' rather than 'blurred' to indicate this process is ongoing). As boyd (2014), Turkle (2017) and others (e.g. Gardner and Davis, 2014, Livingstone and Third, 2017, Ringrose et al., 2013, Third et al., 2019) have noted, we no longer 'go online', most of us are always online in some capacity or another. This has implications for researchers in that it means that the lines between online and offline or digital and traditional research are also blurring - very few qualitative research projects these days can entirely eschew digital media - even if it is just emailing to arrange a meeting place for an interview or sending a consent form. The second trend is technological convergence (sometimes referred to as media convergence). Technological convergence happens when different types of digital technologies or digital content start to come together or merge so that they no longer exist as distinct entities or they are no longer experienced by users in isolation. This happens, for example, when users connect their Facebook account to their other social media accounts, resulting in a singular post being reproduced across connected social media accounts - e.g. Twitter, Instagram, SnapChat. It is also apparent whenever we engage with a platform like Apple News+ that aggregates multiple media sources and different forms of content (text, video, visual) into a single newsfeed. Technological convergence has implications when we think of the boundaries of the research field or the research topic as there is no clear demarcation of space or topic in these online convergences. The third and final trend is the emergence and evolution of the Internet of

Things. The Internet of Things refers to devices - frequently called 'smart' devices - that connect to the Internet and transmit data to various other networked hardware and software as a default setting. This includes, for example, smartphones, smartwatches, smart home systems, and much more. The relevance of this trend specific to researchers of sport, exercise and health is that many of these 'things' are designed to capture, transmit information, and automate actions that pertain to our health and/or the movement of bodies through physical spaces. The important point to make here is that these smart devices often require users to opt out of such automation and connectivity, rather than opt in.

The Practice Architectures of Digital Qualitative Research

We hope it is clear from the above examples that digital qualitative research in sport, exercise and health is a vibrant and diverse area and there are plenty of avenues for further work. We have both been fortunate in pursuing our interests in this space, and this in part due to our support systems, such as mentors and organisational/institutional structures. However, we are also acutely aware of the challenges, and pitfalls of 'doing' digital qualitative research. Hence, while in the previous section we identify some new directions to move digital qualitative research forwards, we also know that we need to propose the means to make these 'workable'. In this section, we draw on the concept of practice architectures to propose a way of identifying the challenges and moving past them with new ways of talking about, supporting and relating to digital qualitative research. We use examples of articles in this Special Issue to demonstrate how the authors are paving the way and contributing to the development of new workable conditions and moving the field forward.

The main premise of the theory of practice architectures is a focus on how people inside and outside of institutions create 'working conditions' that enable or constrain the development of new practices (Kemmis et al., 2014). The development of new practices are suggested to be influenced by a variety of situated and contextual factors. In essence, this theory is about a balance between agency and structure (Kemmis & Grootenboer, 2008), meaning that it will be very challenging for a individual researcher to go and 'push the field' without supportive architectures.

Kemmis et al. (2014) argued that a practice architecture has three interdependent arrangements – cultural-discursive, material-economic and social-political – that 'hang together' to create 'working conditions'. The cultural-discursive dimension refers to the medium of language and occurs in a semantic space, such as the language or specialist discourse to describe, interpret or justify a practice. The material-economic is situated in the physical space and refers to the activities and resources that make practice possible, such as the physical set up of spaces, or the financial viability of specific tasks. Finally, the socio-political occurs in the social space and refers to the medium of power and solidarity between those with a specific investment in a practice, such as a shared understanding about what to do in particular situations. It is our proposition that the interdependent arrangements are useful concepts to frame discussions about what 'working conditions' are required to support and advance digital qualitative research in sport, exercise and health.

The cultural-discursive dimension suggests that we need different ways of talking about digital qualitative research. As we outlined in the introduction to this paper, and grounded in the concept of post-digital and the 4th industrial revolution, the key challenge or constraint in this area is the tendency to conceive of technology as an innovation. Equally, positioning technology as an object, tool and/or artefact limits

conceptual framings, analysis and engagement with human-technological relationships.

It is very clear that technology is embedded and intertwined within society, and

embodied within living, being something to live by. Hence, positioning digital

qualitative research as innovation or as something that stands apart from ourselves and

our societies, will potentially constrain understandings into the depth and complexity of

the central issues that are authentic to a research project.

> In this Special Issue, papers by Matthews (2021) and Toffoletti, Olive, Thorpe and Pavlidis (2021) propose alternative ways of understanding and inquiring into human-technological-relationships. Matthews (2021) uses the concept of post-digital to illustrate a move beyond the technology in and of itself and toward more nuanced, reflexive and embodied relationships with technologies. Toffoletti and colleagues (2021) urge that feminist engagements with power, context and situated knowledge can challenge how we think about, frame, and, ultimately, talk about digital qualitative research. Added to this, Aspasia and Griffin (2021) illustrate the similarities, differences and cross over in offline/online spaces, but signpost the need to expand ways of theorising digital spaces in order to interpret the complexity of digital mediums and interrelations with ongoing activities. Overall, these papers elucidate the importance of advancing our ways of theorising digital spaces and provide concepts to be used in future research to help frame how we 'talk about' and conduct digital qualitative research.

The material-economic dimension suggests that researchers should plan for the

resources they need to do digital qualitative research. A key challenge is this area is

identifying what is needed, what it will cost, and securing support for resources not

previously seen in research budgets. While some techniques such as data scraping are

relatively cost-effective and efficient and can provide vast amounts of data quickly there

is still an investment of further resources is required to make sense of the data generated

and to interrogate the multi-layered nature of digital data while being attentive to

participant subjectivities and relationalities. Digital qualitative researchers often need to

make significant investments not only in hardware and software but also in time in

order to develop the expertise needed. Facilitating knowledge translation in digital

formats such as creating illustrated vignettes or documentary videos can also be costly

requiring researchers to either learn new skills or hire professional animators and videographers.

> In this Special Issue, Toll and Norman (2021) illustrates a rigorous methodological approach to engaging with social media as a form of data to investigate body capital. The paper by Toll and Norman (2021) speaks to the value of qualitative research in a crowded social media space and innovatively engages the producers of these posts in a way that is able to make a commentary of 'big data' while still being feasible in scope and resources required. The piece by Toll and Norman (2021) is similar to the articles by Kitching, Bowes and Maclaren., (2021), Hockin-Boyers, Hope and Jamie (2021), Esmonde (2021), Smith and colleagues (2021) and MacPherson and Kerr (2021). Collectively all of these papers illustrate the multi-layered nature of qualitative data and the importance of engaging with participants to find the 'small stories' while not being bogged down in the 'big data.'

The social-political dimension suggests that researchers need to be supported by institutions and organisations to push the boundaries of digital qualitative research. The key challenge in this area is that institutions are slow to change in response to contemporary developments. Those trying to do something new will face resistance and roadblocks. Mentorship is key in this space, and based on our own experiences, mentors have a role to help: (i) ground research in established concepts; (ii) navigate ethical roadblocks; (iii) facilitate introductions with other, interdisciplinary, academics working in related areas; and (iv) aid methodological rigor in relation to care in design and data collection. The spaces and contexts in which digital research is reported and presented must also be flexible. For example, to present digital data such as social media posts in a peer-review journal, the institution, researcher, participants (co-creators), journal editor, legal and copyright team(s) require shared understandings to facilitate this practice. Finally, and to effectively push boundaries, researchers should 'pay it forward' by becoming mentors, sitting on ethical review boards, and editorial boards, to help the research community navigate some of the complexities of the digital, and for it to become a relatively 'normal' practice.

In this Special Issue, it is clear that the paper authors have been supported by mentorship and/or supportive author team collaborations and institutions, and this has facilitated high quality work to come to fruition. For example, Tjønndal and Skauge (2021) have provided an introduction to the key concepts and features associated with e-sports, and grounded their discussion within established methodological traditions. It should also be noted that this journal and Taylor and Francis, have also provided a flexible context to report the data, helping to navigate ethical, legal and copyright roadblocks in relation to data representation, and providing a space through which to engage with research in different ways, such as through the podcasts associated with this Special Issue,[add link]. Overall, the articles in this Special Issue illustrate the importance of collective social, moral, ethical and institutional infrastructures and conditions to enable digital qualitative research and researchers to thrive.

The final and central argument of the theory of practice architectures is that the three interdependent arrangements – cultural-discursive, material-economic and social-political – 'hang together' to create 'working conditions'. This means that all three of the arrangements must align together, and if supportive arrangements are only seen in two of the areas (e.g. cultural-discursive, material-economic) and one is missing (e.g. social-political) then it is less likely that effective working conditions will be present.

> In this Special Issue, the article by Couture (2021) is a useful illustrative example of how the working conditions hang together to facilitate high quality digital qualitative research. First, this article acknowledges the complexity of human-technological-relationships through an analysis of Strava, positioned as a social networking site for runners, in relation to concepts of Quantified Self and Healthism (cultural-discursive). To engage with Strava as an embodied and relational aspect of runners and running, an in-depth longitudinal ethnographic study is used and the medium and data is presented through visual illustrations of the app in the article (material-economic). The article is high quality, and this is testament to the author, but also the supportive infrastructures of his institution - this work is part of Couture's doctoral work, he has had supportive mentors and an ethics review board already 'primed' by other scholars to accept complex digital qualitative projects (social-political). Hence, the article written by Couture (2021) is representative of how the working conditions of practice architectures 'hang together' and create high quality digital qualitative research.

Summary

When we embarked on the project of producing this Special Issue the world was very different. Our first discussions about our shared interest in digital qualitative research

and how we could contribute to the ongoing development of this work happened in a crowded foyer during a break at the 6th International Conference on Qualitative Research on Sport and Exercise held in Vancouver in 2018. At the time, we were already thinking about the different ways that technology was 'infiltrating' our lives and our societies and the different implications on the practices of sport, exercise and health. For over a year we continued to communicate by email, sharing ideas and examples of work that inspired us. The call went out for papers on 'innovative digital qualitative research' and every submission sparked another conversation. Over time, we solidified our ideas and our definition of digital qualitative research.

We will admit that at times our process was slow, we had other projects that demanded our attention and we were challenged by working across time zones. Then came March 2020 - the Covid-19 pandemic arrived in Vancouver and Birmingham at almost exactly the same time. We both found ourselves in lockdown… sitting in front of our computers. It was during this time that our communication went from being primarily text-based and asynchronous to happening in real time and in the form of a weekly Zoom call. While much of the call was spent on the more pragmatic tasks of managing a special issue - finding reviewers, responding to authors, debating the merits of submissions and the feedback to provide authors - a large part of each conversation was also dedicated to our own experiences of the pandemic and particularly the use of digital technologies during this time. Our thinking of digital technologies as embedded and entwined in our 'always on(line)' societies was not new but the pandemic certainly amplified it. Suddenly, our teaching, our research, and our socializing was mediated through a screen. Andrea bought a 'smart bike' to be able to join online rides from her basement. Vicky started using her Fitbit again to monitor her physical inactivity.

One thing we discussed was whether or not this pandemic, and the subsequent explosion in the use of digital technologies in various contexts, changed things? Did it change our definition of digital qualitative research? The significance of this Special Issue? The claims we were making or the directions we were proposing? Not really. You see our thinking has always been based on the premise that technology is always present and always changing. That has always been one of the key challenges when it comes to describing digital qualitative research - even as you write about a social media platform, an online community, a new device or application, it is moving around you. What we are trying to encourage and support with this Special Issue is scholarship that can both make sense of these challenges while still holding the space to see what stays the same, work that focuses less on the technology itself and more on the technology in context. We think that the papers in this Special Issue do just that - they are new and fresh but also grounded in the past and relevant today and into the future. It is also our discussions on these matters that brought us to practice-architectures as a heuristic framing that we feel can guide us as a research community to bravely explore the new while also understanding that change happens within a context of older structures of discourse, materialities and practices that are interconnected and change much more slowly.

We are genuinely excited by the articles in this Special Issue and believe they rise to that challenge and push us towards those new directions of doing qualitative that focus on technology in its entirety and generates new knowledge and new ways of knowing about the importance of digital technologies in sport, exercise and health. We would like to thank the authors for sharing their work, the reviewers for their thoughtful engagement, and the co-editors and editorial board of QRSE for providing this opportunity.

References

Aspasia, D., and L. Griffin. 2021. "Using Social Network Theory to Explore a Participatory Action Research Collaboration through Social Media." *Qualitative Research in Sport, Exercise and Health [this issue]*

Azzarito, L., and J. Sterling. 2010. "'What it was in my eyes': picturing youths' embodiment in 'real' spaces." *Qualitative Research in Sport, Exercise and Health* 2(2): 209-228.

boyd, d. 2014. *It's Complicated: The Social Lives of Networked Teens*. London: Yale University Press.

Bundon, A. 2016. "The Web and digital qualitative methods: Researching online and researching the online in sport and exercise studies." In *Handbook of Qualitative Research in Sport and Exercise* edited by B. Smith and A. Sparkes, 355-368. New York, NY: Routledge.

Caudwell, J. 2015. "'Feeling blue': the ordinary pleasures of mundane motion." *Qualitative Research in Sport, Exercise and Health* 7(3): 309-320.

Cherrington, J., and B. Watson. 2010. "Shooting a diary, not just a hoop: using video diaries to explore the embodied everyday contexts of a university basketball team." *Qualitative Research in Sport, Exercise and Health* 2(2): 267-281.

Chin, J.W., M. Masucci, and J. Johnson. 2019. "Keep it rolling: examining the San José Bike Party with methods on the move." *Qualitative Research in Sport, Exercise and Health* 12(2): 159-174.

Cinquegrani, C., and D.H.K. Brown. 2018. "'Wellness' lifts us above the Food Chaos': a narrative exploration of the experiences and conceptualisations of Orthorexia Nervosa through online social media forums." *Qualitative Research in Sport, Exercise and Health* 10(5): 585-603.

Couture, J. 2021. "Reflections from the 'Strava-sphere': Kudos, community, and (self)surveillance on a social network for athletes." *Qualitative Research in Sport, Exercise and Health [this issue]*

D'Alonzo, K.T., and M. Sharma. 2010. "The influence of marianismo beliefs on physical activity of mid-life immigrant Latinas: a Photovoice study." *Qualitative Research in Sport, Exercise and Health* 2(2): 229-249.

Darko, N., and C. Mackintosh. 2016. "'Don't you feel bad watching the Olympics, watching us?' A qualitative analysis of London 2012 Olympics influence on family sports participation and physical activity." *Qualitative Research in Sport, Exercise and Health* 8(1): 45-60.

Darroch, F.E., and A.R. Giles. 2017. "Conception of a resource: development of a physical activity and healthy living resource with and for pregnant urban First Nations and Métis

women in Ottawa, Canada." *Qualitative Research in Sport, Exercise and Health* 9(2): 157-169.

Denzin, N., & Lincoln, Y. 2011. "Introduction: The discipline and practice of qualitative research." In *The SAGE Handbook of Qualitative Research*, edited by N. Denzin & Y. Lincoln, 1-19. London, UK:Sage.

Esmonde, K. 2020. "'There's only so much data you can handle in your life': accommodating and resisting self-surveillance in women's running and fitness tracking practices." *Qualitative Research in Sport, Exercise and Health* 12(1): 76-90.

Esmonde, K. 2021. "From fat and frazzled to fit and happy: Governing the unhealthy employee through quantification and wearable technologies." *Qualitative Research in Sport, Exercise and Health [this issue]*

Hockin-Boyers, H., Pope, S., and K. Jamie. 2021. "#gainingweightiscool: The use of transformation photos on Instagram among female weightlifters in recovery from eating disorders." *Qualitative Research in Sport, Exercise and Health [this issue]*

Gardner, H., and K. Davis, 2014. *The App Generation*. USA: Yale University Press.

Glackin, O.F., and J.T. Beale. 2018. "'The world is best experienced at 18 mph'. The psychological wellbeing effects of cycling in the countryside: an Interpretative Phenomenological Analysis." *Qualitative Research in Sport, Exercise and Health* 10(1): 32-46.

Goodyear, V.A. 2017. "Social media, apps and wearable technologies: navigating ethical dilemmas and procedures." *Qualitative Research in Sport, Exercise and Health* 9(3): 285-302.

Goodyear, V.A., and K.M. Amrour. 2019. *Young People, Social Media and Health*. London: Routledge.

Kemmis, S., and P. Grootenboer. 2008. Situating praxis in practice: Practice architectures and the cultural, social and material conditions for practice. In Enabling praxis: Challenges for education, edited by S. Kemmis & T. J. Smith, 37–62. The Netherlands: Sense.

Kemmis, S., J., Wilkinson., C. Edwards-Groves., I. Hardy., P. Grootenboer., and L. Bristol. 2014. *Changing Practices, Changing Education*. London: Springer.

Kitching, N., A. Bowes, and M. Maclaren. 2021. "Write when it hurst. Then write till it doesn't: Athlete voice and the lives of one female professional athlete." *Qualitative Research in Sport, Exercise and Health [this issue]*

Livingston, S., and A., Third, 2017. "Children and young people's rights in the digital age: an emerging agenda." *New Media & Society* 19(5): 657-670.

Matthews, A. 2021. "Blurring boundaries between humans and technology: postdigital, postphenomenology and actor-network theory in qualitative research." *Qualitative Research in Sport, Exercise and Health [this issue]*

MacPherson, E. and G. Kerr. 2021. "Sport fans' perspectives of public shaming of professional athletes on social media." *Qualitative Research in Sport, Exercise and Health [this issue]*

McCann, D.A., Z.R., Knowles., S.J., Fairclough., and L.E.F. Graves. 2016. "A protocol to encourage accelerometer wear in children and young people." *Qualitative Research in Sport, Exercise and Health* 8(4): 319-331.

McMahon, J., and N. Barker-Ruchti. 2016. "The media's role in transmitting a cultural ideology and the effect on the general public." *Qualitative Research in Sport, Exercise and Health* 8(2): 131-146.

McMahon, J., K. McGannon, and C. Zehntner. 2017. "Slim to win: An ethnodrama of three elite swimmers' 'presentation of self' in relation to a dominant cultural ideology." *Sociology of Sport Journal* 34(2): 108-123.

Millington, B. 2017. *Fitness, technology and society: Amusing ourselves to life.* Abingdon, Oxon: Routledge.

Mitrano, J.R. 1999. "The 'sudden death' of hockey in Hartford: Sports fans and franchise relocation." *Sociology of Sport Journal* 16(2), 134-154.

Negroponte, N. 1998. "Beyond digital." *Wired* 6(12): 288.

Olive, R. 2013. "Making friends with the neighbours: Blogging as a research method." *International Journal of Cultural Studies* 16(1), 71-84.

Palmer, C. 2016. "Research on the run: moving methods and the charity 'thon'." Qualitative Research in Sport, Exercise and Health 8(3): 225-236.

Phoenix, C. 2010. "Seeing the world of physical culture: the potential of visual methods for qualitative research in sport and exercise." Qualitative Research in Sport, Exercise and Health 2(2): 93-108.

Plymire, D. C., & Forman, P. J. 2000. Breaking the silence: Lesbian fans, the Internet, and the sexual politics of women's sport. *International Journal of Sexuality and Gender Studies* 5(2), 141-153.

Ringrose, J., L., Harvey., R. Gill., and S. Livingstone. 2013. "Teen girls, sexual double standards and 'sexting': Gendered value in digital image exchange." Feminist Theory 14: 305-323.

Schwab, K. 2016. *The Fourth Industrial Revolution. First U.S. edition.* New York: Crown Business.

Smith, B. and D. Gilbourne. 2009. "Qualitative Research in Sport and Exercise." *Qualitative Research in Sport and Exercise* 1: 1-2.

Smith, R., M. Danford, S. Darnell, M. J. Lima Larrazabal, and M. Abdellatif. 2021. "Like, what even is a podcast? Approaching sport-for-development youth participatory research through digital methodologies." *Qualitative Research in Sport, Exercise and Health [this issue]*

Sparkes, A. C., J. Brighton., and K. Inckle. 2018. "'It's a part of me': an ethnographic exploration of becoming a disabled sporting cyborg following spinal cord injury." *Qualitative Research in Sport, Exercise and Health* 10(2): 151-166.

Szto, C., and S. Gray. 2015. "Forgive me Father for I have Thinned: Surveilling the bio-citizen through Twitter." *Qualitative Research in Sport, Exercise and Health* 7(3): 321-337.

Third, A., P. Collin., L. Walsh., and R. Black. 2019. *Young People in Digital Society: Control Shift*. London: Palgrave Macmillan.

Thorpe, H. 2016. "'Look at what we can do with all the broken stuff!' Youth agency and sporting creativity in sites of war, conflict and disaster." *Qualitative Research in Sport, Exercise and Health* 8(5): 554-570.

Tjønndal, A. and M. Skauge. 2021. "Youth sport 2.0? A study of the expansion of Esports in Norway from 2016 to 2019." *Qualitative Research in Sport, Exercise and Health [this issue]*

Toffoletti, K., R. Olive, H. Thorpe, and A. Pavlidis. 2021. "Doing Feminist Physical Cultural Research in Digital Spaces: Reflections, Learnings and ways Forward." *Qualitative Research in Sport, Exercise and Health [this issue]*

Toll, M., and M.E. Norman. 2021. "More than meets the eye: A relational analysis of young women's body capital and embodied understandings of health and fitness on Instagram". *Qualitative Research in Sport, Exercise and Health [this issue]*

Turkle S. 2017. *Alone Together: Why We Expect More from Technology and Less from Each Other. 3rd Ed.* Basic Books.

Washiya, Y. 2018. "Shaky footage from the field: Envisioning a new terrain with film-based inquiry." In *Digital Qualitative Research in Sport and Physical Activity*, edited by A. Bundon, 155-165. Abingdon, Oxon: Routledge.

Wilson, B. 2002. "The 'anti-jock' movement: Reconsidering youth resistance, masculinity, and sport culture in the age of the Internet." *Sociology of Sport Journal* 19(2), 206-233.

Wilson, B. 2008. "Believe the hype? The impact of the Internet on sport-related subcultures." In *Tribal Play: Subcultural Journeys Through Sport,* edited by M. Atkinson and K. Young, 1350-152. Bingley, UK: Emerald Group Publishing.