Title

Online Communities of Practice and doctoral study: working women with children resisting *perpetual peripherality*

Authors

Sue Cronshaw (Liverpool John Moores University) [https://orcid.org/0000-0002-9004-823X]

- **Peter Stokes (De Montfort University) [**https://orcid.org/0000-0002-4016-1058]

- **Alistair McCulloch (University of South Australia)** [https://orcid.org/0000-0002-7420-8221 (**corresponding author**: alistair.mcculloch@unisa.edu.au)

Word count of paper: 6180

Online Communities of Practice and doctoral study: working women with children resisting *perpetual peripherality*

Abstract

This article examines the lived experience of working women with 'children' (defined as under 18 years old (NSPCC, 2020) undertaking part-time PhD study. While there exists wide literature on the isolation of doctoral experience, 'mothers' and all this identity may entail, has been overlooked. Drawing on 35 in-depth interviews, the experiences of this marginalised group in the higher education sector are explored. The study's findings underline the tension between the public, private and professional domains, and the important role online Communities of Practice (CoP) can play in overcoming peripherality and helping to manage the context of gendered organizational cultures. The article highlights the role of online CoP in enhancing the experience of an otherwise marginalized group, providing a space for self-expression, the development of a shared repertoire, and mutual engagement. It also has resonance in relation to the changing situation generated by the COVID-19 pandemic.

Keywords: working student mothers, online communities of practice, research degrees, part-time doctoral study, marginalization, perpetual peripherality

Introduction

Managing the role of part-time doctoral student alongside those of 'mother' and 'worker' brings challenges arising from what Brown & Watson (2010) describe as 'dual lives'. Viewing the part-time doctoral experience through the lens of working mothers can provide an additional perspective on the 'non-traditional' PhD student experience. This allows for a deeper understanding of both the challenges facing working mothers studying for a PhD and also the ways they seek to overcome those challenges. In focusing on 'working women with children' the article also recognizes, for example, that male part-time doctoral students may also be likely to have wider private and professional responsibilities and obligations. Nevertheless, it is the particular aim of this paper to deepen understanding regarding the under-researched gendered female role of working mother/ part-time doctoral student which is the focal concern of the paper.

This article explores a possible solution for isolation identified as helpful by that group and encourages its adoption by other groups falling into non-traditional doctoral categories
as well as encouraging its consideration by more mainstream groups of doctoral students. That solution constitutes the notion of the online community of practice (CoP), the result of an initiative taken by a number of the students in the study. While social media and online communities are very much a 21st century phenomenon, the idea of an online CoP dedicated to 'working mothers doing doctorates' explores a way of mitigating the very particular issues of identity and isolation they experience. In capturing this distancing, we coin the term *perpetual peripherality,* a concept we find particularly useful (not just for working mothers but generally in relation to doctoral study) in understanding the potential dangers facing particular groups of doctoral students sitting outside the mainstream of the doctoral experience.

'Perpetual peripherality' (as opposed perhaps to periodic peripherality) is a potentially useful but largely unexplored concept applied to date in only two settings. The first is an investigation of 'masculinities and femininities as communities of practice' where perpetual peripherality is seen as being a possible consequence of transgression of communal norms (Paechter 2006: 22). The second refers to the situation threatening countries that are both at the geographical extreme of blocs and also less well-integrated into economic structures (Pori Report 1999: 14). From these usages, we understand the concept of perpetual peripherality as referring to situations in which social actors find themselves constantly (rather than periodically) outside a perceived 'mainstream' and unlikely to be able to access that mainstream without the development of additional structures, processes or bridges. Given its ability to express the relationship between position and the consequences of that position, we employ the concept to understand both causes and consequences in one area in doctoral education - the doctoral student who is also a working mother with children.

Gender in higher education

Higher education (HE), as an environment in which people study and work, presents structures and processes that maintain a gendered division of labour, often locating men in the highest positions of the hierarchy and the impact of doctoral study on identities (Crimmins 2016; Dann, 2018; Sinclair, Barnacle and Cuthbert, 2014). In HE there are long-standing reports of female faculty members feeling marginalized. There is substantial evidence of their receiving lower salaries than male colleagues (Wolf-Wendel *et al*. 2007:259). This marginalized status is also reinforced in the case of women with caring responsibilities and particularly those who are mothers reflected in Rafnsdottir and Heijstra's (2013) study on work-family life in academia. Importantly, they found it was women rather than men who often carried the major part of the

responsibility of domestic and caring issues. For women actually working in academia, Kuhn *et al.* (2009:237) talk of the: 'medieval structures and traditionally juvenile attitudes towards women' which make navigating a career in academia difficult, especially in light of the: 'myriad of obstacles erected by academic culture'. Gardner (2013) provides a review of earlier studies identifying these 'obstacles' including lower pay, fewer promotion opportunities (August & Waltman 2004), heavier teaching loads (Austin & Gamson 1983) and greater administrative responsibilities (Rosser & O'Neil Lane 2002). These are overlaid by a general lack of supportive policies for familial responsibilities, leading Fothergill and Feltey (2003:17) to argue that (women in academia): 'the standard for tenure track academics is to be childless or at least to have an invisible home life, leading to a chilly climate for mothers in academia'. Moreover, it has been proposed that there is a presumption in academia that women can overcome peripherality simply by leaving their personal lives 'at the door' (Wall 2008). However, due to the demands of families and academia - the two 'greedy institutions' (Edwards, 1993:63) – women, whether as students or employees, are placed under enormous pressure to respond to the conflicting requirements of both (Webber 2017). This collision between responsibility for childcare and engaging with academic studies can result in career plans being affected (Probert 2005) and can solidify peripherality.

The importance of work-life integration and maintaining the balance between family and work lives as a key aspect of well-being also applies to the postgraduate research sphere where women have both lower well-being and a more negative perception of environmental conditions than men (Clouder *et al*, 2018).

Having children during postgraduate studies may impede women's progress, increase their peripherality, and thereby affect their future employability (Svanberg *et al*. 2006). If the goal is a career in academia, Bozzon, Murgia and Poggio (2019:39) argue the 'precariousness'

experienced by early career researchers: 'is not gender-neutral and tends to put women at a consistent disadvantage'. Crabb & Ekberg (2013:12) suggest this can act as a self-fulfilling prophesy because the: 'perceived incompatibility between motherhood and academic study has had a notable effect on the consideration female postgraduate students give an academic career' (2013:12). This perceived incompatibility is one of the keys to understanding the experiences of student mothers and underlying it is the wider context of narratives deriving from the challenges of a gendered society, sexual stereotyping and economic inequality - challenges faced by women in many social contexts including academia where it can lead to and sustain a cycle of perpetual peripherality.

Working women with children are far from the stereotypical full-time, young PhD candidate envisaged by many policy makers and institutions when they structure provision (McCulloch 2004; McCulloch and Stokes, 2008 sic: young, recently completed masters, independent). Working mothers have been largely neglected in previous research on doctoral education and the article uncovers cohort members' experiences of negotiating and overcoming peripherality. As such, the unit of analysis operates at the micro-level (i.e. individual working women/mothers) experiences. Nevertheless, in tandem, it also progresses to explore the possibility of a meso-level (i.e. group or community within an institutional/organizational context) as a way forward for these students to combat peripherality. The interaction of the micro and the meso may in turn inform macro-level (institutional) policy and actions (Bozzon, Murgia & Poggio, 2019). It is to this the meso-area that the argument turns next.

Communities of Practice and Online Communities of Practice

Communities of Practice (CoP) theory an approach constitute a social theory of learning that views learning as participation (Wenger, 2008). In this article, by online CoP we mean an ongoing social media network established to support doctoral students and with membership limited to those studying for a PhD. Its organization does not have to be formal, but it has discrete character and identity. It is important that CoP are organised to be supportive, collaborative environments that provide space for sharing ideas and information (Dei & van der Walt 2020; Groen & Roy 2020).

Wenger (2008:73) outlined three dimensions of practice that form a community: *mutual engagement*, *joint enterprise* and a *shared repertoire*. Mutual engagement highlights the requirement for members to interact with each other and form relationships based on a mutual understanding and shared beliefs and goals (Harvey *et al* 2013). This becomes a joint enterprise instilling members with a sense of mutual accountability around their engagement and the process of learning (Hill & Haigh 2012). Members recognise that the community has connected them and that they are part of a group with identifiable goals and a shared understanding of expectations and what is acceptable from a member (Keay *et al* 2014). Such communities can manifest themselves in a range of spatial and temporal settings with the Internet and social media offering many examples. On-line or virtual communities can be established as CoPs without the need for face-to-face interaction, providing a platform for knowledge delivery and mentoring (Struminger *et al* 2017). A key aspect of virtual CoPs is that they can reduce barriers to participation, make membership accessible to more and, in doing so, implicitly recognise each individual's uniqueness and importance to community goals (Ardichvili *et al*. 2003).

However, it must be noted that CoP theory *per se*, and virtual CoPs in particular, are not without critiques and a number of issues have been raised (Ardichvili et al. 2003; Cross *et al* 2006). The discipline of becoming a PhD can revolve around practices, research methods and other repertoires which may divide as much as unite. Different technology platforms can work to exclude those with particular disabilities and access to tools and technology is not universal (Guldberg & Mackness, 2009). Smith and Rust (2011:117) argue that CoPs in HE are increasingly difficult to develop and sustain. They suggest that not only is there fragmentation by discipline, but there is also 'fragmentation by function', with staff separated from students and administrators and organized into the various roles of lecturer, researcher or manager, hindering the possibility of joint enterprise or mutual engagement. For those not able to participate fully, the participation of members on the periphery of a CoP can be viewed negatively by others and this negative view may prevent them moving towards fuller involvement in the learning process (Brooks 2010). Moreover, the very notion of communities, including on-line ones, may also rely on some of the members having more experience than others so this can be passed on. However, it should be signaled this may not always be the case and the community may sometimes (such as in the case of people embarking on doctoral study) consist of all members feeling the way forward tentatively together.

Furthermore, in losing the face-to-face aspect of the more traditional structures of social learning, online CoPs can reduce the motivation to remain engaged due to the remoteness implicit in online communities and there can be misunderstandings due to the lack of social indicators such as facial expression and tone of voice which is present in face-to-face conversation. However, they can perform an equalizing function as judgements around identity indicators such as clothing or accents are absent (Arasaratnam-Smith & Northcote 2017). Online CoPs can also provide a recorded history of participants and their contributions and

engagement, thus becoming a learning resource for those joining the group later (Zhang & Watts 2008). This record of activity may also serve as a motivating factor for peripheral members who can reflect on knowledge shared and develop confidence based on increasing understanding (Wang 2010). Less confident individuals may benefit, with the physical self being sidelined due to the foregrounding of written articulation. 'The obsoleteness of non-verbal skills presents opportunities for self-expression of some individuals who may not yet have the confidence in a face-to-face environment' (Arasaratnam-Smith & Northcote 2017:192). As a consequence, there is the possibility for online CoPs to have a democratizing effect on group participation as all are welcomed without judgement. It is important therefore, to acknowledge the role that connection plays in supporting doctoral students. Mantai (2017:637) highlight the doctoral students' needs to feel validated as researchers by oneself and others, emphasising the social nature of researcher identification and development.

Therefore, CoPs have a potentially very important role to play in supporting a range of different groups at risk of marginalisation in HE and doctoral contexts. In the light of Covid-19 this has become particularly relevant and poignant. In the specific case of working women with children doing doctorates, a CoP may be a valuable community. In some regards, this has already been alluded to through networks such as 'Mumsnet' (an general online community for young mothers) (Pedersen and Lupton, 2018). More directly focused on academia, Acker & Armenti (2004) underline the importance of collective support for females. While general networks are available in wider domains, a range of specific networks within HE have particular scope to consider the role for a CoP to address the concerns arising for mothers who are doctoral students and it is to an examination of field date relating to this that the argument now turns.

Methodology

This article draws on in-depth face-to-face interviews (at micro-level) with 35 working mothers with experience of pursuing doctoral degrees. As a prelude to the study, the topic of including men was discussed and a pilot study was undertaken, involving 5 women and 3 men. The women talked at length about the difficulties, the 'juggling' of tasks and the lack of time available to them to dedicate to the PhD. The three men generally talked in more practical terms - e.g. as a career-enhancing exercise, a logistics exercise – fitting writing into the workday and finding time in the evening. Their reports took a more functional approach to the work, treating it as something separate and work-oriented whereas the pilot study women respondents talked more about weaving the PhD into their non-doctoral lives, *adding it* to the list of things for which they deemed themselves responsible. The women also talked about 'the guilt' they felt at having to miss weekend family outings or having quality time with their children when they were there but not really 'there'. The men did not directly report feeling compromised by the time their PhDs required, and did not discuss feelings of guilt, focusing instead on the PhD as a priority, a means to an end. Of course this does not mean that guilt was not experienced – it was just not present in the data. It was felt therefore, that mothers with young children stories on their experience of doctoral study pointed at a distinctive, compelling, under-researched and worthy study in its own right.

Respondents were recruited from 12 different institutions via a call for participants in an online postgraduate newsletter, *Vitae* (part of the UK Vitae programme). Participants were contacted by email, and provided with an information sheet and consent form to read prior to the meeting. Interviews were conducted across a six-month timescale, each undertaken by the first-named author, recorded and transcribed (Manen 1990). Interviews lasted two-to-three hours and were conducted in a variety of social settings including cafes, workplaces and one participant in her

home. Due to the nature of the interviews, the duration and the location of some, the ethics of the study were carefully considered by the University Ethics Committee before approval was granted. To validate the interviews, each respondent was sent her transcript to confirm that it accurately represented her views and to allow for the withdrawal of any aspect of the interview which, after consideration, she might not want to be included in the research (Creswell 2007). Pseudonyms were then given to each participant to ensure anonymity.

Open questions without assumptions were used to avoid respondents being led towards particular answers and each discussion began with the respondent being invited to talk about their experience in a descriptive, rather than evaluative way. This approach helped respondents feel more comfortable (Smith *et al*. 2010) and facilitate an empathetic approach. By using a series of in-depth interviews, where the questioning is driven by information from the informant, the research aimed to grasp a deeper understanding of the respondents' experiences and thus establish a narrative - 'the textual actualization of a story at a specific time and context and to a specific audience' (Eriksson & Kovalainen, 2008:121).

Thematic analysis was employed to identify the patterns emerging from the narratives, focusing on what was said rather than the context, audience or structures of speech (Kohler Reissman 2008). Themes therefore focus on the essential - 'making the phenomenon what it is' (Manen 1990:107). There could be concerns that by identifying common themes within narratives, the nuanced lived experiences of the women are too distanced (Lewis 2013). However, in acknowledging that there was a possibility of similar experiences across the respondents, we felt that identifying themes across individual narratives would provide offer some commonality pointing at a meso-level CoP: 'where the part is interpreted in relation to the whole and the whole is interpreted in relation to the part' (Smith *et al*. 2010:92; Creswell 2007:58). The

backgrounds and life dynamics of the women respondents are all very different. However, the roles they adopt, their feelings around studying whilst bringing up children and their perceptions of the process point towards common themes and suggest rich insights into the similarities of experience and feelings within individual diversity.

Findings and Discussion

Mothers' marginalisation

> *'I had an induction thing and their focus was very much, "You are supposed to be in your early thirties. You are all supposed to be single; you are all supposed to be full time students. "Well, I'm old. I'm in my late thirties. I work full time. I'm a part-time student", they don't know what to do with you. The attitude of the university is to take a one size fits all approach.' (Therese)*

In exploring the gap between the expected route for PhD students and the experience of the women in this study, it became apparent that their experience occurred from within, and in relation to, a marginalized or peripheral position. Mothers have an identity that is not recognized or acknowledged in the normative representation of doctoral study and rather than having an identity which is reaffirmed by, and connected into, a CoP, they feel fragmented, disconnected and isolated and report feelings of identity erosion.

> *'I didn't realise how isolating a PhD is. I expected more connection with other PhD students, more things that made it a supportive experience'.* (Grace)

They experienced shifting roles as they are pulled simultaneously between multiple identities and the doctoral processes did not support them in dealing with this. The women in this study lacked the opportunity for practice as connection, reinforcing their peripherality, and impeding their opportunities for learning. The mothers' experiences of part-time PhD study was one of marginalization:

> *'There's no network, you can't access anybody doing a part-time PhD as a mother, there's nowhere you can go to feel support'.* (Jan)

> *'I do feel quite isolated, it makes you feel much worse about stuff. You're responsible for it but no-one really cares. It doesn't matter to anyone else'.* (Stephanie)

> *'I will graduate and no-one from the Uni will know who I am'* (Mia).

The CoP framework considers the practice of shared resources and perspectives as key to the development of a CoP, however the women remained peripheral members or non-members of their institutional cohorts during their PhD because rigid institutional infrastructures failed to adopt a flexible approach to their part-time status, something noted by Teeuwsen et al. (2014). Further, PhD candidates who worked from home rather than on campus echoed feeling 'invisible, forgotten or disparaged as not serious participants by other members of the (institutional) community of practice because of their spatial location' (Jewson 2007:164). This risked having a negative impact on the overall experience and reinforced peripherality. Consequently, in this study, despite many of the women living in the same city as their institution of study, it was only through the online environment that some respondents found

their own community and a counter to isolation, enabling resistance to the tendency towards perpetual peripherality.

Mothers' identity as a 'non'-doctoral student

In relation to macro-dimensions, the institutions the women were registered at played a major role in the women's experience of being a PhD student. Not feeling as though they had a student identity was one of the things all of the women related:

'I didn't look at myself as a student, ever. I suppose because you're not living that student role. Your role is very different really, isn't it? You're never part of that student environment. You don't really fit that group of people or a group of younger or full-time students, you just don't fit the model. So you're a bit of a mismatch then, slightly marginalized.' (Sara)

'I think if you were a full-time PhD student you would be attached to a department and you would have access to a lot more things. So I think maybe they should engage their part-time PhD students a lot more to deliver things in their department. That's something I haven't really had the opportunity to do.' (Denise)

'After I had my child, I couldn't go to my support sessions because they were on the wrong day for my childcare. I think I really could have, you know I think I could have got more from…If I had had more collaborative discussions and engaged more.' (Lynn)

Respondents thought that feeling like a student or at least a full member of the institution would reinforce self-belief through their being recognized by the institution as being *capable* and

worthy of a PhD. The problem facing the women, however, was their lack of engagement with others (following Clouder *et al*, 2019). They could identify the benefits of mutual engagement with other students, yet their actual interaction and therefore their engagement was minimal or non-existent due to childcare demands and familial responsibility. They therefore could not sustain mutual engagement long enough to enjoy a sense of joint enterprise with other students and did not benefit from a shared repertoire which could have provided them with access to new methods, different ways of approaching research and resources to aid them with their research work. They lacked involvement in learning new research approaches, there was little access to resources and had little opportunity to discuss their own research methods with anyone other than their supervisory team.

> *'I don't think I was prepared for it feeling so lonely. At times it feels like a very lonely occupation, so trying to find the motivation has been really hard'.* (Helen)

Peripherality to the institution and distance from the student experience were mutually self-reinforcing and led to respondents being in danger of becoming perpetually peripheral. It was only through the development of online communication that some of the women began to feel a sense of belonging and community and over time, progressed to developing independent approaches to supporting other online members.

Mothers' access to resources and sites of learning

Addressing peripherality and helping to prevent its becoming perpetual is not simply a case of making research seminars and workshops accessible, although this could be a useful starting point for some institutions. Learning as belonging is about practice as connection (Wenger, 2008). It involves students actively participating in the research community and developing a

shared repertoire of research methods and resources through joint enterprise (Tummons 2012). In supporting each other through virtual networks, the respondents were able to sustain a level of motivation for their research. The online CoP highlighted in this study therefore tended to be student driven, this is supported by the work of Hopwood *et al* (2011:222) who argue that students play key roles in instigating a wide range of interactions to help them with their work

> *'Having a network on Twitter has been amazing. There are times you go on PhD chat and you see people saying exactly what you're thinking'.* (Paula)

Initially, discussions focused on a variety of research approaches and resources but over time the discussions also addressed more personal topics of self-belief, coping mechanisms and encouragement, thus establishing a deeper level of trust and support within the community. As Jairam and Kahl (2012) assert, social relationships help to improve the PhD experience

> *'We have a lot of online discussion boards and stuff, so there I do feel much more of a student. We can kind of get that bit of banter going'.* (Laura)

Although PhD research is often thought of as an independent task, increasingly the role of the wider group is recognized as being important (Cumming, 2010). Within a community setting, students develop new ways of thinking by interacting with and contributing to the learning of others, and it is the nature and functionality of these relationships that is critical for CoPs to work (Bitterman 2008:316).

For a CoP to form, maintain itself and evolve, members must participate in mutual engagement and reinforcement. The formation of an individual's sense of belonging to the online CoP was

a process in which the other women members actively participated (Moore 2014). Studying at a distance can impact a sense of connection with fellow students, especially in relation to the formation of social identity (Arasaratnam-Smith & Northcote 2017). However, the online CoP overcame this by cultivating a sense of belonging and participation, regardless of physical location. A community was therefore created and sustained by the members who developed a feeling of responsibility for each other (Chang 2012) and the degree of peripherality thereby reduced. Rachel talked about the peer network set up by the University, and discussed the online community that developed as a result.

'I don't think I would have managed it on my own. It makes you feel that you're part of something. They've got a kind of social area on the digital e-learning which happens to be populated by other students, from near completed to students who have just started, so things like that are nice'.

Respondents discussed their minimal involvement in physically located university CoPs, echoing Teeuwsen et al. (2014) who argue identification with the institutional CoP can be problematic for part-time students. Respondents' peripherality was emphasized in their failure to experience learning as social involvement but rather as a fragmented process involving low levels of institutional and supervisory engagement. Supervisors could play a role in connecting students to the university CoPs, but the women had mixed experiences with their supervision and the supervisors were not active in making links for their students. Overwhelmingly, supervision was not experienced as a link to a community of practice.

'I'm 48, I'm not like an undergraduate who's never had professional dealings with people – but I often find that I'm the one driving supervisory meetings, saying, "I've

17

done this, this and this, and I need to do that, that and that. What do you think?" I get

hints and tips, but very minimal direction. I don't know whether that's normal or not'.

(Vanessa)

Learning was, in many cases, self-directed rather than collaborative (echoing Monaghan 2011). The normative approach of HE towards students reflects an expectation of availability, flexibility and mobility. Due to the personal circumstances and restrictions the women had to manage, they could not match these expectations and were often effectively excluded from activities including research seminar series, research training and doctoral conferences. They looked to the online community to provide the support they otherwise lacked.

'You only have to post a quick comment and someone will get back to you, even if it's

just to ask if you are ok.' (Paula)

Academic and social integration is not always possible (Ampaw & Jaegar 2012) but its achievement can be made more difficult by a university's infrastructure and procedures. As Wenger said, 'relations of non-participation are mediated by institutional arrangements' (Wenger 2008: 169; McCulloch & Stokes 2008). Just as apprentice learners are surrounded by the characteristic activities of their trade (Lave & Wenger 1991:69), so too are students who observe and learn research skills and academic writing practices through participation in research seminars, conferences and reading groups. Unable to participate through traditional means in traditional surroundings, respondents sought support through the online CoP allowing them to challenge their peripheral status. The respondents' response was to adopt an online CoP to overcome their inability to engage with University research culture due to conflicting familial and work demands. Over time, and through interaction with other members, they

developed the skills and other attributes appropriate to full membership, while at the same time developing confidence as practitioners in both their knowledge and its use.

Fusing the micro and the meso- macro: lessons for institutions

An example of how students can connect, then stay connected despite distance, was given by Paula who was enrolled on a PhD programme with a University that established an on-line learning space. The students 'met' online, allowing them opportunities to interact, arrange informal meetings and support each other. Discussions on-line led to off-line gatherings. Students developed trust and began peer-reviewing each other's work. These connections grew into friendships as discussions about the PhD led to talk about more personal issues as the PhD was adopted into everyone's lives. This 'practice as connection' allowed participants to form close relationships, develop repertoires and an understanding of their enterprise not easily shared by outsiders (Wenger 2008:113), thus providing a much-needed sense of relatedness and, ultimately, enhanced motivation. There is probably no 'right' time to hold sessions for all doctoral students, but more on-line activity would provide access for those unable to physically attend. Trish suggests expanding current facilities to incorporate more online learning material and research sources.

> *'We have an online learning environment where you can get to e-journals and e-books and things like that. I think the more that can go online, the better. I mean, I really rely on that. Using a virtual learning environment, you could have podcasts and discussions that facilitate the contact. It may not be a lecture, but you could have a skype conversation'. (Trish)*

The on-line environment can be utilized to make the more traditional aspects of the PhD such as poster days, more accessible, and to allow part-time students opportunities to participate and discuss their research with others in forums and other virtual environments. One of the women in this study belonged to an online support group that was set up by the students themselves. All were distance learners and wanted a place to communicate that was instant and inclusive. She found the group a huge support to her throughout her PhD as it developed from a tentative place to chat into a strong support network that fostered friendships and a sense of community, where participants would critique each other's work and encourage members during their studies. Institutions should encourage and support the development of informal groups like this as they can play a crucial part in sustaining a student's journey to completion (Duguid 2008). Institutions need to support their students and acknowledge the growth in diversity in the doctoral student population and also that with diversity comes a different set of needs. In addressing these needs, institutions should provide a diversity of support networks, some utilizing online resources and exposing students to new ways of engaging with the discipline, other students and the institution as a whole. PhD students are generally self-motivated and resourceful, and this is particularly the case with students who are mature and already in employment. Those students can, therefore, be expected to provide much of the leadership required to establish and maintain CoPs, but institutions can help by contributing advice, leadership and resources to support the development of self-directed CoPs.

Conclusion

The mothers in this study faced many challenges. Their peripheral status was reinforced by institutional infrastructures, and on occasion institutional actors (e.g. supervisors) appearing not to consider issues regarding part-time students' engagement and involvement in the broader

research culture. They worked while studying part-time and had responsibility for dependent children, and recognised they were on the periphery of the student experience. According to Brown & Watson (2010:402): 'women's academic careers suffer not because they are women, but because they marry and have children' a sentiment voiced very honestly by Sara, who spoke for many of the women in this study on the tension between the roles of mother and PhD student.

> *'I suppose that's what we struggle with as mums; because we're not the traditional student. There's a picture of what an academic student should be doing and that doesn't always fit with being a mum, and I think we're a bit of a mismatch there. And I think that's got to change.' (Sara)*

These issues are far reaching but do not simply emanate from competing time demands. Changes are required within academia to make higher education more equal and accessible to students with childcare responsibilities.

In examining the gap between the expected normative route for PhD students and the lived experience of the women in this study, it became apparent that their experience needed to be approached taking account of their marginalized or peripheral position. Mothers have an identity that is not recognized or acknowledged in the standard representation of doctoral study. Rather than having an identity reaffirmed by, and connected, into the institutional doctoral student body as a CoP, they experience fragmentation, disconnection and isolation. It was only through the utilization of online CoPs that some of the women began to shape an identity as a student and connect with the process. The online environment provided a forum for development and interaction, helping to create a virtual space for enhancement of learning.

Our conclusions are also important at an institutional macro-level for a number of reasons. First, data collected by HEFCE as long ago as 2007 showed that students enrolled for part-time PhDs have a lower completion rate. This is even without the added complication of familial responsibility, with 76% of full time students completing within ten years against only 48% of part time students within the same time-frame and the issues aligned with mothers' identity explored above. Instead of trying to 'fix the problem' regarding the progress of working women with children undertaking a doctorate, institutions should approach the situation strategically, looking at how they can best serve this non-stereotypical demographic who are intellectually capable but have time demands and conflicting roles that make student life harder to engage with.

Doing so would also serve more 'traditional' students by increasingly creating diverse cohorts of doctoral students. Universities must anticipate recruiting in a future in which widening participation to doctoral education becomes the norm: 'as governments invest in increasing the pool of doctoral graduates needed to build globally competitive knowledge economies' (Halse & Mowbray 2011:517; also McCulloch & Thomas 2013). This increasing demand for doctoral students will require universities to acknowledge that diversity in the doctoral student population is growing and will bring different needs. In responding to these needs, universities will have to provide varied support networks utilizing online as well as campus-based resources and exposing students to new ways of engaging with subject areas and disciplines, other students, and the institution as a whole. The boundaries of 'local' doctoral CoPs should not be confined to on-campus locations. By creating online CoPs, spatial limitations are removed and the CoP becomes a more open environment for potential participation regardless of physical location. Part-time PhD students participating in online forums or virtual communities can benefit through engagement without the necessity for physical face-to-face contact. This can

provide members with shared historical and social resources that can sustain mutual engagement (Cronshaw, 2017). Due to changes in society after the Covid-19 pandemic, virtual face-to-face contact is now an accepted approach for many. Further research is therefore required to explore the impact of online communities of practice, as the use of visual platforms such as Zoom and Teams have become a standard medium of communication.

The difficulties faced by the women in this study came about not because they were disorganized, nor intellectually capable enough. They were there because they were working while also being responsible for the welfare and upbringing of children, an aspect of their lives towards which the HE institutions at which they studying were generally myopic. During their experience of being a PhD student, the women found that the role of mother contributed to their peripherality as they were marginalised by the concurrent demands of the identities of mother and worker, and the gendered culture of the institutions at which they studied, all these factor conspiring to some degree to threaten to make that peripherality perpetual.

In highlighting the issues of the marginalisation of working mothers who are also doctoral students, this study has clearly identified an overlooked sub-group and explored the potential problems and obstacles they may face during their studies, knowledge of which can help both women and individual institutions establish strategies and coping mechanisms to overcome them, thereby empowering individuals. It therefore expands the dialogue around issues of marginalization and peripherality. Those in peripheral positions in doctoral education need to know that, in feeling apart from the student community, they are not alone, that many others experience the same feelings and that looking to the online environment to find others in the same situation and/or developing their own, autonomous CoPs can be a way of resisting and overcoming the threat of peripherality and its becoming perpetual. Furthermore, the authors

anticipate that the Covid-19 pandemic, which has made many research degree students at least temporarily peripheral, and both institutional and individual responses to it, will have prepared the ground for and given birth to many such developments and experiments.

Bibliography

Acker, S., and C. Armenti. 2004. "Sleepless in academia." *Gender and Education* 16 (1): 3-24. DOI: 10.1080/0954025032000170309

Ampaw, F., and A. Jaeger. 2012. "Completing the Three Stages of Doctoral Education: An Event History Analysis." *Journal of Research in Higher Education* 53: 640-660. DOI: 10.1007/s11162-011-9250-3

Arasaratnam-Smith, L.A. and M. Northcote. 2017. "Community in Online Higher Education: Challenges and Opportunities." *The Electronic Journal of e-Learning* 15 (2): 188-198.

Ardichvili, A., V. Page, and T. Wentling. 2003. "Motivation and barriers to participation in virtual knowledge-sharing communities of practice." *Journal of Knowledge Management* 7 (1): 64-77. DOI: 10.1108/13673270310463626

August, L., and J. Waltman. 2004. "Culture, climate, and contribution: Career satisfaction among female faculty." *Research in Higher Education* 45: 177-192. DOI: 10.1023/B:RIHE.0000015694.14358.ed

Austin, A., and Z. Gamson. 1983. *Academic workplace: New demands, heightened tensions*. Washington, DC: Association for the Study of Higher Education. https://eric.ed.gov/?id=ED243397 [Accessed 6.10.20]

Clark Blickenstaff, J. 2005. "Women and science careers: leaky pipeline or gender filter?" *Gender and Education* 17 (4): 369-386. DOI: 10.1080/09540250500145072

Bitterman, J. 2008. 2008. "Utilizing Communities of Practice. Concepts in Adult Education Doctoral Study." In *Communities of Practice. Creating Learning Environments for Educators*, Vol. 1. edited by C. Kimble, P. Hildreth, and I. Bourdon, 311-332. Charlotte, NC, Information Age Publishing.

Bozzon, R., A. Murgia, and B. Poggio. 2019. "Gender and precarious careers in academia and research: macro, meso and micro perspectives." In *Gender and Precarious Research Career: A Comparative Analysis*, edited by A. Murgia, and B. Poggio, 15-49. London: Routledge.

Brooks, C. 2010. "Toward 'hybridised' faculty development for the twenty-first century: blending online communities of practice and face-to-face meetings in instructional and professional support programmes." *Innovations in Education and Teaching International* 47 (3): 261–270. DOI: 10.1080/14703297.2010.498177

Brown, L., and P. Watson. 2010. "Understanding the experiences of female doctoral students." *Journal of Further and Higher Education*. 34 (3): 385-404. DOI: 10.1080/0309877X.2010.484056

Chan, Z. 2003. "My doctoral journey: A Chinese Woman's Struggles." *AFFILIA* 18 (4): 479-484. DOI: 10.1177/0886109903257549

Chang, H. 2012. "The development of a learning community in an e-learning environment." *International Journal of Pedagogies & Learning* 7 (2): 154-161. DOI: 10.5172/ijpl.2012.7.2.154

Clouder, L., J. Billot, V. King, and J. Smith. 2019. "Friend or foe: The complexities of being an academic and a doctoral student in the same institution." *Studies in Higher Education* 45 (9): 1961-1972. DOI: 10.1080/03075079.2019.1643307

Crabb, S., and S. Ekberg. 2013. "Retaining female postgraduates in academia: The role of gender and prospective parenthood." *Higher Education Research & Development* 33 (6): 1099-1162. DOI: 10.1080/07294360.2014.911251

Creswell, J.W. 2007 (2nd ed.). *Qualitative Inquiry and Research Design*. Thousand Oaks: Sage.

Crimmins, G. 2016. "The spaces and places that women casual academics (often fail to) inhabit." *Higher Education Research & Development* 35 (1): 45-57. DOI: 10.1080/07294360.2015.1121211

Cronshaw, S. (2017) "Working student mums and the art of spinning plates." In *Postgraduate study in the UK: Surviving and Succeeding*, C. McMaster, C. Murphy, S. Cronshaw, and N. Codiroli-McMaster, N. 163-174. Faringdon: Libri Publishing.

Cross, R., Laseter, T., Parker, A., and Velasquez, G. (2006). "Using social network analysis to improve communities of practice." *California Management Review*, 49 (1), 32-60. DOI: 10.2307/41166370

Cumming, J. 2010. "Doctoral enterprise: A holistic conception of evolving practices and arrangements." *Studies in Higher Education* 35 (1): 25-39. DOI: 10.1080/03075070902825899

Dann, R., J. Basford, C. Booth, R. O'Sullivan, J. Scanlon, C. Woodfine, and P. Wright. (2018). "The impact of doctoral study on university lecturers' construction of self within a changing higher education policy context." *Studies in Higher Education*. 44 (7): 1166-1182. DOI: 10.1080/03075079.2017.1421155

Dei, D. and T. van der Walt. 2020. "Knowledge management practices in universities: The role of communities of practice." *Social Sciences & Humanities Open* 2 (1). https://www.sciencedirect.com/science/article/pii/S2590291120300140 (Accessed 6.10.20)

Duguid, P. 2008. "Prologue: Community of practice then and now." In *Organizing for the creative economy: Community, practice, and capitalism,* edited by A. Amin, and J. Roberts, 1–10. Oxford University Press.

Edwards, R. 1993. *Mature Women Students. Separating or connecting family and education*. London: Taylor & Francis.

Eriksson, P., and A. Kovalainen. 2008. *Qualitative Methods in Business Research*. London: Sage.

Fothergill, A. and K. Feltey. 2003. "'I've worked very hard and slept very little': mothers on the tenure track in academia". *Journal of the Association for Research on Mothering* 5 (2): 7-19.

Gardner, S. 2013. "Cumulative negativity; Reasons for women faculty departure from one research institution." *Journal of Higher Education Management* 28 (1): 148-165.

Gouthro. P. 2002. "What counts? Examining academic values and women's life experiences from a critical feminist perspective." *Canadian Journal for the Study of Adult Education/ La Revue Canadienne pour L'etude de L'education des Adults.*16 (1): 1–19.

Groen, J., and S. Roy. 2020. "Meaningful engagement of new scholars at international seminars: communities of practice as a pathway." *Reflective Practice* 21 (1): 110-121. DOI: 10.1080/14623943.2020.1712197

Guldberg, K., and J. Mackness. 2009. "Foundations of communities of practice: enablers and barriers to participation." *Journal of computer assisted learning* 25 (6): 528-538. DOI: 10.1111/j.1365-2729.2009.00327.x

Halse, C., and S. Mowbray. 2011. "The impact of the doctorate." *Studies in Higher Education* 36 (5): 513–525. DOI: 10.1080/03075079.2011.594590

HEFCE. 2007. "PhD research degrees: Entry and completion."
http://webarchive.nationalarchives.gov.uk/20100202100434/ (Accessed 6.10.20)

Hill, F., and M. Haigh. 2012. "Creating a culture of research in teacher education: learning research within communities of practice." *Studies in Higher Education* 37 (8): 971-988. DOI: 10.1080/03075079.2011.559222

Hopwood, N., S. Alexander, L. Harris-Huemmert, L. McAlpine, and S. Wagstaff. 2011. "The Hidden Realities of Life as a Doctoral Student." In *Doctoral Education in International Context: Connecting Local, Regional and Global Perspectives*, edited by V. Kumar, & A. Lee, 214–233. Serdang: University Putra Malaysia Press.

Jairam, D. & B. Kahl, Jr. 2012. "Navigating the Doctoral Experience: The Role of Social Support in Successful Degree Completion." *International Journal of Doctoral Studies* 7: 311–329.

Jewson, N. 2007. "Communities of Practice in their Place: Some implications of changes in the spatial location of work." In *Communities of Practice. Critical Perspectives*, edited by J. Hughes, N. Jewson, and L. Unwin, 166-180. London: Routledge.

Keay, J., H. May, and J. O'Mahony. 2014. "Improving Learning and Teaching in Transnational Education: Can Communities of Practice Help?" *Journal of Education for Teaching: International Research and Pedagogy* 40 (3): 251-266. DOI: 10.1080/02607476.2014.903025

Kohler Riessman, C. 2008. *Narrative Methods for the Human Sciences*. London: Sage.

Kuhn, C., J. Mills, C. Rowe, and E. Webster Garrett. 2009. "Momifesto. Affirmations for the Academic Mother." In *Mama, PhD*, edited by E. Evans and C. Grant, 237-246. New Brunswick, NJ: Rutgers University Press.

Lave, J. and E. Wenger. 1991. *Situated Learning. Legitimate Peripheral Participation*. Cambridge University Press.

Lewis, G. 2013. "Unsafe travel: Experiencing intersectionality and feminist displacements." *Signs: Journal of Women in Culture and Society*, 38 (4): 869-892. DOI: 10.1086/669609

Lynch, K. 2010. "Carelessness: A hidden doxa of higher education." *Arts and Humanities in Higher Education* 9 (1): 154-167. DOI: 10.1177/1474022209350104

Mantai, L. 2017. "Feeling like a researcher: experiences of early doctoral students in Australia." *Studies in Higher Education* 42 (4): 636-650. DOI: 10.1080/03075079.2015.1067603

Macarthur, S., D. Bennett, C. Hope, and T. Goh. 2020. "Women composers' use of online communities of practice to build and support their careers." *Personnel Review*. 49 (1): 215-230. DOI: 10.1108/PR-02-2018-0059

Manen, M. 1990. *Researching Lived Experience*. NY: SUNY Press.

McCulloch, A. 2004. "Part-time majority." *Times Higher*. 10 September. https://www.timeshighereducation.com/news/part-time-majority/191103.article (Accessed 15.11.17)

McCulloch, A. and P. Stokes. 2008. *The Silent Majority: Meeting the needs of part-time research students*. London: Society for Research into Higher Education. Series 2. No. 5.

McCulloch, A. and L. Thomas. 2013. "Widening participation to doctoral education and research degrees: a research agenda for an emerging policy issue." *Higher Education Research & Development* 32 (2): 214-227. DOI: 10.1080/07294360.2012.662630

Monaghan, C. 2011. "Communities of Practice: A Learning Strategy for Management Education." *Journal of Management Education* 35 (3): 428-453. DOI: 10.1177/1052562910387536

Moore, R. (2014) "Importance of developing community in distance education courses." *Techtrends: Linking Research & Practice to Improve Learning* 58 (2): 20-24. DOI: 10.1007/s11528-014-0733-x

NSPCC (2020). "Definition of a child". https://learning.nspcc.org.uk/child-protection-system/children-the-law#:~:text=England,in%20further%20education (Accessed 13.10.2020).

Paechter, C. 2006. "Power, knowledge and embodiment in communities of sex/gender practice". *Women's Studies International Forum* 29 (1): 13-26. DOI: 10.1016/j.wsif.2005.10.003

Pori Report 1999. "TERRA Second annual meeting, Pori, Finland. European Commission." 27-29 June.

http://ec.europa.eu/regional_policy/archive/innovation/innovating/terra/pdf/pori.pdf

(Accessed 25 February 2017)

Probert, B. 2005. "I just didn't fit in: Gender and unequal outcomes in academic careers." *Gender Work and Organization* 12 (1): 50-72.

Rafnsdottir, G. & T. Heijstra. 2013. "Balancing work-family life in academia: the power of time." *Gender, Work and Organization* 20 (3): 283-296. DOI: 10.1111/j.1468-0432.2011.00571.x

Rosser, S. and E. O'Neil Lane. 2002. "Key barriers for academic institutions seeking to retain female scientists and engineers: Family unfriendly policies, low numbers, stereotypes, and harassment." *Journal of Women and Minorities in Science and Engineering* 8: 161-189.

Smith, J., P. Flowers, and M. Larkin. 2010. *Interpretative Phenomenological Analysis*. London: Sage.

Smith, P. and C. Rust. 2011. "The potential of research-based learning for the creation of truly inclusive academic communities of practice." *Innovations in Education and Teaching International* 48 (2): 115-125. DOI: 10.1080/14703297.2011.564005

Sinclair, J., R. Barnacle, and D. Cuthbert. 2014. "How the Doctorate Contributes to the Formation of Active Researchers: What the Research Tells Us." *Studies in Higher Education* 39 (10): 1972–1986. DOI: 10.1080/03075079.2013.806460

Struminger, B., S. Arora, S. Zalud-Cerrato, D. Lowrance, and T. Ellerbrock. 2017. "Building virtual communities of practice for health." *The Lancet*, 390(10095): 632-634. DOI: 10.1016/S0140-6736(17)31666-5

Svanberg, A., C. Lampic, P-O Karlström, and T. Tydén. 2006. "Attitudes toward parenthood and awareness of fertility among postgraduate students in Sweden." *Gender Medicine* 3 (3): 187-195. DOI: 10.1016/S1550-8579(06)80207-X

Teeuwsen, P., S. Ratkovic, and S. Tilley. 2014. "Becoming Academics: experiencing legitimate peripheral participation in part-time doctoral studies." *Studies in Higher Education*. 39 (4): 680-694. DOI: 10.1080/03075079.2012.729030

Tummons, J. 2012. "Theoretical trajectories within communities of practice in higher education research." *Journal Higher Education Research & Development* 31 (3): 299-310. DOI: 10.1080/07294360.2011.631516

Wall, S. 2008. "Of Heads and Hearts: Women in Doctoral Education at a Canadian University." *Women's Studies International Forum* 31 (3): 219–228. DOI: 10.1016/j.wsif.2008.04.007

Wang, L. 2010. "Integrating communities of practice in e-portfolio assessment: Effects and experiences of mutual assessment in an online course." *The Internet and Higher Education* 13: 267-271. DOI: 10.1016/j.iheduc.2010.07.002

Webber, L. 2017. "Supporting professional doctorate women students through identity change and turbulent times: who cares?" *Pastoral Care in Education* 35 (3): 152-165. DOI: 10.1080/02643944.2017.1363812

Wenger, E. (2008). *Communities of Practice. Learning, Meaning, and Identity*. Cambridge University Press.

Wolf-Wendel, L., K. Ward, and S. Twombly. 2007. "Faculty Life at Community Colleges: The Perspective of Women with Children." *Community College Review* 34 (4): 255-281. DOI: 10.1177/0091552107300282

Zhang, W. and S. Watts. 2008. "Online communities as communities of practice: a case study." *Journal of Knowledge Management* 12 (4): 55-71. DOI: 10.1108/13673270810884255