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# From Work to Life and Back Again: Examining the Digitally-Mediated Work/Life Practices of a Group of Knowledge Workers

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**Abstract.** This paper presents the results of a qualitative study exploring the technologically-mediated practices of work/life balancing, blurring and boundary-setting of a cohort of professionals in knowledge-intensive roles in Sheffield, a regional city in Northern England. It contributes to a growing body of CSCW research on the complex interweaving of work and non-work tasks, demands and on the boundaries that can be supported or hindered by digital technologies. In the paper, we detail how a cohort of 26 professionals in knowledge-intensive roles devise diverse strategies for handling work and non-work in light of a set of interconnected forces, and we argue that boundary dissolving and work-life blurring, and not just boundary setting and "balancing", are essential resources within such strategies. We also show how boundary sculpting pertains not only to work pervading personal spheres of life, but also the opposite, and that establishing, softening and dissolving boundaries are practiced to handle situations when the personal seeps into professional life.

**Keywords:** Boundaries, Interview study, Qualitative research, Work and life

## 1. Introduction

This paper presents the results of a qualitative study exploring the technologically-mediated practices of work/life balancing, blurring and boundary-setting of a cohort of knowledge workers in Sheffield, a regional city in Northern England. Computer-Supported Cooperative Work (CSCW) and Human-Computer Interaction (HCI) researchers have increasingly devoted attention to the complex interweaving of work and non-work practices, and to the roles that digital technologies play in supporting both such practices themselves and the management of boundaries between them, rather than being specific to particular professional vs. non professional domains (Grönvall et al. 2016).

In parallel, the concept of *work/life balance* has been discussed and critiqued in various scholarly domains both as a "model" to aspire to - as the work needed to maintain what is predicated as optimal balance might be too stressful or demanding than allowing blurring, − and as a descriptive concept - as there are various understandings of "balance" and its enactment (Morini and Fumagalli 2010; Eikhof et al. 2007).

Such shifting boundaries in people's lives are tied to shifting definitions and models of work and non-work. New forms of labour and of employment, particularly in knowledge-intensive sectors such as the *gig economy*, mean that freelancers, portfolio workers and professionals working in split roles or multiple part-time roles are dealing with almost constant blurring: of work spaces, times and tasks, as well as tools used in professional capacity (Sayah 2013; Gold and Mustafa 2013; Mustafa and Gold 2013). Non-work activities furthermore can be labour-intensive (i.e. managing personal commitments, healthcare, social life, hobbies, etc), adding multiple demands and constraints to everyday lives.

Given such complex and multidisciplinary scholarly context, a number of questions of relevance to CSCW are being investigated from various perspectives: how are balancing and blurring actually practiced and what role do digital technologies have in this, if any? What shapes these work/life strategies and boundaries, and thus practices? How do these strategies emerge and impinge onto those of family members, collaborators or colleagues? As well as looking at how work blurs into life, does life also pervade work and how? How do such phenomena relate to the individual experience of digital technologies as mediators of such activities?

The study we present in this paper addresses these themes. The intended contribution is a rich picture of the technologically-mediated practices of a cohort of knowledge workers in handling the boundaries between and the blurring of work and life and how they come to emerge - a topic that CSCW research has examined recently, but that undoubtedly requires further investigation.

In the following section, we situate our study in the context of related work and particularly ongoing investigations in CSCW, showing how our research questions emerge; we then provide a description of the digitally-mediated ways in which work/life boundaries are practiced that we documented through interviews with professionals in knowledge-intensive roles. A discussion and conclusions will then follow.

## 2. Background & Related Work

CSCW has long directed its attention to non-work spheres of life, including leisure, personal management/care and volunteering (Brown and Barkhuus, 2007; Verne and Bratteteig 2016; Voida et al. 2015); CSCW and HCI have both examined the role of digital interactive technologies in mediating work/life tensions and boundaries, documenting the skilled use of digital tools, its collaborative aspects, and the assemblages of physical/digital resources in non-professional spheres such as volunteering and leisure as well as in professional domains (Korn and Voida 2015; Orlikowski 2007; Sengers 2011).

Furthermore, research on mobilisation and *nomadicity* highlighted the fluid nature of work/life strategies (Erickson and Jarrahi 2016; De Carvalho et al. 2017; Nelson et al. 2017): people's practical strategies to undertake work at multiple locations and to

mobilise resources are both influenced by and shaping personal circumstances. The "romance" of flexibility and freedom predicated in early visions of mobile work hides instead challenges to tending to life when work is overwhelmingly pervasive of personal times and spaces (Büscher 2014). Cousins and Robey (2015) observe how mobile workers establish a variety of personalised boundary management practices in order to manage their own (complex) situations.

CSCW research on how people deal with multitasking and interruptions illustrates the cognitive aspect of weaving different tasks into practices (Mark et al. 2015), arguing that the way people plan and execute work is not based on simple tasks but in greater 'working spheres' (González and Mark 2004), and that people constantly handle and reconcile various degrees of fragmentation within a role (Mark et al. 2005) and among various roles, organisations and projects (Jarrahi and Sawyer 2017). If we consider these findings in the context of increasingly spatially and temporally distributed work, we can see that they are relevant to consider the role that personal demands can have on people's work/life strategies, but that greater attention is needed to the overall strategies within which the management of tasks and working spheres occurs.

Boundaries are an important concept in CSCW, both in terms of how they occur in practices, and of tools for defining and handling them. Particularly regarding work and life, Bødker (2016) argues that '(…) boundaries are not fixed, neither can or should they be made away with technologically, through seamless technologies' (Bødker 2016 p. 533), extending a CSCW view of boundaries as resources, and as being both specific and dynamic. Bødker argues also that boundaries are not established between different sets of values (for example the idealised home life vs. the challenging work life), but rather as means to handle complexity in both realms of life. We adopt this view, and further argue that how boundaries are set, tweaked and - importantly - erased is an area in need of further CSCW study.

Recent HCI research on *microboundaries* examines the particular role of digital tools in helping users manage boundaries, and in advising them when boundaries might be desirable or useful. Certain interaction mechanisms and designs can create/enable microboundaries: facilitate moments of pause in a flow of tasks, or help people fence off such tasks (Cecchinato and Cox 2017; Cecchinato et al. 2015; Cox et al. 2016). This work details microboundaries as they occur in various situations, but also advocates a model of balance and recommends "correcting" behaviours, while - as we mentioned - other research suggests that this might be not universally desirable. However it is important work on the topic of boundaries as the authors talk about what *enables* people to set microboundaries and what *motivates* them to adapt digital devices to personal strategies. For example, Cecchinato and Cox (2017) present how smartwatches might enable users not just for constant availability/reactivity, but for a quick way to judge when to draw a boundary.

As we mentioned, literature on work/life tensions both in CSCW and in other domains (such as human resources, organisational studies, and communication) details the problems with policy predicating work/life balance as

a goal to achieve, showing both substantial individual differences in how work and life are practiced and in constraints shaping them: integration (blurring) of work and life tasks and demands might not be an ideal strategy for everyone in the same way as balancing them out might not be, even despite apparent benefits. Indeed the study by Gray et al. (2016) hints that boundary setting and reconfiguration tend to be practiced in unique and individual ways according to personal and professional circumstances.

Research outside CSCW points out to a complex set of constraints shaping strategies, and of impacts that they have on work and life. Nippert-Eng (1995) elaborates concepts defining the boundary management between home and work on the basis of her interview study of 72 workers in a US scientific laboratory. The personal definitions of work and home vary, and so do the different ways in which individuals position themselves on a continuum from "integration" to "segmentation" of professional and personal. Nippert-Eng argues how the boundaries between home and work are not just dividing two sets of tasks, but rather different "realms of experience" (Nippert-Eng 1995, p. 25) and "territories of the self" (ibid., p. 34) and therefore different aspects of people's identities and their social and cognitive practices. These are defined also through external artefacts and resources, from clothing, to calendars and "identity kits" such as wallets, badges, etc. The transition between realms, and therefore establishing, removing or transcending boundaries entail both physical and mental movement (ibid., p 106), which can be supported by behaviours and routines (such as greetings, family rituals, etc.) and/or by external infrastructures that help bridge between realms, such as public transport and the telephone network. Whilst Nippert-Eng's empirical work dates to the early 1990s, before the widespread adoption of digital technologies such as email, it identifies key aspects of establishing and negotiating boundaries between the personal and the professional, such as the continuum of segmentation vs. integration. Several more recent studies from sociology and organisational studies examined how various professional cohorts practice boundaries on this continuum and handle personal vs. professional identities.

Hislop and Axtell (2011), for example, examine how mobile service managers used mobile phones during working hours. The nature of their work (lone workers travelling extensively) as well as unpredictable opportunities emerging in their day, impact on how they use their phones for both work and non-work. They carefully plan how to incorporate non work use of their phone, however focus on non-work communication that nonetheless helps them maintain relationships with colleagues.

Rothbard et al. (2005) explore the extent people want to separate (segment) or blur (integrate) their work and non-work roles: they look at how boundary management impacts upon organizational policies and found that policies designed for integrating work/life do not lead to satisfaction for those who they consider to be 'segmenters'. Future research needs to consider diverse work forces who manage multiple roles and boundary management must consider the complexity of managing multiple roles and identities across work and non-work.

Bulger et al. (2007) argue that the boundary management segmentation-integration continuum is more complex, and their results found that less flexible boundaries linked to interference and more flexible related to enhancement. This is unsurprising to CSCW researchers considering the discipline's wealth of work on boundary setting, however this work highlights the complexity of people's lives and of performing identities in handling professional and personal life.

Mellner et al. (2014) consider work/life issues among full time employed professionals, leaning towards the assumption that work/life need to be separated or integrated depending on the circumstances and also arguing that self-regulation is a crucial competence for knowledge-intensive flexible work.

The model of balancing work and life through fixed boundaries has been both critiqued and advocated in light of the role that digital technologies can play in people's practices, moreover the understanding of work/life balance has been discussed and contextualised in various cultural settings, organisation types, and in light of gender and care roles (Currie and Eveline 2011; Strawn 2008; Townsend and Batchelor 2005; Khallash and Kruse 2012).

Examining this broad range of empirical research, we see that the role of digital technologies is not univocal (neither always a facilitator, nor always a hindrance) due to such individual, organisational and infrastructural complexities. As we saw, the pervasive use of certain tools can be down to "working styles" (Lindley et al. 2012), or to device-specific functionalities (such as push notifications) that people become accomplished in managing and using, or to the ease that these widespread tools (such as email) provide to coordinate with others.

Overall, to focus back on our own disciplines of CSCW and human-computer interaction, existing examples of research still shed limited light on the strategising that leads to how boundary setting, erasure and blurring emerge, and on which aspects of practice they frame. We argue that boundaries might not only be resources, but also constraints, and that doing away with them could be an acceptable strategy for handling work and life given the way in which personal strategies emerge out of multiple considerations.

Also boundaries tend to be usually viewed in the literature as limiting or keeping work out of life, while there are questions about whether they might be set for keeping life out of work, as proposed by Nippert-Eng (1995). Here we argue for the need in CSCW to provide empirical insights on the practicing of boundaries, as well as on the practices of softening and dissolving them (i.e. when a boundary is removed, or reconsidered).

To begin answering these questions we conducted an interview study focusing on professional roles that might allow for some flexibility and agency in work/life choices and strategies. Our research questions are to do with the technological mediation of work/life strategies, and with the technological mediation of boundary setting (balancing) and blurring.

## 3.  The Interview Study

We conducted an interview study with people in knowledge-intensive professions who are based in the city of Sheffield, UK. Sheffield is a regional city in Northern England with a population of 551,800 at the time of the last UK census (2011) (Sheffield City Council 2017). One of the UK's largest cities, it is part of a group of 10 local authorities that make up the Core Cities. We focused participants recruitment on the city of Sheffield to give consistency to the general backdrop of the work and life of interviewees (e.g. size of the city; schools; businesses based here and key sectors of employment; backdrop to family life, hobbies, etc.). We recruited a sample of 26 people of working age (over 18) in knowledge-intensive roles in high employment sectors in Sheffield: education, IT, creative industries, design and engineering. While these professional profiles are not exhaustive of all types of knowledge work, they provide a rich picture of the practices of a significant group, particularly in the context of Sheffield, where creative industries, IT and higher education are a very substantial part of the city's occupational makeup. An overview of all participants and their occupations can be seen in Table 1: 12 participants were women and 14 were men; 11 participants were in the 33–40 age category; the youngest participant was 24 and the oldest 62.

Participants were recruited through professional networking forums, mailing lists and social media linked to the Sheffield area, following a mandatory full ethical approval process through Sheffield Hallam University that also ensured that participants were not considered to be vulnerable. Each participant was gifted a £20 voucher for taking part in the study. Twenty-three participants were British, two were Irish and one was Italian. Both the Irish and Italian participants were long-term UK residents (5 years or longer). All participants were native English speakers except one who was a native Italian speaker.

The interviews were semi-structured. All participants were interviewed individually by one researcher following the same interview guide, with the exception of Scott and Viola, and Cooper and Rick who are both married couples and were interviewed together at their home due to their high workloads and to the difficulty in arranging an interview slot with them. Participants were asked questions about themselves (educational background, professional role, etc.), to describe the nature of the work that they do, some aspects of their private life (such as family arrangements and hobbies) and about how they deal with the challenges and demands of work and life. They were also asked about their use of digital technology for managing their time and multiple demands. The interviews were audio-recorded and lasted between 40 and 90 min.

All the audio recordings were revisited by the researchers and annotated with reflections and comments shortly after the data was collected. Interviews were then transcribed intelligent verbatim, and thematic codes were identified through repeated readings. All participant names were coded into pseudonyms and all references to other people and to organisations were anonymised.

*Table 1.* Overview of study participants.

| # | Pseudonym | Gender | Age Range | Occupation |
|---|---|---|---|---|
| 1 | Aaron | M | 33–40 | Business Development Manager |
| 2 | Alison | F | 18–25 | Teacher and Psychology student (also doing shift work) |
| 3 | Andrew | M | 33–40 | Sales Director |
| 4 | Anthony | M | 41–46 | Researcher and artist |
| 5 | Bob | M | 55–64 | Training consultant |
| 6 | Brian | M | 26–32 | Research Associate and part-time PhD student |
| 7 | Clive | M | 33–40 | Knowledge Exchange and Innovation Coordinator |
| 8 | Cooper | F | 26–32 | Producer |
| 9 | Dean | M | 33–40 | Librarian, part-time PhD student |
| 10 | Don | M | 55–64 | Company CEO |
| 11 | Ella | F | 33–40 | Senior Lecturer |
| 12 | Gabby | F | 33–40 | Project coordinator, telecom company |
| 13 | Greta | F | 33–40 | Education Consultant, Lecturer, part time PhD student |
| 14 | Ira | M | 33–40 | Senior Producer |
| 15 | Jane | F | 26–32 | Data manager |
| 16 | Jill | F | 47–55 | Senior Lecturer |
| 17 | Lana | F | 55–64 | People development manager |
| 18 | Laura | F | 26–32 | Freelance Education Consultant, Proof-reader, Lecturer |
| 19 | Nathan | M | 33–40 | Product designer, design consultancy |
| 20 | Peter | M | 41–46 | Brand designer, entrepreneur |
| 21 | Rick | M | 33–40 | Producer |
| 22 | Sally | F | 33–40 | Project Coordinator |
| 23 | Scott | M | 41–46 | Tech Company CIO and Cofounder |
| 24 | Sylvia | F | 47–55 | Senior Lecturer |
| 25 | Viola | F | 33–40 | Tech Company CEO |
| 26 | Will | M | 33–40 | Senior Civil Servant |

Overall, the study captured a set of lived practices around work, life and the role of technology and the interviews provided detailed insights of the participants' perceptions, decisions and strategies. The data set reflects a varied range of organisational settings the participants are part of, from lone consultants (Bob) and very small (2–3 employees) companies (such as Peter, Greta and Laura), to SMEs (Scott, Don, Andrew, Ira), and large universities (Dean, Sylvia, Brian, Ella). While the participants have varying professional and personal circumstances, they all lead demanding lives with intense professional and social responsibilities, knowledge-intensive jobs requiring them to use digital technologies extensively, and significant usages of these tools also beyond work. They also all have important roles in their organisation in terms of decision-making: managing others, or projects, or resources. The sample size enabled us to analyse the account of practices of people who have similar

professional and/or personal circumstances (e.g. working in similar organisations; having small children; being engaged in structured hobbies, etc.), while at the same capturing variety.

Our findings confirm that there is a wide variety of individual strategies to handle work and life demands, ranging from complete separation to extensive blurring, and that digital technologies are appropriated in various ways to fit these strategies. It is worth noting that email and (personal) mobile phones still play a major role in assisting individual and collaborative communication in comparison to other, more recently introduced platforms and devices such as social networking sites/apps and tablets.

We look at our findings through the lens of Nippert-Eng's concept of "sculpting boundaries" that we adopt to frame our discussion of data, referring to the practices by which boundaries are placed, removed, transcended, thinned or thickened to suit one's practices (Nippert-Eng 1995).

In the following sections we provide an overview of varying work/life strategies and discuss the main forces that shape our participants' approaches to boundary sculpting emerging from the interview data: managing expectations (of organisations and professional stakeholders, of families, and their own); practicing individual working styles and professional identities; establishing and refining routines; managing the "pull of the personal" seeping into work, and -conversely- weaving life into work.

## 4.  Different Practices of Boundary Sculpting

There is great diversity in how strategies are formed and practiced across the spectrum that goes from maintaining a strict separation between work and life, to casually blurring the two and to dissolving almost all boundaries. We give some notable examples of such variety in order to contextualise the remainder of our analysis.

Of the 26 interviewees, only one - Sally - keeps work and life completely separated with strict boundaries in terms of tasks, communication channels and the handling of notifications. Sally is a project coordinator, is married with no children and is a crafting and making enthusiast. She only checks work email during working hours and is very strict about not being reached by colleagues in her personal time and by personal contacts during work time. Sally has chosen to work this way as she finds it is the best way for her to handle the demands of her job and also to enjoy her many personal interests:

> '(...) when I'm off and not at work I can focus on not being at work because I'm not constantly checking my phone for work emails and wondering what does this mean what does that mean - oh no something's exploded again - something catastrophic has happened I have to deal with this right away! I don't have to deal with those situations I can effectively ignore them until the next day' (Sally).

Sally is aware that, while it suits her well, her approach to complete separation is unusual, and she has had to explain it and make it absolutely clear to both colleagues and personal contacts, thus *managing their expectations* of when and how she will respond to requests, calls and emails. Sally skilfully uses technological tools to enact her strategy and to set and maintain boundaries. For example, she has set up rules on her personal email account so that if it receives an email from a work colleague, it deletes it and automatically informs the sender about this and to contact Sally on her work email instead. She thinks that an automated response is preferable to telling colleagues in person not to use her private address.

Gabby (project coordinator, in a relationship but not cohabiting, no children) also keeps her work strictly out of her personal life. As a main motivation, she mentions the need to relax and destress. However her boundary sculpting strategy is different from Sally's, as Gabby is *more flexible about letting her personal interests blur into her work time* and her boundaries to that effect are more flexible, as we will see in more detail in Section 9: she has a demanding hobby that she manages often during work hours.

All other participants, on the other hand, practice some degree of blurring between work and life, and thus their boundary work varies: some have established boundaries with varying degrees of "softness", others take up work tasks at any time and deal with demands as they come, except for constraints such as sleep, or being in remote places and/or cut off from networks.

For example, Nathan (product designer for a design consultancy, married with two young children) works on several client projects as well as on research, and shifts between these and responds to work requests (in his own words) 'at the drop of a hat'. The distribution of his time on the different tasks required by his job depends on which projects he is working on and this is very changeable. He keeps strict track of how he uses his time and tends to physically be in the office from 09:00 to 17:00 Monday to Friday, however he happily and constantly works also in the evenings and weekends.

> 'I think in the nature of the work that we do, you do whatever you need to do to get the work done. There was a time when I worked four weeks straight (...) You might have two months when you don't have to do anything, but if you tend to - if you're into acquiring knowledge, you tend to gravitate to just being a hobby worker at the weekends and doing stuff that may entertain you that you can't do during the week because you're meant to be in the real work (...) There's work-work; home-work...and leisure' (Nathan).

Nathan finds that in his team people tend to work in a similar way to him; it is not expected of them to work overtime and at weekends but (because of the industry they are in) they tend to do it nonetheless: 'your reputation is only as ever good as your last output' (Nathan).

Nathan's wife works 5 days a week as a project manager and runs a large yearly event with a set deadline, and her way of working is the same as Nathan's. When Nathan has a deadline, his wife will do things with their kids, and the reverse will happen if she has to work at the weekend. They each do one school run a day (Nathan in the mornings and his wife in the afternoons), and both work in the evenings after the kids have gone to bed and after eating a meal together, which Nathan cooks every day.

Another example of blurring strategy and soft boundaries, albeit with some differences, is Greta (education consultant, lecturer and PhD candidate, married with one young child), who ran her business from home and worked whenever she needed to until she had a child. Following a period of maternity leave, she realised she needed a separate space and set time frames to work (partially due to restrictions associated with childcare). Therefore for her having a baby has meant setting more boundaries while still practicing a degree of work/life blurring:

> 'There's a massive blur between work and home life, but since having a baby it's not as extreme as it used to be. I used to answer emails and stuff in the middle of the night and I don't do that anymore' (Greta).

The boundaries that are established by participants have various degrees of strictness, and for the most part they are actually flexible or can completely dissolve in certain circumstances.

An example of soft boundaries can be seen in the case of Don - the experienced CEO of a medium-sized high tech company, married with no children. Don has a regular daily work pattern when in Sheffield (he travels extensively within the UK and abroad for the business). If he is in the office, Don starts work around 08:30 and continues until 19:00 most days. He keeps the work during the working week and does not to let it seep into the weekend; furthermore he does not work from home. However, if Don has a heavy workload he'd rather stay in the office longer on weekdays giving up on personal time, rather than working at the weekend and/or at home. He sets a boundary to his work location (e.g. the office), and another between the working week and weekends, however his daily time boundaries are extremely flexible. Furthermore, *on holidays both boundaries dissolve,* and Don might dedicate a day of the holiday, or 30 min each day (depending on the current situation at work and/or on how long he is on holiday for) to check emails and manage urgent matters. This strategy has also the goal to make Don's return to work easier for himself. This is a reasonable strategy of fluid boundaries for Don, and in the interview he explained how over the years this approach has made him more relaxed as a manager.

Through these examples, we see that boundary sculpting can relate to spaces/locations (being at the office, or travelling, or at home), time (times of the day or days of the week), tasks (certain tasks are acted upon, others are

not), or social circles/other people. Similarly, the blurring or dissolving of boundaries can affect all these, or *be enacted on just certain aspects of them*, for example by responding to some colleagues' requests after hours but not to others. For example, when asked whether he would answer a call on the corporate phone over a weekend, Andrew (sales director for an SME, married with one small child) replied:

> 'I would see who it is...but only to determine whether I would answer it there and then or call them back in half an hour or something (...)' (Andrew).

Boundary sculpting cannot be discussed without mentioning mobile digital technologies, and particularly the smart phone, which enables our participants to access their work schedules and work and personal emails more or less constantly. Of the 26 participants 25 had access to their work email on their personal mobile devices with the exception of Sally who explained that she did not use her mobile phone for work purposes. However she made the exception of having her work calendar accessible through her personal phone, meaning that all 26 participants had access to their work calendar. For most, having access to their work schedule was for their own convenience of being able to access an outlook of the working day ahead before starting work. In a way, it seems to bring people a sense of reassurance about what the day ahead holds for them, and provides them to with an opportunity to prepare for meetings. It also acts as a reminder of due tasks for some people who use calendars not only as scheduling aids, but as time management tools (Bødker and Grönvall 2013). Such patterns and routines are important tools in shaping individual boundary sculpting strategies as we will see in Section 7.

Even if the majority of our participants adopt some degree of blurring, boundary sculpting differs from person to person in terms of why and how boundaries are set, removed and articulated; however, all the participants have spent a lot of time and given a lot of thought to devising their strategies and practicing them in ways that work for them. All participants stated that they were happy about the way they are managing their work and life, and have made changes or would consider changes only *in conjunction with major events in their life*, such as the birth of a child (as in Greta's case) or a serious illness - as it was the case for Gabby, who was unexpectedly diagnosed with cancer a few years back and had to alter her work and leisure patterns to adapt to intensive medical treatment.

In another example, Peter (brand designer, married, with one 7-year-old child) is considering his next steps as one of the original partners with whom he set up his company is soon leaving the business. Peter is unsure whether to continue to grow the business at a time of opportunity, or to keep it more manageable and less stressful. He foresees that this decision at a time of great change will impact on the way he handles work and life, considering that currently he is constantly blurring work and life:

'In some ways my life and my work become more and more the same thing. Technology weaves its way through that' (Peter).

Within the frame of the overall boundary sculpting strategy that each person adopts, *decision-making is constantly in flux due to specific demands, preferences and constraints* coming up within their terms for setting or dissolving boundaries, as we will discuss further in the following sections. Furthermore porous boundaries are often enacted wherein tasks are not undertaken but a certain degree of planning or preparation around them is: for example, when a request comes outside of the boundaries they have set, some participants will not react to it but start thinking about how to react, or just acknowledge something important (for example by marking an important email as "unread" again so not to forget about answering it).

From all the examples illustrated so far, we see how digital technologies are - unsurprisingly - tightly enmeshed into these practices and decision-making processes, both as means of enacting boundaries (e.g. switching off the work mobile phone and switching on the personal phone; setting up automated replies; not engaging with colleagues on social media or adding them to a specific list; etc.) or of dissolving them (e.g. setting up notifications; using specific apps and tools for task management; merging all email accounts onto one device/client; monitoring communication across multiple social media, etc.).

What shapes the ways in which boundaries are set, adjusted, moved or blurred in such ways? The descriptions above already give some indication of what shapes our participants' decision-making, such as the expectations of employers and clients, individual working styles, reliance on and constraints from routines, and personal demands. We now examine these main forces that characterise boundary sculpting emerging from our data. While it is clear that our participants' strategies and practices are the result of a complex interweaving of these forces, pulls and motivations, we single them out specifically for analytical purposes in each of the following sections.

## 5. Managing Expectations

One key factor shaping boundary sculpting is the need to manage the expectations of multiple stakeholders, be it organisations (employers, clients) and colleagues, collaborators at work and beyond, or one's own expectations.

For example, Aaron (business development manager, married with two children) explains how both he and his wife work in response to colleagues' expectations, and that means that both of them work in the evenings and are understanding of each other. For other participants, practicing one's strategy and managing the expectations both within the family and the workplace is more challenging. For example, Ella (part-time senior lecturer, married with

one young child) mentions how she would be keeping track of requests on her phone and responding quickly to tasks that in her view are minor, but how this is something that her husband sees as full-on work:

> 'An ongoing argument with my husband for a year is like how much time I spend on my smartphone just checking or just doing something (...) just dipping in ….and I'll check it of an evening before I go to work the next day and he was like it's just eeking in - you're not getting paid for this!' (Ella).

The expectations of organisations can also be wildly different, depending on the organisation's structure, type and culture, and carry different weight in shaping boundary sculpting practices. While in some contexts it is expected that individual boundaries will be regularly dissolved or generally blurred to accommodate work, in others a neater separation is encouraged as Aaron explained:

> 'Funnily enough, my line manager said to me last week that he noticed that my out-of-office that I'd put on said 'I'm on annual leave but I may be checking [email] from time to time'. He said don't do that (...) He said I know you don't do it all the time, but I have to ask you not to do that because you are on leave and you shouldn't do it. I said, fine!' (Aaron).

"Unofficial"organisational expectations around which to practice one's boundaries affect Scott (CIO of a high tech company, married with two young children): in Scott's workplace working off-site (particularly abroad) is often seen as not working, and therefore, as he frequently travels for work, he strives to dedicate time to deal with requests from his colleagues by email of phone even when he is away from the office in order to keep on top of things:

> 'if you're not physically in the office or somewhere where they expect you to be doing a particular task then it's perceived you're not working' (Scott).

Are action to such a strong pull of expectations is the fact that when they are on holiday Scott and his family go to remote and 'disconnected' places, so that he cannot be reached or reach out for any work related reason.

As we can see, digital technologies are instrumental to manage the relationships to others around which strategies are practiced and boundaries are set, blurred or dissolved, not only in terms of collaborative tasks (both at work and outside), but also expectations, for example by simply signalling availability.

However, the pressure to meet expectations does not necessarily result in overall softer boundaries: participants such as Sally and Clive (knowledge exchange and information coordinator, married with one young child), while they maintain strict boundaries to avoid work seeping into personal time and they both adhere to office hours rather than taking work home, both dedicate extra time to their work during

their lunch break. It is a choice they freely make, but this is partly to do with the fact that in their jobs they need to provide a service involving lots of face to face interaction, and also due to an expectation by their organisations that they should be present and "full-on" during traditional working hours (although it is to an extent flexible). In their case, both organisational expectations and expectations inherent to the nature of the work that they do are at play.

Another aspect of managing expectations is signalling one's boundaries to others. This is accomplished by informing others of patterns of availability or by using tools such as email signatures or automated replies to manage, or fence off requests. In other words, the expectations of others do not necessarily lead to blurring or softening boundaries. For example, Dean (cohabiting with partner and with one small child) works part-time as a librarian, is doing a part-time PhD and is maintaining a semi-professional profile as a creative writer. He is strict about setting temporal and spatial boundaries among these activities and relies extensively on automated replies and clear communication with both his managers at work and his PhD supervisor to manage their expectations of his availability.

Individuals also employ tricks to set boundaries and to protect certain times during the week so not be expected to react to requests or be available when they are not. Several participants use their mobile devices for this purpose. For instance, for Clive having mobile access to work-related content enables him to choose whether to respond to emails outside of traditional office hours. Clive uses his personal device to oversee work content (communication exchanges on shared documents, as well as emails), but more often than not chooses not to respond until the following working day. He says:

'The other thing, which is a bit sad, is that I enjoy my work. I like seeing what's going on and a lot of people that I work with email out-of-hours because they're very busy during the day, they're always in meetings. Actually a lot of interaction happens after work, if that makes sense. It's not that I'm going to reply to the emails, but people email me in the evening' (Clive).

In this example we see Clive's approach to manage the expectations of others, but also his own expectations of what kind of requests and interactions will come his way. This further links to his own personal preferences about the way in which he works, which we will discuss more in Section 6.

The anticipation of other people's expectations and their management also affects how dissolved or softened boundaries might be re-established or hardened following an occasional peak in workload, showing that boundary sculpting can be done to different degrees. Clive particularly highlighted that when deadlines are looming an approach he takes is to block out (work) days in his diary to ensure that others don't book meetings. This helps to prevent Clive from having to take work home and protects his time with his family:

> 'When I have a big piece of work, like I'm going to be writing a report and I know that's going to take a lot of time to pull together, I will block out chunks of time in my diary weeks before the deadline was due to be submitted, and that stops people putting meetings in. If I didn't do that, it might be that I find I've got loads of meetings and I've got to write the report and I have to do that in my own time' (Clive).

Some participants (Sally, Don, Scott) also mentioned 'training other people' about their work patterns, so that their boundary setting and sculpting is more manageable by virtue of other people's knowledge of when and how to expect them to be working:

> 'I think that's (...) almost a matter of training the people around you. It hasn't happened to me for a while that must mean people have gotten used to me. But I've had people come to me: oh 'you didn't answer my email on Saturday' and I'll say "yeah, that's 'cause it was Saturday" (Don).

Boundary blurring can also be used for this purpose. For Greta and for Laura (a freelance education consultant, in a relationship but not cohabiting, with no children), using no out of office notifications is an active choice to help create an illusion of 'always on', or at least to signal that they are available in a full time capacity. Creating boundaries of set times to work is considered too restricting and this is partially to do with other people's expectations but also with the nature of the role:

> '...[Others] put on an out-of-office saying, sorry I only work Fridays, you'll have to wait another week to hear from me. But when you work part-time it doesn't work like that' (Greta).

Rather than avoiding using out of office notifications, Laura actively uses email to allude to working full time and to meet what she perceives to be the expectations of others:

> 'But if I get an (...) email on Wednesday that needs a quick response, then I'll just do it because it doesn't take time out of my day to do that. That's fine. If it needs a long response then I'll leave it to the following day...Part of me instinctively wants to maintain the illusion of me working full-time whilst actually working part-time' (Laura).

Furthermore, people will often work within the boundaries of traditional working patterns, but also conduct work-related activities after these hours that they do not consider being work, such as reading around a subject. This hints to the fact that defining work and expectations about work in the same way for everyone becomes complicated, as some people will see the difference between a work-related activity

and a non work activity in different ways. We will explore this in more detail in Section 6, when unpacking the role of personal approaches to work and to enacting professional identities shape boundary sculpting.

A number of participants explained that they keep weekends free from work, as it would be expected, in order to set boundaries to their workloads, but at the same time while being more relaxed about time boundaries during the week. This is linked not only to the expectations of professional stakeholders, but to those of family and friends.

When people choose to blur or soften boundaries and conduct work-related activities beyond work time, the expectations of family members and their pressure to not work can be a positive thing rather than a source of discomfort:

> 'The pressure of my wife: she has an even more strongly defined division between work and personal life than I do. Really really strong (...) And she puts a lot of pressure on me not to work when I'm not at work...if it wasn't there my work life balance would probably be a lot worse. I would probably work a lot lot more if I didn't have someone actually making me feel guilty for it. I think it's good for me' (Andrew).

Some of our participants also mentioned the expectations of the professional group or professional community they belong to. One notable example is that of Nathan, illustrated in Section 4. He emphasised his awareness of being part of a particular community where 'your reputation is only as ever good as your last output'. This is a form of expectations that might not translate in immediate boundaries or removal thereof (i.e. not linked to needing to deliver a certain output to a client, or to tend to a family need), but that, however, for some professionals contributes significantly to shaping an overall work/life approach.

## 6. Working Styles and Identity Work

How our participants sculpt boundaries in their work/life strategies is also shaped by their individual working styles (resonating with Lindley et al. 2012) and how they enact their professional and personal identities. We saw in the previous section how Greta and Laura both soften boundaries to convey an "always on" professional identity. This example helps to illustrate how identity work links to the perception by others as well as to working culture, and to self-perception.

In this section we further illustrate how various aspects of boundary sculpting strategies are practiced to suit participants' individual preferences, working styles, interests, and individual ways of enacting professional identities. In other words, boundary sculpting strategies are not only shaped by the goal of responding to demands and expectations, but also tend to fit the working style and professional attitude of each person. For example, Sally mentioned how, being the kind of person who thinks all the time, the only way not to overload herself in her view is to separate

work and life clearly. On the other hand, Scott dislikes being idle and prefers to keep busy with either work or leisure tasks when he has the opportunity. Another interesting aspect is that the personal style of each person, and therefore how they handle tasks and demands, might be different between work and life, meaning that they may have different approaches to setting, softening and dissolving boundaries between work and life realms. For example, Greta has set strict boundaries when it comes to work, but is much more relaxed about her social life:

> 'I don't manage my social life with anywhere near the military precision of work...It's almost like a reaction to how organised my work life is, that I like to play it by ear in social life and to be more spontaneous and to get there when I get there' (Greta).

Conversely, Jane (data manager cohabiting with partner, no children) likes a structured approach to both her professional life and the activities that she dedicates herself to privately, such as sports, leading a Scout group and volunteering at a local museum. She is organised about dealing with tasks arising from all these roles, however she will constantly blur boundaries among them throughout the day. While this is linked to another powerful force shaping boundary sculpting that we will examine in Section 8 (the pull of personal commitments), Jane stated that she enacts a strategy that both suits and pleases her.

Different people form and make use of personal shortcuts or 'tricks' to work boundaries in such a way that they can manage their individual workloads and associated roles and communications. Individuals employ boundary sculpting strategies, and these may not always be set and can change when demands (be that in work or life - for instance extra responsibilities at work or family responsibilities at home) become greater and potentially the balance and boundaries shift. Notably, the types of work people choose to do at different times and in different locations differ depending on the work styles of individuals, and in particular, identity links to the strategic approach individuals take to managing their work and life.

In addition, mobile devices and constant connectivity can provide people with the opportunity to blur and equally to establish boundaries that suit them. Having virtually unlimited access to work communication means that some people have to find ways not to be tempted to access it even when they are on leave. Aaron and his wife both tend to work evenings whilst the children do their school homework, but both try not to work weekends and especially not when they are on holiday. Aaron explains that he has a strategy to resist this temptation:

> 'I draw a personal line. So if I am off with my wife and children together and we are deliberately all off at the same time for a purpose, I will not access my work email. In fact, in the summer if we're going away on a summer holiday type situation, I will actually delete the accounts off my phone completely, so that I'm not even tempted' (Aaron).

On the other hand, accessing email during holidays provides others with a sense of relief and reassurance since they can oversee their working life and keep anxiety at bay, because they have been continually connected. One such example we saw in Section 4 is Don. Another is Sylvia, a senior lecturer who is married and has adult children and stepchildren:

'Once that habit [checking email regularly] is in place, if you keep that up, it's not such an ordeal, whereas if for example - I tried it once and it definitely doesn't work - I'm on holiday, I am not gonna look at anything work-related, you pay the penance on the other side. Actually, it's harder. My choice is to...I check, so I keep doing it' (Sylvia).

Dean, on the other hand, finds a more "passive aggressive" approach more effective for him, and chooses to purposively not reply to some colleagues demands:

'I understand why people might email me on a Thursday and say 'can you come and talk with me on a Friday', I don't answer until the Monday. It's kind of a passive aggressive way sometimes, you know [laughs]' (Dean).

The degree of acceptability of the blurring of work and life varies dramatically from person to person. For example, whilst Greta tries to adhere to an 'average working day', if she has a large amount of work to do then this will be prioritised over and above family or social time:

'Also, I find it quite hard to prioritise and the main factor that I use is just which of these things is going to come around the soonest. It's not necessarily the best way to prioritise. Sometimes it might be which is the thing that only you can do, or which is the most important or which would really let someone down. But I work more in a headless chicken sort of way – oh god, it's a week ago today' (Greta).

For Greta, work is managed through multiple email identities, often creating boundaries when there are in fact none in terms of organisation/place/time. As an example, Greta with her multiple roles (as a self-employed consultant and lecturer and PhD candidate) uses six email accounts, and this helps to provide an element of segregation to her work even when there has been crossover in her roles. As we saw in Section 5 with Sally, Greta has had to train people to email the correct account to ensure both she and they know what capacity she is working towards:

'I've got to admit I prefer emails to calls even though they take longer because you've got a record of what's been discussed….I find that I deal with so many different people with different hats on I can't remember what I've said always - without that record…But also you can control the variables a bit in email and you can control when you reply and reply

when it suits you, and before you answer it you can scroll back and find out what you want to ask and I like the control it gives me' (Greta).

The type of work to be done is also a consideration for some people. Two participants (both senior lecturers) in particular distinguished between 'intensive' tasks and 'mundane' tasks and both explained how they conduct these in different locations due to sharing large office spaces. Whilst other participants indicated that they conduct mundane tasks during idle time, both Jill (married with two teenage children) and Ella indicated that at times they need the space to work (both physically and virtually) - especially when they are trying to conduct writing activities (identified as intensive tasks):

> 'I don't always kinda of take off to the room - that tends to be when I'm doing intensive work where I really need that kind of complete concentration. There's some things I do where I you know - there's always task you can do where you really need to absolutely concentrating or there's mundane tasks that you don't you know so I do those at home but it really is to fit in with life' (Jill).

Situating themselves in a different location from their shared office space allows them to disconnect from the mundane tasks that could be distracting:

> 'If I've got some writing to do I will actually go to the University (...) cafe because the wifi works...all their buildings are open and they're quite nice spaces...physically I need to be in a different space….And then you can turn outlook off...and then just go I've still got the internet but if stuff does come up you can just ignore it - but it's a really hard mental thing to just turn off' (Ella).

At the other end of the scale, taking on additional roles or activities in the workplace can be justified through enacting continuing professional development for career progression as well as passion, as we saw in Section 4 in the example by Peter. In another example, Sylvia highlights that her additional work activity, which often occurs in the evening and weekends, comes down to her individual choice:

> 'I am choosing. Nobody said to me 'you've got to go and shadow [colleague]. Nobody said go and apply for that (...) project. I chose to do that' (Sylvia).

Brian (a researcher and PhD candidate, in a relationship but not cohabiting, no children) also explained in terms of personal choice that he will be accessing his emails in his perceived idle time (also see Section 7). However, he will only choose to respond to those that need shorter responses, while those that require longer responses are marked as 'unread' and ready

to be handled on the next working day, based upon Brian's judgement of how important they are and whether they need responding to immediately.

A slightly unique approach to managing both personal and professional identities is Clive's, whereby he sends text messages to himself related to his life, while when he has idea related to work he will email himself to his work account. For his text messages, Clive has labelled his own mobile phone number 'Ideas' so when he texts himself, he enters a dialogue with himself where all of his ideas are aggregated. He does this because he says he uses his mobile phone for texting quite frequently so this way he knows he will remember to look at the folder. He prefers this over using a to-do list app. His work emails are also aggregated into a single folder:

> 'I'd send myself an email or something, or a text message, which is a bit random isn't it….I've got my mobile number – it's on here. I would send myself a text but rather than it saying 'Clive' I call it 'Ideas'. My number is 'Ideas'. So if I have an idea, I go into messages, new, send it to Ideas and then I send myself a message, so I've got a list of all the things I think I need to remember, or an idea which I've thought about which I might not want to forget...I only access a few things and my text messages is one. So that's why I've ended up using that, because I do use it. But I would also send myself an email in the same way. It depends on what I feel I'm going to access, which way is easiest, as opposed to having another app for my ideas or my To Do list or whatever' (Clive).

Clive's example illustrates a personal approach to boundary work for managing professional and personal identities simultaneously, whilst also showing how technology assists in the enacting of this.

In previous examples, we saw that several of our participants shape their boundary work around personal perception of the status of tasks and demands. Further supporting this idea that the type of work that people do impacts upon how it is managed in relation to life is Gabby's mention of *passion*. Gabby perceives that her day jobs are a means to an end and uses this to help explain her approach to separation, which is strict in terms of work-into-life but more relaxed about life-into-work:

> 'There are jobs out there where it's all encompassing. And if you've got a real passion for it then...it's all about it. Not the jobs that I have had are a means to an end' (Gabby).

Even with her distinct work/life separation, Sally herself doesn't completely work to rule in that she works through some of her lunch break and before office hours start out of her own enjoyment of the role:

> 'Technically my hours are 8 until 4. I usually arrive anywhere between half an hour and 10 minutes before 8 and I'll usually stay until 4.30pm. I'm technically

allowed an hour's lunch but I usually take half an hour. That's an exception I've made for this job in particular, because I really enjoy it' (Sally).

Extending the role that passion, enjoyment and personal choice have on boundary sculpting are jobs - or rather work - involving an element of creativity. According to Anthony (Senior research fellow and artist, married with one child), there is hardly any distinction between his personal interests (making music and art) and the research projects he works on, so he rather makes the distinction between 'paid' and 'non paid' work although he further highlights that even 'paid' versus 'unpaid' work is too simplistic a definition for how he sees his activities:

> 'It all kinda blends in together really...I don't really draw any distinction between the software I write and the music I make because the music I make myself. So I'm trying to get all these different activities more together into one...music I suppose I do get paid sometimes and it is more of a hobby than work but I don't really draw a dividing line between them…. Except when it comes to writing the timesheets I suppose [laughs]' (Anthony).

Peter is also is extremely passionate about his work to the point where he will try to incorporate as much of his leisure time as possible towards new learning opportunities - for instance, he plans activities with his daughter that will indirectly help him to develop professionally. He is currently interested in learning to make videos and podcasts to offer new services to his clients, and he spends time with his daughter learning use creative software packages (such as GarageBand or Logic Studio) so that they can also create fun things together.

Nathan also emphasises that when work is of interest it can become part of a person's hobbies and leisure activities. He certainly feels this often in his role as a designer:

> 'I think in the nature of the work that we do, you do whatever you need to do to get the work done. There was a time when I worked four weeks straight (...) You might have two months when you don't have to do anything, but if you tend to - if you're into acquiring knowledge, you tend to gravitate to just being a hobby worker at the weekends and doing stuff that may entertain you that you can't do during the week because you're meant to be in the real work. So it's still, kind of work practice but it's maybe not for a deadline but it's for, maybe it's for a research project that you want to do or something else' (Nathan).

The excerpt above shows all the complexity of how personal working styles, professional identity, personal passion and external constraints all shape Nathan's reflection of his own work and life challenges. This clearly also links back to

Nathan's discussion of the expectations of his designer peers that we mentioned in Sections 4 and 5, further highlighting how all these forces are play in interlinked way, with individual working style and in particular professional identity being important considerations.

## 7. Establishing and Refining Routines

Boundary sculpting establishes, and is in turn shaped by, routines: some linked to the type of work or to life constraints (such as company procedures, or childcare), others established by individuals as tools for managing tasks and demands.

How individuals choose to manage their routines within their work/life strategy varies as much as the type of work they do and their personal circumstances. The strategies for managing routines are intrinsically linked to constructs of boundaries, since what is considered an acceptable approach varies from participant to participant and there is no straightforward correlation between hard boundaries and routines, as we will see in the remainder of this section.

In previous examples, we already found mention of work routines, and saw how routines ebb and flow, and take on different natures depending on time constraints or tasks involved. Similarly, personal routines also need management. Participants such as Scott, Don and Gabby highlighted that they developed techniques to suit their own approaches to establishing and refining their routines. Additionally, technology undoubtedly helps individuals to create a set of rules that are effective for tweaking and adjusting their own routine for managing work and lifestyle. For example, all of the participants (including Sally who has otherwise a strict separation) make use of the calendar function on their personal mobile phone. Most said that they access their schedule for the day ahead first thing in the morning, a preparatory routine in itself - and regularly make use of their calendar to check their schedules during their working day. This can be accompanied by skimming emails via their mobile during 'idle time' as we see in further examples below.

Whilst some admit that they have had to be stricter about setting their out of office notifications, on the other hand Ella found herself responding to emails on days when she is not contracted to work. As a consequence, she had to establish a strict routine for the management of her email to prevent her from conducting work-related activities when she is not at work:

> 'I guess I'm trying to get into I guess it's like a technology hygiene - or an email hygiene so when I finish work on a Tuesday before I leave the office I turn my out of office on and then I might do some emails on the bus on the way home but then when I get home I turn through the settings to turn off the exchange and then leave it off until I come into work on a Thursday' (Ella).

Similarly, Jill also highlights a need to apply a strict routine to govern her accessing email:

> 'Now I'm quite structured about it. I think that's been really important. It's digital hygiene. … it makes me feel in control of it' (Jill).

Incidentally, due to the nature of their roles as senior lecturers on fractional contracts both Jill and Ella are not expected to always be present within their workplace, so they have an element of flexibility which can dictate how they choose to manage their routines. The examples above show Jill and Ella talking about routines that they themselves have established as tools to handle their workload. Other routines impacting on boundary sculpting are established by others, such as employers, childcare, etc.

When work occurs in contexts crossing temporal and spatial boundaries, routines set by others can be disruptive, rather than useful, and new 'local' routines can be set up to establish stricter boundaries. Rather than using out of office automated responses, in order to reduce the temptation of accessing his device during the night, Bob (self-employed consultant, married with adult children) sets up a schedule on his phone so that his device's notifications are turned off overnight, in order to minimise his tendency to respond to requests at odd hours, something that happens regularly as he works for several overseas organisations:

> 'At 3 o'clock this morning I noticed my phone was flashing and so the temptation was to see what that was. One of the problems I have is that because I work with international organisations who do work in different time zones I've got people who would send me an email you know (...) at 3 o'clock in the afternoon their time which is 3 o'clock in the morning for me. So I've had to try and get into all the settings to make sure that I don't get notifications at a certain time, that the thing isn't (...) automatically streaming emails all the time...But also to actually avoid the temptation just to see what is happening' (Bob).

Amore 'tangible' routine to prevent accessing work related content after hours is Lana's (people development manager, married with one adult son): she physically locks her work laptop inside the car boot of an evening.

Conversely, boundaries can also be dissolved in order to handle workload, where routines are erased when for instance there are deadlines looming:

> 'I think in the nature of the work that we do, you do whatever you need to do to get the work done...There is a conflict there. Because (...) she is still delivering on an output that has a deadline, so therefore she still needs to work in a similar way to me (...) So we are both in the same boat basically, and both vying for 'I need to do this' 'I need to do that' ' (Nathan).

Dissolving or softening boundaries can lead to both dissolving routines, but also to establishing new ones (such as Don's holiday routine of checking his work email once a day). Similarly, establishing boundaries can mean additional routines in place (such as in Bob's case), or fewer ones (such as when Scott and his wife Viola - also CEO of a high-tech company - choose to go on holidays in places with no connectivity whatsoever, as we mentioned in Section 5).

Linked to a specific kind of routines is the use of 'idle time' emerging from the data. More than half of the participants talked about assessing and responding to emails during what they considered to be 'dead time', e.g. time when they couldn't conduct any other activity. This for many occurs during their regular commute to and from work. Aaron, for example, deals with outstanding email on his way home from work on the bus:

> 'It's slightly dead time when I'm basically travelling and usually I'm unwinding from work in some way, shape or form. A way of dealing with that is if I've got email outstanding, it's getting stuff done that I think is constantly sitting up here waiting to be done' (Aaron).

Similarly Sylvia stated that her approach to conducting work during idle time involves managing some of her more superficial email:

> 'It [the commute] can actually be quite a nice space A) to catch up with what I need to through social media, and B) but I can sift through emails, so the kind of things that you can have a quick skim and "I don't need that" and delete that' (Sylvia).

On the other hand, Scott's 'idle time' is not during the commute, but at the weekend when his children routinely have leisure pursuits. Scott has built a work routine into this:

> 'Saturday morning is juggled around kids at the gym because kids have classes, and I'd just be sat there waiting for an hour because there's no point in driving away and going back and I might as well use that time productively so I tend to work during that moment' (Scott).

However, whilst boundaries can be put in place for certain times - for instance working a structured 9 am-5 pm pattern, and during idle times, the opposite may not be applied to life, as we will see in more detail in Sections 8 and 9 to follow.

## 8.  The Pull of the Personal

Life circumstances are another powerful factor in how people choose to conduct their work and life and there is no straightforward mapping between family/individual

circumstances and approach to work and life boundaries. Whilst some research (Bakker 2007; Bacik and Drew 2006) alludes to the fact that home life and particularly (gendered) family circumstances directly impact upon work boundaries and traditional notions of work life balance, this does not seem to be a straightforward relationship, as shown by (Gray et al. 2016). For instance two of the individuals in our sample who seem to most strictly and actively separate work and life (Gabby and Sally) do not have children, a life circumstance that could easily be associated to strict work/life boundaries. However, related to this, several participants did highlight that significant changes to their work patterns and work/life strategies and boundaries had occurred following having families. In particular, those with small children highlighted changes and challenges relating to their ability to work from home (Greta, Ella). Both male and female participants indicated that having children had impacted to some extent on their ability to prioritise work over and above anything else. Having children also propelled their need to refine their strategic approach to managing workloads whilst carving out boundaries for family and personal time.

Ira (senior producer, married with 3 young children) shares the parental load with his wife who also works. He explains that when the children are in bed he and his wife may sometimes sit and watch TV but other times they go online - his wife will browse the internet whilst he catches up on work. However "work" after working hours for Ira could relate to his personal interest in creative writing. As a published author, he develops podcasts and a newsletter that he sends out once a month to more than 500 people:

> 'I get home from work at about 6 and I know that I won't be doing anything apart from holding a baby up, and putting the kids to bed for about an hour and a half. Same in the morning (...) They need feeding and stuff. It does make a big change' (Ira).

'Waiting until the kids have gone to bed' is an approach that other participants with young children, such as Andrew, Clive and Nathan, also admit to using so that family time centres around when the children are awake. In this sense a boundary is clearly set: it carves out a rule to abide by that, at the same, time doesn't restrict too much the ability to tend to work when needed:

> 'I have a young family so inevitably as soon as I get home I can't do any work at all because of my young family. When [his son]'s gone to bed, maybe I can look at things a bit more. I almost always start working before I leave home. So I do some things first thing when I wake up, I catch up on things, take stock of whatever's happened so that when I arrive in the office I am more prepared for it' (Andrew).

Furthermore carving working time around family time may also depend upon the style of the work that individuals do (i.e. tight deadlines may impact heavily upon

these boundaries for some) and the sector they are based in and the associated expectations of its working culture (as we already touched upon in previous sections). Will, a senior civil servant (who has changed his role and subsequently reduced his workload since having two children in order to actively participate more in family life) manages a team of people and acknowledges that life can bleed into work and vice versa:

> 'I don't necessarily believe that you can separate the two things out (work and life) I just don't believe in that robotic workplace anymore I think you know what your job is that you need to do and if someone on my team wants to check their Twitter feed at 11 o'clock then that's absolutely fine as long as it's not impacting on their work and productivity' (Will).

Beyond family life, passion, motivation and ambition do not necessarily equate to taking work home. We saw how Clive and Sally, for instance, work during their lunch break but they adhere to office hours rather than taking work home. However Clive highlights his want rather than need to work out of office hours, despite his family commitments:

> 'I enjoy my work anyway so I'm more likely to dip into it, not because I feel I have to but because I want to. So in that sense I don't feel pressured [as though] I need to, which would be different'. (Clive).

For Anthony (as mentioned in Section 7 with regard to identity work) his work and interests are one, he acknowledges that he is in a fortunate position to be able to fuel his passion in these ways, and acknowledges that he does not set boundaries around his work life. He (loosely) attempts to keep office hours but applies a reactive approach to prioritising his work and to adjusting boundaries. Deadlines often drive his productivity and the overall porous, or non-existent, boundaries between work and non-work means that his outputs can contribute to both professional and personal interest. In Anthony's case, there isn't really a difference between work and life and he admits: 'I don't really have an outside of work time really' (Anthony).

   Extending upon this, Ella points out that if she wants to do any additional research activity, then it has to be done in her own time, due to the nature of her fractional contract. This is a contentious issue as she has a young son, so whilst she would like to do additional work for her own interest and passion, as well as her career progression, she has to work boundaries that would fit her existing workload and other commitments outside the workplace:

> 'There's this bid I want to do at the moment and the deadline is the 27th February...part of this consortium thing and I've really been dragging my heels

this last week…And I'm like why am I dragging my heels? And I'm like if I want to do it I'm gonna have to do it at the weekend because the 3 days I'm here I can't do it….I'm thinking is that sensible?' (Ella).

Whilst our discussion of boundaries has so far focused around work and its seeping into life, the following section illustrates how life can almost become part of work, and boundaries can be blurred in the opposite direction in substantial ways.

## 9. Weaving Life into Work

Thus far we have detailed how boundary sculpting and management is done to manage to what extent (if any) work can pervade personal life, contributing to a body of existing research that we discussed and critiqued in Section 2 of this paper. However our dataset, including some of the examples we already discussed, shows also that the blurring of *life into work* is quite pervasive and significant in terms of how it affects people's ways of setting and working boundaries. *Life* here refers to personal and/or family demands (such as healthcare, or childcare), but also to unpaid or amateur activities that people undertake for relaxation, leisure or personal development.

The decisions whether to establish, adjust or dissolve boundaries when it comes to non-work demands and tasks seeping into work time and spaces seem to be enacted with varying considerations and much thought, in manners similar to work-into-life situations that we have presented in previous sections but not always corresponding to them. We present some examples to illustrate this.

In Sally's case the same personal motivation that has her set strict boundaries to her work applies to how she handles personal tasks and demands impinging onto her work time: she prefers to focus her energy and attention only on work or non-work at a time and the boundaries are strictly maintained both ways. However, her approach is unique and boundaries governing life-into-work are more blurred for others, and there are examples of participants who are rather strict about setting up and maintaining boundaries so that work does not invade their private life but not as strict when the opposite happens. In the case of Gabby, while she is strict not to let her work seep into her personal life (as we illustrated in Section 4), she is more flexible about the reverse. She runs a non-profit supporting new and emerging theatrical talent, and deals with tasks and demands relating to this fairly regularly during her working time:

*'I would make phone calls in breaks and stuff like that to chase up various things that needed to be done (...) it's not so much now [theatre-related activities] but before in Manchester, it would impact on my job [laughs] On my life during my job'* (Gabby)

For many of our participants, hobbies and recreational activities are both intensive and structured, and require almost professional skills, extensive time management and usage of professional tools and technologies. Examples of the hobbies that the participants engage in include Gabby's theatre company, creative writing (Dean, Ira), volunteering as secretary for a local museum (Jane), running a gliding club (Don), fantasy football league and board gaming (Aaron and Will), and secretary of a triathlon club (Cooper - producer, married with no children). Extensive articulation work (Schmidt 2011), cooperation, coordination and planning goes into these activities, and thus they shape boundary sculpting governing how life is woven into work.

As we just mentioned, Don is the president of a gliding club. He treats the management aspect of this almost as another professional role and he stays late in his company's office to deal with gliding-related business. He explains that when he is away on gliding weekends, practicing the sport and meeting fellow club members, he is truly happy about his choice of hobby as being airborne in a craft gives him a reason not to think or worry about his many demands. However, this activity does not just offer Don time and space to break from work, but is often intertwined with his professional times and space, in a similar way as Don dissolves boundaries to let work into life when he feels it is necessary.

In Don's case, his hobby is not related to his profession; for other participants, however, leisure interests are a means of personal development and are seen as other manifestations of their professional interests and passions. In these cases, these people do not really consider establishing strict boundaries to limit work-into-life and, conversely, life-into-work:

> 'My background is journalism you see and so you see I always think it's a lifestyle as well, in my job you have to be switched on so I don't think it would sit well with me to completely switch off because you don't completely' (Jill).

This echoes our earlier discussion of how passion plays out in individual working styles, and therefore in boundary sculpting to manage work-into-life.

For other participants, some activities they engage in outside work are semi-professional, and are treated as such as well as passions that they pursue. Examples of this are Anthony, who is an artist and musician as well as a researcher, and Dean and Ira, who are both published writers:

> 'I'm a published author, so everything I've talked about so far is my actual full-time job, but my first novel came out in 2012. It doesn't contribute to the overall income of the house at all anymore, but I'm in the middle of writing my second novel. It's something that I have to make time for. Previously I had my own podcast and I do a newsletter for writers every fortnight. (...) I've always done stuff outside of work...The purpose of doing this is partly out of interest. I'm interested in doing it, I enjoy doing it' (Ira).

Examples such as these show not only that handling life-into-work is an important force shaping boundaries, but also confirm more in general that a neat dichotomy between work and life does is not reflected in the practices of our participants.

Furthermore, it is not only structured unpaid roles that tend to blur into work time and activities through porous boundaries, but also less structured and more leisurely activities (such as engaging on social media about a topic of interest, checking the news, replying to private text messages, etc.):

> 'There's no way my line manager aren't aware of the fact that I'm on Twitter, I'm using Twitter and I'm always not using it for work purposes because one of my other colleagues is sat right there and he is on Twitter following me and we're having conversations about something about something or another, or arguing about something or another [laughing] and my line manager is sat there (...)' (Dean).

In the same way as boundaries are set, blurred and dissolved according to what is considered appropriate regarding dealing with work tasks during personal time, this is done also in relation to non-work making its way into professional time. As we discussed earlier, the ways of dealing with these two forms of boundary sculpting do not necessarily mirror each other as there often seem to be different perceptions of interruptions and different flexibility of boundaries. For many participants, even those who are stricter in keeping work out of life, life-into-work boundaries seem indeed to be easier to soften or dissolve, and they do not see it as a problematic issue to interrupt work to tend to a personal matter.

For example, Dean is very strict with separating his work as a librarian from his doctoral studies, family and hobbies; however his creative writing (and the social interactions around it, such as being part of an online discussion group) is much more pervasive of his time, as we saw in the example above where he describes engaging on Twitter even when he is at work in the library.

As porous boundaries and dissolving boundaries are more pervasive, several tools and spaces are used for both purposes:

> 'Quite often (...) I might actually do the gliding stuff at the end of the day in the office, rather than go home and start doing more email at home I might actually spend an extra hour here [company office] and finish the gliding stuff off' (Don).

> 'My wife emails my work account on a very regular basis and I will reply quite happily. To me, that's the quid pro quo of me doing work in the evening, actually. My life doesn't stop' (Aaron).

As we saw in this section, boundary sculpting can be practiced so that life blurs into work pretty pervasively for some of our participants. It is worth making a distinction between managing how life can be affected by work and how work can be affected

by life, as the pull of the personal (as discussed in Section 8) can shape boundary sculpting in different ways than the weaving of life into work.

The participants of this study were asked whether they would change anything about the way they conduct their work and manage their lives and no one said that they would like to change their current setup, unless of a major change in circumstances. Participants have carefully mapped out strategies to suit their individual circumstances and have made changes to suit their needs when it has been necessary. Equally participants may not even acknowledge that they have a strategy or a set of boundary practices, but they have still attempted to set conditions for the management of their work and life:

> 'Don't have a strategy. I think it's very hard to separate it. For a while I tried not having email on mobile devices. I tried other things to sort of say 'do I need to know this information? Why is someone sending me an email at 3 o'clock in the morning?' (...) And you think, well - I don't know - it flipped from harm to good...the attitude of always being connected to your email...I don't know (...)' (Nathan).

There is therefore a tight interplay between choice, opportunity and obligation in relation to the aspects shaping the management of work and life that we have discussed in the last few sections. This echoes research by De et al. (2017) delineating the motivations behind the mobilisation of work, also their point about how such motivational forces are re-configured on the basis of several factors:

> '(…) motivations are in themselves multifaceted: choice, for instance, is connected with mood, comfort, prospect for increased productivity as well as with the availability of certain technological resources. Opportunity is also related with technology availability, but extends to other resources such as time and the availability of collaborators (…) unexpected requests or needs. Obligation, in turn, is associated with institutional policies and resources (…)' (De Carvalho et al. 2017, p. 974).

Similarly, the boundary sculpting that our participants practice and adapt is the result of a complex range of motivational forces, which may exert different "pulls" in relation to work and life.

## 10. Discussion and Conclusions

In the previous sections we have shown the complex set of issues shaping both individual boundary sculpting strategies and how they are practiced and adapted to work and life by our cohort of participants. It is evident that the knowledge-intensive nature of their work plays a huge role in this, as many

of them are constrained only loosely by requirements tied to their workplace, making it easier and less disruptive to soften, blur or completely dissolve the boundaries between work and life.

As argued by Bødker (2016), boundaries do not only act as constraints, but also as resources to handle complexity, and they do not demarcate different sets of values. Our findings confirm all this, but they also shed additional light on how boundaries and their tweaking do operate both as resources and as constraints: regarding the latter, setting boundaries can be counter-productive for some, or at least setting hard boundaries. Furthermore, we saw how *dissolving boundaries* is also part of such strategies as a way to deal with professional or personal activities, leading to trade-offs in terms of personal and professional priorities. While we do not buy into the myth of the 'mobile worker' who can seamlessly handle demands through flexible work arrangements and ubiquitous technology, we do see that dissolving boundaries is often needed and/or helpful to some, and done with much deliberation.

Partial removal of boundaries is also a resource to enable a person to cope with demands, if only to initiate a reaction and prepare towards a full-on response. Sometimes partially dissolving a boundary (either for a short period of time, or by filtering some requests through) enables preparatory work (almost as pre-articulation work) before the task is taken up full-on. This fully resonates with Nippert-Eng's concept of sculpting boundaries that we have adopted to frame our discussion of data (Nippert-Eng 1995), also when digital technologies play a role such as in the case of our participants.

Partial removal of boundaries can be a routine part of individual strategy, but it can also be a more improvised reaction: in other words, a specific situation might determine whether a boundary is temporarily erased and how.

These roles of boundary setting, blurring and dissolving are also practiced to handle life activities. We argue that blurring (softening or hardening) a boundary is different from dissolving one as a blurred boundary acts as a filter, for example in those situations in which a task or a practice can affect both work and non work.

Blurring and balancing are strategies used to various degrees by people at opposite ends of the spectrum in terms of work/life separation. At one end, we saw the example of Sally, who methodically separates the two and enacts strict boundaries, and at the other hand we saw Don, who does not go into work at weekends nor works in the evenings, but checks email once a day while on holiday to manage his workload, even if he does not react to demands straight away.

Blurring boundaries can also be used to describe those situations where individuals are monitoring demands or tasks rather than dissolving a boundary completely and acting on them out of their allocated time or place. Monitoring and accessing key information gives some people the security to make decisions about whether or not to maintain boundaries.

It is clear from the data that such boundary work underpins the 'movement between realms' (using Nipper-Eng's words) that is going from work, to life and back again.

As we mentioned, it is interesting to note that different degrees of balancing/ blurring are practiced by people with various personal circumstances: we made the example of Gabby and Sally who practice some of the neatest strategies of separation of work out of life and who are both women without children, while it would be easy to assume that the people who adopt such strategies are those with strong obligations to tend to family demands such as parenting.

Overall, the ways strategies are formed and practiced emerges from the complex set of factors we have discussed: expectations, personal working styles and professional identities, routines, family demands and non-professional activities. Out of our data set, no clear linear correlation emerges between one configuration of such forces and one approach to boundary sculpting.

Particularly, we showed examples where personal activities (be it leisurely ones or rather unpaid work) can also be demanding and requiring almost professional handling, and how individual strategies are practiced for managing life-into-work as much as work-into-life, and often not in mirrored ways.

These findings about blurring life into work particularly add to a body of research that has identified how digital technologies aid tasks that might not be part of paid employment, but are labour-intensive and require quasi-professional skills (such as healthcare management, accounting and taxes, etc., see for example Verne and Bratteteig 2016). Additionally, we have seen in our participants' cohort how work time and spaces can become pervaded by non-work aspects of life and therefore that they constantly make decisions about setting up or dissolving boundaries keeping life from spilling into work. Furthermore, participants make pervasive use of technology also for leisure activities, and use it to handle both these demands and to manage related boundaries.

Digital tools and technologies (and their roles) emerge from our data as being conceptualised and practiced in more complex ways than being associated univocally to a domain (such as email being primarily a professional tool, and social media being primarily used for informal communications, etc.): they actually represent the complexity of driving forces and the tensions and challenges that can emerge within their frame. Mobile phones and laptops can be 'lifelines' maintaining people's sense of control over their workload and enabling monitoring, preparatory work and quick reactions, or embody a boundary when purposefully switched off, or left behind, or locked inside the boot of the car in the evenings (as one of the participants - Lana - does). Connectivity does not equal an 'always on' work strategy either: being connected does not lead to the same practices for everybody, and it underpins not just to work, but also personal relationships and interests. Furthermore, it does not necessarily add to workload for everyone: for example, it can enable people who enjoy a more blurred working style to monitor work without reacting to it, making them more relaxed in their time off.

Other findings are more tentative and present us with open questions to investigate in future work rather than firm conclusions: first of all, there is a need to more closely investigate and compare different sectors of employment, building case studies of

workplace culture in relation to work/life boundaries, to see whether and how these differences impact on or shape individual strategies. Secondly, follow-up studies focusing on people in specific personal arrangements and on the tools and artefacts that mediate their work/life practices should be conducted to shed light on any connecting patterns emerging from such practices.

Our sample, while representative of the everyday lives of people employed in the knowledge sector in Sheffield, is unavoidably limited, therefore it would be useful to also extend the study we reported on here to include (for example) a greater range of ages and nationalities.

We also recognise the limitations of an interview study where the interpretation of participants' strategies is necessarily limited by the interview questions and by the participants' own perceptions and understandings. Despite these limitations, due to the difficulty of conducting observational research in previous settings and for significant periods of time, interviews have been a commonly used technique to study this topic (see Currie and Eveline 2011; Nippert-Eng 1995; Nelson et al. 2017; Gray et al. 2016).

While these limitations mean that our findings are not sufficient for extensive theory-building, they do provide nonetheless important evidence and a set of analytical themes to further CSCW research.

In conclusion, this paper presents a rich picture of the practices of a cohort of men and women in knowledge-intensive roles as they develop and deploy strategies and boundaries for dealing with work and non-work. The paper contributes to CSCW in 2 ways: firstly some of our findings significantly add to those from previous research that they resonate with, via novel and nuanced empirical material, particularly about boundaries as resources (Bødker 2016), variability of individual strategies and their match to personal circumstances (Gray et al. 2016), complex motivations underpinning one's strategies (De Carvalho et al. 2017; Jarrahi and Sawyer 2017), and the labour-intensive nature of personal tasks (Verne and Bratteteig 2016). Secondly, we have presented novel findings that charter new territory for future CSCW research on the technological mediation of work/life practices that we summarise below.

We have described a set of factors that shape personal work/life strategies along a spectrum going from strict boundary setting and separation to almost complete blurring: personal working style and passions, consideration of organisational and interpersonal demands, the role of intensive unpaid activities in one's life. Each strategy is well thought-out and seldom changes; it adopts a varying set of criteria to set or dissolve boundaries within its frame, and is practiced in relation to others' strategies.

We have shown how boundaries (which we conceptualise as both constraints and resources, building on the works of Nippert-Eng and of Bødker), are not just set but also dissolved, and that dissolving them can enable people to manage their workload, rather than overwhelm them. Dissolving boundaries is, in other words, a resource as much as setting them, a possible way to cope with demands, and an enabler for practicing one's overall strategy. One very significant way in which erasing

boundaries works as a resource is that it enables preparatory work and monitoring. This has often an effect on non-work activities for some people as it makes them feel in control and more likely to relax and enjoy personal pursuits.

Another finding we have presented is that life is as pervasive of work and work can be of life, that the management of non-work activities is essential part of strategies, and that such strategies and boundary setting/dissolving approaches do not necessarily mirror those that an individual enacts to manage work blurring into life. Furthermore, the personal style of dealing with professional tasks is also not necessarily mirrored in dealing with non-work ones.

Overall, these findings also point out to the increasing fluidity of models of work. For example, it was difficult to pinpoint who of our participants was considered to be working in a full and part time position. Whilst some individuals did identify as working in a full time role, some notions of part time work are more complex. For example, whilst Greta considered herself as working full time but across 3 part time roles, Laura considered herself part-time and this also consisted of 3 separate roles. Others described that their leisure activities are really part of their work, or that their leisure time is spent on developing quasi-professional activities. This highlights the need to continue with detailed examinations of human practices at a time when new forms of employment and labour are dramatically changing people's lives.

## Acknowledgements

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