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Technology, Work, and Family: Digital Cultural Capital and Boundary Management

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Abstract

In this essay, we develop a framework for understanding the evolving relationships between technology, work, and family. We focus primarily on the temporal, spatial, and relational boundaries between work and family and the ways in which technology is changing boundary management practices. We suggest that the ubiquity and power of communications technologies require active technology management and, specifically, the development of a form of cultural capital that we call digital cultural capital. We are concerned that the technological changes currently underway may deepen and reinforce social and economic inequalities in new and unanticipated ways. We endeavor to synthesize and connect the disparate bodies of research on these nascent issues and lay out an agenda for future lines of inquiry.

INTRODUCTION

During a commute to work, a sales representative reviews an email inbox that includes an urgent note from a client, a draft of a proposal from a coworker, and a request to participate in a cross-unit meeting, along with many less pressing items. After arriving at work, phone calls, text messages, emails, tweets, and Facebook postings—from coworkers, clients, bosses, subordinates, neighbors, and family members, not to mention advertisements and political communications—arrive unabated and continue during the trip home and into the evening hours. A gig-economy worker learns of a new work opportunity just as dinner is about to go on the table. A married couple exchanges text messages during the workday because they both received a notification from the school portal that their son failed an exam and that the teacher is requesting a meeting with them.

These are familiar scenes, but it is worth remembering how recently these modes of communication have become commonplace. Constant multichannel communication with multiple audiences has become a fact of everyday life for many (but by no means all) employees and family members. Rapid technological advances have fostered increasing opportunities for communication at work (e.g., telework, virtual teams, and just-in-time scheduling) and in the family (e.g., families using technology to connect across locations and generations). More specifically, as individuals are able to constantly initiate and receive communications and organizations expect increased reactivity, people's states of connectivity are increasing (Kolb et al. 2012, Mazmanian et al. 2013, Wajcman & Rose 2011, Wajcman et al. 2008).

Such connectivity is one of the mechanisms through which technology affects the ways that people experience two life roles that are very important for many people, namely work and family (Voydanoff 1988).[1] In this review, we focus on how technology is making the boundaries between work and life more porous and how issues of connectivity, online self-presentation, and privacy may be driving the creation and management of boundaries between life roles and identities.

Scholars studying the relationship between work and nonwork roles have focused on the interconnections or spillover between these roles (Edwards & Rothbard 1999, 2000; Lambert 2000). Indeed, a large body of research in the work–family domain has focused on negative spillover from one role to another, also termed work–life conflict (Edwards & Rothbard 2000, Greenhaus & Beutell 1985). However, more recently, work–family scholarship has begun to examine the potential positive spillover or enrichment that can occur between these domains (Greenhaus & Powell 2006, Rothbard 2001, ten Brummelhuis & Greenhaus 2018). A key underlying assumption in the research on conflict and enrichment is that the boundaries between work and family are permeable and that events and feelings from one domain affect the other (Kreiner et al. 2006, Rothbard et al. 2005).[2] It is the permeability of these boundaries that makes boundary management such a key skill, enabling people to balance work and family life (Casper et al. 2018, Wayne et al. 2017). The way we experience our boundaries is also consequential because it has been linked to job attitudes such as satisfaction and commitment and also to feelings of work–family conflict (Allen et al. 2014, Baltes et al. 1999, Kossek et al. 2006).

We contend that technologies directly influence how people experience work and family life by further increasing the porousness of the temporal, spatial, and relational boundaries between work

[1]While we focus on work and family roles, work–life research is also encompassing other domains of life outside work, such as community, leisure, friendships, personal development, and other life pursuits (Dumas & Sanchez-Burks 2015, Konrad & Mangel 2000, Kossek et al. 2010).

[2]Note that we are using the term "boundaries" to discuss the relationships between work and family roles in a way that is different and more specific than the classic sociological construct of boundaries as discussed, for instance, by Lamont & Molnár (2002).

and family roles and identities. This porousness in turn makes the management of connectivity, online self-presentation, and privacy more challenging and calls for more elaborate technology management. We define technology management as work performed to gain control over technology and its associated social norms in order to align one's use of technology with one's values and goals. We view the combination of awareness, motivation, and skill needed to perform technology management as a form of incorporated cultural capital (Bourdieu 1979, 1997), which we term digital cultural capital.[3]

Each of the three terms we employ—technology, work, and family—is broad, and so we must delineate our focus to make this review manageable and useful. By "technology" we mean the advent of the combination of personal computers, the internet, mobile communications, and social media. This is the terrain of the triple revolution examined by Rainie & Wellman (2012). Some researchers equate technology with the introduction of robots in industrial settings (Acemoglu & Restrepo 2017), but we feel that this approach delineates the scope of technology too narrowly. We follow a broader approach that explores the deep entanglement between evolving social organizations and technological systems that some refer to as sociomateriality (Orlikowski 2007).

We focus here on "work" understood as paid employment, although there are many interesting and important questions about the relationship between technology and unpaid work (Bittman et al. 2004, Sayer 2016). The active debate over the impact of robots and other forms of automation on employment is a large topic that is addressed elsewhere (Brynjolfsson & McAfee 2014, Ford 2015, Frey & Osborne 2017, Jacobs & Karen 2019, Mishel & Bivens 2017). While we do not anticipate the imminent demise of paid employment, communication technology is nonetheless changing the nature of many jobs. For instance, human–robot interaction research is currently assessing the impact of working with robots, understood either as tools that assist tasks and decision-making or as teammates, on work design (Barrett et al. 2012) as well as on employee attitudes and behaviors at work (Sauppé & Mutlu 2015).

We use the term "family" expansively, including not only nuclear families but also extended families, blended families, same-sex relationships, cohabitation, and other evolving family forms (Ozbilgin et al. 2011, Rothausen 1999). This broader view is increasingly accepted by the public in the United States and elsewhere (Powell et al. 2010).

Before turning to our review of the ways in which technology is changing individuals' experience of the boundaries between work and family, we briefly synthesize how technology is changing work and the family.[4]

Connectivity and Work

Since Cairncross (2001) announced the death of distance, considerable attention has been devoted to technology-related evolutions of the workplace. Salient foci of research are telework, virtual teams, and the unpredictability of work.

[3]The construct of digital cultural capital as a competency has been introduced in an earlier publication (Ollier-Malaterre 2019), and we extend it in this review. Other work has discussed technological skills in connection with cultural capital and habitus. Unlike the arguments of Robinson (2009) and Rafalow (2018), who focus on technological skills per se (e.g., programming abilities and information extraction on the web), our argument focuses specifically on individuals' awareness, motivation, and skill to gain control over their use of technology rather than on their technological proficiency in itself.

[4]Two topics—care work (Chau & Osborne 2018, England 2006, Folbre 2012, Osterman 2017) and gender and technology (Wajcman 2015)—are related to the themes examined here but are outside the scope of this review.

Telework. While working exclusively from home remains rare (less than 5% of the labor force in the United States and 2–9% in Europe), a sizable and growing fraction of the labor force works remotely at least some of the time (Eurostat 2018, Messenger et al. 2017). The US Bureau of Labor Statistics (2016) reports that nearly one-quarter (24%) of workers did some or all of their work at home in 2015, an increase of 5 percentage points over the course of a decade; Gallup's estimates exceed 40% (Mann & Adkins 2017). Remote work varies sharply across occupations and industries, with managers and professionals much more likely to work remotely than those employed in factory production and retail sales or personal service jobs (US Bur. Labor Stat. 2016).

Virtual teams. Large organizations with geographically dispersed facilities require teamwork and coordination. In this and other contexts, virtual teams are becoming more widespread and enabled by systems that facilitate both synchronous communication (conference calls, video conferences) and asynchronous communication (emails, text messages) (e.g., Dulebohn & Hoch 2017, Gilson et al. 2015, Hoch & Kozlowski 2014). While virtual teams can bring together talent and skills from many locations, there are challenges as well, including the need to quickly develop trust (Jarvenpaa & Leidner 1999). Constant communication also affects everyday work for those who are not part of far-flung teams, and the challenge of frequent interruptions requires creative management (Jett & George 2003, Wajcman & Rose 2011).

Unpredictability. Communication technologies are also contributing to the growing unpredictability of work or, perhaps more specifically, to shifting the risk of unpredictability from employers to employees. This is perhaps most evident in the gig economy, where workers are paid for specific tasks as they arise rather than being paid for a set number of hours worked (Spreitzer et al. 2017). This type of work offers the promise of flexibility for some and demoralizing unpredictability for others (Kalleberg & Dunn 2016, McKinsey Glob. Inst. 2016, Perlow 2012). The advent of just-in-time scheduling (Henly & Lambert 2014) and of platforms that match individual employers with workers (Ticona & Mateescu 2018) similarly increases the unpredictability of working times for low-wage service and care workers. Gig and other part-time jobs that expect or require full-time connectivity are also of concern (Gonzales 2016, Madden 2017).

Connectivity and Families

Despite the persistence of the digital divide (Hargittai 2011), communication technology enables many families to remain connected on a routine basis (e.g., Wajcman et al. 2008) and even during periods of physical separation. In developed countries, women continue to play a disproportionate role in maintaining family ties (Wajcman et al. 2008), although women continue to trail men in internet usage worldwide (Agrawal 2018, U.N. 2017). Communication technologies have enabled family members who are physically distant to maintain more frequent contact than when communication was more difficult and expensive. This pattern can be observed in several cases, including teenagers, college students who live on campus, deployed military personnel, married couples who live separately (Lindemann 2019), and the elderly who live apart from other members of their families.

Teenagers. Communication technologies have changed the ways in which parents connect with their teenagers, who are increasingly equipped with mobile phones at early ages. Interestingly,

mobile phones, tablets, and computers have reshaped the boundaries of the family itself (boyd 2014). Parents often check to make sure their children have arrived safely at home (Kurz 2000, 2009), while social media sites such as Instagram, Snapchat, and Facebook enable teenagers and young adults to communicate and often immerse themselves with their peers while being physically at home. Such persistent social connections have been argued to broaden social networks and to have psychological value, even within families (e.g., Hampton & Wellman 2018, Rainie & Wellman 2012); however, loneliness and anxieties stemming from social comparisons and the fear of missing out are downsides that teenagers and their parents are learning to address (Twenge et al. 2018). Other drawbacks of increased socialization through technology include unequal access to the internet and mobile devices (Robinson 2009) and cyberbullying (Hinduja & Patchin 2015, Kowalski et al. 2014, Smith et al. 2008).

College students. Combining the results of different surveys, it seems clear that technology has made it easier for college students to maintain contact with their families while they are away at school. However, not all students equally avail themselves of this opportunity. A minority—perhaps one-third—of students are in daily contact with their parents, while nearly one-fifth are in contact with their parents less than weekly (Bates & Bourke 2016, Hofer & Moore 2010, Ide et al. 2018, Levine & Dean 2012, Wolf et al. 2009).

Deployed military. Increased access to communication technologies has dramatically increased contact between deployed soldiers and their families back home. In 2013–2014, about half of deployed US service personnel reported receiving "almost daily" internet and/or social media contacts from their families. At the other end of the frequency spectrum, approximately one in six reported communicating with their families about once a month (Carter & Renshaw 2016). This level of contact far exceeds what was common before the era of mobile phones (Schumm et al. 2004) and the internet (Stanko & Beckman 2015).

Older adults. Older adults are buying cell phones and searching the internet, although adoption rates vary sharply by age, education, and health status (Smith 2014). Connecting elders who often prefer to "age in place" with relatives and caregivers is viewed as a necessary component of a comprehensive eldercare strategy (Chau & Osborne 2018, Osterman 2017, Swed. Internet Found. 2018).

In the next section, we map out the multiple work–family boundaries that are being transformed by technology. We subsequently turn to the work needed to manage these transformations and the organizational and societal pressures they convey.

TECHNOLOGY AND BOUNDARY MANAGEMENT

Boundaries between work and nonwork have been characterized as "mental fences" that separate our different roles and identities (Zerubavel 1991). For several decades, scholars have examined the ways in which people have tried to navigate these boundaries through either blurring the boundaries or preserving a sharper distinction between multiple life roles (Allen et al. 2014, Ashforth et al. 2000, Nippert-Eng 1996, Rothbard et al. 2005, Zerubavel 1991). Research on boundary management has highlighted how people have varying preferences and abilities. Integrators, for example, prefer talking about their family at work and talking about their work at

home (Dumas et al. 2013). They are also more likely than segmentors to display artifacts like family photos at work (Byron & Laurence 2015). Segmentors, by contrast, prefer to keep a clear divide between these roles. Classic research on segmentors indicates that many even keep separate key chains with home and work keys (Nippert-Eng 1996). Segmentors tend to like company policies that help them preserve the boundaries between home and work (Rothbard et al. 2005).

However, individuals have only partial control over their boundaries (Clark 2000, Kossek & Lautsch 2012), as their employers may have expectations that are either congruent or incongruent with their preferences (Derks et al. 2015, Foucreault et al. 2016, Rothbard et al. 2005). Indeed, social, organizational, and occupational norms around whether to integrate or segment are a critical part of navigating temporal, spatial, and relational boundaries (Mazmanian et al. 2013). For example, some occupations, such as nursing, usually prevent employees from connecting regularly with their families (Tammelin 2018). Conversely, recent attempts by organizations to preclude managers from emailing employees after work hours are likely welcomed by segmentors.

Over the last decade, a burgeoning literature has examined how technology is changing the ways in which we experience the boundaries between our work and nonwork lives (Olson-Buchanan et al. 2016, Park et al. 2011, Wajcman & Rose 2011, Wajcman et al. 2008). On the one hand, by untethering us, connection technologies such as smartphones and Wi-Fi internet access enable us to more flexibly navigate the boundaries between roles, which may enhance family and work performance for individuals who are comfortable integrating work and life roles (Derks et al. 2016, Diaz et al. 2012, Mazmanian et al. 2013, Tammelin 2018). On the other hand, because connection technologies also foster a blurring of the boundaries between life roles, they can lead to more challenges with keeping the different parts of our lives distinct, which may exacerbate work–life conflict and create negative family dynamics (Boswell & Olson-Buchanan 2007, Butts et al. 2013, Diaz et al. 2012, Ferguson et al. 2016, Mazmanian & Beckman 2018) as well as undermine psychological detachment and recovery from work (Derks & Bakker 2014, Foucreault et al. 2016, Lanaj et al. 2014, Perlow 2012).

Greater connectivity, enabled by technology, is allowing for more permeable boundaries between work and family roles. However, there are several different types of boundaries that have been examined in the literature, and each is affected by different aspects of technology. Below, we describe three types of boundaries—temporal, spatial, and relational—and how technology is changing the way we experience each of them.

Temporal Boundaries

Temporal boundaries allow us to separate parts of our lives by creating distinct times in which we engage in various activities, whereas spatial boundaries allow us to separate the places in which we perform these activities. For example, having clear working hours, whether through a set time in which you work (e.g., 9 a.m. to 5 p.m.) or through a formal flex time program (e.g., 7 a.m. to 3 p.m.), is an example of strong temporal boundaries between work and nonwork time. Doing work after standard working hours or having an unclear work schedule would be an example of the blurring of these temporal boundaries.

While it has always been the case that clarity or ambiguity around these temporal boundaries might exist depending on one's job or manager (Kossek & Lautsch 2012), the prevalence of connection technologies has made it easier to blur temporal boundaries by engaging in email communications, texts, and other work interactions during nonwork hours. In fact, a certain degree

or state of connectivity is now the normal sociomaterial world of most knowledge workers (Kolb et al. 2012, Mazmanian et al. 2013, Wajcman & Rose 2011). There is an important ongoing debate about the effects of connection technologies on employee productivity and work experiences, which juxtaposes the work-extending effects of connection technologies with the potential for overwork (Chesley 2010, Moen et al. 2013, Perlow 2012, Ticona 2015). Moreover, blurring these temporal boundaries through connection technologies is associated with greater ambition and job involvement and also greater work–family conflict for both the focal employee and their spouse (Boswell & Olson-Buchanan 2007). Indeed, studies that suggest parents are often distracted by cell phone calls and texts while having dinner with children (McDaniel & Radesky 2018, Morandin et al. 2018) are concrete examples of how blurred temporal boundaries are a significant evolution of family life. Lastly, since time demands and the extent of on-the-job flexibility vary by social class (Jacobs & Gerson 2004) and type of job (Ticona 2015), generalizations about temporal boundaries need to be attentive to variation across occupations and sometimes even across jobs within a particular setting.[5]

Spatial Boundaries

Spatial boundaries have also become more porous because the pervasiveness and quality of connection technologies make the spatial boundaries more difficult to maintain. For example, while working from home has been a longstanding example of the spatial blurring of boundaries (Gajendran & Harrison 2007, Kossek & Lautsch 2012, Kossek et al. 2006), the richness of connection media makes it more compelling as an option and spurs more people to engage in work interactions offsite (Park et al. 2011). Indeed, communication technologies such as Skype, Zoom, and Webex, to name a few, allow rich visual and audio connections between multiple people; but they also clearly highlight the place the person is in. If an employee is doing a conference call at home using one of these technologies, the video camera may well pick up the laundry basket behind the desk or the Legos on the floor. Even if the employee is careful to curate what is on camera, their children or spouse may walk in unexpectedly when they are on the work call and be clearly visible to all observers. While this is not necessarily a bad outcome, it does represent a blurring of the spatial distinction between work and home.

An interesting example of how communication technologies such as mobile devices change the way we experience boundaries is Mazmanian and colleagues' (2013) study of mobile devices. They show that mobile devices allow individuals flexibility about when and where they work, but this comes with a price—the difficulty of disengaging from work—creating an "autonomy paradox." For example, Mazmanian et al. (2013) report that people in their study tended to carry their mobile devices close to their bodies at all times and to check the device frequently during nonwork time. In doing so, they engaged in temporal and spatial shifting of their communication patterns, which allowed the work to expand greatly into the nonwork space.

Relational Boundaries

Temporal and spatial boundaries are well-known types of boundaries between work and family roles. Relational boundaries are less well-known yet also important. Relational boundaries enable us to either integrate or separate our social groups, and they refer to, for example, whether

[5] C. Wahl (personal communication) notes that personal shoppers in grocery stores must be connected to their mobile phones at all times, while the cashiers and others who work alongside them are generally not allowed to carry or use their cell phones.

we socialize with our coworkers or keep these relationships strictly professional (Pillemer & Rothbard 2018). Seeking out friendship with one's coworkers represents a choice to integrate and blur the relational boundary, whereas choosing to adhere to a more professional relationship represents the choice to segment and keep one's relationships separate. From the family side, relational boundaries can also become blurred, as when parents try to be friends with their children, whereas these boundaries can be more clearly differentiated when parents act strictly as parents.

Individuals have always varied in their preferences over integration and segmentation of relational boundaries (Kossek et al. 2012, Kreiner et al. 2006), but technology is now affecting these choices in many ways. The advent of online social media has made relational integration easier to implement and more normative, both at work and at home (boyd 2014, Rothbard & Ollier-Malaterre 2016, van Dijck 2013). At work, employees are often connected with colleagues on various social media platforms, from Facebook and Instagram to Twitter and LinkedIn and the like. Some platforms such as LinkedIn are more professionally oriented, whereas others collapse professional and social contexts (Marwick & boyd 2011). Indeed, social media such as Facebook, Instagram, Twitter, and Snapchat are fostering a blurring of the relational boundaries between our personal and professional selves (Fieseler et al. 2015) such that the importance of relational boundaries is growing with the advent of communication technologies and the ubiquity of online social media. In fact, as many as 58% of US employees are connected on Facebook with coworkers and 40.5% with bosses (Duggan et al. 2015a), leading to both increased closeness and respect for coworkers and detrimental outcomes such as dislike and envy (Ollier-Malaterre & Luneau-de Serre 2018). At home, almost a quarter of 8- to 11-year-olds and three-quarters of 12- to 15-year-olds have a social media profile (Ofcom 2017), and 47% of parents are friends with their children on Facebook (Duggan et al. 2015b).

In sum, technology is changing the way we navigate boundaries between work and life by making it easier and more normative to blur them. The increasing blurring of the boundaries highlights the need for active boundary management to navigate work and life identities. We argue that active boundary management, especially in a digital world, becomes a critical work that we must perform and, therefore, a critical set of awareness, motivation, and skills we must master. We thus turn to the concept and importance of digital cultural capital.

TECHNOLOGY MANAGEMENT AND DIGITAL CULTURAL CAPITAL

In this section, we introduce two constructs that help us theorize about the new challenges individuals face in managing temporal, spatial, and relational boundaries in light of rapid technological advances. First, we examine technology management, which we define as the work that individuals perform to gain control over technology and its associated social norms to align their use of technology with their values and goals. Technology management is distinct from boundary management and comprises three main components. Specifically, we characterize technology management as a set of decisions pertaining to connectivity, online self-presentation, and privacy.[6]

Second, we adopt a Bourdieusian perspective and view the combination of awareness, motivation, and skill needed to perform technology management as a form of cultural capital (Bourdieu 1979, 1997), which we term digital cultural capital. Much as Bourdieu's (1979) notion of cultural

[6]We focus here on the three components that are most relevant to managing boundaries between work and life. Arguably, information management (i.e., selecting and retrieving relevant information in the midst of the current overflow) can also be viewed as a component of technology management.

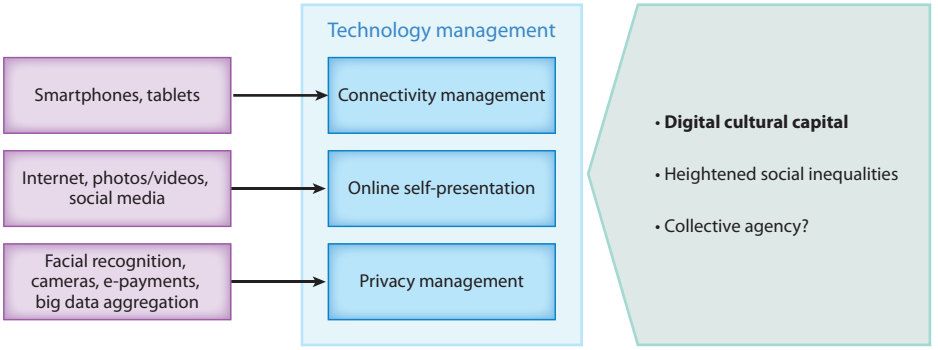

Figure 1

Three dimensions of technology management.

capital sheds light on the domination of some social groups over others, we see digital cultural capital as unequally distributed across society such that it enables some individuals and social groups to conduct technology management better than others and may perpetuate social stratification. **Figure 1** illustrates our arguments regarding technology management and digital cultural capital.

Boundary Challenges Calling for Technology Management

The challenges that we identify relative to technology and the boundaries between work and family are not new, but they are being exacerbated by disruptive technological advances. The literature points to three main interconnected challenges.

The first challenge pertains to connectivity management. Research suggests that technological advances such as smartphones and online social media are creating a default state of connectivity or integration between one's multiple identities and roles (Perlow 2012). Of course, access and the ease of connectivity to such technologies vary (Robinson 2009). In addition, there are social groups that have little control over connectivity, as many organizations and occupations impose norms of integration on employees (Foucreault et al. 2016), and many employment platforms expect workers to be constantly connected to the platform so as to respond quickly to gig-related queries (Ticona & Mateescu 2018). However, we argue that most individuals have some leeway over the extent to which they may try to gain some control over when, where, and how they connect with their work colleagues and tasks and with their family members and friends. These individuals are in a position to make active decisions about their use of technology.

A connectivity decision, for instance, may focus on how to use a smartphone intelligently in order to control it rather than be controlled by it. This calls for decisions about when to have the device in one's immediate reach as opposed to stored out of sight (Ward et al. 2017), what content one is notified about audibly and visually (e.g., phone, Skype, or WhatsApp calls; instant messages; work emails; personal emails; and different types of social media updates), and when one needs to check these notifications and act upon them. Some families, for instance, ban smartphones during family dinners; friends may decide to ban them during a meal at a restaurant. Likewise, individuals may have a work smartphone they leave at work, or they may shut it down during set times of the day to reduce their technological dependence (Kossek 2016). Of course, connectivity management extends to tablets, computers, and smart watches and may soon extend to other wearable devices (Cascio & Montealegre 2016). Science fiction already explores how connectivity management may

extend to implantable devices such as "grains" in our body that capture our memories and thus erase all boundaries, whether temporal, spatial, or relational.[7]

The second challenge pertains to online self-presentation management, that is, the monitoring and decisions pertaining to how one appears in cyberspace, which depends greatly on the nature of the information and behaviors one discloses online as well as on information about them that other people have volunteered online. Online self-presentation management includes the elaboration and monitoring of personal web sites, electronic communications (e.g., emails), social media publications (e.g., Twitter, LinkedIn, Facebook, Instagram, and their equivalents in other parts of the world such as Weibo), and information that is uploaded on the internet, again, by oneself as well as others (e.g., TV and radio interviews and streamlined talks). It can be argued that, insofar as any social behavior and information disclosure may be filmed or reproduced (e.g., screen copy, photo of a private post, and secret recording of a conversation), online self-presentation management extends to a vast array of social spaces and interactions.

Take social media for instance. Amid increasing pressures to participate online, to find employment for instance, many individuals manage the impressions others form of them online and curate their professional profiles. Impression management is now more complex because of pressures to present a unified identity, such as one LinkedIn profile (Sharone 2017). It is also more perilous because individuals do not control all that is shared online about them (boyd 2014), and inferences about one's social and political self can be made based on a person's social network (Sharone 2017). The case of social media sites that collapse several social contexts is particularly interesting (Marwick & boyd 2011). On these sites, individuals may choose different strategies (Archer-Brown et al. 2018, Batenburg & Bartels 2017, Ollier-Malaterre & Rothbard 2015, Ollier-Malaterre et al. 2013). Indeed Ollier-Malaterre and colleagues (2013) have articulated four archetypical strategies that people may employ. They may share all that comes to mind, which has been termed an open strategy; alternatively, they may choose to segment their professional and personal contacts online by not allowing professional contacts on social media sites they use for personal purposes (e.g., Facebook), termed an audience strategy. Some may choose a content strategy by actively controlling what information they disclose, while others may prefer a custom strategy in which they tailor the content they disclose to different audiences (e.g., using personal and professional lists of contacts on Facebook or Google+). The amount of technology management called for when using these strategies differs greatly. While open strategies are very easy to implement, since one simply uses the platforms as they have been designed, the other three strategies require that individuals think about their audience or the content they broadcast or both, and people who chose these strategies must be able to implement them correctly. For an audience strategy, one must have defined private rather than public profiles and decided whether or not to accept a connection request; the decision may be tricky to make, but it is a single decision by an interlocutor. On the other hand, the content and custom strategies imply a decision for each disclosure: Is this status update, post, or photo adequate for all the people who will see it (i.e., content strategy)? Or with whom should I share this particular status update, post, or picture (i.e., custom strategy)? We argue that this kind of work and everyday decision-making requires technology management in the form of awareness, effort, and skill.

The third challenge, and perhaps the most difficult to address, concerns privacy management. The construct of a private sphere, in Western societies, dates back to ancient Greece, where it revolved around the reproduction and maintenance of life within the household (Arendt 1958).

[7] In an episode of the British television series *Black Mirror* (Brooker & Jones 2018) entitled "The Entire History of You," "grains" implanted behind the characters' ears can replay all their memories, thus immersing them effectively in past work or family situations and exposing them to other people being able to play back their memories as well.

However, modern private life, in which a number of family bodily and affective activities came to be hidden from public sight, did not emerge until the eighteenth and nineteenth centuries (Elias 1994). Many sociologists, philosophers, and political scientists have since debated the dual movement through which the private and public spheres take over each other (Berrebi-Hoffmann 2009). We argue that technology amplifies the blurring as well as the placement of the boundaries not only because boundaries are increasingly crossed and blurred but also because the very definitions of what is public and what is private are under scrutiny: Information shared on social media, for instance, is sometimes deemed by scholars and lawyers as private and sometimes public, depending on the criteria of analysis (boyd 2007). In an era in which putting up curtains on windows and planting high trees around houses no longer suffices to safeguard privacy, many new questions arise for individuals around privacy (Brin 1998), visibility (Flyverbom et al. 2016), and surveillance (Lyon 2001, Zuboff 2015) that societies or collective actions may at some point strive to regulate.

Here again, individuals may choose to go with the flow and subscribe to a modern moral distaste for secrecy that equates sharing with caring and disclosure with transparency (Flyverbom et al. 2016), and they may disclose information openly without thinking twice. However, other individuals develop a "surveillance imaginary" that is "a mental image of surveillance and how to respond to it" (Lyon 2018, p. 42). They resist the erosion of privacy by encrypting their emails, pasting tape over their computer cameras, varying and changing their passwords, turning down offers to connect through multiple platforms using universal logins (e.g., Google and Facebook), and refusing to upload their work files and photos to the cloud or even to use shared storage such as Dropbox. They may also be concerned that governments may access their information by coercing corporations to release customer data (Liang et al. 2018). We term efforts to safeguard one's personal information privacy management and view them as a component of technology management.

There is of course an open question about whether such privacy management efforts are likely to succeed in the midst of a surveillance culture in which most people share data and check one another's data in a reciprocal and lateral form of social surveillance (Lyon 2018, Marwick 2012).[8] In addition, even individuals who rigorously guard their own actions can be affected by the actions of others. For example, when one of the people we are connected to hands over their phone at an international border, photos and emails that we have sent to that person can be accessed by border agents. The privacy of many individuals has been recently compromised by having the data they entrusted to corporations leaked. More dramatically, with the shift to a cashless economy in some countries (e.g., Alipay and WeChat Wallet in China and M-pesa in Kenya), increasing virtual interactions, and the presence of cameras in a great number of public spaces, individuals' routines and behaviors are increasingly difficult to keep private. In China, for instance, the government is working with banks as well as with e-commerce and social media industry giants such as Tencent, Alibaba, and Baidu in an effort to develop a big data–enabled centralized social credit system in the country (Liang et al. 2018). Reports indicate that the goal of the government is to monitor individuals' and firms' financial behaviors as well as social behaviors such as refraining from publishing fake news (Botsman 2017, Daum 2017, Liang et al. 2018). An elaborate system of red and black lists is being connected to rewards and punishments in terms of access to education, housing, administrative services, and airplane and high-speed train transportation (for individuals) and access to public markets and governmental supervision (for organizations) (Liang et al. 2018).

[8]Fiction has depicted the fully connected and transparent world of *The Circle* (Eggers 2013) in which people eagerly share their behaviors and thoughts as a gift to the world and relentlessly zing and comment on each other's lives.

Simultaneously, privately and state-owned firms are piloting individual social credit scores, such as Credit Sesame (Liang et al. 2018), with high social credit scores giving individuals access to rewards (Botsman 2017). In such a context, pursuing privacy may well become a complicated endeavor unless individuals or groups find new ways to enact agency.

How do individuals address the increasingly demanding work required to manage technology, i.e., to manage their connectivity, online self-presentation, and privacy? Building on Bourdieu's work, we construe the combination of awareness, motivation, and skill needed to perform technology management as a form of cultural capital (Bourdieu 1979), which we term digital cultural capital.

Digital Cultural Capital

Young people may be better equipped at managing technology because they grew up with it and thus have the greater technical skills that accompany being digital natives (boyd 2014, Prensky 2001). However, we contend that successfully managing both the permeability of the boundaries between work and family and the technology that is exacerbating this permeability requires more than technical skill. Specifically, it requires an awareness of the need to conduct technology work, akin to boundary work, and the motivation to do so, because technology management is time- and effort-intensive. Taken together, the awareness of the need to actively monitor one's use of technology and the motivation and skill to do so constitute an individual's digital cultural capital.

Returning to our social media example, building and maintaining social media strategies that best enhance one's professional reputation and quality of life at work, i.e., the content and custom strategies, requires an extensive amount of time as well as constant effort supported by technical skill, all of which is reflected in the construct of online boundary management capabilities (Ollier-Malaterre et al. 2013). These capabilities capture not only technical skill but also an awareness of the impact of information disclosure on interpersonal relationships and professional reputation and a motivation to devote time and effort to the crafting of efficient social media strategies. We analyze this digital capital in light of Bourdieu's (1979) cultural capital construct and position digital capital as a form of cultural capital.

Bourdieu (1979, 1997) distinguishes between economic, social, and cultural capital, all of which explain the social trajectories of individuals and the domination of certain social classes over others. Bourdieu and Passeron (Bourdieu 1979, Bourdieu & Passeron 1964) further distinguish between incorporated cultural capital, which is inherited within one's family (e.g., artistic knowledge and taste); objectified cultural capital, which can be purchased (e.g., paintings and books); and institutionalized cultural capital, which can be acquired later in life (e.g., diplomas) (Serre 2012).

In our view, digital capital is much more a form of incorporated cultural capital than of objectified or institutionalized capital in that, like social scripts or artistic taste, it is learned early on within one's family and internalized as the primary habitus as well as acquired through secondary socialization at school and through other social experiences. It cannot, however, be purchased and passed on immediately as a material good would be passed on. Furthermore, the acquisition of digital cultural capital requires time and a personal investment by the individual, which are characteristics of incorporated cultural capital; to use the example of Bourdieu, incorporated cultural capital, like tanning, cannot be acquired by proxy (Bourdieu 1979). Instead, it is taught by families and educational institutions such as schools and acquired in family contexts and school-based peer-group settings. In this regard, Rafalow (2018) shows that technological skills are often acquired through play with peers, but their conversion into what we term digital cultural capital depends on teachers' assumptions about the youth's future social and employment prospects.

Bourdieu (1979) explains how cultural capital served as a guardian of class privilege because the work that is required to acquire cultural capital is not apparent, and therefore the competence seems natural. He shows that cultural capital could work as symbolic capital that perpetuates the domination of upper social classes, and upper social classes are therefore motivated to pass on this capital to the next generation. Parents may transfer their digital cultural capital to their children and teenagers in a variety of ways, including making them aware of the importance of limiting one's state of connectivity in order to maintain an active social life offline, discussing social media and cyberbullying with them and motivating them to protect themselves and their friends online, discussing privacy and the desirability of avoiding risky disclosures such as compromising photos, and enrolling them in summer camps that offer a time to switch off and develop social skills.

In our view, the awareness, motivation, and skill required for technology management are no exception to the unequal transmission of cultural capital across social classes. Specifically, we argue that there are social inequalities in the extent to which social classes teach and pass on digital cultural capital to the next generation and, therefore, dominant groups end up developing a specific digital habitus that advantages them over other groups. To begin with, we posit that attitudes toward connectivity vary across social groups, with elites increasingly signing up for digital retreats and attempting to limit their connectivity. Recent studies provide empirical support for our hypothesis. For instance, a nationally representative study of Swiss adults found that level of education was positively associated with individuals' "digital coping skills," that is their cognitive and technical ability to choose and set up their internet services so that they are useful to them and not distracting (Büchi et al. 2018). Another study in Hungary shows that parents with greater education and lesser financial difficulties monitor their children's use of technology more than other parents (B. Nagy, K. Kutrovátz, M. Rakovics, V. Terecskei & A. Vajda, manuscript in preparation). Similarly, educators serving high-income children are more likely than those serving low-income children to believe that technology creates a distracted generation (Silicon Val. Community Found. 2017). These findings suggest that upper social classes are increasingly motivated to foster the development of digital habitus in the next generation through primary socialization.

Turning to online self-presentation, we observe that a certain digital habitus is now evaluated in elite selection procedures and networking circles (e.g., college admissions, online dating platforms like The League, and select social media like ASmallWorld). Books on safe social media use have been published, and some universities offer social media training on how to manage one's online presence. In addition, white collar occupations, such as medical, judicial, and accounting professions, issue recommendations for their members regarding online self-presentation (Bobinchock 2010, Lomas 2013).

Regarding privacy management, McCahill & Finn (2014, p. 5) connect individuals' "surveillance capital," that is, their "tacit knowledge and everyday forms of cultural know-how," with their overall capital. In line with this argument, recent surveys show that many parents engage in technological parenting behaviors; however, upper-income parents are more likely than lower-income parents to monitor their children's technology management in technical ways, such as helping them to set up privacy settings (Madden 2017).

Another way in which digital cultural capital may further stratify society pertains to the greater need of marginalized social groups to perform technology management. For instance, precarious workers who rely on intermediation platforms to find gigs or be hired have less control over their connectivity than workers employed in stable contracts (Ticona & Mateescu 2018). Online self-presentation challenges are also greater for social groups who manage impressions to comply with norms of the dominant group (for instance, African-American women's respectability politics) because heightened exposure and visibility make it harder to simultaneously enact a "vanilla self" and a truer self (Pitcan et al. 2018). Therefore, the filtering process of job applications based

on online identities and connections may further marginalize stereotyped individuals and groups (Sharone 2017, Ticona & Mateescu 2018).

What we are suggesting is that digital cultural capital needs to be considered as a new aspect of the digital divide (Hargittai 2011). Whereas the digital divide refers to differences in access to computers and computing resources, digital cultural capital highlights the differences in the awareness, motivation, and skill needed to navigate an increasingly connected social world. In line with Bourdieu's logic around domination by economic, social, and cultural capital (Bourdieu 1980, Bourdieu & Passeron 1964), the dominant social classes may be able to develop distinguishing forms of digital cultural capital and therefore reach an advantaging mastery of technology management compared with other social classes. If that is the case, digital cultural capital, far from being an equalizer across social classes, is likely to also act as symbolic capital further stratifying society (Lamont & Molnár 2002).

RESEARCH AGENDA

Technology and Boundaries

Entire streams of research now analyze the entanglement (Orlikowski 2007) of technology with work and family. Our objective in this research agenda is, more narrowly, to highlight important avenues for research pertaining to how the creation and management of boundaries between work and life are now intimately enmeshed with technology.

Despite the promising research reviewed above, greater clarity is still needed regarding technology-related changes in temporal, spatial, and relational boundaries across jobs and occupations, on the one hand, and across families, on the other hand. First, we propose that understanding the impact of type of work and occupation on boundary management and access to technology is an important category where we need more research. In particular, we need to better understand the differences in connectivity and the subsequent blurring of the boundaries across blue-collar and white-collar jobs, occupations, and different types of work arrangements and contracts (Cappelli & Keller 2013, Jacobs & Gerson 2004, Kolb et al. 2012, Messenger et al. 2017). For instance, what proportion of jobs today abide by relatively rigid temporal, spatial, and relational boundaries? The interest in hyperconnected jobs such as management, sales, and knowledge workers should be complemented by curiosity about jobs such as bus drivers or bank cashiers where connectivity may remain limited. Are there challenges associated with limited access to a connected world? Or do workers with limited connectivity on the job compensate by heightened connectivity outside of work?

Second, future research should examine different family configurations that may be more or less connected across social classes and cultural backgrounds. For instance, given that the degree of individualism versus collectivism in a society impacts individuals' work–family experiences (Powell et al. 2009), how might individualism versus collectivism affect families' levels of connectivity and their crafting of boundaries? Variation by age, including teenagers and older adults, will give us insights into the evolution of intrafamily communication.

Third, and related to the above point about different cultural backgrounds, a growing body of research is calling attention to the impact of different national contexts on the ways in which individuals experience their work and family roles and manage the boundaries between those roles (Powell et al. 2009, Spector et al. 2007). Thus, we need more research on the ways in which distinctive cultures and legal, economic, and social structures (Guillén & Suárez 2005, Ollier-Malaterre & Foucreault 2017) may influence the entanglement of technology with work, family, and boundary management practices. Several tentative steps have been taken to limit the intrusion of work-based communications into family life rather than accept heightened states of connectivity as inevitable.

For example, the Volkswagen Corporation has famously endeavored to limit work-related emails after business hours. On a national level, the French government has encouraged companies to minimize technological disruptions after work hours. Studying the development of these policies and evaluating their efficacy seem to be promising lines of inquiry. These initiatives raise questions about efforts to control technological effects at multiple levels—the individual, family, community, corporation, and nation. Turning to culture, how do different cultural assumptions about work and family across national cultures alter the dynamics that we have discussed in our review?

Fourth, the gig and sharing economies call for future research on boundary management and technology: So far, most of the research in these areas has examined the blurring of the employee–employer relationship, and emotional labor, in platform-mediated labor markets (Bucher et al. 2018, Spreitzer et al. 2017). Research is also needed on work–family boundary management because the high connectivity required to be an Uber driver, Airbnb host, or Upwork gig worker, for instance, suggests the blurring of boundaries between not only work and family but also one's primary job and one's gig work. For instance, how do gig workers conceive of their different roles in terms of being separated or fluid and in terms of work, leisure, and personal life domains? How does their technological connectivity via smartphone, app, text, and social media enable or detract from their ability to manage the boundaries between these multiple roles?

Another interesting research avenue pertains to the ways in which the boundaries between organizations and individuals are changing and, in particular, how the reach of organizational control may be expanding as technology changes. Research already points out that organizations are increasingly regulating their employees' connectivity behaviors (Stanko & Beckman 2015) as well as becoming more strategic about their online presence, leading to human resources and social media policies that may extend beyond the temporal and spatial boundaries of the workplace (Banghart et al. 2018). An extreme shift in organizational control is embodied by algorithmic work, or work that is allocated, paced, and rated by algorithms that may lack transparency for employees (Cameron 2018, Christin 2018, Rahman 2018, Rosenblat & Stark 2016). Such dynamics suggest that future research could explore changes in individual–organizational boundaries that develop in connection with technological evolutions as well as the development by pioneering firms of an organization's digital capital.

Digital Cultural Capital

Given our arguments about the importance of the digital cultural capital in enabling individuals' agency in light of technology, we call for more research on the acquisition and maintenance of the digital habitus. For instance, are there social class, age, or gender variations in its acquisition process? To what extent may the learning process differ across the three dimensions of digital cultural capital that we have identified, namely connectivity, online self-presentation, and privacy management?

What are the key technology management abilities that enable people to successfully navigate their increasingly connected work and family worlds? We have suggested here that digital cultural capital is primarily acquired early during childhood and young adulthood. But what interventions could help to provide people with greater digital cultural capital later in life? Can digital cultural capital be taught to individuals who have not had the opportunity to develop it?

In light of increasing organizational reach, as well as governmental attempts to leverage technology in order to control citizens and organizations, which resistance behaviors may digital cultural capital enable individually and collectively? To what extent may digital cultural capital become a major asset for people who want to exert individual agency against the backdrop of organizational and governmental controls?

It is important to keep in mind that we are still in the early days of the connectivity revolution. Those trying to assess the social impact of the automobile in 1910 would have had many data to point to, but they would have lacked sufficient time and perspective to fully assess the implications of this revolutionary new form of transportation. Many of the best studies to date on connectivity, work, and family were conducted when technologies such as cell phones and social media were brand new. Our understanding of the role of these technologies will surely evolve as these technologies continue to develop, as will the strategies of individuals, families, corporations, and governments.

CONCLUSION

The temporal, spatial, and relational boundaries between work and family are now infused with communication technologies. Researchers are beginning to document these trends in a wide variety of contexts. We note common themes in research as diverse as virtual teams in large corporations and the intrafamily communication patterns of college students and deployed military personnel. We suggest that boundary management can best be understood as a multidimensional construct involving time, space, and relationships, and we point out that adjusting to a more intensively connected world requires considerable effort to manage a set of interfaces that simply did not exist several decades ago.

In light of this review, we argue that the awareness, motivation, and skill that are being developed and refined to manage technology and boundaries can be understood as a new form of cultural capital, specifically digital cultural capital. While the trends we have examined are remarkably broad, their outcomes remain uneven across occupations, families, and social groups. We call attention to these trends in part out of a concern that they may represent new forms of inequalities. Many salient questions remain in this important and rapidly evolving terrain.

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