### **CONNECTING FAMILIES?**

# Information & Communication Technologies, generations, and the life course

Edited by Barbara Barbosa Neves and Cláudia Casimiro



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 Bristol
 1427 East 60th Street

 BS2 8BB
 Chicago, IL 60637, USA

 UK
 t: +1 773 702 7700

 t: +44 (0)117 954 5940
 f: +1 773-702-9756

 pp-info@bristol.ac.uk
 sales@press.uchicago.edu

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#### ONE

# Connecting families? An introduction

#### Barbara Barbosa Neves and Cláudia Casimiro

#### **Context**

This edited collection seeks to critically examine the intersection of family life and the use of information and communication technologies (ICTs) within generations and in a life course perspective. Over the past two decades, ICTs such as the internet and personal mobile computing have started to permeate everyday family life in industrialized countries (Eurostat, 2017; Hughes and Hans, 2001; Pew Research Center, 2017; Rainie and Wellman, 2012). Yet we still lack a thorough understanding of the interplay of ICTs and family dynamics in different regions and contexts. To address this gap, we invited researchers examining this interplay to submit their work to two sessions at conferences of the International Sociological Association (ISA). These sessions were organized for the ISA Family Research Committee (RC06), the last of which was held at the 2016 ISA Forum in Vienna. The outstanding number and quality of submissions highlighted the increasing relevance of this topic for sociologists. Our sessions aimed to address the following questions:

- Are ICTs connecting families?
- What does this connectedness mean in terms of family routines, relationships, norms, work, intimacy, and privacy?
- How do family members envision the role of ICTs in connecting families?

This book emerged from these questions, and from new angles identified in the conference sessions. Despite the growing interest in the subject (Kennedy and Wellman, 2007), as well as influential sociological work on families and domestic technologies (Cowan,

1983; Silva, 2010; Wajcman, 2010), current sociological research on ICTs and families remains scant and scattered.

There are, of course, a few notable exceptions. The seminal issue of Marriage & Family Review by Marvin B. Sussman in 1985 on 'Personal Computers and the Family' – also published as a book by Haworth Press in 1985 – presented groundbreaking articles on computer use within families, its implications for children's development and family life, and its role in family therapy, counselling, and empowerment. In the introduction to the book, Sussman considers changes occurring in professional environments and occupational systems as a consequence of the introduction of computers to reflect upon 'microcomputers' (home computers) and families. He also enquires about the relationship between social stratification and technology, and explores the use of personal computing to diagnose and treat patients in areas such as marriage and sex. Sussman recognizes, however, that the edition was based on scarce empirical data, only warranting rich descriptions and conjectures about the impact of home computers on family life. He concludes that the collection:

Should be viewed as the opening of a new vineyard for empirical work on the meaning and significance of a revolutionary telecommunication device upon the organization, values, ideologies, and behavioral practices of family systems. The various authors have birthquaked multitudinous ideas, issues, and problems. It will take a decade to research them appropriately. The technology is changing so fast and changes in families lag not too far behind, [which] means that some of the queries and concerns expressed by our authors may not be germane or may have already been answered at the time this issue is read. (Sussman, 1985, p 5)

Despite extraordinary advances and uptake in ICTs, some of the topics explored by the authors of this 1985 collection (with the exception of some grand predictions) still resonate in 2018 – particularly in terms of critical themes, such as work-life balance, family conflicts, gender inequalities, social class, social connectedness, and intergenerational families. Nevertheless, as shown in the literature, family life has been characterized by both changes and continuities over time (Adams and Trost, 2004; Casper and Bianchi, 2001; Lück et al, 2017).

Twenty-five years later, Marriage and Family Review presented a collection on 'Families and Communication' edited by Lynn Blinn-

Pike (2009). This new issue includes a variety of articles examining digital technologies and family life, covering important themes such as online methods, eHealth, social networking sites (MySpace), and internet dating. In her introduction, Blinn-Pike offers an overview of the role of home computer and internet use in the family from the 1980s to the 2000s, showing that computers only became prevalent in American homes in the 2000s. She emphasizes two central points: (i) we are still trying to understand how ICTs affect family interaction over time, and (ii) we still need to deconstruct utopian versus dystopian visions of technology.

These points continue to be relevant today – the interrogation in our title 'Connecting Families?' captures this tension. But since Blinn-Pike's edited issue was published, the number of households with computers and internet access has increased in the US and across the globe. According to the US Census Bureau (2014), in 2013, 84% of households had a computer (compared to 51% in 2000) and 74% had some form of internet access. In 2009, 62% of American adults had broadband internet service at home, while in 2016 that average reached 73% (Pew Research Center, 2017). In the European Union (28 countries, 2016), 85% of households had a computer and 83% had a home broadband internet service (Eurostat, 2017). A number of Latin American countries had a comparably high average of households with a computer in 2014: 72% in Chile, 58% in Argentina, and 55% in Brazil (Pew Research Center, 2015). In the same period, 59% of Chinese households had a computer (Pew Research Center, 2015). The lowest computer ownership rates are found in sub-Saharan African countries – approximately 25% in 2014 (Pew Research Center, 2015). Nonetheless, considering other ICTs, the number of mobile phone and internet users has been growing globally: in 2017, 50% of the world's population was online – which represents a growth of 936% since 2000 (Internet World Stats, 2017) – and 66% of the global population had a mobile phone (We Are Social and Hootsuite, 2017).

Even though both *Marriage and Family Review* issues (Sussman in 1985 and Blinn-Pike in 2009) were cutting-edge, they were mostly restricted to North America. The 2009 issue does include one article on international adoption by US families (Gill, 2009), and a pioneering study on transnational Turkish families and their telephone and email communication (Şenyürekli and Detzner, 2009). Interestingly, work on transnational families and ICTs has been advancing considerably in the last two years (see Baldassar et al, 2016). Notwithstanding the two international articles, the geographical focus was especially limited.

In this context, our conference sessions were tasked with assembling scattered research on the topic, with a focus on international studies and more diverse approaches to ICTs and families. With these sessions, we realized that the interest in the subject by family scholars was growing and there was a need for a sociological space of discussion. We also realized that existing research tends to focus on studies of a particular age group or life stage, from children and young adults (Blair et al, 2015; Ito et al, 2009; Livingstone and Haddon, 2009) to older adults (Blaschke et al, 2009; Neves et al, 2013, 2017a, 2017b). As such, a life course perspective is widely lacking in the literature. This is a critical perspective for ICTs and families, as it can ensure that we are taking into account different roles, positions, meanings, and contexts over an individual's life span. A life course perspective emphasizes a continuum of social events and transitions over time – a continuum that both affects and helps make sense of family life and ICTs. Hence, the original questions that guided our conference sessions motivated our subsequent exploration of a life course perspective. This book is the result of those sessions, specifically of identified gaps and needs.

To provide a comprehensive approach to the subject, our edited collection brings together theoretical, methodological, and empirical work on family life and ICTs in a life course perspective. This combination offers students, researchers, and practitioners a variety of tools to analyse and understand how ICTs are used, appropriated, and domesticated in family life. These tools allow for an informed and critical study of ICTs and family dynamics, practices, management, conflicts, intimacy, care, solidarity, and intergenerational relations.

# Conceptualizing family, generations, ICTs, and the life course

#### Family and generations

The concept of 'family', used so often throughout this book, may have different interpretations since the term is polysemic. As McCarthy (2012, p 69) points out, a diversity of terms to delineate the connotations 'family' can assume have 'been proposed and discussed (Morgan, 2003), including "family" as an adjective (as in "family practices", Morgan, 1996, 2011), or an alternative language altogether, such as "intimacy" (discussed in Jamieson, 1998, 2004), "relatedness" (Carsten, 2004), or "relationships" (discussed by Brynin and Ermisch, 2009)'. Such multiplicity of meanings corresponds to the changes

occurring in the family in the last few decades, particularly in the Western world.

We have witnessed the affirmation of new trends in the emergence of modern forms of family organization and legitimacy – such as the family's deinstitutionalization (Beck and Beck-Gernsheim, 1995). Practices, values, and social attitudes regarding family life changed substantially over the last few decades (Torres et al, 2013): building a family, living in it, undoing or rebuilding it, has become increasingly diversified and informal (Casimiro, 2015), particularly when compared to more homogeneous models from the past. The Parsonian family model (in which a father, mother, and children were placed in a rigid hierarchy with socially fixed roles) has shifted to more flexible, diverse, multifaceted, and democratic family models in which family members' power and roles tend to be negotiated (Casimiro, 2011; Torres et al, 2008).

Of course, nuclear heterosexual families continue to exist, but there has been a pluralization of the composition and modes of family functioning and bonding: the social construction of family ties is becoming versatile as changes operate in the 'boundaries between kinship ties and a wider array of affinities' (Wall and Gouveia, 2014, p 352). As such, David Morgan (2011) reframes family as a process rather than a fixed institution, and argues that contemporary families can be 'defined more by "doing" family things than by "being" a family' and the 'diversity of family composition and the fluidity of family relationships' means that those we consider 'our family' can change across the life course (Finch, 2007, pp 66-67). Although sociologically and in everyday life the term 'family' may have acquired various meanings, it remains a central social concept as well as an object of study. In fact, 'while concepts of personal lives and intimacy have much to offer they can not capture the full range and nature of relations raised through the lens of family' (Gillies, 2011, p 1). This book is based on such comprehensive understanding of family and its social role(s).

Related to family is the concept of generations (Koller, 1974), insofar as families are composed by and based on intergenerational ties and dynamics (for example, relationships between parents and children). The term 'generation' is, however, multidimensional and has different meanings (Neves and Fernandes, 2016). For instance, one can find a plethora of labels and interpretations for generations, including the popular: millennials, consumerist, welfare, 1968, Gulf War, X, economic, yuppie, MTV, Facebook (Szydlik, 2016). In addition, different definitions abound in this 'jungle of generational terminology'

(Szydlik, 2016, p 9). Nonetheless, two types of generations are frequently used in the sociological literature: (i) a familial or family generation, based on kinship (micro level), and (ii) a social generation, based on a birth cohort that experiences similar social, cultural, economic, and political events at the meso and macro levels (Neves and Fernandes, 2016; Szydlik, 2016). Yet there are several challenges with delimiting social generations as discussed by sociologist Karl Mannheim in his influential essay 'The Sociological Problem of Generations' (1952). These challenges go beyond agreeing on chronological periods as shared experiences/characteristics and their lifelong effects are hard to categorize; even today there are no set criteria to identify social generations (Szydlik, 2016). Mannheim (1952, p 297) also explores the familiar generation; according to him, the family is not a social generation but a 'concrete social group' that encompasses different levels of kinship and where presumably members acknowledge each other and/or share common interests and goals. This understanding is still useful for contemporary sociologists (see Szydlik, 2016). In this book, the concept of generations corresponds mainly to familial generations.

#### Information and communication technologies (ICTs)

Since the term information and communication technologies has no universally agreed-upon definition, it is important to address it at the outset of this collection. ICTs are an extension of the concept information technology (IT), which seems to have first appeared in an essay by Harold Leavitt and Thomas Whisler (1958) on how business would change with electronic tools (Stafford and Hillyer, 2012). In this essay, Leavitt and Whisler (1958) state that information technology includes instruments that: (i) quickly process large amounts of information (computers), (ii) are based on the use of statistical and mathematical techniques for problem-solving (mathematical programming), and (iii) result in simulations and reasoning through computational programs. It was only later, in 1986, that Everett Rogers considered the role of social communication in the study of technological innovations by advancing the term communication technology (CT) (Stafford and Hillyer, 2012). He broadly defined it as 'the hardware equipment, organizational structures, and social values by which individuals collect, process, and exchange information with other individuals' (Rogers, 1986, p 2). Examples of CT include the invention of spoken language and computer-based communication systems (Rogers, 1986). As noted by Stafford and Hillyer (2012), these authors did not pair their concepts, but their combination was

unavoidable with the evolution of computer technologies; as such, the concept became popular in the 1990s as scholarship on the uses and impacts of ICTs increased.

Conceptually, ICTs are based on the convergence of technological development in terms of space, time, and digital devices (Aebischer and Hilty, 2015). Because digital technologies seem to be constantly changing and being reshaped in contemporary societies, providing a comprehensive definition of ICTs is challenging. Faced with this problem, Aebischer and Hilty (2015) suggest that enumerating types of devices might be easier than aspiring to craft a precise definition. We follow their lead by indicating the devices/tools that are usually associated with ICTs, namely computers (including laptops and tablets), the internet (the web, email, social media, social networking sites), and mobile phones. The chapters in this book draw on the study of these ICTs. This enumeration matches the United Nations' ICT Development Index, which collects a set of 11 internationally agreed ICT indicators since 2009 (United Nations International Telecommunication Union, 2016). In terms of access, the Index considers the following devices: computers, the internet, mobile phones, and fixed-telephone subscriptions. In terms of use, it only considers computers, the internet, and mobile phones (not telephones). Fixed-telephone subscriptions are incorporated in the index because of their role in providing internet access – however, in some studies the telephone is categorized as an ICT precisely due to that infrastructure and diffusion value, particularly in developing nations (Sassi and Goaied, 2013). One of the authors of this collection presents a study of longdistance calls through landline telephones and a thought-provoking discussion of this device as an ICT.

#### The life course perspective

The life course perspective represents a 'theoretical orientation' (Elder et al, 2003) as well as an analytical tool. The general aim of a life course approach is to analyse how historical, socioeconomic, cultural, and demographic changes, influence and shape biographical trajectories of individuals and groups such as generations. This perspective, popular in various social and behavioural sciences, has been facilitated by longitudinal and panel studies (Elder, 2000). Specifically, the life course approach focuses on important events, stages, and transitions experienced by individuals or generations in various domains of life (that is, family and social relations, education, work, leisure, health). The interdependence of these spheres is at the heart of life course

research, as captured by the following questions: how do people live their lives from childhood to old age? How do life events and stages – childhood, adulthood, marriage, parenthood, unemployment, and migration, for instance – influence the course of ageing? How do historical, social, and economic contexts impact on the development and evolution of individual or generational pathways?

However, understanding 'life course' as a construct and not as a 'theoretical orientation' often leads to conceptual confusion (Nico et al, 2016). This conceptual confusion has resulted in an undifferentiated use of terms such as 'life span', 'life history', and 'life cycle' (Elder et al, 2003; O'Rand and Krecker, 1990). This 'linguistic economy' (Adams, cited by O'Rand and Krecker, 1990, p 242) is challenged by Elder and colleagues (2003, pp 4–5):

Life span... specifies the temporal scope of inquiry and specialization. Thus, a life-span study is one that extends across a substantial portion of life, particularly one that links behavior in two or more life stages .... Life history, on the other hand, typically indicates the chronology of activities or events across the life course (residence, household composition, family events) and is often drawn from age-event matrices or retrospective life calendars... Lastly, life cycle has been used to describe a sequence of events in life, but in population studies it refers to the reproductive process from one generation to the next. (Elder et al, 2003, pp 4-5)

Life course is a more complex concept that encompasses three organizing axes, namely trajectory, transition, and turning points (Elder and Shanahan, 2006). Additionally, the life course perspective is based on five paradigmatic principles (Elder, 2000; Elder and Giele, 2009). The first one is *development throughout life*: the need to have a long-term perspective in research and analysis that takes into consideration that the biological, psychological, and social development of an individual is a process ranging from birth to death. The second principle is time and historical place. This directly points to the importance of context: the course of individuals is integrated and shaped by the time and place within which their lives unfold. The third principle is social timing of lives, and it refers to the moment in which core events happen – the moment and the order of such events have an impact on the rest of the individual or generational life course. The interdependence of lives, or linked lives, is the fourth principle. Such a principle holds that the course of a person's life is directly connected to the life course of those

around them: 'lives are lived interdependently and social and historical influences are expressed through this network of shared relationships' (Elder, 2000, p 1620). The last principle, human agency in choice-making and action, emphasizes that individuals are not passive entities upon whom social and historical structural elements are unconditionally imposed, but rather active agents that make choices and act, thus shaping their own life course.

This book draws on the aforementioned axes and five principles to conceptualize the life course. However, the reader will notice that 'generations' is also part of the title. This was used to signify the strong focus on intergenerational linked lives and transitions in our life course approach. For instance, research has been showing the role of intergenerational relations in stimulating adoption of new technology at turning points (that is, retirement, institutionalization) and the potential of ICTs to build generational bridges (Neves and Amaro, 2012; Neves and Fernandes, 2016; Neves et al, 2013). But most current research on ICTs and family is still limited by short-term longitudinal data. As longitudinal data begins to be collected more systematically, we will be able to employ the perspectives and instruments discussed in this collection to advance our understanding of the relationship between ICTs, families, and all dimensions of the life course. As such, another core motivation of this book was to reflect on possibilities and challenges. Furthermore, as noted by Bengtson and Allen (2009, p 469), in applying the life course to families we need to move beyond the individual and the micro family level of analysis to 'examine the unfolding history of intimate connections in families and the social context of such long-term relationships in terms of social structure and historical location'. Our edited collection takes this broader approach to family, linked lives, and transitions.

#### Aims of the collection

- This publication aims to fill a gap in family and ICT studies by bringing together innovative theoretical, methodological, and empirical work using a life course perspective (intergenerational linked lives and transitions).
- It aims to disseminate new sociological and related research that is relevant to researchers, students, and practitioners interested in family and technology studies.
- It also aims to challenge isolated understandings of ICTs and family life to inform research, practice, and social policy.

#### Overview of the book

This book is organized in two main parts. The first collects and reflects upon different theoretical and conceptual perspectives to help frame research in the field, and on methodological techniques and contributions to study family life and ICTs in a life course perspective. The second presents empirical research from different regions around the world. It features groundbreaking empirical research based on current cross-cultural studies and best practices that combine family and technology studies. Each chapter ends with a set of highlights ('In brief') that summarizes key points, concepts, theories, and methodologies. The collection is introduced with a foreword by Professor Barry Wellman, a pioneer in the sociological study of technology, community, and networks; and concludes with an afterword by Professor Elizabeth Silva, a sociologist with internationally recognized research on family, gender, and domestic technologies.

Part I starts with a critical overview of four theoretical perspectives on technology and society (technological determinism, social constructivism, actor-network theory, and posthumanism) by Natasha Mauthner and Karolina Kazimierczak. They eloquently cover these perspectives, situate them within current empirical research on ICTs and family dynamics, and advance our understanding of the emerging posthumanist framework that originated from feminist studies of science and technology. Building on this general outline, we then move to Mead and Neves' chapter on two recursive (situational and integrative) approaches to study technology adoption within family and the life course. The authors explore assumptions, applications, opportunities, and challenges of actor-network theory and the new strong structuration theory to frame and explain relationships between technology use, family life, and life transitions. Next, Quan-Haase, Wang, Wellman, and Zhang offer a discussion of networked individualism as a conceptual and analytical model to shed light on social and network transitions affecting families and communities since the 1990s. These include moving from bounded groups established by locality and social class to various far-flung networks based on common interests and sociability, the pervasiveness of internet-based communication, and the ubiquity of mobile devices that allow for the constant availability of personalized communication. The authors use research on older adults and digital media use to connect with family and friends (from the famous East York project in Toronto) to illustrate those transitions and their implications. Amanda du Preez then reflects on the affordances of ICTs and the different intergenerational practices

of sharing (or 'oversharing') online, using the concepts of 'aesthetics of appearance' (representation that endures over time and space) and 'aesthetics of disappearance' (constant presentism), as developed by French theorist Paul Virilio. This is a provocative, reflective piece that introduces new concepts to explore digital practices and family life. Taken together, these chapters present both well-established and innovative frameworks to theorize about the relationship between ICTs, family, and the life course.

The next chapters take the reader through research methods and strategies to design and study the subject. Authors go beyond a description of available techniques to actively engage with the practicalities and limitations of each method. We begin with Maddox's contribution on digital methods. This chapter matches the analytical elements of a life course approach in the study of ICTs and families to the emerging affordances and applications ('tropes') of digital methods (including data scraping and visualization, Big Data analysis, among others). It concludes with a critical discussion on the limitations and ethical issues of employing these methods. Next, Neves, Baecker, Carvalho, and Sanders address the design and implementation of a cross-disciplinary (sociology and computer science), mixed methods project to investigate technology adoption in later life and family dynamics. They reflect on the benefits and challenges of combining sociological (interviews, field observations) and human-computer interaction (usability and accessibility testing) techniques in their research and its implications for technology, family, and life course studies. Part I finishes with Casimiro and Nico's chapter on a dual relationship between technology and family. The authors show that technologies can be envisaged both as an object of study – technology usage and its impact on family relationships in a life course perspective - and as an instrument - technology as a tool. In the latter, they focus on computer assisted qualitative data analysis software (CAQDAS) to tackle problems of comparability and triangulation of qualitative and quantitative data in life course research.

Part II begins with a chapter investigating the use of communication technologies (emailing and texting) for the maintenance of intergenerational solidarity. Peng, Silverstein, Suitor, Gilligan, Hwang, Nam, and Routh compare data from two US sources and from different years (the 2008 Within-Family Differences Study and the 2016 Longitudinal Study of Generations) to analyse patterns and predictors of older mothers' digital solidarity. The temporal distance between studies – almost a decade – allows the authors to conclude that mothers in the 2016 sample are more likely to use communication

technology with their offspring than are mothers in the 2008 sample. The next chapter by Jolynna Sinanan and Larissa Hjorth shows how digital media practices, relating to care and intimacy (the 'intimate surveillance'), are being played out in the daily lives of intergenerational and cross-cultural families in Melbourne, Australia. Catalina Arango Patiño then provides a vivid picture of the positive and negative impacts of ICTs in the storytelling processes among transnational families (Colombian migrants residing in Montreal, Canada). More than constraining storytelling, the use of ICTs to share photographs, texts, emoticons, and videos emerges as a catalyst. Nevertheless, that digital mediation seems to be altering family storytelling. Also exploring the theme of transnational families, Cuban's chapter focuses on how Mexican migrants in the US provide support to distant older family members, namely their left-behind parents affected by health problems. The author proposes an interesting shift in the way we investigate the interplay between ICTs and transnational families, suggesting that besides technology affordances we should consider the role family members play in the establishment of care-based communication ('rescue chains'). Next, Bernadette Kneidinger-Müller's study carried out among young German adults (aged 20-30), demonstrates how smartphones may function as a relevant digital tool for maintaining both family and romantic relationships. Analysing interviews and diary research, the author reaches a set of important conclusions: many of the interviewees cannot imagine a life without mobile phones; text messages are used for different reasons depending on relationship types; and when in the physical presence of ties, texting with family members or a romantic partner happens less than with friends or acquaintances. This second part of the book concludes with a chapter by Yuka Sakamoto on the impact ICTs are having in Japan, especially its effects (for example through telework) on the permeability of work-family borders, and consequently on work-family conflicts over childcare. Through the use of structural equation modelling, Sakamoto illustrates how intensive use of ICTs is increasing work-family conflicts.

These carefully curated chapters, from five different continents, offer theoretical, methodological, and empirical approaches to understand and study: (i) how ICTs relate to family life (including intergenerational relationships, routines, norms, work, intimacy, and privacy), (ii) how ICTs are used and integrated in family dynamics, and (iii) what opportunities and challenges arise from that use in a life course perspective. In particular, they provide foundational knowledge to support students, researchers, and practitioners in the analysis of current and emerging technologies – the insights, guidelines, and practices

presented herein transcend specific technologies and can be applied in different settings. It is our hope that scholars can test and expand on these perspectives to examine novel and more diverse contexts. We believe this book lays the ground for future research and new directions in the burgeoning area of ICTs, family, and the life course.

#### References

- Adams, B. N. and Trost, J. (2004) *Handbook of World Families*, Thousand Oaks, CA: Sage.
- Aebischer, B. and Hilty, L. M. (2015) 'The energy demand of ICT: A historical perspective and current methodological challenges', in L. Hilty and B. Aebischer (eds) *ICT Innovations for Sustainability*, New York: Springer, pp 71–103.
- Baldassar, L., Nedelcu, M., Merla, L. and Wilding, R. (2016) 'ICT-based co-presence in transnational families and communities: Challenging the premise of face-to-face proximity in sustaining relationships', *Global Networks*, 16(2): 133-144, https://doi.org/10.1111/glob.12108
- Beck, U. and Beck-Gernsheim, E. (1995) *The Normal Chaos of Love*, Cambridge: Polity Press.
- Bengtson, V. L. and Allen, K. R. (2009) 'The life course perspective applied to families over time', in P. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm and S. K. Steinmetz (eds) *Sourcebook of Family Theories and Methods*, New York: Springer, pp 469–504.
- Blair, S. E., Claster, P. N. and Claster, S. M. (eds) (2015) *Technology* and *Youth: Growing Up in a Digital World*, New York: Emerald Group.
- Blaschke, C. M., Freddolino, P. P. and Mullen, E. E. (2009) 'Ageing and technology: A review of the research literature', *British Journal of Social Work*, 39(4): 641–656. https://doi.org/10.1093/bjsw/bcp025
- Blinn-Pike, L. (2009) 'Technology and the family: An overview from the 1980s to the present', *Marriage & Family Review*, 45(6-8): 567-575, https://doi.org/10.1080/01494920903224459
- Casimiro, C. (2011) 'Tensões, tiranias e violência familiar: Da invisibilidade à denúncia', in J. Mattoso and A. N. de Almeida (eds) *História da Vida Privada*, Lisboa: Círculo de Leitores, pp 112–140.
- Casimiro, C. (2015) 'Self-presentation in the Portuguese online dating scene: Does gender matter?', in I. A. Degim, J. Johnson and T. Fu (eds) *Online Courtship Interpersonal Interactions Across Borders*, Amsterdam: University of Amsterdam, pp 71–95.
- Casper, L. M. and Bianchi, S. M. (2001) Continuity and Change in the American Family, Thousand Oaks, CA: Sage.

- Cowan, R. S. (1983) More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave, New York: Basic Books.
- Elder, G. H. (2000) 'The life course', in E. F. Borgatta and R. J. V. Montgomery (eds) *Encyclopedia of Sociology* (2nd edn), vol. 3, New York: Macmillan, pp 1614–1622.
- Elder, G. H. and Giele, J. Z. (2009) 'Life course studies: An evolving field', in G. H. Elder and J. Z. Giele (eds) *The Craft of Life Course Research*, New York: The Guilford Press, pp 1-24.
- Elder, G. H. and Shanahan, M. J. (2006) 'The life course and human development', in W. Damon and R. M. Lerner (eds) *Handbook of Child Psychology. Theoretical Models of Human* Development (6th edn), New York: Wiley, pp 665–715.
- Elder, G. H., Johnson, M. K. and Crosnoe, R. (2003) 'The emergence and development of life course theory', in J. T. Mortimer and M. J. Shanahan (eds) *Handbook of the Life Course*, New York: Kluwer Academic/Plenum Publishers, pp 3–19.
- Eurostat (2017) 'Digital economy and society statistics', http://ec.europa.eu/eurostat/statistics-explained/index.php/Digital\_economy\_and\_society\_statistics\_-\_households\_and\_individuals
- Finch, J. (2007) 'Displaying families', *Sociology*, 41(1): 65–81, https://doi.org/10.1177/0038038507072284
- Gill, J. (2009) 'Constructing and enhancing the international adoptive family through communication technology', *Marriage & Family Review*, 45(6-8): 783-806, https://doi.org/10.1080/01494920903224376
- Gillies, V. (2011) 'From function to competence: Engaging with the new politics of family', *Sociological Research Online*, 16(4): 1-11, https://doi.org/10.5153/sro.2393
- Hughes Jr, R. and Hans, J. D. (2001) 'Computers, the internet, and families: A review of the role new technology plays in family life', *Journal of Family Issues*, 22(6): 776-790, https://doi.org/10.1177/019251301022006006
- Internet World Stats (2017) 'World internet penetration', www. internetworldstats.com/stats.htm
- Ito, M., Baumer, S., Bittanti, M., Cody, R., Stephenson, B. H., Horst, H. A., ... and Perkel, D. (eds) (2009) *Hanging Out, Messing Around, and Geeking Out: Kids Living and Learning with New Media*, Cambridge, MA: MIT Press.
- Kennedy, T. L. and Wellman, B. (2007) 'The networked household', *Information, Communication & Society*, 10(5): 645-670, https://doi.org/10.1080/13691180701658012

- Koller, M. R. (1974) Families: A Multigenerational Approach, New York: McGraw-Hill.
- Livingstone, S. M. and Haddon, L. (eds) (2009) Kids Online: Opportunities and Risks for Children, Bristol: Policy Press.
- Leavitt, H. J. and Whisler, T. L. (1958) 'Management in the 1980's', *Harvard Business Review*, November, https://hbr.org/1958/11/management-in-the-1980s
- Lück, D., Widmer, E. D. and Česnuitytė, V. (2017) 'Conclusion: Changes and continuities in European family lives', in V. Česnuitytė, D. Lück, and E. D. Widmer (eds) *Family Continuity and Change*, London: Palgrave Macmillan, pp 313–328.
- Mannheim, K. (1952) 'The Sociological Problem of Generations', in *Essays on the Sociology of Knowledge: Collected Works of Karl Mannheim*, New York: Routledge, pp 276–322 (Original work published 1927–28).
- McCarthy, J. R. (2012) 'The powerful relational language of "family": Togetherness, belonging and personhood', *The Sociological Review*, 60(1): 68-90, https://doi.org/10.1111/j.1467-954X.2011.02045.x Morgan, D. (2011) *Rethinking Family Practices*, London: Palgrave Macmillan.
- Neves, B. B. and Amaro, F. (2012) 'Too old for technology? How the elderly of Lisbon use and perceive ICT', *The Journal of Community Informatics*, 8(1), http://ci-journal.net/index.php/ciej/article/view/800/904
- Neves, B. B. and Fernandes, A. A. (2016) 'Generational bridge', in *The Wiley Blackwell Encyclopedia of Family Studies*, https://doi.org/10.1002/9781119085621.wbefs212.
- Neves, B. B., Amaro, F. and Fonseca, J. R. (2013) 'Coming of (old) age in the digital age: ICT usage and non-usage among older adults', *Sociological Research Online*, 18(2): 1-14, https://doi.org/10.5153/sro.2998
- Neves, B. B., Franz, R. L., Munteanu, C. and Baecker, R. (2017a) 'Adoption and feasibility of a communication app to enhance social connectedness amongst frail institutionalized oldest old: An embedded case study', *Information, Communication & Society*: 1–19, https://doi.org/10.1080/1369118X.2017.1348534
- Neves, B. B., Franz, R., Judges, R., Beermann, C. and Baecker, R. (2017b). 'Can digital technology enhance social connectedness among older adults? A feasibility study', *Journal of Applied Gerontology*, https://doi.org/10.1177/0733464817741369

- Nico, M., Cunha, V. and Casimiro, C. (2016) 'Nota de apresentação. Famílias e curso de vida. potencialidades, limites e desafios metodológicos', *Sociologia, Revista da Faculdade de Letras da Universidade do Porto*: 8–19, http://ler.letras.up.pt/uploads/ficheiros/14607.pdf
- O'Rand, A. M. and Krecker, M. L. (1990) 'Concepts of the life cycle: Their history, meanings, and uses in the social sciences', *Annual Review of Sociology*, 16: 241–262, https://doi.org/10.1146/annurev. so.16.080190.001325
- Pew Research Center (2015) 'Communications technology in emerging and developing nations', www.pewglobal.org/2015/03/19/1-communications-technology-in-emerging-and-developing-nations/
- Pew Research Center (2017), 'Internet/broadband fact-sheet', www. pewinternet.org/fact-sheet/internet-broadband/
- Rainie, L. and Wellman, B. (2012) Networked: The New Social Operating System, Boston: MIT Press.
- Rogers, E. M. (1986) Communication Technology: The New Media, New York: Simon and Schuster.
- Sassi, S. and Goaied, M. (2013) 'Financial development, ICT diffusion and economic growth: Lessons from MENA region', *Telecommunications Policy*, 37(4-5): 252-261, https://doi.org/10.1016/j.telpol.2012.12.004
- Şenyürekli, A. R. and Detzner, D. F. (2009) 'Communication dynamics of the transnational family', *Marriage & Family Review*, 45(6-8): 807-824, https://doi.org/10.1080/01494920903224392
- Silva, E. (2010) Technology, Culture, Family: Influences on Home Life, London: Springer.
- Stafford, L. and Hillyer, J. D. (2012) 'Information and communication technologies in personal relationships', *Review of Communication*, 12(4): 290–312, https://doi.org/10.1080/15358593.2012.685951
- Sussman, M. B. (1985) Personal Computers and the Family, New York: Haworth Press, .
- Szydlik, M. (2016) *Sharing Lives: Adult Children and Parents*, London: Routledge.
- Torres, A., Mendes, R. and Lapa, T. (2008) 'Families in Europe', *Portuguese Journal of Social Science*, 7(1): 49-84, https://doi.org/10.1386/pjss.7.1.49\_1
- Torres, A., Coelho, B. and Cabrita, M. (2013) 'Bridge over troubled waters', *European Societies*, 15(4): 535–556, https://doi.org/10.1080/14616696.2013.836403

- United Nations International Telecommunication Union (2016) 'Measuring the Information Society Report', www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2016/MISR2016-w4.pdf
- US Census Bureau (2014) 'The 2013 American Community Survey: Computer and internet access', www.census.gov/newsroom/press-releases/2014/cb14-170.html
- Wajcman, J. (2010) 'Domestic technology: Labour-saving or enslaving?', in C. Hanks (ed) *Technology and Values: Essential Readings*, Richmond: John Wiley & Sons, pp 272–288.
- Wall, K. and Gouveia, R. (2014) 'Changing meanings of family in personal relationships', *Current Sociology*, 62(3): 352–373, https://doi.org/10.1177/0011392113518779
- We Are Social and Hootsuite (2017) 'Digital in 2017 global overview report', https://wearesocial.com/special-reports/digital-in-2017-global-overview