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Review Paper

Impact of Information and Communication Technologies on Work-Life Balance - A Systematic Review of the Literature

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ABSTRACT

Diminishing and blurring boundaries between work and related time or family and related time, has triggered research on how balancing work and family life (WLB) has been impacted by the role of information and communication technologies (ICTs). A systematic review of the literature was done and search was conducted in a major database SCOPUS. Only articles in peer-reviewed journals, from the year 2000 onwards were included. It was evident that the concept of WLB has been defined differently by researchers in line with different WLB theories like conflict theory, enrichment theory, role balance/ role enhancement etc. Researchers have mostly used multi-item measures or scales that are both unidirectional and multidirectional. Role of technology is considered by researchers as either unidirectional and deterministic or bidirectional and socially shaped. ICT itself has been treated either as a whole or device specific thus adding to heterogeneity. Most empirical research has followed either quantitative or qualitative methods and in rare cases both together. Several positive effects of ICT were reported by researchers like better coordination, flexibility, greater control, better learning outcomes and job satisfaction. Negative effects reported included boundary blurring, higher expectations, stress, burnouts, conflict and anxieties. Factors like greater clarity on theoretical paradigm followed, use of both quantitative and qualitative methods and inclusion of special populations like families with children and older age group and variables job autonomy and employment status, may provide further insights.

Keywords: *Work Life Balance, Information and Communication Technologies, Conflict, Enrichment*

INTRODUCTION

The report from United Nations, in terms of statistics, states that out of the world's total population of 7 billion, almost 6 billion people have mobile phones at their disposal. This kind of statistical figure reflects that 85 percent of the whole population has a penetration of mobiles in their lives as of today. As compared to that, only 4.5 billion people have working toilet. Thus, technology coverage is even more than prevalent than hygiene and sanitation coverage. This kind of transition has taken place over these past 40 years, thereby making information and communication technologies (ICTs) an indispensable part of our existence in current times. (Den-Nagy, 2014)

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Today we experience diminishing boundaries between working time, family time, and leisure time; along with separation between physical and mental boundaries becoming increasingly invisible. This phenomenon has triggered research on how balancing work and family life (WLB) has been impacted by the role of information and communication technologies (ICTs). (Den-Nagy, 2014)

According to Casper and her colleagues (2007), the review of literature that exists on systematic analyses of the concept of work-life balance portrays a major drawback - that is, this approach followed does not take a technological perspective, whereas, this kind of perspective has become quite pertinent in the current scenario.

Thus, the current research work focuses on information and communication technologies (ICTs) and their role and impact on work-life balance (WLB).

METHODOLOGY

To pursue research in this area, a systematic review of the literature was done. Search was conducted in a major database SCOPUS. Various combinations of keywords were fed like - work/life/home/balance/family/ mobile/phone/ ICT, to enhance the search results. (Figure 1). Non-English language articles were excluded from this meta-analysis. Only articles in peer-reviewed journals were included. To maintain temporal relevance, only articles from 2000 onwards were considered, since ICT landscape and work dynamics keep evolving.

The research articles were analysed under different sub-headings like name of the author, title, year of publication, source of publication, abstract, research questions, and methodology applied. Further, the themes in the research articles were identified and then the observations were structured systematically. Once the selection was done, the observations under each of these sub-headings were then noted down and assessed. The qualitative analysis and interpretation were done using the template method which can be used for analysing any textual data, interviews, diary entries, responses to questionnaires etc. (Brooks et al, 2015). In the process, the research articles were continuously reviewed qualitatively rather than statistically.
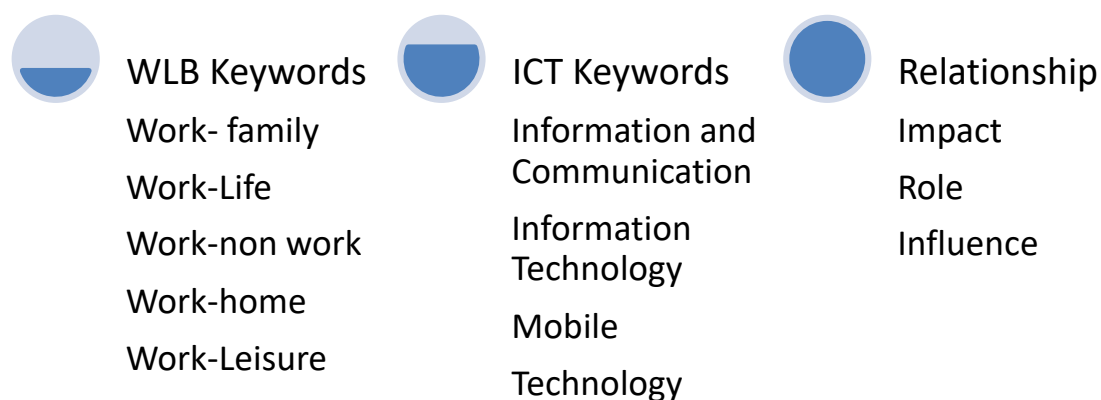
WLB Keywords	ICT Keywords	Relationship
Work- family	Information and Communication	Impact
Work-Life	Information Technology	Role
Work-non work	Mobile Technology	Influence
Work-home		
Work-Leisure		

Figure 1: Search words and phrases.

WORK- NON WORK BALANCE CONSTRUCT

Definition and Theory

According to Casper et al, the research on Work-Non Work Balance carries "jingle fallacy" or giving different meanings to a single concept; and "jangle fallacy" or giving different terminologies to a single concept.

As suggested by Casper et al, 2018, and also observed in this literature review, several researchers have committed the fallacy by using different 'balance' measures, or using different terminologies, like for example, considering conflict and/or enrichment as balance. Conflict and enrichment are both well-established bi directional concepts, but there is some ambiguity about 'balance'. Researchers have mostly defined 'Balance' as either low level conflict, or high levels of enrichment or fit between work-life resources or fit between work-life values.

Thus, as regards stating an operational definition of Work-Life Balance, many researchers and theorists have been trying to comprehend this concept and explain it as per their understanding in ways more than one, reason being the concept of Work-Life Balance is highly subjective and personal and hence, varies on a one-to-one basis.

For instance, Emslie and Hunt, 2009 looked at Work-Life Balance in a very historical way, as it throws light on personal issues, thereby, adding subjectivity to its interpretation. Thulasimani et al. (2010) defined Work-Life Balance as the amount and degree to which a person can exert control over one's responsibilities and duties between workplace, family, friends, social life and self, and the extent to which one can juggle back and forth in between these domains. Duxbury and Smart, 2010, spoke of Work-Life Balance concept as undergoing a rapid change, in view of the fast advances in technology in today's internet age, thereby, leaving workplace and home environment as not two distinct identities, rather they both are constantly and ever increasingly placing increasing demands on each other, just like a tug-of-war with each trying to pull the person more towards one's side and competing for grabbing resources. Depending on the criteria being focused upon, the researchers have proposed to mark a differentiation between the sphere of work (defined as performing some activities resulting in generating monetary gains from the place of employment) and the other sphere that is usually called as 'life' or 'domestic life' (Diaz at al., 2012), or as 'private life' by Frissen, 2000, or as 'non-work' by Tennakoon, 2007, or as 'home' by Wajcman at al., 2008 or as 'family' (Chesley, 2005).

Several researchers do not use any particular conceptual definition of WLB. Additionally, different researches have adopted their different focal points - for instance, Chesley, 2005 emphasized upon family and within that realm included multiple domains that deal with children, spouses and the elderly members. The roles of 'bread winner' and 'home maker' may coincide or may be in conflict with each other, depending on the context.

Main theories of WLB used by the researchers are – conflict theory, enrichment theory, role balance/ role enhancement theory or boundary/border theory and spillover theory. According to Casper et al, 2018, balance is mostly a psychological construct incorporating meanings like effectiveness, satisfaction, fit and involvement.

WLB Measures and scales

Some researchers don't use the measure "Work-Life Balance" as an outcome, or don't use a known and pretested questionnaire, thus making it more difficult to establish parity or compare different studies. For example, Golden et al, 2007 focus on Work Life Boundary Management, Wajcman et al use a questionnaire to evaluate blurring of boundaries between work and home, Heijstra 2010, used surveys and interviews to discuss work family balance, Matusik (2011) talks about work life boundaries through qualitative interviews. Thus, researchers have used their own measures or scales (mostly multi-item) that are both unidirectional and multidirectional, or preexisting conflict scales, and enrichment scales.

Table 1: Studies on "Work" PLUS "Life/ home/ leisure /non-work /family" PLUS "balance/ conflict /enrichment" PLUS "Technology/ related variables"

Author	Year	Technological Variable	Work-Non work construct used	Theme	Remarks
Chesley et al	2005	Mobile use, computer use	Work/ Family boundary permeability	Gendered work/family boundaries, communications versus computer-based technology	Direction of effects unclear, convenient sampling
Golden and Geisler	2007	Mainly Smartphones and Handheld devices (Personal Digital Assistant or PDAs)	Work Life Balance and Boundary Management	ICT- WL Boundary management is complex. Compartmentalization a strategy for maintaining WLB	The findings might not be generalizable to a broader population. No longitudinal data. Limited focus on organizational factors and cultural diversity.
Tennakoon	2007	Communication technologies, like email and mobile phones	Work-Life Balance	Impact of communication technologies on the work-life balance of executive employees	Research on 100 executive employees in Canada. Individual differences in ICT use not captured
Wajcman et al	2008	Mobile phones	Work Home divisions	Complex dynamics between mobile phone use, work-home divisions, and family dynamics	Focuses on individual experiences and does not extensively examine the role of contextual factors, such as workplace policies, family dynamics, or societal norms. Gender differences not explored
Maruyama, Hopkinson, and James	2009	Telework	WLB, work-family conflict	Empirically evaluates WLB outcomes associated with telework, highlighting both benefits and challenges	Focused on teleworkers, findings may not be applicable to different industries, occupations, or cultural contexts
Christensen	2009	Mobile phones	Family life	Mobile phones can be valuable tool for families' "connected presence" but they should be used with caution	Based on small sample of families and focuses only on mobile phones
Othman, Yusef and Osman	2009	Explores the use of ICT in teleworking	Work-life balance	Qualitative analysis of experiences of teleworkers and role of ICT in managing work/life conflict	Focuses mainly on teleworkers. Cross sectional qualitative data.
Wajcman et al	2010	Internet use	Work-life Balance	Explores the way in which internet is being	Primarily focuses on cross-sectional data, individuals

Impact of Information and Communication Technologies on Work-Life Balance - A Systematic Review of the Literature

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				used in work and family domains	across entire socio-economic spectrum are not represented
Currie et al	2011	Electronic technology, such as email and mobile devices	Work-life balance for academics who have young children	Importance of individual strategies and organizational support in managing work-life balance in the context of e-technology	Focused on specific group of academic professionals who were parents of young children. Role of organizational policies, culture, or structural factors not extensively evaluated.
Heijstra	2010	Internet use	Workload and work-family balance of academics	Underscores the complex relationship between Internet, workload, and work-family balance for academics.	Limited generalizability. Based on cross-sectional data, making it difficult to establish a causal relationship. Limited exploration of organizational and contextual factors
Matusik and Mickel	2011	Mobile devices	Work-life boundaries	Dynamics surrounding the use of converged mobile devices and boundary management behaviour	Limited generalizability, lack of longitudinal studies or organization factors.
Leung	2011	ICT	Work-family spillover. Job and family satisfaction	ICT connectedness and high permeability can lead to higher burnout levels	Limited sample size and cross-sectional design. Contextual factors, such as cultural or organizational differences not fully explored.
Hubers	2011	ICT	Work-Life Balance Strategies	ICTs can play a role in supporting work-life balance.	Specific effects and implications of ICT usage on individuals' work-life balance strategies less explored. Limited generalizability. Specific to Netherlands
Hislop, et al	2011	Mobile phones	Work/personal life boundaries	The study highlights two main usage patterns: instrumental use and boundary-blurring use	Study focuses only on non-managerial workers from various industries. ICT focus is limited to mobile phones.
Diaz et al	2012	Communication technology (CT) like smartphones, emails, instant messaging	Work to Life conflict (WFC)	CT use led to WFC; CT leads to increased flexibility.	Technology Determinism approach. Focus on negative aspects of CT. Less focus on individual management of connectivity.
Bijker et al	2012	Work-Related Technology Use	Theoretical perspectives on the social construction of technological systems	Social construction of technological systems (SCOT) and its implications	Technology shaping by Society. Focus on conceptual frameworks rather than empirical analysis. Limited exploration of cultural, economic and historical influences
Sarker and Ahuja	2012	Mobile technologies	Work-life balance	Suggests strategies for managing mobile technologies and minimizing the negative impact on WLB	Sample cross sectional and not representative of diverse organizations. More focus on organizational interventions than individual coping strategies
Gold and Mustafa	2013	Digital connectivity	Work-life boundaries	Anxieties experienced by connected freelancers highlight	Sample consisting of freelance professionals from various industries. Limited exploration

Impact of Information and Communication Technologies on Work-Life Balance - A Systematic Review of the Literature

Author	Year	Technological Variable	Work-Non work construct used	Theme	Remarks
				the power dynamics between freelancers and clients	of organizational factors
Sayah	2013	ICT tools, like smartphones, laptops, and email	Work-Life Boundaries	Highlights the complex interplay between ICT and work-life boundaries for independent contractors	Study focuses mainly on independent contractors. While it discusses individual strategies, it doesn't explore organizational policies or practices.
Cavazotte et al	2014	Corporate smartphones	Work-life balance	Professionals adopted various strategies to manage work connectivity consciously.	Diverse demographic factors, such as age, gender, or cultural backgrounds not considered. Limited exploration of organizational factors
Brown, and Palvia	2015	Mobile devices, like smartphones and tablets	Work-life balance	Insights into the potential threat that mobile devices pose to WLB. Focus mainly on negative aspects of mobile devices	Primarily examines the impact of mobile device usage on WLB, but it does not fully explore the potential bidirectional relationship. Cross sectional data. Positive effects of mobile devices not explored.
De Wet and Koekemoer	2016	ICT	Work-life interaction.	Through qualitative researchers examined various factors such as the extent of ICT use, perceived availability and expectations to respond to work related communication beyond working hours	The research primarily focuses on the negative implications of ICT use and does not fully explore the potential bidirectional relationship between WLB and ICT use.
Adisa et al	2017	Mobile devices, like smartphones and tablets	Work-life balance	Study examines the extent to which employees perceive their work and personal lives as integrated or segmented due to the use of mobile technology devices.	The study primarily focuses on individual experiences and perceptions of mobile device use but not on organizational factors, like organizational culture, policies, and support systems,
Barber, Conlin, and Santuzzi	2019	Workplace tele-pressure through emails, messages	Work-life balance	Provides insights into the relationship between workplace tele-pressure, work recovery experiences, and work-life balance outcomes.	The research primarily focuses on the individual-level factors of workplace telepressure and work recovery experiences, without extensively considering contextual factors such as organizational culture, work policies, and social support systems
Berry, et al	2020	ICT	Work-life balance	Examines how adult students deal integrate WLB with ICTs in the context of online learning and emphasizes the importance of self-	While the study briefly mentions some strategies employed by participants to manage work-life balance, it does not extensively explore the effectiveness of these

Author	Year	Technological Variable	Work-Non work construct used	Theme	Remarks
				regulation and effective time management strategies.	strategies or identify new ones.
Bauwens and Muylaert	2020	Digital learning environments	Work-life balance	Provides insights into the acceptance and use of digital learning environments by teachers after hours. It highlights the implications for work-life balance and the role of integration preference.	While the research examines the implications of using digital learning environments after hours on work-life balance, it may not capture the full complexity of this concept including the impact on well-being, personal relationships, and leisure time.
Ninaus, et al	2021	ICT	Work-family balance, perceived burnout, job satisfaction	Study investigates how employees perceive the impact of ICTs on their work life, specifically, the extent to which ICTs facilitate or hinder work-family balance. It examines the influence of these perceptions on employees perceived burnout levels and job satisfaction.	The cross-sectional nature of the study limits the ability to establish causality and understand the direction of the relationships observed. Longitudinal studies could provide more insights into the dynamics and changes in employee perceptions and outcomes over time.

Technological Variable

Most empirical research often overlooks the larger relationship between technology and society. (Den-Nagy,2014). Among the research that focuses on this relationship, one group of research has propagated the baseline that ICT affects our society, implying that technology influences current social trends. This leads to technological determinism (Table 1) or a unidirectional model which implies that technology affects society. (Example Chesley, 2005; Diaz et al., 2012). Another paradigm defines the theoretical school as - the "social shaping of technology" indicating that the connection between technology and society is based on human choices (like research by Golden and Giesler, 2007).

The first approach is substantiated by quantitative studies, whereas, the second approach is supported by both quantitative and qualitative studies.

The Technology Acceptance Model (TAM) as suggested by Davis et al (1985), helps focusing on increased or decreased uptake or use of technology irrespective of variables like age of the respondents. On the other hand, "perceived usefulness" as a factor of TAM, puts emphasis on subjective norms. (Kunz, 2021). Additionally, differences in smartphone usage may mediate differences in WLB through TAM which may be acting as a mediator. (Kunz, 2021, Venkatesh et al, 2001).

This may imply a greater role for qualitative research.

Research works either focus on ICT as a whole or may be device specific, for example, mobile usage affecting WLB (Chesley et al, 2005; Golden et al, 2007; Wajcman et al, 2008 and 2010; Christensen et al, 2009; Matusik et al, 2011; Hislop et al, 2011; Sarker et al, 2012;

Brown et al, 2015; Adisa et al, 2017 etc). The device focused research may not evaluate the entire convergence of devices in an individual's life like mobiles, internet, computers, tablets etc converging to provide communication, messaging, information exchange etc.

Thus, the technological variable 'ICT' is not a monolith and the heterogeneity makes the impact assessment difficult.

Methodology Used by Researchers

Depending on the methodology adopted, most empirical research articles may follow quantitative or qualitative or both methods together. Several researchers have followed the qualitative paradigm, for example – Berry, 2020 used open ended questions and carried out qualitative coding and content analysis of the responses, Adisa et al, 2017; De Wet et al, 2016 and Sayah et al., 2013 used semi-structured interviews; Brown et al, 2015 examined previous research to develop an instrument along with open ended follow up questions; Hislop and Axtell et al., 2011 used a case study approach; Sarker et al., 2012, followed the field research method. All these studies very well illustrate the individual strategy approach in research methodology. One possible limitation of these methodologies could be generalizability across large segments of populations. This drawback has been overcome by various quantitative studies - like by Bauwens, 2020 (online questionnaire) Leung, 2011 (via telephone surveys - approached employees across massive spatial distributions); Currie and Eveline, 2010 (made use of ICT diaries); Wajcman et al., 2008 (used phone logs); Frissen, 2000 (made use of multiple methods like observations, mental mapping, and network diagrams); to list a few supplementary techniques. On the other hand, Ninaus 2021 used both qualitative and quantitative methods through survey with both open and closed ended questions. Although this approach combines the positives of both qualitative and quantitative methods, it is difficult to design and deliver them or follow them longitudinally to study causality.

Findings from the literature

Nagy, 2014 reported many studies have found various positive effects of the usage of ICT, including mobile phones. One of the most significant outcomes, as reported by Nagy, 2014, was that ICT usage simplifies problems of time and coordination in daily life; and saves time too. Some other pertinent ones were - by Cavazotte et al., 2014 who found ICT usage to enhance the sense of autonomy and flexibility in individuals; another one by Golden and Geisler, 2007 indicating ICT enhances control and the like. Wajcman et al., 2008 found varied factors that can be facilitated by the usage of mobile phones, like keeping some distance from work, making stronger bonds and informal relationships with kin work from home, and simultaneously being able to do those tasks that fall beyond official hours of work.

At the same time, there are some research articles that indicate the flip side of the coin, that is, they reflect the negative effects of the usage of mobile phones on work-life balance. A few fallouts of round-the-clock accessibility of mobile phones were listed - having a high expectation from the employees that they are constantly available on mobile phones 24*7, thereby, blurring the work-life boundaries, leading to a decline in employee productivity, and increase in stress and conflicts related to work - Chesley, 2005 and Sarker et al., 2012.

Ninaus et al, 2021 reported mixed findings-employees perceived ICTs as both resources and demand. Perception as resource did not enhance WLB during pre-covid time, but did

enhance WLB during covid. However, perception as demand negatively impacted WLB both during pre-covid time and during covid time. The authors indicated that ICTs may have a role in development of burnout.

Bauwen et al 2020, reported that teachers integrate technology use after working hours, possibly due to peer pressure, but experience negative impact on WLB. This impact is irrespective of their preference for work/ life domain integration. Berry et al, 2020 on the other hand reported that adult students had enhanced WLB while experiencing online learning. Thus, while one research (Bauwen 2020) reported negative impact of ICT on teachers, other (Berry 2020) reported positive impact on students, Barber et al, 2019 reported that workplace telepressure had negative impact on satisfaction with WLB. Adisa et al, 2017 confirmed that while mobile devices have blurred the boundaries between work/non work domains and made them permeable, this has both positive and negative effects. Positive impact includes flexibility, timely attention to both work and non-work domains and potential health benefits. While negative effects include extended working hours, intrusion into family domain and potential threat to health as well. Thus, boundary blurring may be a double-edged sword.

In a qualitative approach by De Wet et al 2016, respondents reported that work interfering with family was more than family interfering with work, and ICT advancements were contributary factor. The respondents also reported that they used two approaches to manage their work life balance- limiting the use of ICT and using ICT for flexibility. Former approach involved limiting access to ICT or switching off the device, latter approach involved choosing working hours for example as part of work from home. Brown et al, 2015 reported that only work-related mobile usage while at work, was positively related to productivity. Work-related mobile usage at home did not raise productivity, but increased work-family conflict. Also, at home usage of mobile devices for work purposes raised employer expectations but again the raised expectations were correlated with higher work family conflict. The research findings also contradicted other research works by reporting flexibility increases work family conflict. This effect was mediated through employer expectations, which increased with flexibility and in turn increased the conflict.

Cavazotte et al, 2014 reported contradictory findings in a qualitative study on law firm employees in Brazil. While some employees reported to feel a sense of control and flexibility when using smartphones, others felt that these devices increased organization's hold on them even outside their working hours. They also reported that requests from seniors impacted their private domain negatively. Thus, employees seemed sensitive to the trade-off wherein the flexibility provided by the mobile devices also resulted in work and expectations from superiors trickling in their non work domain. Gold et al, 2013 reported on anxieties experienced by teleworkers with respect to client demands. The researchers term this clash with domestic domain as 'client colonization'. This was due to border porosity between work and non-work domains, that resulted in negative impact on the workers' WLB.

Sarker et al, 2012, reported that the perception of WLB itself was spread across a spectrum. Some employees perceived WLB as separate domain while others perceived it as overlapping and another group of employees perceived it as integrated. They also divided adverse effects into four categories- raised expectations regarding availability, blurring of boundaries between work and personal time, further complication of coordinating with

coworkers, and enhancing personal compulsion of responsiveness for workers resulting in stress related to work. The researchers also suggested that to negotiate different WLB challenges, different strategies can be adapted. These include compensation for spillover, negotiation with employees to ensure better WLB harmony, enabling integration of work and life domains, and protection of employees not seeking integration.

Diaz et al., 2012, held that employees indulging in more ICT usage display greater job satisfaction on the one hand and a greater degree of work-life conflict on the other hand.

Leung's viewpoint held that the higher the ICT, the higher the experience of negative work-to-family spillover. Older people had relatively impermeable work life boundaries and greater job satisfaction while young women with mobile phones had greater chances of job burnout, due to negative spillovers in both directions. This may be attributed to two reasons – less flexibility at their place of work and greater permeability in work-home boundaries. Chesley, 2005, also observed similar findings with women, and not men, implying further reinforcement of work-home boundaries being gendered. Research on academics by Currie and Eveline, 2011, projects the ongoing attempt by academicians to build well-defined barriers between work and family. This attempt may reduce spillovers in both directions. On the other hand, Sayah, 2013, reported building time-related, space-related, and psychological perspective-related boundaries for work and home using ICTs.

Thus, comparability of various researches may be difficult due to several limitations like differences in theoretical frameworks that are considered, restricted range of ICT tools being investigated, limited availability of sampling populations, and factors like demographics and ICT usage affecting WLB.

CONCLUSION

To conclude, the systematic review of existing literature on the topic reveals some limitations posed in these research works - studies often use different WLB frameworks, thereby, hindering the comparison of results. Many of these researches disregard the individual centric approach where a person chooses and adapts their use of technology. Occasionally, population pool is determined by available or convenient sampling and may not be representative of entire population. Research can be extended and expanded to the unexplored areas of under-researched populations like employees with no children but having other dependent family members and also to the employees who come under manual workers and lower-skilled workers category. Additionally, variable like job characteristics, job autonomy, employment status, working hours, and job stress and their impact on ICT uptake, usage and WLB need to be evaluated further.

More transparency is required on the part of researchers as to the theoretical paradigm followed, and terms and concepts need to be clearly defined. Additionally, quantitative and qualitative research must be amalgamated into each other, rather than being treated as separate compartmentalized frameworks. Both quantitative and qualitative methods have their advantages and disadvantages, so an inclusive or wholesome approach may require use of both approaches. The focus of the ongoing research needs to consider not just present repercussions but also the future implications.

Present studies primarily focus on families with small children, but the perspective of older age groups in various situations needs to be emphasized too. Also, although many researches are on women, but a gender comparison between men and women would be a useful add-on.

REFERENCES

Adisa, T. A., Gbadamosi, G., & Osabutey, E. L. (2017). What happened to the border? The role of mobile information technology devices on employees' work-life balance. *Personnel Review*, *46*(8), 1651-1671.

Barber, L. K., Conlin, A. L., & Santuzzi, A. M. (2019). Workplace telepressure and work–life balance outcomes: The role of work recovery experiences. *Stress and Health*, *35*(3), 350-362.

Bauwens, R., Muylaert, J., Clarysse, E., Audenaert, M., & Decramer, A. (2020). Teachers' acceptance and use of digital learning environments after hours: Implications for work-life balance and the role of integration preference. *Computers in Human Behavior*, *112*, 106479.

Berry, G. R., & Hughes, H. (2020). Integrating work–life balance with 24/7 information and communication technologies: The experience of adult students with online learning. *American Journal of Distance Education*, *34*(2), 91-105.

Bijker, W. E., Hughes, T. P., & Pinch, T. J. (2012). *The social construction of technological systems: New directions in the sociology and history of technology*. MIT press.

Brooks, J., McCluskey, S., Turley, E., & King, N. (2015). The Utility of Template Analysis in Qualitative Psychology Research. *Qualitative research in psychology*, *12*(2), 202–222.

Brown, W. S., & Palvia, P. (2015). Are mobile devices threatening your work-life balance? *International Journal of Mobile Communications*, *13*(3), 317-338.

Casper, W. J., Eby, L. T., Bordeaux, C., Lockwood, A., & Lambert, D. (2007). A review of research methods in IO/OB work-family research. *Journal of applied psychology*, *92*(1), 28.

Casper, W. J., Vaziri, H., Wayne, J. H., DeHauw, S., & Greenhaus, J. (2018). The jingle-jangle of work–nonwork balance: A comprehensive and meta-analytic review of its meaning and measurement. *Journal of Applied Psychology*, *103*(2), 182.

Cavazotte, F., Heloisa Lemos, A., & Villadsen, K. (2014). Corporate smart phones: Professionals' conscious engagement in escalating work connectivity. *New Technology, Work and Employment*, *29*(1), 72-87.

Chesley, N. (2005). Blurring boundaries? Linking technology use, spillover, individual distress, and family satisfaction. *Journal of Marriage and Family*, *67*(5), 1237-1248.

Christensen, T. H. (2009). 'Connected presence' in distributed family life. *New Media & Society*, *11*(3), 433-451.

Currie, J., & Eveline, J. (2011). E-technology and work/life balance for academics with young children. *Higher Education*, *62*, 533-550.

Davis, F. D. (1985). *A technology acceptance model for empirically testing new end-user information systems: Theory and results* (Doctoral dissertation, Massachusetts Institute of Technology).

Dén-Nagy, I. (2014). A double-edged sword?: a critical evaluation of the mobile phone in creating work–life balance. *New Technology, Work and Employment*, *29*(2), 193-211.

De Wet, W., & Koekemoer, E. (2016). The increased use of information and communication technology (ICT) among employees: Implications for work-life interaction. *South African Journal of economic and management sciences*, *19*(2), 264-281.

Diaz, I., Chiaburu, D. S., Zimmerman, R. D., & Boswell, W. R. (2012). Communication technology: Pros and cons of constant connection to work. *Journal of Vocational Behavior*, *80*(2), 500-508.

Duxbury, L., & Smart, R. (2010). The "myth of separate worlds": An exploration of how mobile technology has redefined work-life balance. In *Creating balance? International perspectives on the work-life integration of professionals* (pp. 269-284). Berlin, Heidelberg: Springer Berlin Heidelberg.

Emslie, C., & Hunt, K. (2009). 'Live to work'or 'work to live'? A qualitative study of gender and work–life balance among men and women in mid-life. *Gender, Work & Organization*, *16*(1), 151-172.

Frissen, V. A. (2000). ICTs in the rush hour of life. *The Information Society*, *16*(1), 65-75.

Gold, M., & Mustafa, M. (2013). 'Work always wins': client colonisation, time management and the anxieties of connected freelancers. *New Technology, Work and Employment*, *28*(3), 197-211.

Golden, A. G., & Geisler, C. (2007). Work–life boundary management and the personal digital assistant. *Human Relations*, *60*(3), 519-551.

Heijstra, T. M., & Rafnsdottir, G. L. (2010). The Internet and academics' workload and work–family balance. *The Internet and Higher Education*, *13*(3), 158-163.

Hislop, D., & Axtell, C. (2011). Mobile phones during work and non-work time: A case study of mobile, non-managerial workers. *Information and Organization*, *21*(1), 41-56.

Hubers, C., Schwanen, T., & Dijst, M. (2011). Coordinating everyday life in the netherlands: a holistic quantitative approach to the analysis of ict-related and other work-life balance strategies. *Geografiska Annaler: Series B, Human Geography*, *93*(1), 57-80.

Kunz, D. (2021). Modern work-life balance: the role of differing ICT use.

Leung, L. (2011). Effects of ICT connectedness, permeability, flexibility, and negative spillovers on burnout and job and family satisfaction. *Human Technology: An Interdisciplinary Journal on Humans in ICT Environments*.

Maruyama, T., Hopkinson, P. G., & James, P. W. (2009). A multivariate analysis of work–life balance outcomes from a large-scale telework programme. *New Technology, Work and Employment*, *24*(1), 76-88.

Matusik, S. F., & Mickel, A. E. (2011). Embracing or embattled by converged mobile devices? Users' experiences with a contemporary connectivity technology. *Human Relations*, *64*(8), 1001-1030.

Ninaus, K., Diehl, S., & Terlutter, R. (2021). Employee perceptions of information and communication technologies in work life, perceived burnout, job satisfaction and the role of work-family balance. *Journal of Business Research*, *136*, 652-666.

Othman, N., Yusef, S. A. M., & Osman, W. R. S. (2009). A conflict between professional vs. domestic life? Understanding the use of ICT in teleworking for balance in work and family units.

Sarker, S., Sarker, S., Xiao, X., & Ahuja, M. (2012). Managing employees' use of mobile technologies to minimize work-life balance impacts.

Sayah, S. (2013). Managing work–life boundaries with information and communication technologies: The case of independent contractors. *New Technology, Work and Employment*, *28*(3), 179-196.

Tennakoon, U. (2007). Impact of the use of communication technologies on the work-life balance of executive employees. *2007 Information Resources Management Association*, 557-560.

Thulasimani, K. K., Duraisamy, M., & Rathinasabapathi, S. S. (2010). A study on work life balance amongst managers of garment units in Tamilnadu State, India. *Journal of Human Sciences*, *7*(2), 445-460.

Venkatesh, V., & Brown, S. A. (2001). A longitudinal investigation of personal computers in homes: Adoption determinants and emerging challenges. *MIS quarterly*, 71-102.

Wajcman, J., Bittman, M., & Brown, J. E. (2008). Families without borders: Mobile phones, connectedness and work-home divisions. *Sociology*, *42*(4), 635-652.

Wajcman, J., Rose, E., Brown, J. E., & Bittman, M. (2010). Enacting virtual connections between work and home. *Journal of sociology*, *46*(3), 257-275.