


A quantitative study on salient work-life balance challenge(s) influencing female information and communication technology professionals in a South African telecommunications organisation

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Orientation: There have been numerous studies on women's WLB in various industries in South Africa. This study is unique in that it investigates work-life balance among female ICT professionals in South Africa who work in a male-dominated Science, Technology, Engineering, and Mathematics (STEM) sector.

Research purpose: The study aimed to investigate the salient WLB challenges influencing female ICT professionals in a South African telecommunications organisation.

Motivation of the study: In male-dominated sectors, understanding the factors that influence women in combining work and family life is invaluable in gaining a competitive advantage by having a committed and diverse workforce and understanding how women cope with WLB challenges.

Research approach/design and method: Data were collected using a quantitative approach employing a cross-sectional survey design from female Information Communications and Technology professionals ($n = 50$). Cronbach's alpha coefficients, Measure Central Tendency and Dispersion, and Exploratory Factor Analysis were used in analyzing the data.

Main findings: The main findings indicated the challenges of the different age groups, with the age group 21–25 exhibiting the highest score for the ability to combine work and family roles successfully.

Practical/managerial implications: This study may lead to practical applications to support human resource management practitioners towards comprehending the impact of work-life balance practices, either directly or indirectly, especially females.

Contribution/value-add: This study will fill the unexplored area of improving work-life balance by highlighting a unique insight into how females cope with their work-life challenges in their chosen careers.

Keywords: female; work-life balance; information and communication technology; male-dominated; telecommunications; women in technology.

Introduction

According to Suganya (2019), human resources are an organisation's valuable and unique assets. Additionally, Suganya (2019) states that most organisations expect employees who possess higher competencies and multitasking skills to achieve sustained growth in the organisation in today's competitive world.

Ongoing endeavours characterise post-apartheid South Africa to establish equality for all citizens, including marginalised employees. Despite 25 years of democracy, South African society remains one of the world's most unequal societies (Meiring, Kannemeyer, & Potgieter, 2018).

Science, Technology, Engineering, and Mathematics (STEM) careers are traditionally male-dominated sectors that do not address diversity issues, and women have multiple life roles.

Problem statement

Significant research has been undertaken on work-life balance (WLB) in Western developed nations (Wilkinson, Tomlinson, & Gardiner, 2017) and Asian countries (Rajadhyaksha, 2012).

Little is known about WLB challenges and experiences in Africa, such as South Africa. Anila and Krishnaveni (2016) assert that achieving a WLB stabilises the work and home responsibilities, and an imbalance can lead to stress and strain. In addition, Anila and Krishnaveni (2016) argue that women tend to be affected more than men by the demands of a WLB due to their traditional responsibilities at home. Anila and Krishnaveni (2016) state that, as families are faced with many challenges and problems for daily survival, this necessitates balancing the responsibilities at work and home and creates the need to share family responsibilities among family members. A woman faces more household responsibilities than a man, as she is responsible for doing all the chores, that is, if a woman is divorced with two young children and suddenly thrust into work from home and homeschooling, this will be detrimental to both work and home life. Amid the coronavirus disease 2019 (COVID-19) pandemic, a recent study by Karne and Sharma (2021) in India highlights how the pre-existing intra-household inequalities of consumption and expenditure have worsened during COVID-19 and predict its long-term implications for gender relations in India. This is also true for South Africa, and therefore, women may have more of a challenge with WLB than men. This study investigates the salient WLB challenge(s) influencing female information and communication technology (ICT) professionals in a South African telecommunications organisation.

Research purpose

This study's primary purpose was to investigate the salient WLB challenge(s) influencing female information and communication technology (ICT) professionals in a South African telecommunications organisation. This study is essential as it holds the potential to determine the proportion of discrepancies in the salient WLB challenge(s) faced by female ICT professionals and their ability to balance work and family life at the telecommunications company.

Research objective

- To investigate the actual challenges faced by female ICT professionals in combining work and family life at the telecommunications company.

Literature review

The term WLB has gained increasing popularity in the public discourse (Kelliher, Richardson, & Boiarintseva, 2019). Work-life balance is not merely the time divided between work-life and non-work-life. It needs to be achieved by minimising the conflict among these two domains by balancing the multiple roles and tasks involved (Kumarasamy, Pangil, & Isa, 2015). Work-life balance is a canopy term describing different social concepts, including work, life, family, home, balance, harmony, equilibrium, conflict, enrichment, and integration (Braun & Peus, 2018).

Factors that contribute to work-life balance

In today's fast-paced world, with a significant number of women entering the workplace, several factors now influence the way WLB is attained. The following section details the factors that contribute to WLB. Firstly, the dual-career woman and role conflict are discussed in the following section. The current South African workforce comprises diverse individuals with their historical challenges. Therefore, achieving a WLB is difficult for most employees. However, women from these diverse backgrounds face multifaceted challenges, because of their roles as mothers, carers, housewives and so forth.

The dual-career woman and role-conflict

In an online survey, Pretorius, Mawela, Strydom, De Villiers and Johnson (2015) found that 87% of the South African female respondents indicated that they found the information technology (IT) industry challenging rather than chaotic. The respondents (58%) showed that the biggest challenge was finding time for the continuous demand for an education upgrade to keep up with the ever-changing IT industry.

Organisational culture

The organisational culture of an organisation influences WLB. The WLB was created through a robust organisational support system, developed through organisational culture (Rife, Hamilton, & Hall, 2015). Overall, the success of WLB initiatives depends on the nature of an organisation's prevailing culture (Adisa, Mordi, & Osabutey, 2017).

Organisational time expectations

Ajith and Vidya (2013), in their study on WLB for role prioritisation of ICT employees, showed that employees were able to fulfil their professional and personal commitments at the same time because of better WLB policies where other activities such as travelling and the work itself took up 50% of their time. The relationship between WLB policies and role prioritisation was significant. Their study examined variables such as travelling time, depression, temper, the work itself to know the relationship between WLB and stress management. Mubeen and Rashidi (2014) also asserted that working hours were a significant factor in achieving and managing WLB. Mubeen and Rashidi (2014) opined that excessive working hours without flexibility could create imbalances that negatively affect employees' personal and social aspects. Previous studies by Jones (2013), Li, Cardinal and Settersten (2009), Haustein, Klockner and Blobaum (2009), Wethington (2005), Elder and Johnson (2003), Ganz et al. (2003), Settersten (2003), Wheaton and Gotlib (1997) and George (1993) all explored the related topics of the perception and usage of time, trajectories, linked lives, life pathways and time's changing dynamics in a rapidly changing world, especially in the ICT sector, and how specific life paths shift an individual's direction.

In the ICT environment, time is vital because of organisational time expectations and workers being expected to have a good sense of time management, to achieve organisational goals because of the innovative, inventive and fast-paced nature of ICT. Harteis (2017) strengthens this argument by stating that the nature of ICT work is becoming more flexible and fast-paced.

Organisational and social support in achieving work-life balance

The most significant problem that working professionals have is the inability to balance the demands and pressures needs and pressures on the home front (Mohanty & Jena, 2016). Hence in a fast-paced work environment of ICT, social support from one's family structure could reduce work-life conflict, thus helping avert other issues such as stress that could negatively impact job performance and WLB. Yadav's (2014) study in Mumbai of 100 employees from the Education and ICT sectors compared women employees' WLB with their educational field (Degree Colleges Permanent Employees) and IT Industries. It was observed that the duration of the working hours was not always uniform in the case of women in ICT professionals in Mumbai city, and the operating hours varied based on the nature of the project assigned to them. A survey by Gupta and Rao (2019) found that, at an organisational level and unconducive work environment, unsupportive team and management, safety, and conveyance issues become major deterrents in striking WLB. The study by Gupta and Rao (2019) also confirmed that more women-friendly policies, adequate infrastructural support, and the need for timely and effective law enforcement action in case of harassment and emergencies are identified to be the need of the hour. The government's focus on developing policies on WLB should aim to reduce strain on workers and improve their well-being and efficiency.

Co-worker/colleague support

George (2015) found that support from both work colleagues and supervisors was essential for the motivation of employees when performing their duties, while relationships between coworkers were frequently featured among workplace stressors. In addition, a study by Pitts, Marvel and Fernandez (2011), as cited by George (2015), gives evidence that suggests that the employees' satisfaction with the way they relate to their co-workers is linked to employee retention. The factor, organisational commitment, is discussed in the next section.

Work-life balance programmes and policies

Zheng, Molineux, Mirshekary and Scarparo (2015) highlighted that there were many ways an organisation could meet employee needs to achieve balance in their work-life. They suggest five distinct groups that represent organisational WLB programmes and policies, namely, flexible work arrangements, provision of health and wellbeing programmes, provision of childcare services or provision of leave as needed to address family matters, organisational support, and understanding individual needs.

Research approach

Taking a quantitative approach within a positivist paradigm, which Rahi (2017) describes as one associated with quantitative research, this study sought to investigate the research phenomena studied thoroughly. The challenge(s) influencing the WLB of female ICT professionals in a South African telecommunications company were examined through a positivistic paradigm.

Research design

Using a quantitative design, this research investigates the salient WLB challenges influencing female ICT professionals in a South African telecommunications organisation.

Creswell and Creswell (2018) state that quantitative research involves examining relationships among variables to test objective theories. Data can be analysed using statistical methods using these variables, typically measured with instruments.

Research participants

Deanscombe (2017) describes a target research population as people likely to provide valuable data for the study if asked to participate. In their research, Sekaran and Bougie (2016) found that target populations must be described elements, geographical borders, and time. Women working in the organisation's Pretoria headquarters are included in the study. The study focused on the ICT section, consisted of a population of 57 ($n = 57$) female ICT professionals. *Google Forms* distributed the questionnaire to 50 recipients, and 50 valid responses were received. The response rate equates to 100%.

Using the Raosoft sample calculator, a sample size of 50 was obtained using 57 female ICT professionals with an assumed response rate of 50% (Raosoft, 2004). The following section shows the Raosoft (2004) formula. In equation 1 where n is the sample size, N is the population size, and e is the level of meticulousness:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{57}{1 + 57(0.05)^2}$$

$$n = 50$$

[Eqn 1]

Measuring instruments

A self-designed instrument was developed to investigate the salient WLB challenge(s) influencing female ICT professionals in a South African telecommunications organisation in South Africa. To explore the salient WLB challenge(s), this instrument included 20 items grouped into eight factors. Based on Cronbach's alpha test, this study evaluated the inter-item consistency of the instrument. The Cronbach

alpha coefficient is regarded as an indicator of reliability when it is above 0.5, according to Sekaran and Bougie (2010, p. 289). A Cronbach's alpha of above 0.5 for all the factors was calculated for the instrument. They found the instrument to have good reliability and validity. Cooper and Schindler (2003, p. 134) stated that an alpha value above 0.5 indicates reliability (See Table 1).

Face validity was ensured by administering a pilot test to participants who would not form part of the final study. Five methodology specialists from two universities in South Africa were consulted as part of the design process to ensure that the questions accurately reflected the issues they wanted to address and inform authorities in research methodology. Exploratory factor analysis (EFA) was also performed to establish the instrument's construct validity.

Reliability statistics for the work-related scale and the life-related scale

The reliability of the measuring instruments was measured using Cronbach's alpha values. Composite reliability values ranged between 0.571 and 0.814, all above 0.5, the cut-off value proposed by Sekaran and Bougie (2010) (see Table 1). Cortina (1993, p. 98) and Neuman (2000) stated that 'reliability coefficients of less than 0.50 are unacceptable, while those between 0.50 and 0.60 are regarded as significant and those above 0.70 as acceptable'. Various authors differ on the interpretation of acceptable or significant results in terms of reliability; however, overall, the life-related scale items have a Cronbach's alpha value of 0.745, indicating an acceptable to good inter-item reliability for the overall scale.

Descriptive statistics and reliability analysis

Descriptive statistics were calculated for all items in the questionnaire. Descriptive statistics utilising frequencies and percentages were carried out to describe the demographic characteristics of the respondents (see Table 2). According to Levine, Stephan and Szabat (2016), the mean score represents the central tendency, whereas standard deviation indicates the dispersion of the individual values around the mean.

For the age variable, 40% described the highest number for 20–25, with 35–40 representing the lowest percentage of 3%.

TABLE 1: Cronbach's alphas for the scales and factors.

Cronbach alpha	Cronbach's alpha based on standardised items
Reliability statistics for the work-related scale	
Overall	0.734
Work-life balance	0.773
Gender stereotypes	0.714
Flexibility	0.702
Reliability statistics for the life-related scale	
Overall	0.745
Dependent adults /children-related tasks	0.814
Work/home interference	0.711
Time management	0.702
Sense of accomplishment	0.571
Skills acquisition	0.594

Racial distribution had the black group with 39 respondents representing 7% and the mixed-race representing three respondents, indicating a 6% response rate. Marital status had the single respondents at 21, making 44%, and those divorced at two, making it 4% of the sample.

The sample included 24 respondents with spouses and partners employed full-time. This represents 44%. Individuals with part-time employment for spouses or partners and those not used/not applicable (comprised of non-disclosing workers) accounted for 8% each. The educational level had those with a post-graduate degree, making them 25 at 50% of the sample, and those with a diploma at eight respondents, making up 16%. Information and communication technology services under the section employees worked under accounted for 66% of a sample of 33 respondents. Information and communication technology auxiliary services accounted for the remaining 16%. Within the field of years worked for the organisation, respondents within the 2–5-year bracket

TABLE 2: Demographic profile of the sample group.

Variable	Category	Frequency	Percentage (%)
Gender	Female	50	100
Age category (years)	20–25	20	40
	26–30	9	18
	31–35	7	14
	36–40	3	6
	41–50	4	8
Racial distribution	Black people	39	78
	White people	8	16
	Mixed-race people	3	6
Marital status	Single	21	44
	Married	11	21
	Divorced	2	4
	Co-habiting not married	8	15
	long-term relationships	4	8
	Spouse/ partners' employment status if applicable	Full-time employment	24
Part-time employment	4	8	
Not employed	18	36	
	Not employed/does not apply (comprised of individuals who did not wish to divulge their employment status)	4	8
Educational level	Diploma	8	16
	Degree	19	34
	Postgraduate degree	25	50
Departmental section under which employees work under	ICT section	33	66
	IT section	9	18
	ICT auxiliary services	8	16
Number of years worked for in the organisation	Less than 6 months	6	12
	Six months – 1 year	16	32
	2–5 years	18	36
	6–10 years	4	8
	11–20 years	6	12
Working hours	40 h/week	18	36
	40 h – 50 h/week	17	34
	51 h – 60 h/week	13	26
	70 h and over/ week	2	4
Number of children < 18 living at home	Yes	24	48
	No	26	52

ICT, information and communication technology.

comprised 18% of the sample, while respondents within the group less than 6 months and 11–20 years each represented 12% of the sample. The working hours variable had respondents who worked for 40 h/week at 18, which was 36%, and respondents at 70 h and over per week with two respondents, which was 4% of the sample. There were 26 respondents without children under 18 living at home, representing 52% of the sample, and 24 respondents with children under 18 living at home, representing 48% of the sample.

Research procedure

Google Drive Forms were used to administer the questionnaire and collect the data. As a result of the online survey configuration, no incomplete surveys were submitted by respondents, and therefore the forms handed in were all complete.

Statistical analysis

Utilising Cronbach's alpha analysis and factor analysis, the psychometric properties of the online web-based *Google Drive Forms* called 'Work-Life Balance Study Employee Survey' were determined. Several changes were implemented after improving the survey's internal consistency and construct validity.

Exploratory factor analysis for the work-related scale and the life-related scale

The psychometric properties of the work-related scale were established using EFA.

According to Hair, Anderson, Tatham and Black (2010, p. 67), 'the The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA) must be 0.60 or higher to be acceptable'. Table 3 shows that the MSA is 0.728. Bartlett's Test is significant for the work-related scale and 0.607 for the life-related scale, indicating that the data set comply with the sampling adequacy and sphericity requirements for Factor Analysis to be performed.

In the following section, the evaluation of the actual challenges faced by female ICT professionals in combining work and family life at the telecommunications company is presented.

Challenges female information and communication technology professionals faced in balancing work and family life

The WLB scale asked the respondents various questions about the challenges they faced in balancing work and family life. Descriptive statistics describe the 10 demographic variables, namely, gender, age, racial distribution, marital status, spouse/partners' employment, educational level, departmental section, number of years worked for in the organisation, working hours and number of children less than 18 living at home.

TABLE 3: Reliability statistics for the work-related scale and the life-related scale.

Cronbach alpha	Cronbach's alpha based on standardised items	Number of items
The work-related scale		
Overall	0.734	8
Work-life balance	0.773	4
Gender stereotypes	0.714	2
Flexibility	0.702	2
The life-related scale		
Overall	0.745	12
Dependent adults /children-related tasks	0.814	3
Work/home interference	0.711	2
Time management	0.702	3
Sense of accomplishment	0.571	2
Skills acquisition	0.594	2

A description of the results of the questionnaire's statistical analysis of the challenges that emerged, using descriptive statistics, is provided for each of the WLB scale questions in the following section.

Gender stereotypes

On gender stereotypes, which had the two questions, the statistics revealed a mean ($m = 2.10$) and standard deviation (standard deviation [SD] = 0.974). The mean and standard deviation indicated an inclination towards 'Always' instead of 'Never' on the Likert scale, signifying that those women felt they were treated fairly. The statistics showed that 20 respondents (40.0%) thought they were 'Frequently' treated fairly, which was the highest frequency. The lowest frequencies emerged from five respondents (10.0%) who felt 'Sometimes' treated relatively, and five respondents (10.0%) indicated 'Never', respectively. The statistics revealed a mean ($m = 2.44$) and standard deviation (SD = 1.110) for the second question. The mean and standard deviation indicated an inclination towards 'Always' instead of 'Never' on the Likert scale, signifying that those women were given fewer tasks because they were female. The statistics showed that 14 respondents (28.0%), which was the highest frequency, indicated they 'Always' felt they were given fewer tasks. Six respondents (12.0%), which was the lowest, indicated 'Seldom' (See Table 4).

Flexibility

Flexibility had the two questions. The statistics revealed a mean ($m = 2.46$) and standard deviation (SD = 1.147). The mean and standard deviation indicated an inclination towards 'Always' instead of 'Never' on the Likert scale, signifying that those women felt afforded flexibility in the workplace. The statistics showed that 14 respondents (28.0%), which was the highest frequency, thought they were 'Frequently' afforded flexibility in the workplace as a female. Six respondents (12.0%), who were the lowest, indicated 'Seldom'. Additionally, for the second question, the statistics revealed a mean ($m = 2.62$) and standard deviation (SD = 1.086). The mean and standard deviation indicated a wide variation in the response between 'Always' and 'Never' on the Likert scale, signifying that those women felt afforded flexibility in the workplace. The statistics show that most 12 respondents

TABLE 4: Measure central tendency and dispersion for challenges information and communication technology professionals face.

Factors	Questions	N	Minimum	Maximum	Mean	SD
Gender stereotypes	Question 1.5	50	1	4	2.10	0.974
	Question 1.6	50	1	4	2.44	1.110
Flexibility	Question 1.7	50	1	4	2.46	1.147
	Question 1.8	50	1	4	2.62	1.086
Dependent adults/children-related tasks	Question 2.1	50	1	4	3.04	1.160
	Question 2.2	50	1	4	2.94	1.236
Work/home interference	Question 2.3	50	1	4	2.76	1.098
	Question 2.4	50	1	4	2.56	1.163
	Question 2.5	50	1	4	2.28	1.161
Time management	Question 2.6	50	1	4	2.58	1.090
	Question 2.7	50	1	4	2.58	1.071
	Question 2.8	50	1	4	2.50	1.182
Sense of accomplishment	Question 2.9	50	1	4	2.34	1.171
	Question 2.10	50	1	4	2.58	1.144
Skills acquisition	Question 2.11	50	1	4	2.58	1.263
	Question 2.12	50	1	4	2.32	1.151
Valid N (listwise)		50				

SD, standard deviation.

(24.0%) 'Frequently' felt flexible work arrangements negatively affected promotion chances. Three respondents (6.0%), which were the lowest, indicated 'Seldom'. On the challenges related to gender flexibility, question 2 had a higher mean and standard deviation ($m = 2.62$, $SD = 1.086$) than question 1 ($m = 2.46$, $SD = 1.147$) (See Table 4).

Dependent adults/children-related tasks

Dependent adults/children-related tasks had two questions. The statistics revealed a mean ($m = 3.04$) and standard deviation ($SD = 1.160$). The mean and standard deviation indicated an inclination towards 'Never' instead of 'Always' on the Likert scale, signifying that the respondents cared for dependent adults/children. However, the findings revealed that many respondents did take care of dependent adults/children. The statistics showed that a majority of 15 respondents (30.0%), which was the highest, indicated 'Seldom', and three groups of eight respondents (16.0%) showed that they 'Always' 'Frequently' and 'Sometimes' felt they took care of dependent adults/children, respectively.

For the second question, the statistics revealed a mean ($m = 2.94$) and the standard deviation ($SD = 1.236$), a significant variation from the mean. The standard deviation indicated an inclination towards 'Never' instead of 'Always' on the Likert scale, signifying that those respondents cared for dependent adults/children. The statistics showed that the majority of 15 respondents (30.0%), which was the highest, indicated 'Never' took care of dependent adults/children. Five respondents (16.0%) who were the minority 'Sometimes' took care of dependent adults/children. The high frequencies on the 'Seldom' and 'Never' responses explained why the inclination was more towards 'Never'. These results showed that the respondents bordered on the negative in their responses to these items.

On the challenges related to dependent adults/children-related tasks, question 1 had a higher mean and standard

deviation ($m = 3.04$, $SD = 1.160$) than question 2 ($m = 2.94$, $SD = 1.236$) (See Table 4).

Work/home interference

Work/home interference had three questions. The statistics revealed a mean ($m = 2.76$) and standard deviation ($SD = 1.098$). The mean and standard deviation indicated a central or mid-point response set between 'Always' and 'Never' on the Likert scale, signifying that work/career interfered with responsibilities at home, such as yard work, cooking, cleaning, repairs, shopping, paying the bills, childcare. The responses showed that several respondents did feel that work/career interfered with their responsibilities at home. Fifteen respondents (30.0%), which was the highest, indicated 'Sometimes'. Three respondents (6.0%), which was the lowest, indicated 'Seldom' (See Table 4).

For the second question, the statistics revealed a mean ($m = 2.56$) and standard deviation ($SD = 1.163$). The mean and standard deviation indicated an inclination towards 'Always' than 'Never' on the Likert scale, signifying that their work/career kept them from spending the amount of time they would have liked to spend with their families. The responses showed that work/career reduced family time. Thirteen respondents (26.0%), which was the highest, indicated 'Frequently'. Six respondents (12.0%), which were the lowest, indicated 'Seldom'.

The third question revealed a mean ($m = 2.28$) and standard deviation ($SD = 1.161$). The mean and standard deviation indicated an inclination towards 'Always' rather than 'Never' on the Likert scale, signifying that work/career interfered with home life. Based on the numbers, it was clear that the respondents felt work/career interfered with their home life. The statistics showed that 17 respondents (34.0%), which was the highest, indicated they 'Always' felt that their work/career interfered with their home life, and four respondents (8.0%) the lowest indicated 'Seldom'.

On the challenges related to work/home interference, question 1 had the highest mean and standard deviation ($m = 2.75$, $SD = 1.098$) followed by question 2 ($m = 2.56$, $SD = 1.163$) and lastly question 3 ($m = 2.28$, $SD = 1.161$). A challenge for age groups was identified, with 21–25 ($m = 3.87$) exhibiting the highest score for combining work and family challenges. (See Table 4).

Time management

Time management had three questions, and statistics revealed a mean ($m = 2.58$) and standard deviation ($SD = 1.090$). The mean and standard deviation indicated a central or mid-point response set between 'Always' and 'Never' on the Likert scale, signifying that those respondents felt they were being afforded flexibility in the workplace as females in the ICT industry. The number of respondents affirmed that they were afforded flexibility in the workplace as females in the ICT industry. The statistics showed 19 respondents (38.0%), the highest indicated 'Sometimes', and four respondents (8.0%), the lowest indicated 'Seldom'.

Question 2 on time management revealed a mean ($m = 2.58$) and standard deviation ($SD = 1.071$). The mean and standard deviation indicated a central or mid-point response set between 'Always' and 'Never' on the Likert scale, signifying that those respondents felt they managed their time effectively and efficiently. The respondents felt their work/career interfered with their home life based on the numbers. The statistics showed that 18 respondents (36.0%), which was the highest, indicated 'Sometimes', and two respondents (4.0%), which was the lowest, indicated 'Seldom'.

The third question revealed a mean ($m = 2.50$) and standard deviation ($SD = 1.182$).

The mean and SD indicated an inclination towards 'Always' rather than 'Never' on the Likert scale, signifying that those respondents balanced their lives between work and domestic chores. The respondents balanced their life between work and domestic chores based on the numbers. The statistics showed that 14 respondents (28.0%), which was the highest, indicated they 'Always' felt that they balanced their life between work and domestic chores. Five respondents (10.0%), which was the lowest, indicated 'Seldom'.

On the challenges related to time management, question 2 had a higher mean and standard deviation of ($m = 2.58$, $SD = 1.071$) then followed by question 1 ($m = 2.58$, $SD = 1.090$) and lastly question 3 ($m = 2.50$, $SD = 1.182$) (See Table 4).

Sense of accomplishment

This item had two questions, and for the first question, the statistics revealed a mean ($m = 2.34$) and standard deviation ($SD = 1.171$).

The mean and standard deviation indicated an inclination towards 'Always' rather than 'Never' on the Likert scale, signifying those respondents felt that their work/career provided them with a sense of accomplishment, which

helped them be better friends and family members. Seventeen respondents (34.0%), which were the highest, indicated they 'Always' felt that their work/career provided them with a sense of accomplishment, which helped them be better friends and family members. Five respondents (10.0%), which were the lowest, indicated 'Seldom'.

The second question revealed a mean ($m = 2.58$) and standard deviation ($SD = 1.144$).

The mean and standard deviation indicated an inclination towards 'Always' rather than 'Never' on the Likert scale, signifying that their work/career did not provide them with a sense of accomplishment, which prevented them from being better friends or family members. Based on the numbers, work/career did not give the respondents a sense of accomplishment, thereby preventing them from being better friends and family members. The statistics showed that 13 respondents (26.0%), which was the highest, indicated 'Sometimes' and five respondents (10.0%), which were the lowest, indicated 'Never'. On the challenges related to a sense of accomplishment, question 2 had a higher mean and standard deviation ($m = 2.68$, $SD = 1.144$) than question 1 ($m = 2.34$, $SD = 1.171$) (See Table 4).

Skills acquisition

There were two questions on skills acquisition. The first question revealed a mean ($m = 2.58$) and standard deviation ($SD = 1.263$). The mean and standard deviation indicated an inclination towards 'Always' and towards 'Never' on the Likert scale, showing that there was a slight difference in how the respondents felt about their work/career-enhancing acquisition of new skills, something that could help them become a better friend and family member. Based on the findings, the number of respondents felt their work/career did not feel skills acquisitions helped them acquire skills that helped them be better friends and family members.

The statistics showed that 15 respondents (30.0%), which were the highest, indicated 'Frequently', and four respondents (8.0%), which was the lowest, indicated 'Seldom'.

The statistics for question 2 revealed a mean ($m = 2.32$) and standard deviation ($SD = 1.151$). The mean and standard deviation indicated an inclination towards 'Always' rather than 'Never' on the Likert scale, signifying that there was a feeling that respondents' work/career did not help them acquire new skills that helped them be better friends and family members. A closer look at the statistics showed that 16 respondents (32.0%), which was the highest, indicated they 'always' felt that their work/career did not help them acquire new skills that enabled them to be better friends and family members, and two respondents (16.0%) which were the lowest indicated 'Seldom'.

On the challenges related to skills acquisition, question 1 had a higher mean and standard deviation ($m = 2.58$, $SD = 1.263$) than question 2 ($m = 2.32$, $SD = 1.151$) (See Table 4).

Discussion

This article reports the challenges faced by female ICT professionals in combining work and family life at the telecommunications company. Six significant factors emerged from the analysis of the questionnaires and the research conducted related to WLB challenges that women IT professionals in the telecommunications sector face: gender stereotypes, flexibility and time management, dependent adults/children-related tasks, work/home interference, a sense of accomplishment, skills acquisition. When perceived from the personal, professional, social, and most overlooked legislative level, these factors highlight the large discrepancies that women in the ICT sector face on a day-to-day basis. In the following section, a discussion of the results presented above will be embarked on.

Inferential statistics discussion

Factor scores were compared between various independent groups. For gender, an independent *t*-test was performed. A one-way analysis of variance (ANOVAs) was performed for age groups. Cohen's *d* was calculated to determine significant practical differences between standardised means. Cohen's (1988) guideline values were used. An effect size of 0.2 shows a small effect or practical nonsignificant difference. An effect size of 0.5 reveals a medium impact or visible practical difference, and 0.8 is a considerable influence or significant practical difference.

Gender stereotypes

Most women felt they were treated fairly and could manage others, lessening the challenges of working in a male-dominated industry. This supported the *Employment Equity Act 55 of 1998: Code of Good Practice*, which addressed a specific aspect of workplace discrimination, and the undervaluing of work, based on listed or any other arbitrary grounds. The findings also contradicted Lyons, Sweitzer and Ng (2009). They stated that stereotypically feminine traits and management styles (consultative, conciliatory, partnership-oriented, and collaborative) were generally viewed as positive but not used to describe successful managers or view management positions. Science, Technology, Engineering, and Mathematics jobs have always been considered 'men's work', while childcare, teaching, and clerical work had been 'women's work'. Some women reported discrimination and gender stereotypes, which was in line with a study by Gupta and Rao (2019), which confirmed that a vast majority of respondents shared instances of gender discrimination they had experienced across the spectrum. Beginning at a personal level, most women were held accountable for the primary responsibility of homemaking and caretaking despite active careers and interests, much like their male counterparts. Gupta and Rao's (2019) findings also point out that gender mainstreaming can be a powerful tool to achieve gender equality. The current study findings also confirm Gupta and Rao's (2019) findings that, at work, women on a day-to-day basis experience some

of the very detrimental effects of gender discrimination. Unequal opportunities, the disparity in promotions, male dominance in decision making, and prejudice of being less competent than male counterparts were recurring subjects.

Flexibility and time management

Most of the women confirmed they were frequently afforded flexibility as evidenced in the use of the organisation's policy on Hours of Work: (Other Working Opportunities and Overtime) of 2015, and the virtual assistance programme of organisation in the workplace as females, thus lessening the challenges of working in a male-dominated industry. Some individuals expressed that they did not have the time and flexibility to do other things, such as upgrading their education.

This could be difficult for women with children who still tended to take the lion's share of household and caregiving responsibilities and, therefore, did not have time to engage in training outside of office hours. The equal sharing of home responsibilities could play a key role in giving women equal chances in building their careers. The findings in this study are consistent with previous studies by Jones (2013), Li et al. (2009), Haustein et al. (2009), Wethington (2005), Elder and Johnson (2003), Ganz et al. (2003), Settersten (2003), Wheaton and Gotlib (1997) and George (1993) which looked at how people perceive and use time, trajectories, connected lives, life routes, and time's shifting dynamics in a fast-changing world, particularly in the ICT sector, as well as how specific life paths change an individual's direction. A finding by Gupta and Rao (2019) confirmed this current study's conclusion in terms of time management and flexibility that women felt the need to relook and regulate work hours and late hours and take more steps towards gender mainstreaming (integration of gender differences into the formulation, implementation, monitoring, and evaluation of policies).

Dependent adults/children-related tasks

Many women indicated that much of their time was spent at home looking after their elderly parents/extended family and children. This put tremendous strain on their care and study time at home. This is supported by Santhana and Gopinath (2013), who also found that the workers crept into the time required to attend to the children and the other dependents. A study that supports this finding by Gupta and Rao (2019) points heavily to the importance of spouse/family support for women IT professionals to achieve WLB. Unfair distribution of responsibilities, lack of motivational support, domestic help, and absence of childcare options lend greatly to an imbalance in work-life at a personal level.

Work/home interference

The interference was with home, yard work, cooking, cleaning, repairs, shopping, paying the bills, or childcare. The participants' responses showed that several respondents did feel that work/career interfered with their responsibilities

at home because they spent more time at work. Some women felt that engaging in work activities did not interfere with their home domain. Instead, it enabled them to carry out work activities without interference. The findings showed both the positive and negative aspects, which was in line with a study by Barnett (1998) and Grzywacz and Marks (2000), who explained that although employed women could experience harmful interference between work and family, the interaction between those domains could also be a positive one. Participating in multiple roles could provide the individual with more opportunities and resources to promote growth and better functionality in other life domains.

Sense of accomplishment

In terms of the sense of accomplishment, several respondents felt that this was a benefit rather than a challenge, as it helped them become better friends and family members. This was supported by Feyerherm and Vick (2005), who asserted that for fulfillment and accomplishment, women defined relationships in terms of how they provided internal happiness or joy with family, and close friends, who provided the motivation, energy, and purpose in their lives.

Skills acquisition

Several respondents appreciated the benefits of skills acquisition and felt that their work/career helped them acquire skills, which allowed them to become better friends and family members. The current study findings are supported by earlier findings by Feyerherm and Vick (2005), that relationships in the professional success of employees an inclusion of support mechanisms, such as a mentor or a collaborative, coaching boss, and working in a supportive environment of relationships and fun fueled by the energy of constant challenge assisted women in having conducive relationships.

Subgroup comparisons

In summary, the black race exhibited the highest challenges with combining work and family biographical variables. This was mainly because they constituted the largest population of the sample at 39 out of 50 respondents. Women with children under 18 had higher means than those without children under 18, indicating the challenges in combining work and family. Married women also faced a challenge combining work and family, with partners/spouses working part-time. The number of years worked for the organisation revealed that those who worked 6 months to 1 year experienced the highest challenges in combining work and family. At the educational level, those with diploma qualifications showed the most increased difficulty in balancing work and family. On the professional front, the current study confirmed the study findings of Gupta and Rao (2019) who indicated that declining promotions, opting for slow career progression, dropping out of the workforce were the prime compromises women

made. What may seem like mere factors are life-altering decisions that most of the women in the cohort have had to make compared to their spouses, male members of the family, or male counterparts.

The new findings indicated the challenges of the different age groups. The young age group of 21–25 exhibited the highest score for the ability to successfully combine work and family roles compared to the other age groups older than that, and women with or without children sometimes had difficulty being flexible, resulting in a disruption of their life roles.

Limitations

While this study explored the salient WLB factor(s) influencing female ICT professionals in a South African telecommunications organisation, it had some limitations. The population of the telecommunications company where the study was conducted was too small to generalise the findings to the larger population (57 ICT workers). This resulted in a small sample of 50 female ICT workers. A cross-sectional sample was employed, resulting in people overthinking their responses on items in the scales. Relatively little research has been done on the salient WLB factor(s) influencing female ICT professionals in a South African telecommunications organisation, making it difficult to relate the findings to the South African context. The present research field included only one organisation. The research identified specific problems within WLB that might be organisation-specific.

Recommendations for future research

With the growing changes in family structures represented in the workforce, it is essential that human resource professionals better understand the interface of work and family relationships and the resulting impact on the workplace. A comparison of ICT organisations should be employed to see if the same results would be obtained. The study might have identified broader aspects or challenges if the researcher had included more organisations. Future studies should use a longitudinal design to examine the salient WLB factor(s) influencing female ICT professionals in South African telecommunications organisations. Furthermore, future studies may explore the experiences of a more diverse range of occupations or a comparative study between a female sample versus a male sample to ascertain the differences in challenges and experiences. Furthermore, a study to see how WLB affects women in ICT after the COVID-19 pandemic should be considered for the future. A vast amount of WLB studies has been undertaken in Western and Asian contexts, leaving out the sub-Saharan African experience and, in this case, the South Africa context. For a newly developed instrument, larger sample sizes are recommended to increase the validity and reliability. This study identified the importance of understanding the dynamics of WLB in female ICT professionals in a male-dominated sector, reflecting on future research areas.

Implications

In practical terms, the new knowledge gained from exploring the salient WLB factor(s) influencing female ICT professionals in a South African telecommunications sector is crucial because it holds the potential to determine how effectively females combine work and family life and the degree to which these challenges differ from those faced by men. The results identified challenges that human resource practitioners should attend to ensure that organisations address WLB more effectively. Due to the potential challenges that human resource practitioners usually face when addressing the WLB aspects, employers should carefully consider issues related to WLB. Gupta and Rao (2019) acknowledge that society plays an essential part in establishing and eliminating social evils. Gender bias has plagued in many ways, from patriarchal control at home to male dominance at work and androcentrism in society. Most women expect initiatives on gender awareness, regulation of labour laws on hiring ratio, more stringent rules on women's safety, severe punishment on sexual harassment, and other necessary actions.

Conclusion

This research has complemented prior studies by extending the insights into the WLB challenges women face in the ICT industry in South Africa. To achieve a WLB, every woman should be proficient both in career and family. Planning, organising, and setting limits are some of the strategies that women can use at home and the workplace to accomplish a satisfying, fulfilling, well-balanced life professionally and personally.

On an individual level, the female employee should care for the family both physically and financially to satisfy the family needs and work to accomplish organisational objectives and personal improvement to fulfil the career needs. From an organisational level, a need to adopt human resource strategies and policies to overcome the issues of women's WLB in the current business environment is important.

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Competing interests

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Authors' contributions

The research was undertaken by W.M. The first draft of the article was written by W.M. A.M. supervised the research and co-wrote the article and prepared it for submission.

Ethical considerations

The Research Ethics Committee of the University of KwaZulu-Natal approved this university study where the researchers are based with protocol reference number: HSS/0810/018D.

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Data availability

Data sharing is not applicable to this article.

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