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Promoting work-family balance as a strategy for optimising female faculty productivity in Uganda's public universities

***Eva Tumusiime**

Kabale University, Uganda

**Corresponding Author*
tumusiimeeva@gmail.com

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ABSTRACT

Scholarship on Work-Family Balance (WFB) has increased since the 1970s when employees, including those in universities, began realising that fulfilling job demands was attained at the expense of their family life, and vice-versa. Much of this research has, however, examined how to balance job and family responsibilities. Little effort has been made to analyse employees' Work-Work Balance (WWB) and how it and WLB affect their productivity. This gap is specifically evident in the context of female faculty members whose job, moreover, has different demanding dimensions that include teaching, research, community service and administrative work for those in managerial positions. Additionally, as females, these lecturers tend to play more family roles compared to their male counterparts especially in African settings such as Uganda. This article fills this gap by analysing this effect. The article is based on a cross-sectional survey that involved 230 female faculty members randomly selected from three also randomly selected public universities in Uganda. Quantitative questionnaire data was collected and analysed using descriptive and multiple regression analysis. The key findings indicate that 84.6% of these faculty members did not realise desired WFB, 87.4% did not attain desired WWB and 73.9% were underproductive in all their job dimensions of teaching, research, community service and administrative activities due to performing them simultaneously. WFB and WWB predicted these lecturers' productivity in teaching, research and community service in a significantly positive, suggesting that improving each of them translates into a significant improvement in the lecturers' productivity. The management of Uganda's public universities was hence urged to adopt strategies that improve WFB and WWB, including allowing these lecturers to concentrate on one dimension of their job at a time instead of requiring them to perform all the dimensions concurrently as this leads to suboptimal productivity in each dimension.

Keywords: Work life balance, Work psychological aspects, Families psychological aspects

Introduction

Faculty productivity can be conceived of as a concept that defines measurable output realised by lecturers from the teaching, research, administrative and community engagement activities assigned and expected of them to conduct in a given time (Akl *et al.*, 2012; Untong, 2018). Optimal faculty productivity occurs when lecturers realise the maximum output they are capable of relative to their capabilities as individuals, but it can also be regarded as the output they are expected to realise in order to enable their employing universities to fulfil their missions as desired (De Vries & Martínez,

2019; Paudel, 2021). Since optimal faculty productivity lecturers are capable of achieving as individuals is not easy to predetermine, this paper draws on the latter definition. Based on this conception, faculty productivity plays a central role in a university's ability to pursue its mission.

Indeed, research has shown that faculty productivity is the most critical determinant of the extent to which a university fulfils its planned core functions of teaching, research and community service (Delello *et al*., 2018). Universities are sure that they are on course towards achieving their missions when faculty members are as productive as expected (Kim *et al*., 2011; Ocampo *et al*., 2022; Tuan *et al*., 2022). As such, underproductive faculty members make it difficult for any university to fulfil its mission as desired. This is true even when the university has the right number and quality of faculty members, and even when all the other necessary input resources are in place (Baloch *et al*., 2021; Kozhakhmet *et al*., 2022). This is unfortunately the situation facing many universities around the world (Esquivel *et al*., 2023).

Many faculty members are grappling with the challenge of achieving the level of productivity expected of them (Zhang *et al*., 2022). Many of them are underproductive to the extent that they do not teach all the lectures assigned to, do not conduct research and publish as expected, rarely participate in community service and those in administrative offices are not always available as they tend to arrive late at work and leave before the official departure time (Barifaijo & Namubiru, 2017; Ddungu, 2017). The majority of these faculty members are in African universities, particularly those in Uganda (Nakanjako *et al*., 2017; Namutebi, 2019; Hiire *et al*., 2020).

Specifically, a research paper published by Namutebi (2019, p.94) indicates that over 80% of Makerere university lecturers do not teach all the lectures assigned to them and 70% are not regularly available to supervise research students allocated to them. In addition, over 78% of Kyambogo University lecturers do not teach all the lectures assigned to them, with 67% of them being inadequately prepared prior to delivering most of the lectures to students and 56% delaying to evaluate students, thereby causing the students to miss graduating in time, especially at the postgraduate level. A study by Ddungu (2018) indicates that over 90% of lecturers in Uganda's universities do not participate in community service as expected. Research has shown that over 60% of faculty members in Ugandan universities have received warning letters relating to being underproductive as depicted by failure to teach, assess students, conduct research or engage in community service as scheduled (Barifaijo, Nkata & Namubiru, 2021).

The preceding studies confirm that most of the faculty members of universities in Uganda are underproductive. However, the statistics provided by these studies are not gender-disaggregated. Therefore, the extent of female lecturers' under-productivity is not clear. This extent needs to be clarified because despite the fact that both male and female faculty members do the same job that includes teaching, research, community service and administrative work for those in managerial positions (Griffin, 2022), female lecturers tend to have more family responsibilities compared to their male counterparts, especially in African settings (Cerrato & Cifre, 2018). In addition, these studies also analysed the different causes of this under-productivity, including inadequate instructional leadership, understaffing, insufficient staff evaluation and other challenges, which, nevertheless, do not include the lecturers' WFB and WWB.

Consequently, whether these two concepts contribute to this under-productivity or not has not been examined. This is the case despite the fact that research on WFB has increased since the 1970s when

employees, including those in universities, began realising that fulfilling job demands was attained at the expense of their family life and vice-versa (Alton, 2018; Saadat-Hashimi, 2021; Umma & Zahana, 2021; Allianz Care, 2022; Wei & Ye, 2022). Much of this research has, however, focused on analysing how to balance job and family responsibilities. Not much has been done about how the WFB affects WWB and productivity expected of employees in general and female employees, including female lecturers in particular. The objective of the paper is thus to analyse the level of WFB, WWB attained by female faculty members in Uganda's public universities and its effect on the level of productivity they realised, and how this effect could be enhanced.

Literature Review

Theoretical Review

This study drew from three theories, namely the goal setting theory of productivity, the social exchange theory of WLB and the biological theory of gender. The goal setting theory was proposed by Edwin A. Locke, an American psychologist, in 1968, to explain how organisation can optimise employee productivity (Locke & Latham, 2002, 2006). This theory states that an organisation can achieve desired output (employee productivity) by setting clear and realistic goals, tasks, and activities that motivate employees to execute and complete within the given time (Asmus *et al.*, 2015; Goerg, 2015; Debara, 2022; Gkizani & Galanakis, 2022). This theory guided the study to establish the extent to which the teaching, research, administrative and community service activities in which universities expected their female faculty members to engage were clear and realistic for these members to execute within the allocated time.

The goal setting theory, however, does not pay attention to WFB and WWB. For this reason, it was supplemented by the social exchange theory of WLB postulates that employees produce positive work outcomes when they are contended with how their employer treats them in terms of the working conditions and rewards (Irfan *et al.*, 2021; Sulistiyani *et al.*, 2022). Socially considerate, positive, and economically beneficial actions directed at an employee by the employer contribute to employee's reciprocation manifested in the form of infelt duty to execute the tasks assigned by employers, even at the expense of the workers' personal life, leading to work-life imbalance (Timms *et al.*, 2015; Oludayo *et al.*, 2018). Being socially considerate involves creating working conditions such as work shifts, flexitime, online working, home working and others that enable employees to balance their work with their family life (Berkery *et al.*, 2020). It also involves fragmenting and allocating humanely realistic tasks in a specialised manner that enables employees to optimise work outcomes (Atkinson, 1987; Griffin, 2022). This theory was used as a guide for analysing the extent to which Ugandan universities created working conditions that enabled female faculty members to achieve desired WFB and WWB.

The social exchange theory of WLB, nonetheless, does not pay attention to the gender of the employees. Therefore, it was complemented by the biological theory of gender, which categorises people as female and male (Ayisi & Krisztina, 2022; Fernández *et al.*, 2022). The biological theory of gender assumes that gender and sex are the same (Ayisi & Krisztina, 2022). It states that biological traits differentiate people as male and female and they are the primary cause of differences in their behaviour (McLeod, 2014; Mairesse & Pezzoni, 2015; Klysing, 2020). In this study, the behaviour was regarded as the manner in which employees perform their jobs, how they balance the dimensions of their jobs and their jobs with

their family life. Consequently, the biological theory guided analysis of how female faculty members went about their WFB, WWB and completion of expected job activities.

Work-Family Balance (WFB)

Work-family balance, also referred to as work family conflict connotes a state of equilibrium in which employees fulfil their job responsibilities without compromising their family life care responsibilities, and vice versa (Hsu *et al.*, 2019). In practice, WFB refers to how employees prioritise their time, availability, effort and concentration between their jobs and family responsibilities (Kumar & Janakiram, 2017). Previous research indicates that female employees lack desired WFB because they spend more of their time, availability, commitment and effort on their jobs than on their families instead of spending just enough of each of these aspects on either of the two (Medina-Garrido *et al.*, 2019; Muzaeni *et al.*, 2020). In specific terms, WFB is lacking when an employee spends almost all the days of the week and most of the hours of the day at work, tired, worried, stress or depressed because of the workload, deadlines, leaving little or almost no time to attend to family issues and commitments, and missing quality time with the family, or vice-versa (Lui *et al.*, 2021). It is also lacking where employees do not work flexibly, in shifts, online, standing in for each, and where they do not get paid leave, maternity or paternity leave, work breaks, recreation programs, and where the employer does not encourage workplace parties involving employees and their families (Cuéllar-Molina *et al.*, 2018).

Critically speaking, these studies explain circumstances in which WFB is lacking, but they do not analyse how it relates to WWB neither do they delve into how it influences employee productivity (Muzaeni *et al.*, 2020). Their observations, which were used as a basis for conducting this study, were that female employees tend to fail to achieve desired WFB because the multiple tasks associated with their jobs tend to compromise the similarly manifold family responsibilities, which include family care, housework, pregnancy, childbearing, breastfeeding, attending to their husbands, and others which increase their workload by almost three-fold compared to males in similar work positions (Guloba *et al.*, 2017). Research has established that these tasks tend to cause female employees to experience higher levels of work family imbalance and to be underproductive (Cuéllar-Molina *et al.*, 2018). Other studies have shown that female employees are likely to be more absent, quit their jobs, or be fired from work from their jobs because of the same responsibilities which most male employees do not do (Guloba *et al.*, 2017). These studies, however, focused on female employees that were not in the context of university education.

Work-Work Balance (WWB)

Work-work balance is a relatively new concept and its nature has not been adequately analysed in the context of many organisations, including universities in Uganda. Griffins (2022) coined WWB as a concept that defines the ways in which workers seek to balance the conflicting but concurrent demands made on them by their job itself. In higher education institutions such as universities, these concurrent yet conflicting demands include, teaching, conducting research, community engagement and administrative activities for those who occupied administrative positions at the same time, and most academic staff members struggle to balance them as desired (Griffin, 2022). Faculty members are expected to concurrently teach, conduct research, engage in community service, and perform administrative work, if they held managerial offices. These demands are conflicting because getting involved in one of them takes a toll on the lecturer, thereby compromising attending to other demands as expected (Griffin,

2022). Moreover, within each of these job dimensions are different strands that make their own demands that need to be balanced.

In particular, the teaching dimension imposes different and equally critical demands on faculty members (Griffin, 2022). These include: searching online and library sources for relevant content needed to prepare lectures and doing so continuously to update the content; scheduled or timetabled delivery of the prepared lecture content to students online and in physical lecture rooms, and giving students academic guidance and advice (Paudel, 2021). Teaching demands also include student assessment through setting coursework, tests, examinations, invigilating, marking of answer coursework and exam scripts, compiling marks, and giving feedback to students while also submitting them to the academic registrar's office for student grading and certification (Golsha, Sheykholeslami, Charnaei & Safarnezhad, 2020).

Similarly, the research dimension imposes demands, which include conducting research to generate new knowledge, publishing the generated knowledge in the form of research articles in peer-reviewed academic journals, student research supervision, reviewing peers' research articles (Cadez *et al.*, 2017; Paudel, 2021). The community service engagement dimension imposes demands, which include conducting community outreaches through organising and/or attending local and national conferences to share productive research knowledge, executing civic duties such as participating in community leadership and development projects, and (Rwothumio *et al.*, 2021). Kasule *et al.* (2016) indicates that some faculty members occupy administrative offices as heads of department, faculty deans and college principles, and each of these offices imposes more job responsibilities. It should be noted that all the studies cited above explain the demands imposed on faculty members and which they have to balance, but did not delve into analysing the ways that these workers use to balance to them, and how the achieved balance relates to their productivity.

Faculty Productivity

Several higher education researchers have analysed the concept of faculty productivity (Shin *et al.*, 2011; Akl *et al.*, 2012; Abramo, Cicero & D'Angelo, 2013; Wamala & Ssembatya, 2013; Zhang, 2014; Horodnic & Zaiţ, 2015; Delello, McWhorter & Marmion, 2018; Karadag, 2018; Jalal, 2020; Chubinskaya *et al.*, 2021; Tuan *et al.*, 2022). However, relatively few studies have examined this concept from the gender perspective, particularly that of female faculty members (Alonso-Arroyo *et al.*, 2013; Diamond *et al.*, 2016). Moreover, these scholars explained faculty productivity without delving into how it is influenced by WFB and WWB. This is the gap this article covers using the output indicators that these researchers identify as measures of faculty productivity achieved by lecturers from the particular dimensions of their job, which include teaching, research, administrative and community engagement (Untong, 2018).

Beginning with teaching, faculty productivity is measured in terms of the number of lectures taught, number of course units covered, number of coursework assignments given and marked, the number of examination scripts marked, and number of research students successfully supervised (Delello *et al.*, 2018; Chubinskaya *et al.*, 2021). In terms of research, faculty productivity is measured in terms of research productivity, which, itself, is revealed by different metrics, including number of empirical studies conducted (knowledge generation), number of empirical research articles published in peer-reviewed academic journals, published book chapters, and textbooks (publications), number of citations, number of research papers presented at local, national and international conference papers, number of practical

innovations, new products, and new production processes (Akl *et al*., 2012; Zhang, 2014; Horodnic & Zaiţ, 2015; Jalal, 2020; Tuan *et al*., 2022). Faculty productivity is further measured in terms of number of community outreaches made to share new research ideas and innovations that contribute to local community development, number of community development initiatives started, number of leadership positions held in the local community, and number of community members and/or households facilitated to change their lives positively (Ddungu, 2018).

WFB, WWB and Faculty Productivity

The manner in which WFB and WWB influence faculty productivity has attracted relatively few studies all of which were not conducted in the context of female lecturers, particularly those in Uganda's universities. In particular, Esquivel *et al*. (2023) conducted a study on WFB and faculty productivity. Gender analysis of the data revealed that WFB related more strongly for female than for male faculty members, and that it was more difficult for female faculty members to achieve WFB because of their family or parenting responsibilities of child-care, schoolwork assistance, and care for elderly relatives. This analysis was however, conducted in the context of COVID-19 and for faculty members in the universities in the United States, not in Uganda. Similar observations appear in the study conducted by Dapiton *et al*. (2020) about Philippine women academics. This research showed that female academics were susceptible to the imbalance between attending to family commitments and matters, on the one hand, and their jobs.

Likewise, Adebayo (2016) analysed the relationship between work-life balance and productivity of the academic staff of the University of Lagos. The findings revealed that the relationship was positive and significant, but most lecturers' WLB was more tilted towards their work than family life Murithi (2017) established a positive relationship between WFB and faculty productivity in Kenyan universities. Kotini-Shah *et al*. (2022) found a positive link between WFB and faculty productivity, concluding that improving WFB enhances faculty productivity. In addition, Cantina and Wilfredo (2021) conducted a study on the quality of life and faculty productivity. Their findings revealed a significant and positive relationship between WFB and faculty productivity, especially in teaching and community engagement. However, the relationship between WFB and research productivity was not significant.

Generally, all the studies cited above analysed the relationship between WFB and faculty productivity, but did not analyse how WFB relates with WWB and how these two influence faculty productivity. Even Griffin (2022) who explored the link between WWB and faculty productivity did not analyse their relationship with WFB, and his focus was on faculty members of universities in Nordic countries, but not in Uganda. Generally, therefore, previous research has not analysed how WFB and WWB influence faculty productivity in universities in Uganda – a gap that this paper fills.

Research Methods

The article is based on a study, which was designed as an analytical cross-sectional survey because it was intended to analyse the nature of WFB, WWB and productivity of female faculty members as it was in its current form (Ponto, 2015). The study population consisted of all the 809 female faculty members employed by the 11 public universities in Uganda. All the female faculty members were included because their job was similar in that they were all expected to teach, conduct research, community

service and could also participate in administrative work by being administrative assistants, heads of departments, faculty deans or college principals. From this study population size, the expected sample size was computed using the following Sloven's formula:

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

Where n was the expected sample size, *N* was the total population size (which was 809), e was the sampling error, which was 5% or 0.05 because the sample was selected at the confidence level of 95%. Substituting these values in the formula above,

$$n = 809 \div [1+809(0.05)^2] = 267.6592 \approx 268.$$

However, the female faculty members who returned the questionnaires were 230, and this was therefore the actual sample size. All the respondents were randomly selected from three randomly selected public universities in Uganda, which included Makerere University, Kyambogo University and Mbarara University of Science and Technology. Simple random sampling was applied to give each public university and each female faculty member an equal chance of participating in the study, since their job was similar in terms of its dimensions as explained earlier. Quantitative data was collected from these respondents using a self-administered questionnaire that consisted of items measuring WFB, WWB and faculty productivity. Questionnaire's content validity index was .889 and its Cronbach Alpha coefficient was .844. Therefore, most of its items were valid and reliable to measure these variables. Those that were not valid and reliable were eliminated from the analysis. The data was analysed using descriptive and multiple regression analysis methods aided by SPSS (Version 25).

Findings and Discussion

The objective of the study was to analyse the level of WFB, WWB attained by female faculty members in Uganda's public universities, its effect on the level of productivity they realised and how this effect could be enhanced. The level of each of these variables was established by asking the selected female faculty members to use the Likert scale of responses ranging from never (N = 1) through rarely (R = 2), Sometimes (S = 3) and Often (O = 4) to very often (VO = 5). On average, faculty members who indicated 'never' and 'rarely' (Mean value close to '1' or '2') were revealed that they attained the desired level of WFB, WWB and productivity. Those who indicated 'sometimes' (Mean value close to '3') suggested that they intermittently attained desired WFB, WWB and productivity. Those who indicated 'often' and 'very often' (Mean value close to '4' or '5') suggested that they failed to attain the desired WFB and WWB as well as the level of productivity expected of them.

Beginning with the selected respondents' WFB, results obtained from descriptive analysis of how they assessed it are presented in Table 1.

Table 1: Female faculty self-assessment of their WFB

	% of Faculty members per response (N = 230 ≡ 100%)						
Indicators of WFB	**N**	**R**	**S**	**O**	**VO**	**Mean**	**Std.**
I work more than 6 days in a week	5.6	8.3	0.0	64.4	21.7	3.59	.496
I work more than 12 hours in a day	5.0	0.0	0.0	75.6	19.4	3.65	.405
I feel I spend most of the time at work	4.5	13.3	0.0	60.0	22.2	3.52	.368
I worry about my work when I am not even at work)	5.5	5.1	0.0	70.0	19.4	3.75	.315
It is hard to work in shifts	12.8	9.4	12.2	50.0	15.6	3.61	.589
It is hard for me to work online when I am at home	1.6	0.0	7.3	71.1	20.0	3.79	.495
I find yourself unable to spend enough time with my family	5.0	1.1	6.7	72.8	14.4	3.75	.366
It is hard for me to ask another lecturer to stand in for me	9.1	0.0	9.4	72.4	9.1	3.64	.590
Pressure at work makes me miss quality time with my family	0.0	5.6	7.8	65.6	21.0	3.81	.569
I feel depressed because of work	5.4	4.8	4.8	66.9	18.1	3.68	.466
I am not able to get time for working out because of work	0.0	0.0	6.4	70.0	23.6	3.57	.466
I wish lecturers could cooperate by standing in for each other	5.6	2.2	3.3	66.7	22.2	3.56	.491
I feel like going for sabbatical or career break	2.9	1.9	5.2	70.0	20.0	3.66	.415
I miss workplace parties to which employees are invited	8.3	19.4	9.5	48.9	13.9	3.50	.363
I don't go for leave because of work pressure	4.2	5.9	6.1	63.9	19.9	3.57	.434
I get work-related stress	9.4	5.5	0.0	69.6	15.5	3.67	.305
Assessment of overall WFB	5.3	5.2	4.9	66.1	18.5	3.65	.446

The descriptive statistics corresponding to the assessment of the overall WFB in Table 1 indicate that only 5.3% + 5.2% = 10.5% of the female faculty members assessed all the items using 'never' and 'rarely', which reveals that they attained their work-family balance as desired. The female faculty members who assessed the items using 'sometimes' were 4.9% and these showed that they attained their desired WFB but irregularly. The female faculty members who assessed all the items using 'often' and 'very often' were 66.1% + 18.5% = 84.6% and these revealed that they did not realise the desired level of WFB. These results indicate that the majority of the female faculty members who participated in the study did not attain the desired WFB. Their view is also reflected by the mean value (Mean = 3.65) corresponding to the overall assessment and its corresponding standard deviation. This mean value (Mean = 3.65) and when rounded off to the nearest whole number, was close to '4', a code for 'often' which alludes to failure to achieve the desired level of WFB. The standard deviation (Std. = .445) was less than '1' which reveals that assessment that the female faculty members provided as individuals did not deviate much from their overall assessment as a whole sample. The same interpretation holds at even the level of itemised analysis of the results in Table 1.

Therefore, the results in Table 1 indicate that most of the female faculty members in Uganda's public universities do not realise WFB as desired. These results are consistent with previous research by Medina-Garrido *et al.* (2019) and Muzaeni *et al.* (2020), which indicates that most of the faculty members find it difficult to attained the ideal level of WFB. Consequently, the results point to a need to improve these lecturers' WFB. In addition, the respondents were asked to assess their WWB using the same Likert

scale of responses. The results obtained from descriptive analysis of their assessment are summarised in Table 2.

Table 2: Female faculty self-assessment of their WWB.

Indicators of WWB	**% of Faculty members per response (N = 230 ≡ 100%)**						
	N	**R**	**S**	**O**	**VO**	**Mean**	**Std.**
Searching and preparing content for all the lectures assigned to me takes much of the time I would have used developing new academic programmes	5.6	8.3	0.0	64.4	21.7	3.59	.496
I feel overstretched to teach all assigned lectures while also conducting research	6.0	4.0	8.7	61.2	20.1	3.63	.529
Marking all coursework scripts of all the big number of students I teach takes much of the time I would have spent developing research articles I am expected to publish	4.8	1.1	4.8	71.2	18.1	3.77	.445
Marking all exam scripts of the big number of students I teach takes much of the time I would have used writing book chapters	5.6	0.0	8.3	64.4	21.7	3.55	.566
I wish more lecturers could be recruited to reduce the teaching workload assigned to me, taking all the time I would have used develop my career	6.5	2.6	5.4	66.6	18.9	3.66	.461
Conducting research is so pre-occupying that it leaves me with no time to participate in community service.	5.0	0.0	0.0	75.6	19.4	3.63	.592
I feel too pre-occupied with teaching lectures assigned to me to find time for engaging in community service as expected	1.6	0.0	7.3	71.1	20.0	4.08	.296
I find it hard to fulfil my administrative roles when also teaching at the time	1.6	0.0	7.3	71.1	20.0	3.79	.495
I find it hard to fulfil my administrative roles when also conducting research expected of me	5.0	1.1	6.7	72.8	14.4	3.75	.366
I find it hard to fulfil my administrative role while also engaging in community service	9.1	0.0	9.4	72.4	9.1	3.64	.590
Assessment of overall WWB	**5.1**	**1.7**	**5.8**	**69.1**	**18.3**	**3.71**	**.484**

The results corresponding to the assessment of the overall WWB in Table 2 show that a paltry 5.1% + 1.7% = 6.8% of the female faculty members assessed all the items using 'never' and 'rarely'. These respondents indicated that they realised their work-work balance as desired. Female faculty members who assessed the items using 'sometimes' were 5.8% and these revealed that they realised desired WWB

irregularly. Those who assessed all the items using 'often' and 'very often' were 69.1% + 18.3% = 87.4% and they indicated that they did not realise the desired level of WWB. These results show that the majority of the selected female faculty members did not achieve desired WWB. This interpretation is also revealed by mean value and standard deviation corresponding to the overall assessment. The mean value (Mean = 3.71) was close to '4' a code for 'often' that suggests to failure to achieve the desired level of WWB. The standard deviation (Std. = .484) was less than '1' , suggesting that assessment the female faculty members provided as individuals did not deviate much from their overall assessment as a whole sample.

The above interpretation holds for all the specific indicators of WWB in Table 2 since their corresponding mean values were close to '4' and standard deviations were less than one. The results, therefore, indicate that most of the female faculty members of Uganda's public universities did not achieve the desired WWB. These results support Griffins (2022) who coined the concept of WWB after discovering that most of the academic staff members were not only failing to attain work-life balance but also struggling to balance the different dimensions of their job. The results also point to a need for the public universities in Uganda to find ways by which their female faculty members can be enabled to realise desired WWB. Furthermore, when the respondents were asked to use the same Likert scale of responses to assess the level of productivity they attained, descriptive analysis of the assessment they provided led to results presented in Table 3.

Table 3: Female faculty's self-assessment of their productivity.

Indicators of faculty productivity	**% of Faculty members per response (N = 230 = 100%)**						
	N	**R**	**S**	**O**	**VO**	**Mean**	**Std.**
I find it hard to teach all the lectures assigned to me in a semester within the scheduled time	4.5	10.0	3.3	60.0	22.2	3.84	.509
I find it difficult teach all the course units within each lecture assigned to me	5.9	11.9	15.1	47.8	19.3	3.85	.555
I find it hard to mark all the coursework scripts within the expected time	5.5	20.0	5.1	50.0	19.4	3.74	.486
I find it difficult to mark all the examination scripts within the scheduled time	12.8	10.0	12.2	49.4	15.6	3.51	.909
I find it hard to supervise all research students assigned to me so they can complete their research projects in time	1.6	10.0	7.3	61.1	20.0	3.68	.796
I find it hard to participate in developing new academic programmes the university needs to be more competitive.	9.4	12.8	12.2	50.0	15.6	3.53	.949
I find it hard to conduct research to prepare the number of papers explaining new knowledge expected of me	0.0	1.6	17.3	61.1	20.0	4.08	.256
I find it hard to publish the number of research articles expected of me per academic year	0.0	20.0	5.0	55.6	19.4	3.63	.512
I find it hard to write the number of book chapters expected of me per academic	5.5	5.1	19.4	50.0	20.0	3.58	.436
I find it hard to present the number of conference papers expected of me at the international level per academic	0.0	15.5	9.4	59.6	15.5	3.67	.365
I find it hard to present the number of conference papers expected of me at the national level per academic	9.4	12.8	12.2	50.0	15.6	3.53	.949
I find it hard to present the number of conference papers expected of me at the local level per academic	0.0	1.6	17.3	61.1	20.0	4.08	.256
I find it difficult to initiate the number of community development projects expected of me	0.0	20.0	5.0	55.6	19.4	3.63	.512
I find it hard to accomplish my administrative roles as expected	0.0	1.6	17.3	61.1	20.0	4.08	.256
Assessment of overall faculty productivity	3.9	10.9	11.3	55.2	18.7	3.75	.553

The statistics corresponding to the overall assessment in Table 3 show that on average, 3.9% + 10.9% = 14.8% of the female faculty assessed the indicators using 'never' and 'rarely', thereby revealing that they realised the level of productivity expected of them by their universities. Those who assessed the indicators using 'sometimes' were 11.3% and these showed that the achieved the expected productivity irregularly. The faculty members who assessed the indicators using 'often' and 'very often' were 55.2% + 18.7% = 73.9% and these respondents showed that they did not realise the level of productivity expected of them. These results reveal that the majority of the female faculty members of public universities in Uganda do not realise the level of productivity expected of them. The mean value and standard deviation corresponding to the overall assessment (Mean = 3.75, Std. = .553) allude to the same interpretation. The results are therefore consistent with the observations made by Nakanjako *et al*. (2017), Namutebi (2019) and Hiire *et al*. (2020) that most of the faculty members of the universities in Uganda are underproductive at work. As noted earlier, these scholars explained this under-productivity in terms of factors, which did not include the lecturers' WFB and WWB. For this reason, this study further investigated whether the level of WFB and WWB that these faculty members realised were among the factors that affected their productivity.

This investigation involved using the arithmetic technique of the data transformation method of SPSS (Version 25) to compute the global variables (WFB, WWB, overall faculty productivity) out of the assessments provided by the selected lecturers using the indicators of each as shown in Tables 1, 2 and 3. In addition, each of the dimensions of these lecturers' productivity was similarly computed from their assessment as shown in Table 3. Thereafter, multiple regression analysis in which WFB and WWB were treated as independent variables and Productivity and its dimensions as dependent variables was run. The results are presented in Table 4.

Table 4: Effect of faculty members' level of WFB and WWB on their productivity.

	Statistics predicted on the Dependent variables								
		Teaching	Research	Community service	Administration	Overall faculty productivity			
Predictor Variables	Constant	Beta	Beta	Beta	Beta	R-Square	Adjusted R-Square	F	p-value
WFB	6.161	.212	.289	.233	.019	.315	.333	6.671	.001
p-value		.040	.025	.033	.054				
WWB	8.393	.267	.327	.246	.016	.359	.357	8.880	.000
p-value		.034	.014	.029	.065				

The Adjusted R-Square values, their corresponding F-values and levels of significance in Table 4 indicate that female lecturers' self-assessed WFB predicted their self-assessed productivity by a significant 33.3% (Adjusted R-Square = .333, F = 6.671, p-value = .005 < .01).

Likewise, these lecturers' self-assessed WWB predicted the health workers' job effectiveness (again as assessed by the patients) by a significant 35.7% (Adjusted R-Square = .357, F = 8.880, p-value = .000 < .05). These results imply that female lecturers' WFB and WWB had a significant effect on their productivity.

All the beta coefficients in Table 4 were positive, with those corresponding to teaching, research and community service significant at the .05 level of significance. These coefficients reveal that the level of WFB and WWB that female lecturers achieved affected their productivity positively, and in a significant manner with respect to teaching, research and community service. Therefore, a positive change in these lecturers' WFB and WWB translates into significant and positive change in these lecturers' teaching, research and community service. The magnitudes of the Beta coefficients indicate that those corresponding to research were the largest (Beta = .289 for WFB and Beta = .327 for WWB). This suggests that the effect of female lecturers' WFB and WWB was strongest on research as a dimension of their productivity. Therefore, while these lecturers' WFB and WWB affect all dimensions of their productivity positively, the strongest effect is on the level at which they conduct research. In addition, the Beta coefficients and F-value corresponding to WWB were greater than those corresponding to WFB. This suggests that WWB was a better predictor of the lecturers' productivity generally and research productivity in particular.

In general the results indicate that WFB and WWB are significant determinants of the level of productivity achieved by female faculty members of public universities in Uganda. Therefore, the results support the social exchange theory of WLB that indicates that the level of WFB achieved by employees determines the extent of their productivity at work (Timms *et al.*, 2015; Oludayo *et al.*, 2018; Irfan *et al.*, 2021; Sulistiyani *et al.*, 2022). In addition, these results suggest that improving these faculty members' WFB and WWB translates into significant enhancement of their productivity, especially in teaching, research and community service. Therefore, the results also give credence to Griffin's observation that WWB has a direct influence on faculty members' productivity. They further concur with the studies of Dapiton *et al.* (2020), Kotini-Shah *et al.* (2022) and Esquivel *et al.* (2023) and Cantina and Wilfredo (2021) that established a significant relationship between WFB and employee productivity. The findings however, contradict the conclusion reached by Cantina and Wilfredo (2021) that WFB does not have a significant relationship with lecturers' engagement in community service.

In addition to being largely consistent with previous research, the results indicate that improving WFB and WWB leads to a significant improvement in the productivity female lecturers achieve in teaching, research and engagement in community service. Moreover, these improvements are needed since most of the lecturers did not realise desired WFB and WWB and at the same time, they did not achieve the level of productivity expected of them. Indeed, Table 1 indicate that the lecturers spent much more time of over six days a week and over 12 hours a day at work, implying that they did not get enough time to be with their families and fulfil family commitments. Moreover, they worried about work whenever they were away from the workplace, felt stressed and depressed and did not get enough quality time to spend with their families. This was aggravated by the fact that most of these lecturers hardly worked in shifts or online when they were at home. They also lacked cooperation through standing in for each other and hardly got the opportunity to go for sabbatical or career break. Furthermore, their universities did not organise workplace parties to which their families were invited. These results suggest that worked

fulltime and were physically present at their workplaces most of the time. Even the flexible working strategies that would have allowed them to stay with their families such as working in shifts or online or getting paid leaves were not used by their universities. However, research by Berkery *et al*. (2020) indicates that these are the flexitime strategies that organisations have adopted to encourage WFB for their employees. Therefore, there is need for the management in Ugandan public universities to adopt the same strategies so they can improve their female lecturers' WFB and subsequently their productivity. Furthermore, the results in Table 2 indicate that most of the female faculty members were unable to achieve desired WWB. They found it difficult to perform all their teaching, research, community service and administrative activities simultaneously. Specifically, they could not effectively balance their effort and time between developing new academic programmes, searching for and updating the lecture content they needed to teach while at the same time teaching all the assigned lectures and course units, and assessing the large numbers of students by marking all their coursework and examination scripts. All these were teaching activities, but performing them simultaneously overstretched most of the female lecturers most of the time, more so because they taught big class sizes.

The above challenge was exacerbated by the fact that the lecturers were expected to conduct research and engage in community service at the same time. To most of the female lecturers, teaching was alone pre-occupying that they did not find time to engage in community service. At the same time, conducting research was also so pre-occupying that it also left most of these lecturers with no time to participate in community service. Furthermore, the lecturers who had administrative roles found it hard to fulfil these roles concurrently with teaching, research and engaging in community service. These results suggest that female lecturers could do better if they concentrated on one dimension of their job at a time, and if the class sizes they taught were not very big.

Conclusions and recommendations.

The results indicate that most of the selected female faculty members did not attain the desired level of WFB and WWB, and their productivity was suboptimal. These results, therefore, point to a need to improve all these concepts. The management of Uganda's public universities should look into how to meet this need, more so because the results indicate that when WFB and WWB are improved, they translate into significant improvements in the female faculty's productivity in teaching, research and engagement in community service, especially when more emphasis is put on improving WWB. The results indicate that the strategies that other organisations use to improve WFB were not used in the selected universities. Accordingly, WFB can improve when the management in these universities adopt these universities, including working in shifts, allowing lecturers to work online when they are at home, giving them paid leaves, and organising social functions to which these lecturers are allowed to invite their families to attend.

Results indicate further that most of the female faculty members did not realise the desired level of WWB because they were required to perform all the different dimensions of their jobs and the different strands within each dimension simultaneously. Yet performing the activities in one of the dimensions used up much of the time and effort that there was no enough time for conducting the activities in another dimension. The result was that the lecturers were underproductive in all the dimensions. These results indicate that improving these lecturers' WWB by using strategies that minimise doing all the

dimensions of their job simultaneously can help improve their productivity. One of these strategies could to allow these lecturers to concentrate on dimension of their job at a time. This can be achieved though flexibility that allows some lecturers to concentrate on teaching in one semester while others are conducting research and others are doing community service; then they are rotated in another semester and so on.

The management of Uganda's public universities can also allow female lecturers to cooperate with their colleagues at work by standing in for each other in a manner that enables them to concentrate on one dimension while others are attending to other dimensions through this collaboration. This can help improve productivity in each dimension instead of having a situation in which all the lecturers are underproductive in all the dimensions because of performing them simultaneously. As the old adage goes, one can serve more than master ago and expect to be optimally productive for all the served masters. The management of these universities can also enable female lecturers to improve their WFB and WWB by fulfilling their wish of recruiting more lecturers to reduce the work overload they experience. In fact, more lecturers need to be recruited to fill Uganda's public universities' staff establishments, thereby realising the planned lecturer-student ratio. This will reduce the work overload by translating into assigning each lecturer the ideal or recommended number of students, lectures and course units, which will create more time for the lecturers to attend to other dimensions of their job while also maintaining the desired WFB.

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