

A Comparative Assessment of Work-Life Balance, Work Stress and Job Satisfaction among Female Nursing Staff in Government and Private Hospitals

Nadupuri Dinesh¹, K.V.V. Murali Someswara Rao², N. Kishore Babu³

¹Department of Management Studies, D.N.R. College (A), Bhimavaram

²Department of MBA - Business Analytics, Gayatri Vidya Parishad College for Degree and PG Courses (A), Visakhapatnam

³Department of Commerce and Management Studies, Andhra University, Visakhapatnam

*Corresponding Author: Nadupuri Dinesh, Department of Management Studies, D.N.R. College (A), Bhimavaram

ABSTRACT

Nursing is one of the most demanding jobs in the health care industry, and for women, especially, it is a challenging job to combine the heavy workload of nursing with the responsibilities at home. Work-life balance, work stress and job satisfaction have been studied independently but there is limited comparative evidence on differences and interrelationships between these constructs in the government and private hospitals of India. The current study, therefore, is designed to (i) compare, (ii) explore the structural relationships between work-life balance, work stress and job satisfaction among female nursing staff in government and private hospitals, and (iii) assess whether the structural relationships between these constructs are different for female nursing staff in government and private hospitals. A structured questionnaire was used to gather data from 200 female nurses, government and private, respectively. The independent samples t-test, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM) and multi-group analysis were used. The government hospital nurses reported significantly higher level of work-life balance ($t = 4.17$, $d = 0.59$) and job satisfaction ($t = 4.41$, $d = 0.62$) with significantly lower level of work stress ($t = -3.66$, $d = 0.52$) than the private hospital nurses ($p < 0.001$). Work stress showed a negative correlation with work-life balance ($\beta = -0.52$) and job satisfaction ($\beta = -0.24$) and work-life balance showed a positive correlation with job satisfaction ($\beta = 0.45$). The impact of work stress on job satisfaction was partially explained by work-life balance. Multi-group analysis showed that the paths between stress and balance and between balance and satisfaction were significantly greater for the private hospitals nurses. The results have practical implications for hospital managers and administrators and help inform the development of policies to enhance the health and job satisfaction of women in the nursing profession.

Keywords: Work-life balance, Work stress, Job satisfaction, Female nursing staff, Government hospitals, Private hospitals, Multi-group analysis

How to cite this article: Nadupuri Dinesh¹ K.V.V. Murali Someswara Rao² N. Kishore Babu³. A Comparative Assessment of Work-Life Balance, Work Stress and Job Satisfaction among Female Nursing Staff in Government and Private Hospitals. *Int J Drug Deliv Technol.* 2026;16(86s):1672-1684. DOI: 10.25258/ijddt.16.86s.150.

Source of support: Nil.

Conflict of interest: None

1. Introduction

Nurses are the most populous professional group in the health sector and are at the heart of the quality, safety and continuity of patient care. The World Health Organization (WHO 2020) has highlighted the importance of building the capacity of the nursing workforce to attain UHC and transitioning from gaps and low levels of personnel to the additional burden of excessive workloads and poor working conditions in many LMICs. Nursing services in India are provided under two systems of health delivery, government

(public) and private hospitals, which are very different in their organisation, employment, workload and management. The differences are likely to have an impact on the nature of nurses' work experiences, but so far there is not a lot of comparative evidence on how nurses' work and personal lives are lived in the two sectors.

Nursing in India is a primarily female profession and women nurses tend to have heavier domestic and care-taking burden as well as professional. Women nurses are more likely to be primary economic breadwinners in India and also

take on most of the domestic/care taking duties as well as professional ones. Changing shifts, night shifts, insufficient staffing, high levels of emotional work and low autonomy regarding work scheduling are all factors that challenge nurses' work and family balance (McVicar, 2003; Sharma et al., 2016). Nurses in situations where the work demands are higher than their resources and capabilities will feel work stress, which has been linked to absenteeism, diminished patient quality of care, and plans for leaving the job (Aiken et al., 2002; McVicar, 2016). On the other hand, the capacity to enjoy a good life-work balance has been associated with increased levels of job satisfaction, mental health and organisational commitment (Greenhaus, 2003; Haar et al., 2014). The work environment in government hospitals is different from that in private hospitals. When it comes to employment benefits, government hospitals typically provide more job security, set pay scales, statutory leave, and more predictable schedules but they also tend to be overrun, have a large number of patients, and have limited resources. Private hospitals, on the other hand, are more likely to provide superior infrastructure and technology, but are often linked to working longer hours and contractual job contracts, as well as nursing staff with lower salaries, which are not well regulated, and high patient expectations of performance. These structural differences point to the possibility of systematic differences between the two sectors in terms of the level of work-life balance, work stress and job satisfaction, and the relationships among these.

While an extensive literature exists on job stress and job satisfaction among nurses (Lu et al., 2012, 2019; McVicar, 2016), only a few studies have modelled work-life balance, work stress and job satisfaction in one model and tested whether there are differences between the models in hospital sectors. The majority of comparative studies on stress and its effect on satisfaction in the Indian context focus on either descriptive statistics or on simple comparisons of means and have not explored how stress impacts on satisfaction. Specifically, the mediating effect between stress and satisfaction including the work-life balance and the moderating effect of the hospital sector has not been well tested.

With this backdrop, the present study aims to (i) compare the work-life balance, work stress and job satisfaction of female nurses in government and private hospitals; (ii) investigate the relationship between work stress and work-life balance, and work-life balance and job satisfaction; (iii) test for mediation effects of work-life balance between work stress and job satisfaction, and of work-life balance and job satisfaction; and (iv) determine if structural relationships between work stress, work-life balance and job satisfaction differ between

government and private hospital nurses. The study makes a contribution to literature by using both the mean difference analysis and the SEM and multi-group analysis in order to provide descriptive as well as explanatory evidence in consideration of the hospital human resource policies.

2. Review of literature

2.1. Work-life balance

Work-life balance is the balance between one's involvement in and satisfaction with one's work and non-work roles (Greenhaus et al. 2003). According to Kalliath and Brough (2008), it is the person's attitude and belief that the tasks of work and non-work are compatible and conducive to development in line with his or her current life priorities. The concept is based on role theory and in the literature of the conflict between work and family, which states that pressures to the domain (time, strain, behaviour) from the other domain make it harder to engage in the other domain (Greenhaus & Beutell, 1985; Kahn et al., 1964). The work/family border theory also implies that people are in constant negotiation about the boundaries between the work and family domains and that balance is achieved when the boundaries are negotiated without much conflict (Clark, 2000).

Shift patterns, overtime, staffing, leave policies and flexibility in scheduling all play a role in the work-life balance of nurses. Research consistently has found that job-family conflict is linked to reduced job satisfaction and life satisfaction (Kossek & Ozeki, 1998; Allen et al., 2000), and higher psychological distress among nurses that experience more conflict between work and family role (Sharma et al., 2016). Across seven cultures, Haar et al. (2014) showed that work-life balance is positively correlated with job satisfaction and life satisfaction and negatively with anxiety and depression, thus emphasizing its importance as a personal resource.

2.2. Work stress

Stress at work occurs when the work demands on an individual are more than he or she can cope with, which results in physical and psychological strain (Lazarus & Folkman, 1984). High job demands and low decision latitude are associated with the highest strain (see also the job demand-control model from Karasek, 1979), whereas high job resources buffer these effects and contribute to feelings of motivation (see also the job demands-resources model from Demerouti et al., 2001; Bakker & Demerouti, 2007). Conservation of resources theory also states that stress is caused by the perceived threat or loss of valuable resources (Hobfoll, 1989).

Nursing has long been recognised as a high stress job. The common stressors reported are heavy workload, staff shortages, death and dying, conflict with physicians and supervisors,

inadequate preparation for the emotional demands, and shift work (Gray-Toft & Anderson, 1981; McVicar, 2003). Nurse work stress has been linked to burnout, decreased job satisfaction and intention to leave (Aiken et al., 2002; McVicar, 2016). Government and private hospitals might have different workloads, staffing and managerial expectations, which might mean that the intensity and sources of stress are somewhat different in these two sectors.

2.3. Job satisfaction

Job satisfaction can be defined as a positive or pleasant emotional response to a job or job experiences (Locke, 1976). It is a reflection of how much employees enjoy their jobs and is generally considered to be a composite of satisfaction with pay, working conditions, supervision, co-workers, growth opportunities, and the work itself (Spector, 1985, 1997). Herzberg et al. (1959) identified hygiene factors (conditions related to pay and working conditions) which could cause dissatisfaction and motivators (recognition and growth) which could lead to satisfaction. According to systematic reviews of nursing research, working conditions, workload, nursing stress, leadership, working relationships with others, autonomy, and compensation and promotion prospects are the most important factors affecting nurses' satisfaction with their work (Lu et al., 2012, 2019). Nurses' satisfaction with their jobs, in turn, is linked to organisational commitment, reduced turnover and better quality of care (Aiken et al., 2002) which makes it a prime outcome for hospital management.

H1. *There is a significant difference in work-life balance between female nurses in government and private hospitals.*

H2. *There is a significant difference in work stress between female nurses in government and private hospitals.*

H3. *There is a significant difference in job satisfaction between female nurses in government and private hospitals.*

H4. *Work stress has a significant negative effect on work-life balance.*

H5. *Work-life balance has a significant positive effect on job satisfaction.*

H6. *Work stress has a significant negative effect on job satisfaction.*

H7. *Work-life balance mediates the relationship between work stress and job satisfaction.*

H8. *The structural relationships among work stress, work-life balance and job satisfaction differ significantly between government and private hospital nurses.*

The theoretical framework of the study is presented in Figure 1.

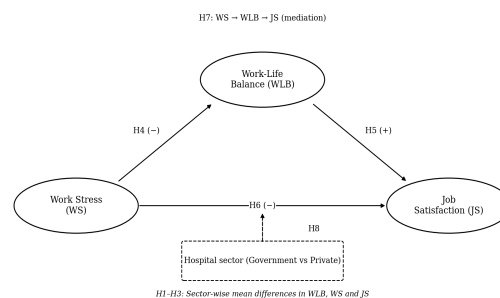


Figure 1. Theoretical model of the study.

3. Research methods

3.1. Study area and setting

The study was carried out with female nurses in selected government and private hospitals in [City/District] of state [State] in India. Government hospitals comprised a government general hospital and district hospitals under the jurisdiction of the state health department that functioned in a subsidised or free care basis and received a large number of patients. Private hospitals comprised the multi-speciality and corporate hospitals having 100 beds or more, providing fee based services and accredited or seeking accreditation. These institutions were chosen as they are the most common type of secondary and tertiary care institutions in the region and are staffed with a large number of female nurses in general wards, intensive care units, emergency departments and specialty units.

3.2. Design and methods of research.

The cross-sectional and descriptive-comparative and explanatory method of research was used to carry out this research. The design is descriptive-comparative due to the comparison between the level of work-life balance, work stress and job satisfaction of two groups of nurses and explanatory because the test the theoretically derived causal relationships between the constructs. Data were gathered only once within a time interval and a quantitative method was used to analyze the mean difference and the structural relationship.

3.3. The design of a sample and the number of samples.

The subjects of the study were female staff nurses who had one year of experience in the hospital where they worked. Stratified purposive sampling technique was used with hospital sector (government and private) as the stratum. To compare groups and multi-group analysis, an equal number of respondents (100) was used in each sector. Intra-sector sampling was conducted to ensure representation across wards and shifts to reflect variation in work conditions within each sector. Access was facilitated by nursing superintendents/ward in-charges and questionnaires were sent at non peak times to ensure that patient care was not disrupted.

As far as the number of observations, Hair et al. (2019) suggest that at least five to ten observations

per measured item are warranted for factor analysis, but 15 items will require at least 75 to 150 respondents. Kline (2016) recommends that about 200 cases are enough for the SEM models of moderate complexity, and Wolf et al. (2013) found that there was a stable estimation of models with three factors and several indicators per factor at the sample size of 200 cases. Overall, 230 questionnaires were mailed (115 per sector) with 214 questionnaire returns (108 government, 106 private). 14 questionnaires were discarded because of a significant number of missing responses (eight for government and six for private questionnaires) and 200 questionnaires were retained and used (100 per sector) with an effective usable response rate of 87.0%.

3.4. Research instrument development

Primary data collection was done through the use of a structured questionnaire. Part A collected socio-demographic and employment information. Part B consisted of 15 items with five for each of the three study constructs adapted from previous questionnaires and adapted to the hospital nursing context. The workload, staffing, emotional demands of work, superior expectations, and shift work were adapted from the Nursing Stress Scale (Gray-Toft & Anderson, 1981) and McVicar (2003) to create work stress items. Items for work-life balance were modified from Fisher et al. (2009) and Netemeyer et al. (1996) and were positively worded to mean more favorable work-life balance as higher scores represent more favorable. The Job Satisfaction items were adapted from the Job Satisfaction Survey (Spector, 1985) and Brayfield and Rothe (1951) which included pay, working conditions, relationships, growth and overall satisfaction. Each item was rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Content validation was achieved by two nursing teachers, one human resource management faculty member. A pilot study with 25 nurses (not included in the final sample) resulted in acceptable levels of reliability ($\alpha > 0.80$ for all constructs) and prompted some word changes. The questionnaire was given in English language and translated into and out of Telugu language using forward and back translation technique. Voluntary participation, written informed consent and anonymity were ensured.

4. Ways of analyzing data

Completed questionnaires were checked, coded and entered in IBM SPSS Statistics version 26. The missing values, outlier, normality and multicollinearity were analyzed using data screening. Descriptive statistics were used to describe the characteristics of the respondents and item responses. To compare the government and private hospitals nurses on each construct and item, independent samples t-tests were performed, followed by Levene's test for equality of variance, and the effect sizes (Cohen, 1988) for each item and

each construct were computed. The dimensional structure of the items was analyzed by using EFA that was conducted with Principal Component Analysis (PCA) and varimax rotation. Then, CFA was performed by the two-step method of Anderson and Gerbing (1988), and reliability and validity were examined by Cronbach's alpha, composite reliability (CR), average variance extracted (AVE) and the criterion of Fornell and Larcker (1981). The structural model was estimated using Maximum Likelihood Estimation (MLE), and the indirect effect was tested with bias-corrected bootstrapping with 2,000 bootstraps (Preacher & Hayes, 2008). Finally, tests for measurement invariance between the two sectors (Vandenberg & Lance, 2000; Cheung & Rensvold, 2002) were conducted, and structural paths were compared using multi-group analysis with pairwise critical ratios of differences. A similar analytical process was used in recent SEM-based behavioural studies (Bayih & Singh, 2020).

5. Findings

5.1. Socio-demographic profile of respondents

Table 1 presents the profile of the 200 female nurses by hospital sector. The largest age group overall was 26–35 years (101; 50.5%), although government nurses were older on average, with 38% aged 36 years and above compared with 18% in private hospitals. A majority were married (127; 63.5%). With regard to qualification, General Nursing and Midwifery (GNM) diploma holders (89; 44.5%) and B.Sc. Nursing graduates (79; 39.5%) formed the largest groups. Government nurses had longer experience, with 47% having more than ten years of service compared with 14% in private hospitals. Monthly income differed markedly by sector: 62% of private hospital nurses earned ₹25,000 or less, compared with 13% of government nurses. Rotating shifts including night duty were reported by 74.0% of respondents overall, and nuclear families were more common (118; 59.0%).

Table 1. Socio-demographic profile of respondents by hospital sector (N = 200).

Variable	Category	Govt (n = 100)	Private (n = 100)	Total	%
Age (years)	Up to 25	12	31	43	21.5
	26–35	50	51	101	50.5
	36–45	26	14	40	20.0
	Above 45	12	4	16	8.0
Marital status	Unmarried	28	45	73	36.5

A Comparative Assessment of Work-Life Balance, Work Stress and Job Satisfaction among Female Nursing Staff in Government and Private Hospitals

Variable	Category	Govt (n = 100)	Private (n = 100)	Total	%
	Married	72	55	127	63.5
Qualification	GNM Diploma	46	43	89	44.5
	B.Sc. Nursing	33	46	79	39.5
	Post-Basic B.Sc. Nursing	15	7	22	11.0
	M.Sc. Nursing	6	4	10	5.0
Experience (years)	1-5	21	52	73	36.5
	6-10	32	34	66	33.0
	Above 10	47	14	61	30.5
Monthly income (₹)	Up to 25,000	13	62	75	37.5
	25,001-40,000	35	29	64	32.0
	Above 40,000	52	9	61	30.5
Shift pattern	Rotating with night duty	71	77	148	74.0
	Day shift only	29	23	52	26.0
Family type	Nuclear	56	62	118	59.0
	Joint	44	38	82	41.0
Dependent children	None	34	53	87	43.5
	One	31	27	58	29.0
	Two or more	35	20	55	27.5

Note: GNM = General Nursing and Midwifery. Values for Govt and Private are frequencies; since each group has 100 respondents, frequencies equal within-group percentages.

5.2. Descriptive statistics

The item level descriptive statistics, EFA factor loadings and normality measures for pooled sample are presented in Table 2. The mean for work stress was moderately high ($M = 3.40$, $SD = 0.74$), with staff shortage (WS2: $M = 3.61$) and excessive

workload (WS1: $M = 3.54$) at the highest level of stress. The time spent on work-life balance had the lowest mean of the three constructs ($M = 3.20$, $SD = 0.78$), and the item that referred to the nurse's commitment to attend family and social events (WLB3: $M = 3.09$) was rated the lowest, suggesting that nurses frequently have to sacrifice personal commitments due to work. Job satisfaction scores were moderate ($M = 3.42$, $SD = 0.76$): nurses' satisfaction was highest with the quality of their relationships with supervisors and colleagues (JS3: $M = 3.66$) and lowest with salary and benefits (JS1: $M = 3.12$) and opportunities for growth and promotion (JS4: $M = 3.24$).

Table 2. Factor loadings, descriptive statistics and normality measures ($N = 200$).

Construct and items	FL	M	SD	S	K
Work Stress (WS)					
WS1 – I feel pressured by excessive workload during my shifts	.771	3.54	0.97	-0.48	-0.41
WS2 – Shortage of nursing staff increases my work pressure	.812	3.61	0.94	-0.57	-0.29
WS3 – I often feel emotionally drained by patient care demands	.748	3.32	1.01	-0.31	-0.62
WS4 – Unrealistic expectations from superiors and doctors cause me stress	.794	3.34	0.99	-0.33	-0.58
WS5 – Irregular and night shifts cause me physical and mental fatigue	.702	3.17	1.01	-0.18	-0.74
Work-Life Balance (WLB)					
WLB1 – I am able to balance my work and family responsibilities	.806	3.29	1.04	-0.27	-0.66
WLB2 – My working hours allow me sufficient time for my family	.763	3.21	1.07	-0.21	-0.71

A Comparative Assessment of Work-Life Balance, Work Stress and Job Satisfaction among Female Nursing Staff in Government and Private Hospitals

Construct and items	FL	M	SD	S	K
WLB3 – I rarely miss family or social events because of work	.829	3.09	1.03	-0.09	-0.78
WLB4 – I get leave when I need it for personal or family matters	.727	3.23	1.07	-0.22	-0.69
WLB5 – Work demands do not interfere with my personal life	.781	3.19	1.04	-0.17	-0.72
Job Satisfaction (JS)					
JS1 – I am satisfied with my salary and benefits	.818	3.12	1.05	-0.12	-0.79
JS2 – I am satisfied with my working conditions	.784	3.41	1.01	-0.36	-0.52
JS3 – I am satisfied with my relationships with supervisors and colleagues	.752	3.66	0.94	-0.62	-0.14
JS4 – I am satisfied with my opportunities for growth and promotion	.803	3.24	1.03	-0.23	-0.67
JS5 – Overall, I am satisfied with my job	.733	3.64	0.96	-0.58	-0.21

Note: FL = EFA factor loading (varimax-rotated); M = mean; SD = standard deviation; S = skewness; K = kurtosis. Construct means (SD): WS = 3.40 (0.74); WLB = 3.20 (0.78); JS = 3.42 (0.76).

5.3. Comparison of government and private hospital nurses

Two independent samples t-tests were used to compare the two groups (Table 3). Levene's test indicated that the assumption of equal variances was met for all three constructs (WLB: $F = 1.42$, $p = 0.235$; WS: $F = 0.86$, $p = 0.355$; JS: $F = 1.97$, $p = 0.162$). Government hospital nurses reported significantly higher work-life balance ($M = 3.42$, $SD = 0.71$) than private hospital nurses ($M = 2.98$, $SD = 0.78$), $t(198) = 4.17$, $p < 0.001$, with a medium effect size ($d = 0.59$). H1 was thus endorsed. Private hospital nurses reported significantly higher work

stress ($M = 3.58$, $SD = 0.69$) than government nurses ($M = 3.21$, $SD = 0.74$), $t(198) = -3.66$, $p < 0.001$, $d = 0.52$, supporting H2. Government nurses also reported significantly higher job satisfaction ($M = 3.64$, $SD = 0.68$) than private nurses ($M = 3.19$, $SD = 0.76$), $t(198) = 4.41$, $p < 0.001$, $d = 0.62$, supporting H3.

The difference in stress was most notable at the item level for staff shortage (WS2) and workload (WS1) which were both found to be significantly higher in private hospitals ($p < 0.001$ and $p = 0.002$ respectively) while the difference in fatigue for irregular shift and night shift (WS5) was not significant ($p = 0.058$) as there was not much difference between the two shift types, with rotating shifts occurring in both sectors. The greatest difference in work-life balance was in relation to leave availability (WLB4: $t = 4.45$) with government nurses perceiving this aspect as less of a problem than the others. There was no significant difference ($p = 0.682$) among the participants in relation to the perceived interference of work demands with personal life (WLB5). The greatest difference in job satisfaction was obtained for salary and benefits (JS1: $t = 4.29$) and working conditions (JS2: $t = 4.10$) with the government nurses favoring both.

Table 3. Sector-wise comparison of work stress, work-life balance and job satisfaction.

Construct / Item	Gov t M (SD)	Private M (SD)	t (198)	p	Cohen's d
Work Stress (WS)	3.21 (0.74)	3.58 (0.69)	-3.657	< 0.001	0.52
WS1	3.33 (0.98)	3.75 (0.91)	-3.141	0.002	—
WS2	3.40 (0.95)	3.82 (0.88)	-3.243	0.001	—
WS3	3.16 (1.02)	3.47 (0.97)	-2.202	0.029	—
WS4	3.13 (0.99)	3.56 (0.95)	-3.134	0.002	—
WS5	3.03 (1.06)	3.30 (0.94)	-1.906	0.058	—
Work-Life Balance (WLB)	3.42 (0.71)	2.98 (0.78)	4.172	< 0.001	0.59
WLB1	3.53 (0.96)	3.04 (1.05)	3.444	0.001	—

Construct / Item	Govt M (SD)	Private M (SD)	t (198)	p	Cohen's d
WLB2	3.47 (1.01)	2.94 (1.07)	3.602	< 0.001	—
WLB3	3.33 (0.99)	2.85 (1.02)	3.377	< 0.001	—
WLB4	3.55 (0.94)	2.91 (1.09)	4.446	< 0.001	—
WLB5	3.22 (1.03)	3.16 (1.04)	0.410	0.682	—
Job Satisfaction (JS)	3.64 (0.68)	3.19 (0.76)	4.413	< 0.001	0.62
JS1	3.43 (0.97)	2.82 (1.04)	4.289	< 0.001	—
JS2	3.69 (0.94)	3.13 (0.99)	4.102	< 0.001	—
JS3	3.86 (0.89)	3.46 (0.95)	3.073	0.002	—
JS4	3.40 (1.01)	3.08 (1.03)	2.218	0.028	—
JS5	3.82 (0.92)	3.46 (0.96)	2.707	0.007	—

Note: Govt n = 100; Private n = 100. Construct-level rows in bold. Cohen's d: 0.2 = small, 0.5 = medium, 0.8 = large (Cohen, 1988).

5.4. Exploratory factor analysis

The 15 items underwent an EFA based on PCA-varimax with eigenvalues > 1 and weights < 0.40 being dropped. The KMO sampling adequacy index was 0.874 (in the 'meritorious' range according to Kaiser, 1974) and Bartlett's test of sphericity was significant ($\chi^2 (105) = 1874.36$, $p < 0.001$). Three components were found that matched the three hypothesized constructs, and the loadings ranged from 0.702 to 0.829, and there were no cross-loadings higher than 0.40. The two accounted for 66.40% of the total variance, which is greater than 60% (Hair et al., 2019). The rotated variance (Table 4) showed that work-life balance accounted for the

most variance (22.73%), followed by job satisfaction (22.40%) and work stress (21.27%).

Table 4. Total variance explained and reliability of components.

Component	Items	Eigenvalue	% Variance	Cumulative %	α
Work-Life Balance (WLB)	5	3.41	22.73	22.73	0.887
Job Satisfaction (JS)	5	3.36	22.40	45.13	0.884
Work Stress (WS)	5	3.19	21.27	66.40	0.874

Note: Eigenvalues are rotation sums of squared loadings; α = Cronbach's alpha. KMO = 0.874; Bartlett's $\chi^2 (105) = 1874.36$, $p < 0.001$.

5.5. Missing values, outliers, normality, multicollinearity and common method bias

There were no missing values in the data set, because incomplete questionnaires were not used for the screening process. Multivariate outliers were evaluated with the Mahalanobis distance (D^2) at $p < 0.001$ level and no case was found to be more than the critical value. The skewness values ranged between -0.62 and -0.09, and values for kurtosis ranged between -0.79 and -0.14, which were within the limits of ± 2 and ± 7 , respectively (West et al., 1995) (Table 2). The critical ratio for the Mardia's coefficient of multivariate kurtosis was 4.12 which is less than the critical value of 5.00, suggesting multivariate normality (Byrne, 2016). There was no multicollinearity: The correlation between the two predictors of job satisfaction (work stress and work-life balance) was -0.52 which is less than 0.85 (Kline, 2016) and the VIF was 1.371 and the tolerance was 0.730. The Harman's single factor test result indicates that common method bias was not a major concern, as it was explained by only one factor having 38.60% of the variance (Podsakoff et al., 2003) which is less than the 50% threshold.

5.6. Confirmatory factor analysis

A pooled sample was used to perform a first order CFA using AMOS 24. Five indicators were used to measure each construct, establishing a congeneric over-identified model for each construct. All loadings were significant ($p < 0.001$) and ranged between 0.71 (WS5) and 0.84 (WLB3) with all values above 0.70 (Table 5). The measurement model showed good fit: $\chi^2 (87) = 148.62$, $p < 0.001$, CMIN/DF = 1.708, RMSEA = 0.060 (90% CI: 0.043–0.076), SRMR = 0.046, CFI = 0.962, TLI = 0.954, IFI = 0.963, NFI = 0.914 and PNFI = 0.757 (Hu & Bentler, 1999; Byrne, 2016). Both the significant chi-square result is due to the sensitivity

to sample size, and the normed chi-square is well below 3.

5.7. The reliability and validity of the measurement model were assessed.

Cronbach's alpha values ranged from 0.874 (WS) to 0.887 (WLB), and composite reliability ranged from 0.881 (WS) to 0.892 (WLB), all above 0.70 (Nunnally & Bernstein, 1994; Hair et al., 2019). The results showed that loadings were significant and higher than 0.70 and the items' AVEs were in the range of 0.597 (WS) to 0.622 (WLB) which is higher than the 0.50 threshold, thus proving the convergent validity (Table 5). The Fornell and Larcker (1981) criterion was used to confirm the discriminant validity, which is that the square root of each construct's AVE was greater than its correlations with the other constructs, and the MSV of each construct was smaller than its AVE (Table 6).

Table 5. Standardised loadings, reliability and convergent validity.

Construct	Items	Standardised loadings	α	CR	AVE	MSV
WS	WS1–WS5	.78 / .82 / .75 / .80 / .71	0.874	0.881	0.597	0.270
WLB	WLB1–WLB5	.81 / .77 / .84 / .73 / .79	0.887	0.892	0.622	0.336
JS	JS1–JS5	.83 / .79 / .76 / .81 / .74	0.884	0.890	0.619	0.336

Note: α = Cronbach's alpha; CR = composite reliability; AVE = average variance extracted; MSV = maximum shared variance. All loadings significant at $p < 0.001$.

Table 6. Discriminant validity: correlations with square root of AVE on the diagonal.

Construct	WS	WLB	JS
Work Stress (WS)	0.773		
Work-Life Balance (WLB)	–0.520	0.789	
Job Satisfaction (JS)	–0.480	0.580	0.787

Note: Diagonal values in bold are square roots of AVE; off-diagonal values are latent correlations, all significant at $p < 0.001$.

5.8. Structural model and hypothesis testing

The hypothesised relationships were tested on the pooled sample using the MLE method of SEM. The model reproduced the fit of the measurement model (χ^2 (87) = 148.62, χ^2/df = 1.708, RMSEA = 0.060, SRMR = 0.046, CFI = 0.962, TLI = 0.954), which is statistically equivalent to the measurement model, and shows an acceptable fit. In line with H4, work stress was found to have a significant negative effect on work-life balance (β = –0.52, C.R. = –6.765, $p <$

0.001) as seen in Table 7 and Figure 2. The study results showed that work-life balance positively influenced job satisfaction (β = 0.45, C.R. = 6.083, $p < 0.001$), confirming the hypothesis of H5. For job satisfaction, work stress also had a significant negative direct effect (β = –0.24, C.R. = –3.208, $p < 0.01$) and this result supports H6. Work stress accounted for 27% of the variance in work-life balance (R^2 = 0.27) and when combined with work-life balance, accounted for 38% of the variance in job satisfaction (R^2 = 0.38).

Table 7. Structural path estimates (pooled sample, N = 200).

Hypothesis	Path	β	B	S.E.	C.R.	p	Remark
H4	WLB ← WS	–0.52	–0.548	0.081	–6.765	**	Supported
H5	JS ← WLB	0.45	0.438	0.072	6.083	**	Supported
H6	JS ← WS	–0.24	–0.247	0.077	–3.208	0.001	Supported

Note: β = standardised estimate; B = unstandardised estimate; S.E. = standard error; C.R. = critical ratio. *** $p < 0.001$. R^2 (WLB) = 0.27; R^2 (JS) = 0.38.

5.9. Mediating role of work-life balance

Bias-corrected bootstrapping with 2,000 resamples (Preacher & Hayes, 2008) was used to test the indirect effect of work stress on job satisfaction through work-life balance. The indirect effect was negative and significant (β = –0.234, 95% CI [–0.331, –0.152], $p < 0.001$), as zero was not included in the confidence interval. Since the direct effect was also significant (β = –0.240, p = 0.001) and of the same sign, work-life balance was found to be a complementary partial mediator (Zhao et al., 2010). The indirect effect was about 49% (β = –0.474, $p < 0.001$) of the total effect of work stress on job satisfaction. It was therefore agreed that H7 support be given.

Table 8. Direct, indirect and total effects (bootstrapping, 2,000 resamples).

Hypothesis	Path	Direct effect	Indirect effect	95% BC CI (indirect)	Total effect	Mediation type	Remark
H7	WS → WLB	–0.240 (0.001)	–0.234 (***)	[–0.331, –0.152]	–0.474 (***)	Partial (complementary)	Supported

A Comparative Assessment of Work-Life Balance, Work Stress and Job Satisfaction among Female Nursing Staff in Government and Private Hospitals

Hyp.	Path	Direct effect	Indirect effect	95% BC CI (indirect)	Total effect	Mediation type	Remark
	B → JS						

Note: Standardised estimates with p-values in parentheses; BC CI = bias-corrected confidence interval. *** $p < 0.001$.

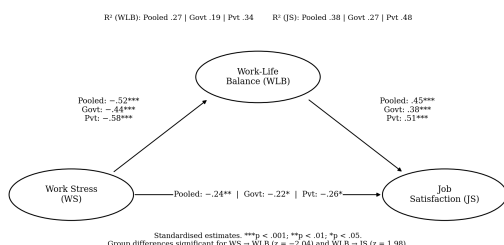


Figure 2. Structural model with pooled and sector-wise standardised estimates.

5.10. Measurement invariance and multi-group analysis

Before comparing structural paths across sectors, measurement invariance was assessed (Vandenberg & Lance, 2000). The configural model, in which the same factor structure was estimated freely in both groups, showed acceptable fit (χ^2 (174) = 289.41, CMIN/DF = 1.663, CFI = 0.941, RMSEA = 0.058), establishing configural invariance. Constraining factor loadings to be equal across groups did not significantly worsen fit ($\Delta\chi^2$ (12) = 13.71, $p = 0.320$; $\Delta CFI = 0.002$), satisfying the criterion of $\Delta CFI \leq 0.01$ (Cheung & Rensvold, 2002) and establishing metric invariance. The constructs were therefore measured equivalently in both sectors, permitting meaningful comparison of structural paths. Constraining all three structural paths to be equal produced a significant deterioration in fit ($\Delta\chi^2$ (3) = 11.74, $p = 0.008$), indicating that the structural model differs across sectors (Table 9).

Table 9. Measurement invariance and structural invariance tests.

Model	χ^2	df	CMI N/DF	CFI	RMSEA	$\Delta\chi^2$ (Δdf)	p	ΔCFI
Configural	289.41	174	1.663	0.941	0.058	—	—	—
Metric (loadings equal)	303.12	186	1.630	0.939	0.056	13.71 (12)	0.320	0.002

Model	χ^2	df	CMI N/DF	CFI	RMSEA	$\Delta\chi^2$ (Δdf)	p	ΔCFI
Structural weights equal	314.86	189	1.666	0.932	0.058	11.74 (3)	0.008	0.007

Note: $\Delta\chi^2$ and ΔCFI for the metric model are relative to the configural model; for the structural weights model they are relative to the metric model.

The pairwise comparisons done for differences using the critical ratio (Table 10) indicated that the negative impact of work stress on WLB was significantly higher among private hospital nurses ($\beta = -0.58$) compared to government nurses ($\beta = -0.44$; $z = -2.04$; $p < 0.05$). Likewise, the positive influence of work-life balance on level of job satisfaction was significant in private hospitals ($\beta = 0.51$) compared to government hospitals ($\beta = 0.38$; $z = 1.98$, $p < 0.05$). There was no difference between the two groups in respect of job satisfaction and work stress having a direct effect ($z = -0.31$, $p > 0.05$). Consequently, the indirect effect of stress on satisfaction through work-life balance was larger among private nurses ($\beta = -0.296$, 95% CI [-0.432, -0.181]) than among government nurses ($\beta = -0.167$, 95% CI [-0.278, -0.082]). The model accounted for more variance in work-life balance ($R^2 = 0.34$ vs. 0.19) and job satisfaction ($R^2 = 0.48$ vs. 0.27), in the private sector. So H8 was partially supported.

Table 10. Multi-group comparison of structural paths: government vs private hospital nurses.

Path	Govt β (C.R.)	p	Private β (C.R.)	p	z-diff.	Result
WLB ← WS	-0.44 (-4.12)	***	-0.58 (-5.86)	***	-2.04*	Significant difference
JS ← WLB	0.38 (3.37)	***	0.51 (4.62)	***	1.98*	Significant difference
JS ← WS	-0.22 (-2.03)	0.042	-0.26 (-2.41)	0.016	-0.31	No difference
Indirect: WS → WLB → JS	-0.167 [-0.278, -0.082]	0.001	-0.296 [-0.432, -0.181]	***	—	Stronger in private
R^2 (WL)	0.19 / 0.27		0.34 / 0.48			

Path	Govt β (C.R.)	p	Private β (C.R.)	p	z-diff.	Result
B) / R ² (JS)						

Note: Standardised estimates with critical ratios in parentheses; indirect effects with 95% bias-corrected bootstrap CIs. z-difference computed from unstandardised estimates. $**p < 0.001$; $p < 0.05$.

Table 11. Summary of hypothesis testing.

Hypothesis	Statement	Result
H1	WLB differs between government and private nurses	Supported (Govt > Private)
H2	WS differs between government and private nurses	Supported (Private > Govt)
H3	JS differs between government and private nurses	Supported (Govt > Private)
H4	WS → WLB (negative)	Supported
H5	WLB → JS (positive)	Supported
H6	WS → JS (negative)	Supported
H7	WLB mediates WS → JS	Supported (partial mediation)
H8	Structural paths differ by sector	Partially supported

6. Discussion

The findings of this study are that the work-life balance, work stress and job satisfaction of female nurses working in government hospitals are significantly higher with medium effect sizes for all three comparisons when compared to female nurses working in private hospitals. Such disparities are due to the different employment conditions of the two sectors. Leave availability, pressure related to staffing, workload and salary and benefits were the areas with the greatest gaps, and not associated with individual characteristics. The results confirmed the role of government job as a resource in the job, as predicted from the JD-R model of Bakker & Demerouti (2007), because the regulated pay scales, statutory leave entitlements and job security are resources of government jobs. It is interesting to note that some of the work requirements appear the same throughout all sectors and do not show up as major differences in terms of fatigue from night and irregular shifts, or work to personal life interference (McVicar, 2003).

The structural analysis supported the above finding that there is a significant negative effect of work stress on work-life balance. This is in accordance with the strain-based conflict theory developed by

Greenhaus & Beutell (1985) which states that stress takes away time, energy and emotions from the family and the personal role, and is in agreement with Sharma et al. (2016) study on Indian Nurses which suggested that stress consumes time, energy and emotions from family and personal roles. Work-life balance, however, was found to be a significant positive predictor of job satisfaction which is consistent with the findings of Greenhaus et al. (2003), Kossek and Ozeki (1998), and Haar et al. (2014). Work stress was also shown to have a significant effect on job satisfaction, in accordance with the large nursing literature which has demonstrated that work stress can have a direct impact on job satisfaction (Aiken et al., 2002; McVicar, 2016; Lu et al., 2019).

The mediation analysis showed that the negative effect of work stress on job satisfaction partially mediated by work-life balance, with almost half of this effect mediated. This discovery brings work-life balance as a personal resource to the JD-R model (Bakker & Demerouti, 2007) which explains how job demands can be transformed to attitudinal outcomes. Other factors that reduce satisfaction are emotional exhaustion and/or lack of organisational support, which constitute the rest of the direct effect. A multi-group analysis was carried out to gain deeper understanding of how these relationships are influenced by the hospital sector. The negative relationship between work stress and work-life balance, and the positive relationship between work-life balance and work satisfaction were significantly larger for private hospital nurses. This is the same pattern that would emerge if the job resources (e.g., leave, regulated hours and job security) were less available, as they are in private hospitals and stress were manifest in a more direct way of imbalance, and the presence or absence of imbalance would have a greater influence on satisfaction, as in those hospitals. Government nurses seem to be somewhat protected from the spillover of stress to their personal lives, benefiting from greater institutional resources. It is apparent that the direct relationship between stress and satisfaction is comparable across all sectors, suggesting that the immediate reaction to stress and satisfaction is a uniform trait of the nursing profession; differences in the work-life pathway suggest that is where there are more differences between sectors.

6.1. Theoretical implications

This research will make several contributions to the theory. First, it incorporates work-life balance and work stress in one structural model as they are in nursing context; this is an empirical support for the JD-R model in the nursing context as it is the first time that the work-life balance has been introduced as a personal resource in the model. Second, the study demonstrates the moderating role of the organisational context on the relationships between stress, balance and satisfaction by establishing

measurement invariance across hospital sectors and testing structural invariance, emphasizing the importance of the organisational job resources for the role of stress. Third, it extends the existing body of research on work-life balance which predominantly has been studied in the western context to the Indian context of female nurses who have an added layer of family considerations in terms of work-family interface. Finally, mean-difference methods are introduced as a methodological model to compare between the well-being of employees in different organisational sectors when applied in combination with SEM and multi-group analysis.

6.2. Management and policy implications.

The results of the study have important implications for hospital administrators and policymakers. The differences between staffing pressure, workload and salary levels were the greatest when compared with the government hospitals and should be considered as part of the agenda of the private hospital. Flexible and predictable rostering, leave options and advanced shift scheduling are all important to work-life balance, which is even more important in private hospitals for job satisfaction. Providing supportive supervision and communicating clear expectations may also help to minimize stress related to supervisors/dr. expectations.

The government hospitals, while performing in a better way on an average, should act accordingly by filling up the vacant posts and working conditions to moderate stress level due to the scarcity of resources and greater number of patients. For instance, family-friendly policies such as provision of childcare, counselling and stress management schemes and recognition schemes can help reinforce nurses' personal resources in both sectors. In terms of policy, some minimum standards for nurse/patient ratios and salary norms and working hours for nurses in private hospitals needs to be considered to minimise differences in wellbeing between the private and public hospital sector. These interventions will be likely to benefit patients and institutions as well as nurses since job satisfaction is correlated with patient satisfaction and retention.

7. Conclusion

This study aimed to compare the work life balance, work stress and job satisfaction of 200 female nurses working in government hospitals and private hospitals; to explore the constructs of work life balance, work stress and job satisfaction and their relationships with structural equation modeling and multi-group analysis. The findings revealed that the government hospital nurses have a significantly better work-life balance, less stress and higher level of job satisfaction than private hospital nurses. Work stress negatively impacted on work-life balance and job satisfaction, and work-life balance had a positive impact on job satisfaction, partially mediating the impact of work stress on job satisfaction. The multi-

group analysis showed that the negative impact of stress on work-life balance was significantly higher in the private hospitals, as was the positive impact of work-life balance on satisfaction.

From the above it may be concluded that work-life balance is the significant mechanism between work stress and job satisfaction of female nurses and its significance is further enhanced in female nurses work environment with poor job resources in the institutions. Stress reduction, Work-life balance and Job satisfaction of nursing women should be ensured by improving the staffing, scheduling and leave and pay conditions among the nursing staff particularly at private hospital.

7.1. Limitations and future studies.

Some limitations of the study are discussed. First, it used cross sectional data that cannot be used to make inferences about the relations between stress, satisfaction with balance, and a longitudinal design would be appropriate for examining the relations over time. Second, the 200 respondents who were sampled using the stratified purposive sampling method from selected hospitals in one region may not be generalisable; larger, probability-based samples of nurses in several states can be used for future studies. Third, the data was self-reported and hence may have been subject to social desirability bias. Fourth, the study was confined to female nurses and it would have been interesting if the males were included as well to make gender comparisons. Finally, other factors (such as organisational support, level of burnout, level of emotional intelligence, intention to leave and family support) could be added in future research and comparisons made between the nurses within each department, shift and across levels of experience to better understand nurse well-being.

References

- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA*, 288(16), 1987–1993.
- Allen, T. D., Herst, D. E. L., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology*, 5(2), 278–308.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411–423.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
- Bayih, B. E., & Singh, A. (2020). Modeling domestic tourism: Motivations, satisfaction

- and tourist behavioral intentions. *Heliyon*, 6(9), e04839.
- Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology*, 35(5), 307–311.
- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (3rd ed.). Routledge.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233–255.
- Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations*, 53(6), 747–770.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86(3), 499–512.
- Fisher, G. G., Bulger, C. A., & Smith, C. S. (2009). Beyond work and family: A measure of work/nonwork interference and enhancement. *Journal of Occupational Health Psychology*, 14(4), 441–456.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Gray-Toft, P., & Anderson, J. G. (1981). The Nursing Stress Scale: Development of an instrument. *Journal of Behavioral Assessment*, 3(1), 11–23.
- Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10(1), 76–88.
- Greenhaus, J. H., Collins, K. M., & Shaw, J. D. (2003). The relation between work–family balance and quality of life. *Journal of Vocational Behavior*, 63(3), 510–531.
- Haar, J. M., Russo, M., Suñe, A., & Ollier-Malaterre, A. (2014). Outcomes of work–life balance on job satisfaction, life satisfaction and mental health: A study across seven cultures. *Journal of Vocational Behavior*, 85(3), 361–373.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.
- Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). *The motivation to work*. John Wiley & Sons.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44(3), 513–524.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. John Wiley & Sons.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36.
- Kalliath, T., & Brough, P. (2008). Work–life balance: A review of the meaning of the balance construct. *Journal of Management & Organization*, 14(3), 323–327.
- Karasek, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24(2), 285–308.
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.
- Kossek, E. E., & Ozeki, C. (1998). Work–family conflict, policies, and the job–life satisfaction relationship: A review and directions for organizational behavior–human resources research. *Journal of Applied Psychology*, 83(2), 139–149.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297–1349). Rand McNally.
- Lu, H., Barriball, K. L., Zhang, X., & While, A. E. (2012). Job satisfaction among hospital nurses revisited: A systematic review. *International Journal of Nursing Studies*, 49(8), 1017–1038.
- Lu, H., Zhao, Y., & While, A. (2019). Job satisfaction among hospital nurses: A literature review. *International Journal of Nursing Studies*, 94, 21–31.
- McVicar, A. (2003). Workplace stress in nursing: A literature review. *Journal of Advanced Nursing*, 44(6), 633–642.
- McVicar, A. (2016). Scoping the common antecedents of job stress and job satisfaction for nurses (2000–2013) using the job demands–resources model of stress. *Journal of Nursing Management*, 24(2), E112–E136.
- Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work–family conflict and family–work conflict scales. *Journal of Applied Psychology*, 81(4), 400–410.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method

- biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879–891.
- Sharma, J., Dhar, R. L., & Tyagi, A. (2016). Stress as a mediator between work–family conflict and psychological health among the nursing staff: Moderating role of emotional intelligence. *Applied Nursing Research*, 30, 268–275.
- Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. *American Journal of Community Psychology*, 13(6), 693–713.
- Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes, and consequences*. Sage.
- Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3(1), 4–70.
- West, S. G., Finch, J. F., & Curran, P. J. (1995). Structural equation models with nonnormal variables: Problems and remedies. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 56–75). Sage.
- Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement*, 73(6), 913–934.
- World Health Organization. (2020). *State of the world's nursing 2020: Investing in education, jobs and leadership*. World Health Organization.
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206.