

Evaluation of Selected Components of the Nurse Work Life Model Using 2011 NDNQI RN Survey Data

Nancy Ballard, MSN, RN, NEA-BC
Marge Bott, PhD, RN
Diane Boyle, PhD, RN



Objectives

- Identify the relationship of components of the practice environment using Laschinger's Nurse Worklife Model as a guiding framework.



Practice Environment

- Predicted Nursing Shortage¹
 - 285,000 by 2020
- NQF, CMS, & AHRQ recognize importance^{2,3,4}
 - Patient Outcomes
 - Nurse Perceived Quality of Care
 - Nurse Satisfaction

¹The Joint Commission, 2010

²Aikin, Clarke, Sloane, Sochalski, & Silber, 2002;

³Needleman, Buerhaus, Matke, Stewart, & Zelevinsky, 2002;

⁴Laschinger, 2008; Patrician, Shang, & Lake, 2010



Measurement of the Practice Environment

- Valid and reliable tools:
 - Practice Environment Scale (Lake, 2002)
 - Conditions of Work Effectiveness Questionnaire-II (Laschinger, et al., 2001)
 - Essentials of Magnetism-II (Kramer & Schmalenberg, 2008)



Nurse Worklife Model

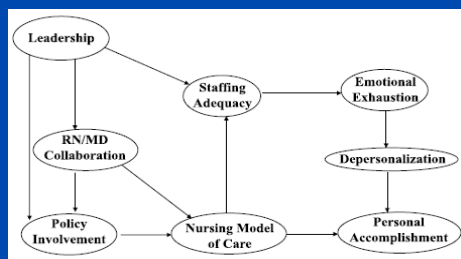


Figure 1. From "Relationships of Work and Practice Environment to Professional Burnout: Testing a Causal Model" by M. Leiter and H. Laschinger, 2006, *Nursing Research*, p 139. Copyright 2006 by Lippincott Williams & Wilkins. Reprinted with permission.



The Question is . . .

- Do the components of the practice environment interact at the unit level as predicted using the Nurse Worklife Model framework?



Nurse Worklife Model Literature Review

- Tested a causal model using SEM (Leiter & Laschinger, 2006)
- Extended NWLM to include nurse-reported adverse outcomes (Laschinger & Leiter, 2006)
- Evaluated the impact:
 - Structural empowerment on job satisfaction (Manojlovich & Lachinger, 2007)
 - Perceived quality on job satisfaction (Laschinger, 2008)



Job Satisfaction Literature Review

- Meta-analysis from 1/2004 through 3/2009 at individual nurse level (Hayes, Bonner & Pryor, 2010)
 - 17 studies – 44 important factors
 - Nurse manager important to structural factors
 - Work-related factors: autonomy, co-worker interactions, patient activities



Job Satisfaction Literature Review (cont'd)

- Unit level study: Unit type influence on job satisfaction (Boyle, Miller, Gajewsky, Hart & Dunton, 2006)
- Evaluation of healthy work environment: 717 units in 34 Magnet hospitals (Kramer, Maguire, & Brewer, 2011)



Research Question 1

- At the unit level, does RN-MD collaboration (*PES-Collegial RN-MD Relations*) and involvement in policy development (*PES-Participation in Hospital Affairs*) mediate the relationship between strong leadership (*PES-Nurse Manager Ability*) and a nursing model of care (*PES-Nursing Foundations for Quality Care*)?



Research Question 2

- At the unit level does RN-MD collaboration (*PES-Collegial RN-MD Relations*), involvement in policy (*PES-Participation in Hospital Affairs*) and a nursing model of care (*PES-Nursing Foundations for Quality of Care*) mediate the relationship between strong leadership (*PES-Nurse Manager Ability*) and staffing adequacy (*PES-Staffing and Resource Adequacy*)?



Research Question 3

- At the unit level, does RN-MD collaboration (*PES-Collegial RN-MD Relations*), involvement in policy development (*PES-Participation in Hospital Affairs*), staffing adequacy (*PES-Staffing & Resource Adequacy*), and a nursing model of care (*PES-Nursing Foundations for Quality of Care*) mediate the relationship between strong leadership (*Nurse Manager Ability*) and RN personal accomplishment (*Job Enjoyment Scale*)?



Methods

- Secondary analysis of 2011 unit level RN data
- Correlational Path Analysis testing for the mediators of Job Satisfaction using the NLWM framework.
- Hierarchical Regression used to identify the variation in job enjoyment using the PES subscales to represent components of the NLWM



Setting and Sample

N = 322,457 RNs in 3,583 Units
(medical, surgical, medical-surgical, stepdown, & critical)

Demographic*	Mean (SD)	Range	Percentage
Age	39.3(4.87)	25-75	N/A
Certification	N/A	0-100	16.7
BSN or Higher	N/A	0-100	55.4
Female	N/A	0-100	91.0
White	N/A	0-100	69.8

*Demographics are aggregated to the unit level

Hospital Demographics

Bedsizes	N (%)		Hospital Ownership	N (%)	
	N	(%)		N	(%)
<100	239	(6.7)	Not for Profit	2,979	(83.1)
100-199	697	(19.5)	Government Fed.	53	(1.5)
200-299	832	(23.2)	Government Non-Fed.	334	(9.3)
300-399	673	(18.8)	For Profit-Investor Owned	217	(6.1)
400-499	476	(13.3)			
500+	666	(18.6)			
Total	3,583	(100)		3,583	(100)

PES Subscale Definitions

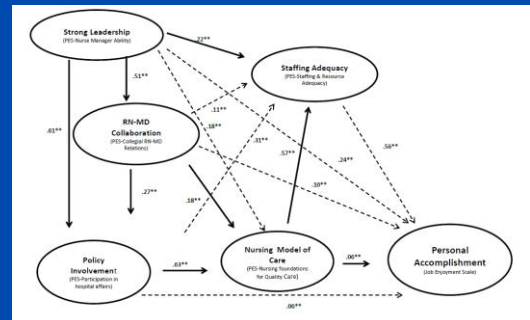
Subscale	Definition (NLWM Component)	Items	Cronbach's Alpha
Collegial RN-MD Relations	Presence of collaborative working relationship (RN-MD Collaboration)	3	.87
Nurse Participation in Hospital Affairs	Policy development and decisions about practice (Policy Involvement)	9	.90
Staffing and resource adequacy	Staffing level is adequate to provide the care needed (Staffing Adequacy)	4	.88
Nurse manager ability, leadership, and support	Nursing manager viewed as a leader who provides strong support (Strong Leadership)	5	.90
Nursing Foundations for Quality of Care	Nursing practice is supported by high standards, professional nursing philosophy, education, expectation of competency, and measurement of quality (Nursing Model of Care)	10	.88
Job Enjoyment	Measurement of job satisfaction (Personal Accomplishment)	7	.92

Results

Subscale	Dependent Variable					
	Model 1: Foundations for Nursing Quality Care		Model 2: Staffing Resource Adequacy		Model 3: Job Enjoyment Scale	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Practice Environment Scale (PES)	β	β	β	β	β	β
Nurse Manager Ability	.74**	.18**	.67**	.21**	.75**	.24**
RN-MD Collegiality		.19**		.08**		.10**
Participation in Hospital Affairs		.63**		.24**		.06**
Nursing Foundations for Quality Care				.32**		.06**
Staffing Resource Adequacy						.56**
R ²	.54	.80	.44	.61	.56	.80
Adj. R ²	.56	.80	.47	.61	.57	.80
SE of Estimate	.14	.10	.28	.24	5.99	4.06
F	4,360**	2,102**	2,937**	434**	4,653**	1,055**

**p < .001

Path Analysis Findings



**p < .001

Unit Level Findings

- NLWM supported:
 - Partial mediation of Strong leadership (*Nurse Manager Ability*) effect on Nursing Model of Care (*Nursing Foundations of Quality*) and Staffing Adequacy (*Staffing & Resource Adequacy*)
 - Direct effect of Strong Leadership (*Nurse Manager Ability*) on Personal Accomplishment (*Job Enjoyment*)
- 80% of variance in *Job Enjoyment* explained by the subscales in the model.



Findings

- 3 components of PES significant predictors of Job Enjoyment
 - Staffing and Resource Adequacy
 - Nurse Manager Ability
 - RN-MD Collaboration



Strengths

- Large national sample
- Standardized definitions
- Standardized data collection process

Limitations

- Selection Bias:
 - NDNQI higher percentage of Magnet facilities
 - Hospitals under 100 beds under-represented



Recommendations

- Based on findings from both Kramer and Boyle:
 - Measurement of the practice environment and job satisfaction at the unit level are important to understand the complexities within the work setting.
- Further study at the unit level needed in other areas of practice to evaluate the NWLM.



Acknowledgements

University of Kansas Medical Center
 School of Nursing
 WellStar Health System
 Kennesaw State University

