

HIV Task Shifting from Physicians to Nurses in Nigeria: Correlates of Nurse Self-Efficacy and Job Satisfaction

*(Funded By: Sigma Theta Tau International -
2014 Global Nursing Research Grant)*

Emilia Ngozi Iwu, PhD, RN, APNC, FWACN

Background

- With 25% Global Disease burden and 3% Global Health workforce, the African region has the worst health worker shortage (WHO, 2006a)
- Task Shifting/Sharing, a human resource strategy, maximizes contributions of available health workers (WHO, 2006b)
- In Sub-Saharan Africa, Task Sharing has led to nurses assuming roles beyond Traditional Scope of Practice
- In Nigeria, Task Sharing improved access to HIV treatment especially in rural areas & for Prevention of Mother-to-Child Transmission (PMTCT)



Literature Review

Iwu & Holzemer, (2013). Task Shifting of HIV Management from Doctors to Nurses in Africa: Clinical Outcomes and Evidence on Nurse Self-Efficacy and Job Satisfaction - ***AIDS Care***

- **2/8** Quantitative studies - Nurse Related Outcomes
- Cohen et al., 2009 – Survey **Nurses (n=47) who received Task Sharing Training - 97.8% reported Improved Confidence and Morale**
- Fairall et al., 2012 - **Nurses built upon existing Knowledge and Skills**

Purpose, Sample & Setting

Purpose

To examine relationships among Nurse Demographic Factors, Setting Characteristics and Nigerian Nurses' Self-Efficacy to perform HIV treatment tasks shifted from Physicians; and their Job Satisfaction

Sample & Setting

- Male & Female *Registered Nurses and Midwives* Performing HIV Task Sharing Roles in *Nigeria*
- Age ≥ 18 years



Study Questions

What are:

1. The relationships among Nurse Demographics & Nurses' Self-Efficacy for HIV Task Sharing and Job Satisfaction?
2. The relationships among Setting Characteristics and Nurses' Self-Efficacy for HIV Task Sharing and Job Satisfaction?
3. The effects of *the combined* relationships among Nurse Demographics, Setting Characteristics and Self-Efficacy for HIV Task Sharing on the Job Satisfaction of Nurses performing task shifted roles?



Concetual Framework



<http://matt-smedley.com/wp-content/uploads/2010/04/framework1.jpg>

Bandura's Self-Efficacy Theory (Burt, 2011)

Performance Achievement
(Past Experience; *Years of Nursing Practice...*)

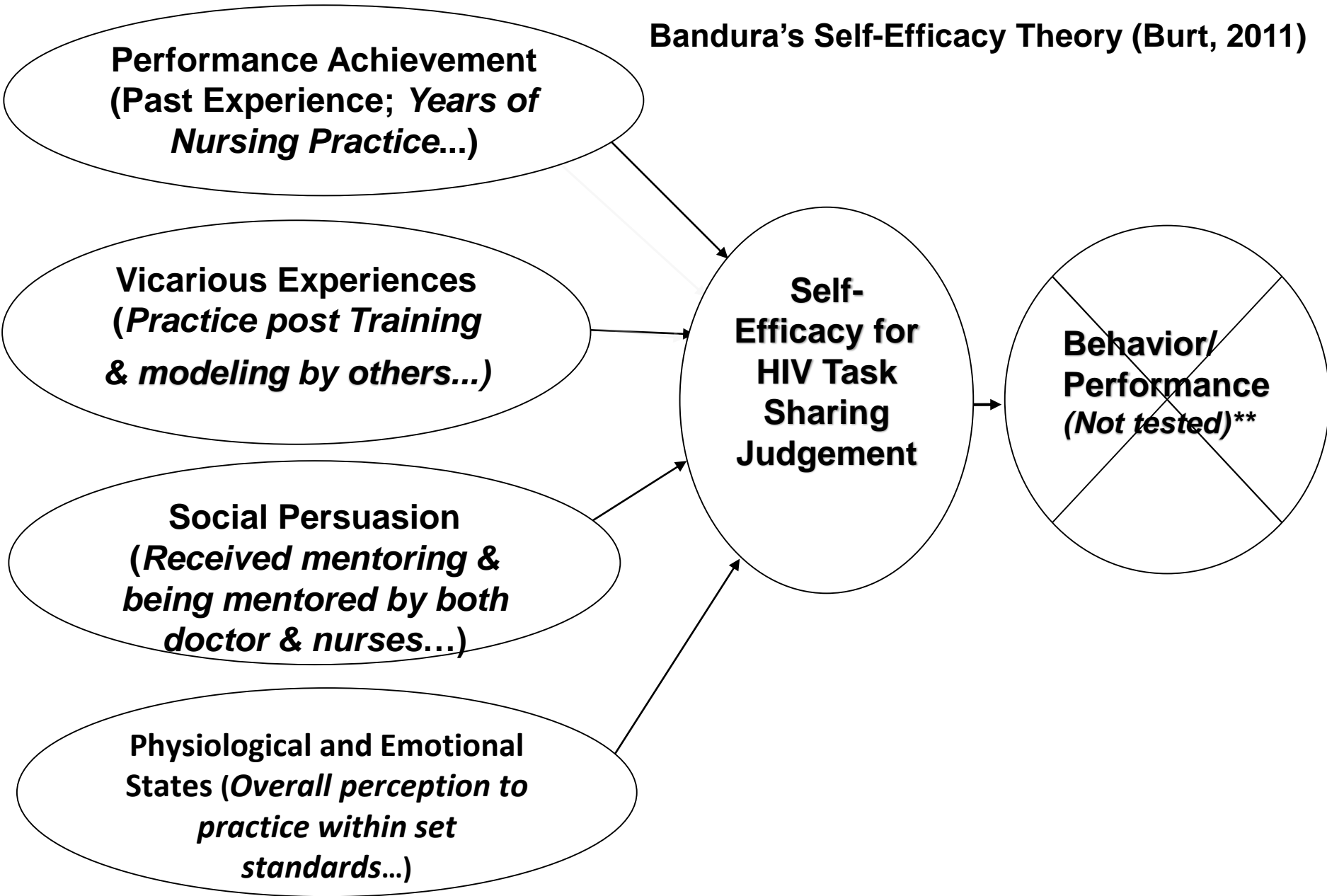
Vicarious Experiences
(*Practice post Training & modeling by others...*)

Social Persuasion
(*Received mentoring & being mentored by both doctor & nurses...*)

Physiological and Emotional States
(*Overall perception to practice within set standards...*)

Self-Efficacy for HIV Task Sharing Judgement

Behavior/Performance
(*Not tested*)**

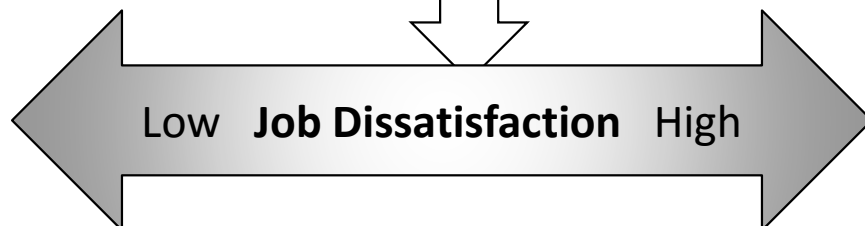
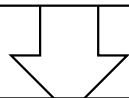


Herzberg's Two-Factor Job Satisfaction Theory (Collins, 2009)



Extrinsic Factors (*Tested*)

- Company policies & Quality of Supervision
 - **Type of Facility** (Tertiary, Secondary or Primary Health facility)
- Physical working conditions
 - **Facility ownership** (Government or Non-Government owned)
- Demographics
 - **Age**
 - **Gender**



Intrinsic Factors (*Tested*)

- Recognition
 - **Licensure**
 - **Years in Nursing Practice**
- Responsibility
 - **Previous HIV Experience**
 - **Duration of HIV Experience**
- Opportunities for Personal growth
 - **Received Training**
 - **Type of Training**
 - **Duration of Training**
 - **Received Mentoring**
 - **Type of Mentoring**
- Task Achievement
 - **Self-Efficacy for HIV Task Sharing**

Measurement Tools

1. Demographic Checklist - 15-item (*Traynor & Wade, 1993*).
2. Self-Efficacy Questionnaire for Task Shifting in HIV care (SEQTask Sharing-HIV) – 13-item
(Adapted from the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995))
3. Measure of Job Satisfaction scale - 42-item,
(*Traynor & Wade, 1993*).

Method

Pilot Study:

- Content Validity of Study Instruments
- Evaluate Appropriateness for Nigerian Context
- Qualitative Design – Focus Group
- Purposive Sample – Expert Nurses ($N=10$)



Inter-rater Content Validity Index (CVI)

- ☐ Ratings - Within acceptable ranges
- ☐ Contents - Culturally appropriate

Method

Main Study

- Quantitative Design
- Cross-Sectional, Descriptive, Correlational
- Convenience Sample (N=508)
- Nurses & Midwives in HIV Task Sharing roles
- Tertiary, Secondary & Primary Health Facilities
- 8/36 States in Nigeria - (Borno, Delta, Enugu, the Federal Capital Territory, Kano, Nasarawa, Katsina, and Ogun)

Qualitative Comments

- Effect of Task Sharing; Challenges & Reasons for Leaving



Statistical Analyses

- Descriptive Statistics
- Psychometric Analyses of Measurement scales
- Pearson's Product-Moment Correlations
 - *Examine relationships between Variables*
- Multiple Regressions
 - Identify Predictors of Self-Efficacy & Job Satisfaction
- Independent T-tests & One-Way ANOVA
 - Examine group means and differences



Findings

Demographic Characteristics of Participants

- 399 Surveys met criteria for Analysis
- *RN/RM* - 70%; *RN* - 27%; *RM* - 3%;
- *Female/Male* - 76%/24%
- *Mean Age* - 41.97 years (SD 9)
- *Mean Years in Nursing Practice* - 17 years (SD 9)
- *Facilities* - *Secondary* - 46%, *Primary* - 28%; *Tertiary* - 26%
- *Prior HIV Nursing Experience* - 82%
- *Received Training & Mentoring* > 95%
- *Most Used Training Method* - *Mentored Practicum* (67%)

Psychometric Properties of Scales (Table 1)

No.	Scale	Items	Mean (SD)/ Median (IQR)*	Eigen- value	Percent Variance	Inter-Class Correlation (95% C.I)	Cronbach's Alpha
1	Self-Efficacy	13	49.0 (7)*	6.74	52.0%	0.45 [.41-.49}	0.91
2	Job Satisfaction	42	156.3 (21.6)	20.99	61.75%	0.28 [.25-.31]	0.94
	Sub-Scale 1: Pay	6	18.3 (5.3)	10.41	30.62%	0.51 [.46-.55]	0.86
	Sub-Scale 2: Workload	5	16.5 (3.9)	2.65	7.80%	0.47 [.43 - .51]	0.82
	Sub-Scale 3: Quality of Care	4	16.3 (2.1)	1.95	5.73%	0.45 [.40-.50]	0.77

*Skewness: -3.2

Study Question 1

Relationships among *Nurse Demographics & Nurses' Self-Efficacy* for HIV Task Sharing; and *Job Satisfaction*.

Regression Analysis: Nurse Demographics Predictors of Self-Efficacy for Task Sharing (Table 2)

Independent Variables	Dependent Variable: Task Sharing Self-Efficacy						
	t	p	β	F	df	p	R ²
Nurse Demographic Characteristics				2.720	6	0.014*	0.044
Gender	2.046	.041*	0.120				
Age	1.892	.059	0.007				
Licensure (RN/RM only)	1.691	.092	0.096				
Years in Nursing Practice	-2.695	.007**	-0.010				
Previous HIV Experience	-1.401	.162	-0.073				
Duration HIV Experience	.369	.712	0.002				
Total Variance Explained							0.044 (4.4%)

Note: * $p < 0.05$; ** $p < 0.01$.

Regression Analysis of Nurse Demographic Predictors of Job Satisfaction (Table 3)

Independent Variables	Dependent Variable: Job Satisfaction						
	t	p	β	F	df	p	R ²
Nurse Demographic Characteristics				3.347	6	0.003**	0.054
Gender	-0.259	.796	-1.000				
Age	-.875	.382	-0.214				
Licensure (RN/RM only)	1.275	.203	4.785				
Years in Nursing Practice	2.321	.021*	0.565				
Previous HIV Experience	-1.742	.082	-6.021				
Duration HIV Experience	1.123	.262	0.478				
Total Variance Explained							0.054 (5.4%)

Note: * $p < 0.05$; ** $p < 0.01$.

Study Question 2

Relationships among *Setting Characteristics* and Nurses' *Self-Efficacy* for HIV Task Sharing; and *Job Satisfaction*.

Regression Analysis: Setting Predictors of Self-Efficacy for Task Sharing (Table 4)

Independent Variables	Dependent Variable: Task Sharing Self-Efficacy							
	t	p	β	F	df	p	R ²	Adjusted R ²
Facility/Setting Characteristics				0.999	7	0.432	0.023	0.000
Facility Ownership	-1.212	.227	0.703					
Type of Facility	-1.270	.205	-0.066					
Received Training	0.481	.631	-0.055					
Duration of Training (days)	-0.717	.474	0.002					
Type of Training (Practicum)	1.557	.121	-0.003					
Received Mentoring	0.171	.864	0.063					
Onsite Mentoring	-0.102	.918	0.027					
Total Variance Explained							0.023 (2.3%)	

Regression Analysis: Setting Predictors of Job Satisfaction (Table 5)

Independent Variables			Dependent Variable: Job Satisfaction					Adjusted R ²
	t	P	B	F	df	p	R ²	
Facility/Setting Characteristics				10.828	14♦	0.000***	0.346	0.314
Facility Ownership	-.306	.972	-.119					
Type of Facility	2.887	.004**	7.752					
Received Training	-.323	.747	-.062					
Duration of Training (days)	2.970	.003**	.694					
Type of Training (Practicum)	-1.074	.284	-2.600					
Received Mentoring	2.526	.012*	23.549					
Onsite Mentoring	1.037	.301	6.970					
Total Variance Explained							0.346 (34.6%)	

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ♦ Value includes State of Employment

Study Question 3

Multivariate effect of *the combined relationships among Nurse Demographics, Setting Characteristics and Self-Efficacy* for HIV Task Sharing *on the Job Satisfaction* of Nurses performing Task Shifted Roles.

Multivariate Regression Analysis: Overall Predictors of Job Satisfaction (Table 6)

Independent Variables	Dependent Variable: Job Satisfaction						Adjusted R ²
	t	P	β	F	df	p	
Nurse Demographic Characteristics				7.464	20♦	0.000**	0.365
Gender	.873	.384	3.528				
Age	.822	.412	.203				
Licensure (RN/RM only)	.410	.682	1.617				
Years in Nursing Practice	.520	.603	.128				
Duration HIV Experience	-1.109	.269	-0.443				
Facility/Setting Characteristics							
Facility Ownership	-0.422	.673	-1.461				
Type of Facility	2.598	.010**	7.344				
Received Training	-0.127	.899	-0.026				
Duration of Training (days)	2.579	.010**	.625				
Type of Training (Practicum)	-0.332	.740	-0.855				
Received Mentoring	2.416	.016**	22.883				
Onsite Mentoring	0.948	.344	6.465				
Self-Efficacy for Task Sharing	-1.414	.158	-5.425				
Total Variance Explained						0.365 (36.5%)	

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ♦ Value includes State of Employment

Group Differences in *Self-Efficacy* (Table 7)

	Groups	N	M	SD	t/F	df	p
Training	No	9	10.9***	2.1***	3.07	396	.002**
	Yes	389	5.0	2.1			
Cadre of Mentor	Doctor	167	5.5	2.1	7.03	2	.001**
	Nurse	150	5.0	2.2			.01**
	Doctor & Nurse	69	3.7	2.0			

*The mean difference is significant at 0.05. **The mean difference is significant at 0.01;

*** Back transformed values

Group Differences in *Job Satisfaction* (Table 8)

	Groups	N	M	SD	t/F	df	p
Gender	Male	94	160	22	2.2	397	.03*
	Female	305	155	21			
Licensure	RN/RM	279	154	22	2.4	397	.01*
	RN or RM only	120	160	20			
Facility Ownership	Non-Govt.	56	150	25	-2.1	397	.04*
	Govt. Owned	343	157	21			
Type of Facility	Primary	112	153	15	11	2	.00**
	Secondary	184	153	19			.00**
	Tertiary	103	165	28			
Mentor Available	No	18	151	30	9.2	2	.08
	Sometimes	254	153.	19			.00**
	All the Time	126	163	24			

**The mean difference is significant at 0.05. **The mean difference is significant at 0.01*

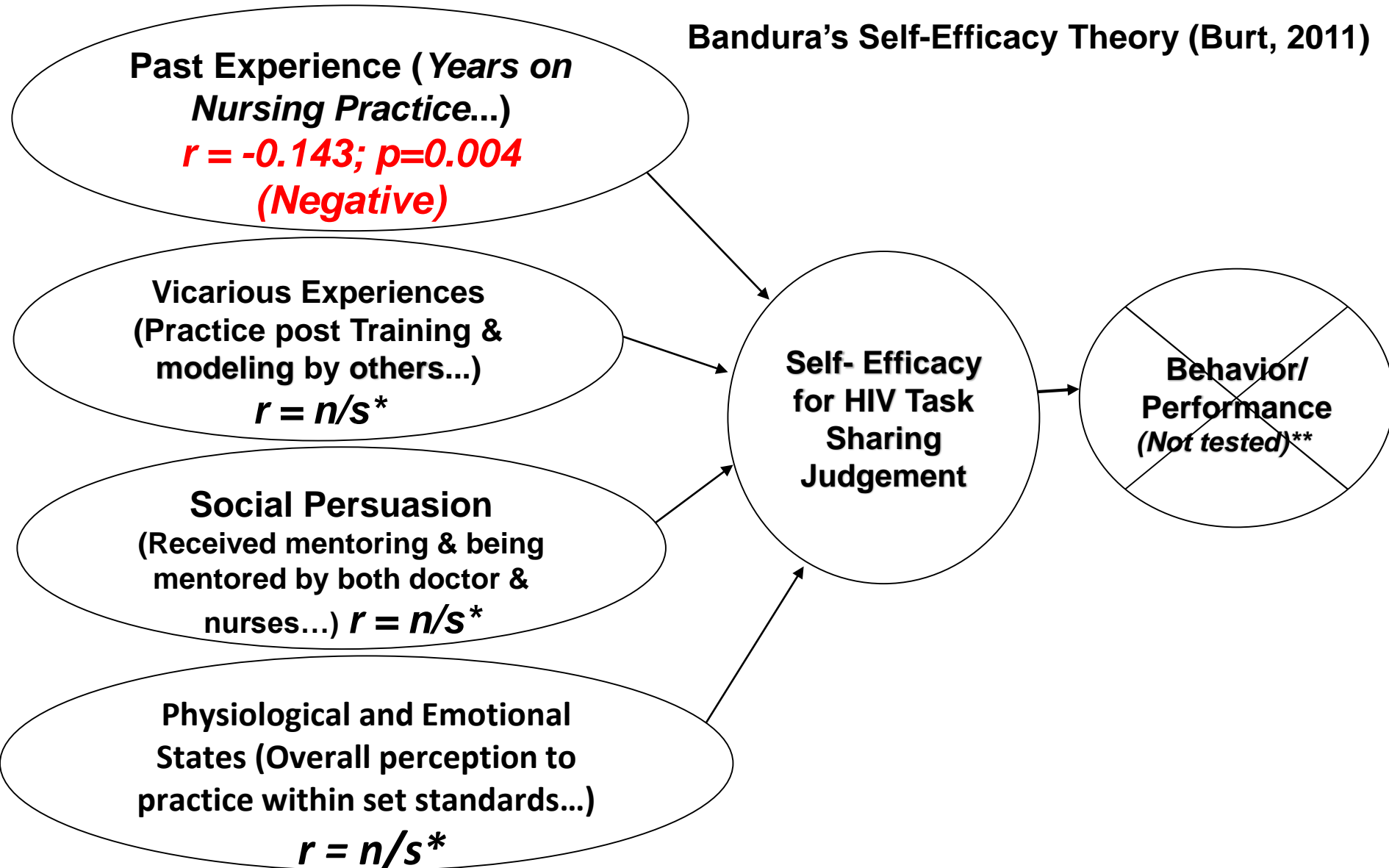
Group Differences by State (Table 9)

<i>Job Satisfaction</i>	<i>Groups</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>df</i>	<i>p</i>
State of Employment	Fed. Capital (FCT)	53	172.3	29.0	19.76	7	
	Delta	38	135.7	24.3			.000***
	Enugu	62	145.5	16.4			.000***
	Ogun	102	151.0	14.3			.000***
	Nasarawa	29	156.1	14.2			.006**
	Kano	38	167.84	17.5			1.000
	Katsina	38	164.45	12.9			1.000
	Borno	39	162.56	17.5			.395

**The mean difference is significant at 0.05. **The mean difference is significant at 0.01*

Review of Theoretical Assumptions

Bandura's Self-Efficacy Theory (Burt, 2011)



* Not Statistically Significant; ** Was not tested in this study

Herzberg's Two-Factor Job Satisfaction Theory (Collins, 2009)

Low
Job Dissatisfaction
High

Extrinsic Factors (Retained)

- Company policies & Quality of Supervision
 - + **Type of Facility:**
Tertiary Facility
 $r=0.233; p=0.000$
- Physical working conditions
 - + **Facility Ownership:**
Government owned Facility $r=0.103; p=0.039$
 - **State of Employment**
- Demographics
 - + **Older Age** $r=0.124; p=0.014$
 - **Female Gender**
 $r= -0.107; p=0.032$

* Not Statistically Significant

Intrinsic Factors (Retained)

- Recognition
 - + **Licensure (Reg. Nurse/Midwife)**
 $r=0.124; p=0.014$
 - + **Years in Nursing Practice**
 $r=0.188; p=0.000$
 - Duration of HIV Experience
 $r=n/s^*$
- Opportunities for Personal growth
 - Received Training $r=n/s^*$
 - Type of Training $r=n/s^*$
 - + **Duration of Training** $\beta= 1.056; p=0.000$
 - + **Received Mentoring** $\beta= 22.505; p=0.033$
 - Type of Mentoring $r=n/s^*$
- Task Achievement: Self-Efficacy
 $r=n/s^*$

High
Job Satisfaction
Low

Qualitative Findings (Effects on Job Satisfaction)



Positive Effects due to:

- Enhanced Clinical Roles & Participation in Patient care
- Improved Self-Confidence, Knowledge & Skills
- Improved Professional Image and Recognition among peers and team members
- Enhanced Leadership and Mentorship roles

Qualitative Findings (Challenges Related to Role)

- Excessive Workload & Documentation
- Feeling of Overwhelming Stress
- Fatigue & Burn-out
- Non-Commensurate Pay for added responsibilities
- Longer work hours and double shifts for those who still performed their regularly assigned duties.
- Inadequate Supply of necessary Equipment
- Lack of Support and Appreciation from employers



Implications & Recommendations

Health System:

- Although >95% of the nurses received Training & Mentoring, these did NOT shield them from system related challenges of HIV Care. Strategies are needed to Nurture Nurses' Motivation for Task Sharing. E.g.:
 - Updating Practice Guidelines and Scope of Practice
 - Supportive Hospital & National Policies
 - Increased INVESTMENT for health workforce
 - Acculturate health workers: Inter-Professional Practice
 - Steps to Reduce Professional & Institutional Resistance



Implications & Recommendations

Education

- Preparing Nurses to be Job Ready:
 - Training for Educators
 - Curriculum Update
 - Ensure Competencies Mirror Practice Needs



Implications & Recommendations

Practice

- Disparity in Job Satisfaction Levels
 - Creation of Incentive Mechanisms
 - Continuing Education, Skills Update & Certification
 - Provision of Resources & Complementary Staffing
 - Identify Mechanisms to Promote Equitable Working Conditions across Facility Levels and States
- Minimize Negative Impact of HIV Nursing Experience
 - E.g. Burnout, Nurse Retention & Quality Service Delivery

Conclusion

Although more Research is needed-----

- ✓ These findings provide some Evidence to facilitate: Nursing Leadership, Advocacy & Actions to support Nurses in Task Sharing roles
- ✓ Despite **Training and Mentoring**, Nurses still face System Challenges that negatively affected their Job Satisfaction

Study Limitations

- Limited Access to Nurse who left the role & those transferred
- Lack of Access to Nurses in states classified as **high security risk** due to political/religious or militant unrests
- The Self-Efficacy theoretical framework – may not been most appropriate for this practice context



Acknowledgement

- Advisor, Committee & Faculty: Rutgers
- Robert Wood Johnson & Jonas Foundation
- Management & Staff: Institute of Human Virology Nigeria (IHVN)
- FMOH, Nat. Prim. Health Dev. Agency
- Nigerian Nurse Leaders & Nurses
- Study Assistants & Team Leaders



Reference

- Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman
- Burt, L. (2011). The Silent Team Member: How a Lack of Self-Efficacy Can Lead to Self-Limiting Behavior in the Context of Team Decision Making. Retrieved from <http://sesp.northwestern.edu/masters-learning-and-organizational-change/knowledge-lens/stories/2013/the-silent-team-member-how-a-lack-of-self-efficacy-can-lead-to-self-limiting-behavior-in-the-context-of-team-decision-making.html>
- Cohen, R., Lynch, S., Bygrave, H., Eggers, E., Vlahakis, N., Hilderbrand, K., . . . Ford, N. (2009). Antiretroviral treatment outcomes from a nurse-driven, community supported
- Collins, K. (2009). *Exploring Business*. Retrieved from <http://www.web-books.com/eLibrary/NC/B0/B66/057MB66.html>

Reference

- Fairall, L., Bachmann, M. O., Lombard, C., Timmerman, V., Uebel, K., Zwarenstein, M., . . . Bateman, E. (2012). Task shifting of antiretroviral treatment from doctors to primary-care nurses in South Africa (STRETCH): A pragmatic, parallel, cluster-randomized trial. *Lancet*, 380 (9845), doi:10.1016/S0140-6736 570 (12)60730-2
- Herzberg, F. (1966). *Work and the nature of man*. Cleaveland, OH: World Publishing
- Iwu, E. N., Holzemer, W. L. (2013). Task shifting of HIV Management from Doctors to Nurses in Africa: Clinical Outcomes & Evidence on Nurse Self-Efficacy and Job Satisfaction. *AIDS Care* doi:10.1080/09540121.2013.793278
- Kredo, T., Adeniyi, F. B., Bateganya, M. & Pienaar, E. D. (2014). Task shifting from doctors to non-doctors for initiation and maintenance of ART. *Cochrane Database of Systematic Reviews*. 7 (CD007331). doi: 10.1002/14651858.CD007331.pub3

Reference

- Schwarzer, R. and Jerusalem, M. (1995). The General Self-Efficacy Survey. In Engleman, S. (Ed.) Retrieved from <http://userpage.fu-berlin.de/~health/engscal.htm>
- Traynor, M. and Wade, B. (1993). The development of a measure of job satisfaction for use in monitoring the morale of community nurses in four trusts. *Journal of Advanced Nursing*. 18, 127- 136
- WHO (2006a). Global Health Report. Retrieved from www.who.int/gho/health_workforce/en/
- WHO (2006b). *Treat, Train, Retain: the AIDS and health workforce plan*. Geneva. World Health Organization. Retrieved from www.who.int/hiv/pub/meetingreports/TTRmeetingreport2.pdf