

Perspectives on the Correlates of Positive and Negative Spillover between Work and Family: A Study of Selected Banks in Port Harcourt, Rivers State Nigeria

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Abstract - The work-family interface is a systematically defined and measured attempt to evaluate a medium through which promotion of work-family synergistic relationship can thrive. It centres on providing a unique methodology into the work micro-system, family micro-system and individual characteristics. To actualize this, OLS regression analysis was used on data elicited from five (5) commercial banks in Port Harcourt. The study revealed that personality factor alone does not account for the propensities of individuals to experience or report work and family conflict. However, the study recommends that provision of public insurance guaranteeing paid leave for families is necessary for unification of positive or negative spill over effect between work and family.

Keywords - Work micro-system, individual characteristics, family micro-system, supportive work-family environment, banking, Nigeria

INTRODUCTION

Social and ideological trend suggest that work family issues is becoming increasingly important. Social trend, such as increasing participation of women in the workforce (Lerner, 1994; Badey, et al 2012), greater numbers of working single-parent and dual-earner families (Bumpass, 1990; Zill; 1991), and the increasing care giving needs of an aging population (Marks 1996; Myers, 1990), are providing new responsibilities and new challenges to both women and men to blend work and family commitments.

Since the early 1950s work-family research has been driven by various hypotheses derived from role theory (e.g. role conflict, scarcity of resources, role accumulation, role congruence, role strain. (Marshall, *et al.*, 1991).

Structural functionalist role theory's assumption regarding a biologically-based proclivity of men toward an instrumental role in the workplace and women toward an expressive role in the family (Parsons, 1954) led to a deterministic perspective and overemphasis on separate spheres of life for adult men and women. Structural-functional role theory's deterministic perspective of role strain requires conceptualizing the work-family interface as a continuum ranging from little to much conflict or buffers the individual from conflict's undesirable consequences. Research using community and regional samples often find that work pressure can undermine marital satisfaction and other family processes, and that family pressure or problem can undermine job performance and job satisfaction (Greenhaus and Beutall, 1985).

Family problem have been found to "spillover" into the work domain, conflict at the work-family interface has been implicated in a variety of deleterious consequences such as depression (Frone et al 1997; Higgins et al, 1992), alcohol abuse (Frone et al 1997) and marital tension (Marshall et al 1991).

The overarching goal of this paper was to use 2 by 2 zero sum game theory to develop a more expanded conceptualization of the work-family interface and to identify significant correlates of both positive and negative spillover between work and family.

FRAMEWORK

Extrapolating 2 by 2 Zero- Sum Game Resulting from Family and Work Negotiation

The above theory helps in decision-making. This suggests that the work-family experience is a joint function of process, person, context and time characteristics. It follows that if this theory is applied each type of characteristic exerts an additive and potentially interactive, effect on the work family experiences.

In this analysis, a family demand is grouped into strategies on the basic reasonable trade off demands in alternative strategic options. This is applicable to the work demands.

OBJECTIVES OF STUDY

The objectives of this study are to:

1. Provide a conceptual framework on which work family policies and programmes are anchored;
2. Work out a medium through which promotion of work-family synergistic relationship can thrive; and,
3. Provide a unique methodology into the work Microsystems, family Microsystems and individual characteristics.

MATERIALS AND METHODS

The method used is descriptive survey. Questionnaire elicited desired information from respondents. The study population consists of the 1,986 workforce of the selected five banks. Purposive sampling was used because not every staff is married. Automatically, they are not members of the target population. This reduced the sample size from 1,986 to 799 respondents. A stratified random sampling of 799 was selected. The instrument was divided into two sections. The first collected by graphical information, i.e. sex, age, department, educational qualification and level of education. The second section has three parts; ten questions each for work micro-systems, family

micro-systems, and individual characteristics. The reliability coefficient of the questionnaire was 0.83 using Cronbach Alpha method.

The statistical analysis of least square regression is used:

$$y = a + bx \text{ using formula ;}$$

$$b = \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2} \text{ and}$$

$$a = y - bx$$

Where y is the observed y value corresponding to the value x and n is the number of pairs of values of x and y observed. The mathematical derivation of the formula y is omitted.

Out of the 799 administered, 500 questionnaires of 63 percent response rate were completed. Data were analyzed with simple correlation and multiple regressions.

RESULTS AND DISCUSSION

Fig 1. Unstandardized OLS estimates for the association between family relations, work characteristics, individual characteristics and work-family spillover among married adults aged 25-62 in selected banks in Port Harcourt metropolis

	Negative spillover Work to family		Positives spillover Work to family		Negative spill- over Work to family		Positives spillover Work to family	
	Women	Men	Women	Men	Women	Men	Women	Men
Family Microsystems								
Marital Status								
Not Married ^a	-0.62+	-0.54*	-0.42	0.05	-0.28	0.04	-1.86***	-1.7***
Parental Status^b								
Oldest child ≤ 5 years	-0.33	0.19	-0.03	0.55	0.92	0.95***	-0.07	0.59
Oldest child < 5 years	0.25	0.01	0.18	0.12	0.99***	0.84***	-0.20 ^f	0.34 ^f
Spouse Affectual support^c								
Lowest Tertile	-0.08	0.39+	-0.35	0.17	0.60*	0.84***	-2.12***	-1.92
Middle Tertile	0.16	0.01	-0.23	0.23	0.27	0.48*	-0.88***	-0.68
Spouse Disagreement^c								
Lowest tertile	-0.81**	-0.78***	-0.42	-0.13	-0.74**	-0.54**	0.14 ^f	0.64**

Middle Tertile	-0.46+	-0.15	-0.23	.08	-0.03	-0.25	-0.27	0.27
Other family affectual support^c								
Lowest Tertile	-0.32	-0.60**	-0.09	-0.33	0.13	0.29	-0.52**	-0.63***
Middle Tertile	-0.01	0.31	0.22	-0.05	-0.16	0.32+	-0.15	-0.13
Other Family Criticism/Burden^c								
Lowest Tertile	-0.61**f	-0.31f	-0.41+	-0.08	-0.80***	-1.05***	0.47*c	-0.15c
Middle Tertile	0.07	-0.44*	-0.08	-0.13	-0.22	-0.65	0.16	-0.16
Work Microsystem								
Hours worked/week ^d								
1-19 hours/week	-1.61***	-0.88+	0.48	-0.22	-1.06***	-0.90+	-0.52+	-0.56
20-35 hours/week	-0.35	-0.31	0.15	-0.04	0.14	0.14	-0.40+f	0.23 ^f
45 hours/week or more	0.59**	0.63***	0.01	0.05	-0.03	0.23	0.02	-0.16
Decision Latitudes^e								
Lowest Tertile	0.39+	0.33+	-1.49***	-1.70***	0.11	0.12	-0.78***	-1.09***
Middle Tertile	0.43	-0.04	-0.54**	-0.85***	0.34+	-0.01	0.02	-0.16
Pressure at work^c								
Lowest Tertile	-2.34***	-2.18***	-0.12	-0.41*	-0.99***	-1.00***	-0.21	-0.17
Middle Tertile	-1.16	-1.20***	-0.10	-0.15	-0.19c	-0.43*c	-0.05	-0.05
Support at Work^c								
Works Alone	0.70**	0.43+	-0.33	-0.36	0.24	0.24	-0.72**	-0.54*
Lowest Tertile	1.20***c	0.61**c	-0.45*	-0.85***	0.32	0.32	-0.52*	-0.22
Middle Tertile	0.69	0.25	-0.25	-0.37+	0.45*	0.45*	0.12	0.26
Individual Characteristics								
Age	-0.01	-0.02*	0.02*	0.01	-0.5***	-0.05***	0.01 ^c	-0.02+
Race/Ethnicity (Black=1)	-0.03	-0.55+	-0.38c	0.09c	-0.56*	-0.41	0.38	0.54+
Education								
More than B.Sc educ.	0.15	-0.42	-0.89*c	-0.08c	-0.22	-0.85**	0.66+	-0.01
M.Sc educ. Ph.D	-0.51*	-0.36+	-0.82***c	-0.09c	-0.65	-0.30	0.07	-0.03
Some college	-0.13	-0.10	-0.53**f	-0.2f	-0.20	-0.15	0.08	-0.05
Household Earning								
Bottom quartile	-0.27	-0.15	-0.17f	0.3-f	-0.12	0.19	0.24	0.31
Low quartile	-0.15	0.01	-0.54*c	0.16c	-0.14	0.22	0.20	-0.16
High quartile	-0.31	-0.25	-0.57*c	0.03c	-0.38	-0.01	-0.05	-0.03
Neuroticism	1.09***	0.88***	-0.25*	-0.12	0.95***	0.69***	-0.21+	-0.07
Extraversion	-0.43**	-0.46***	0.63***	0.39**	-0.31&*	-0.15	0.70***	0.78***
Constant	10.78***	11.86***	7.93	7.93***	9.36	9.13***	10.29***	10.54***
Adjusted R2	0.384	0.347	0.154	0.133	0.252	0.249	0.236	0.293

Note: weighted data n = 1,986 men =253 women =247.

+p≤ 10* p≤ 05** p≤ 01*** p≤ 001 (two-tailed)

- (a) Contrast group is married with high spouse effectual solidarity and high spouse disagreement b: contrast group has no children.
 (b) Contrast group is working 35-44 hour per week.
 (c) Contrast group is highest tertile.

- (d) A significant gender difference ($p \leq 05$) was noted in a combined gender model.
- (e) A significant gender difference ($p \leq 10$) was noted in a combined gender model.

Table 1. Sample allocation by department

Department	Population	Sample	No of Respondents
Human Capital	86	74	62
marketing	150	90	49
Customer Service	315	189	93
Operations	210	126	85
Administration	95	87	61
Intels Banking	132	89	87
Total	114	799	500

Table 2. Demographic characteristics of the respondents.

Sex	No of respondents	Percentage
Male	253	50.6
Female	247	49.4
Age		
23-30	116	23.2
31-35	111	22.2
36-40	158	31.6
41-45	76	15.2
46+	39	7.8

Men and women each account for about half the respondents. Nearly one third of respondents were ages 36-40, while only about 8 percent were older than 46. Nearly three quarter hold B.Sc. degree, with the rest having M.Sc.

The work-family interface is best characterized by four dimensions of spillover; negative spillover from work to family, negative spillover from family to work, positive spillover from work to family and positive spillover from family to work.

Using ordinary least square (OLS) estimates for the association between family relations, work characteristics, individual characteristics, and work-family spillover among Bank workers aged 25-62+ in Port Harcourt metropolis.

Table 3. Strategic notation and demand trade off

Strategic notation	Demand trade off	Type of demand
F ₁	High demand BY family tertile	Spouse effectual support needed. Spouse disagreement
F ₂	High demand by family tertile	Family burden criticism
F ₃	Moderate demand by family tertile	Parental status oldest child < 5 years. Oldest child > 5 years
F ₄	Low demand by family tertile	Temporarily separated, divorced etc

F = represents family coping strategies

W = represents family coping strategies

Work Microsystems (adjustment/trade off)

- W₁ - Extremely difficult bargaining with family
- W₂ - Considers demand by the family realistic
- W₃ - Considers demand by family realistic
- W₄ - Large variations in demand by family

The family Microsystems coping strategy presents demand of adjustment, which implies increase in high effectual spouse relationship/children. But the demand for flexitime, bonus leave, with short notices as a result of child ill-health etc is pure matter of collective agreement between work micro-system and family micro-system.

Table 4. Synergistic assumption between family Micro-system and work Microsystems.

Family coping strategies	Work coping strategies				Minimum of row
F	W ₁	W ₂	W ₃	W ₄	
F ₁	25	14	15	32	14
F ₂	40	17	13	16	13
F ₃	30	5	12	15	5
F ₄	-2	8	12	3	-2
Maximum of column	40	17	25	32	

Predicting and describing the behaviour of the synergistic condition through every stage of the adjustment process it need to be mentioned that the game in which we are involved is a mixed strategy. This is because no saddle point exists, that is, the maximum value or the minimum value of rows is not equal to the value of the minimum or the maximum values of column.

Further, if family coping adjustment mechanism plays strategy F₂ under work coping adjustment mechanism W₁, the point will be 40, and work coping strategy has to trade off 40 points from its work involvement. Work coping strategy can adjust rationally to minimize their pay off; they will immediately play strategy W₃ which will make them adjust only 13 points. The family on the other hand seeing that work coping strategy is playing C₃ will immediately shift to play strategy F₁ which will enable them maximize pay off due to them that is 15 points. Consequently, work coping strategies itself will shift again to play strategy W₂.

Family observing this will immediately change to strategy F₂ to enable them gets 17 point instead of 14 point. Finally, work Micro-system noticing that family micro-system had gone back to play strategy F₂ will simultaneously move to play strategy W₃ and they will therefore continue to rotate between strategies W₂, W₃ and F₁, F₂. Hence those figures are strategies (pointed) indicate the dominant values.

Further solving the problem mathematically we shall have to adopt the following processes in order to use the dominance to reduce the matrix to 2 by 2 zero sum game as shown on table 5.

Table 5. Mechanical display of the process in reducing the (nxm) matrix to 2 by 2 zero sum game.

Family coping		Work coping strategy		
Strategy	W ₁	W ₂	W ₃	W ₄
F ₁	25	14	15	16
F ₂	40	17	13	15
F ₃	30	5	12	3
F ₄	-1	8	11	32
F ₁	25	14	15	16
F ₂	40	17	13	15
F ₃	30	5	12	32
F ₁	25	14	15	16
F ₂	40	17	13	
F ₁	25	14	15	
F ₂	40	17	13	
F ₁		14	15	
F ₂		17	13	

Hence, we have our 2 by 2 matrix resulting from the behaviour of the two parties as shown on table 6.

Table 6. 2 by 2 zero - sum game resulting from behaviour of coping strategies

Family coping system	Work coping Strategy		Minimum of rows
	W ₂	W ₃	
F ₁	14	15	14
F ₂	17	13	13
Maximum of column	17	15	

Finally, in assessing the concessions that work coping strategy is to make in the light of the pay off that would result in playing of the various strategies by both negotiating parties, one can suggest that as a rule of thumb-any value between point 14 and point 15 can serve their

purpose. But for the purpose of the more scientific method i.e. game theory technique which we have decided to use in the preparation of this case, series of equation will be used to get the specific value using our 2 by 2 matrix above.

Let $\alpha x (P_1 P_2)$ be the optimal strategy of family, and $\beta^x (q_1 q_2)$ be the optimal strategy for work V the value of the game. Further, if family closes strategy F_1 , work will have as its expected trade off point

$$E(F_2\beta^x) = 14q_1 + 15q_2 = v \dots\dots\dots(a)$$

Similarly, if family plays strategy F_2 the expected pay off of work will be:

$$E(F_2\beta^x) = 17q_1 + 13q_2 v \dots\dots\dots(b)$$

$$\text{We also have } q_1 + q_2 = 1 \dots\dots\dots(c)$$

On the other hand, if work choose to adopt strategy W_2 , the pay off family will expect will be

$$(W_2, \alpha x) = 14 P_2 = V \dots\dots\dots(d)$$

Similarly, if work chooses to play strategy W_3 , the pay off family will expect, will be;

$$\sum (W_3 \alpha^x) = 15P_1 + 13P_2 = V \dots\dots\dots(e)$$

$$\text{We also have } P_1 + P_2 = I \dots\dots\dots(f)$$

From equation (c) we find that:

$$q_1 + q_2 = I$$

$$q_1 = 1 - q_2$$

Hence, substituting the value of q_1 in equation (a) and (b) to find the value of q_2 and since equation 'a' = v and b = u. therefore 'a' = 'b' = v hence are solve:

$$\begin{aligned}
 14(1 - q_2) + 15q_2 &= 17(1 - q_2) + 13q_2 \\
 14 - 14q_2 + 15q_2 &= 17 - 17q_2 + 13q_2 \\
 q_2 + 4q &= 17 - 14 \\
 q_2 &= \frac{3}{5}
 \end{aligned}$$

Further, substituting the value of q_2 in equation (c) to find the value of q_2 we compute $q_1 = 1 - 3/5 = 2/5$. Therefore to find the value of the game for both work and family we substitute the value of q_1 and q_2 in equation (a) and we have:

$$\begin{aligned}
 \frac{2}{5}(14) + \frac{3}{5}(15) &= v \\
 v &= 5.6 + 9 \\
 &= 14.6 \text{ points}
 \end{aligned}$$

Similarly, we can verify the result by solving from equation (f) we found that:

$$P_1 + P_2 = 1$$

$$\text{Hence } P_1 = 1 - P_2$$

Substituting the values of f , and equation (d) and (c) to find the value of F_2 and since equation (d) = v and (d) = V

Therefore, $a = b = v$, hence we have;

$$\begin{aligned}
 14(1 - P_2) + 17P_2 &= 15(1 - P_2) + 13P_2 \\
 14 - 14P_2 + 17P_2 &= 15 - 15P_2 + 13P_2 \\
 3P_2 + 2P_2 &= 15 - 14 \\
 5P_2 &= 1 \\
 P_2 &= \frac{1}{5}
 \end{aligned}$$

Further substitute the value of P_2 in equation (f) to find the value of P_1 , we compute

$$\begin{aligned}
 P_1 &= 1 - \frac{1}{5} \\
 &= \frac{4}{5}
 \end{aligned}$$

Therefore to find the value of the game for work coping strategy and family coping strategy, we substitute the value of P_1 and P_2 in equation (d) and we will have

$$\begin{aligned} \frac{4}{5}(14) + \frac{1}{5}(17) &= V \\ V &= 11.2 + 3.4 \\ &= 14.6 \end{aligned}$$

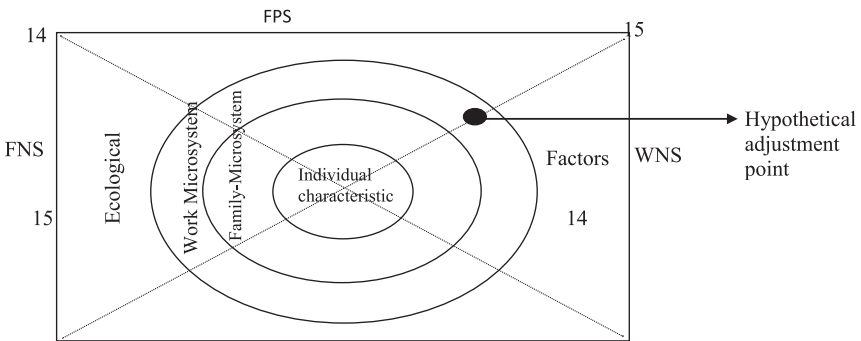


Fig 2: Synergistic grid for work and family adjustment point.

Where	WPS
FPS -	Family positive spillover
FNS -	Family negative spillover
WPS -	Work positive spillover
WNS -	Work negative spillover

The point 14.6 explains the hypothetical adjustment point. It centres on the border line between FPS and WNS. It follows that this individual will tend to pay attention or adjust to the family microsystem. It has no negative effect on work coping strategy. It follows that reducing pressure at work, building supportive work environments, promoting emotionally close family relationships may provide more benefit in reducing work- family conflict than programs that enhance decision latitude. These analyses confirm that personality factors alone do not account for the propensities of individuals to experience or report work and family conflict. This invariable means that personality

characteristics, positive and negative interaction in the family micro-system, and positive and negative experiences in the work micro-system were all independently associated with the work-family interface.

Several of the independent variables were found to be skewed; therefore, we trichotomized the work and family measures based upon approximate tertile cut-points to comply with the general assumptions of regression analyses and to avoid strong assumption regarding the shape of the association.

To provide evidence that support our hypothesis that negative spillover from work to family, positive spillover from work to family, negative spillover from family to work, positive spillover from family to work are distinct forms of work-family experience. Two items (i.e. item three described earlier for positive spillover from work to family, and item two described earlier for positive spillover from family to work) were eliminated because they are strongly loaded on multiple factors. Consequently negative spillover from work to family was constructed using a four item scale ($\alpha = .83$), positive spillover from work to family was constructed using three items ($\alpha = .73$), negative spillover from family to work included four items ($\alpha = .80$), and positive spillover from family to work was constructed from three items ($\alpha = .70$).

Additional analyses suggested concurrent and predictive validity for each of the work-family measures identified by the factor analysis. Multivariate regression analyses demonstrated that all four dimensions of work-family spillover were independently associated ($P \leq .01$) with global measure of physical and mental health and life satisfaction. Moreover, each measure except for positive spillover from work to family was found to be independently associated ($P \leq .01$) with marital quality.

RECOMMENDATIONS

From the foregoing, the study recommends that programme that provides employees with higher levels of decision latitude are important for synergistic work-family relationship.

Again, for the banking sector to thrive in Port Harcourt, leave-of-absence for women infant and toddler care, reasonable work hours

and weeks must be taken into corporate planning for human capital development policies. Succinctly, initial inequities across social class are markedly exacerbated by the public policy decisions in Nigeria has made, including, among others, the failure thus far to provide public preschool or early childhood education to parallel public school, the failure to extend the school day or school year, now that the economy is tending toward industrial rather than primarily agricultural and the failure to ensure that employees have basic family-related leave from work. To this end, the study recommends provision of a minimum number of vacation and sick leave days; provision of public insurance guaranteeing paid leave for families.

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