

Teachers' Work-Family Conflict in Malaysia: Scale Validation

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ABSTRACT

There is the need for an evaluation instrument that can examine work-family conflict in Malaysia. Thus, this research aimed to verify the psychometric properties of the hypothesized measurement model of work-family conflict (WFC) scale in Malaysia. The aim of the current study was to test the psychometric properties of the work-family conflict 10-item index. To address this concern, 245 married female teachers were selected from 13 schools and a 10-item version of the work-family conflict was administered to them. The data were analyzed using the Confirmatory Factor Analysis (CFA) procedures. A second order CFA was used to test the framework of the total of 245 married female teachers data based on Structural Equation Modeling (SEM). The work-family conflict construct has shown to be a second-order construct which can be explained by two factors of the work-interfering-with-family conflict and family-interfering-with-work conflict. The result revealed that the hypothesized model for WFC that responses to the WFC scale can be explained by two-first order factors (wif and fiw) and one second-order factor (WFC).

Keywords: work-family conflict, confirmatory factor analysis, second order factor

1. Introduction

Over the past 10 years many researchers have focused on the effects that work overload has on work-family conflict in which high levels of work overload lead to higher levels of work-family conflict (Ewing & Smith, 2003). Increased participation of women in the workforce also increases the challenges in handling work and family demands for both women and men (Geurts & Demerouti, 2003). In Malaysia, the number of mothers in workforce has also increased dramatically. Thus, gender role system has become more complex, potentially increasing the likelihood and relevance of conflict in the future.

This is an important area of study for both researchers and practitioners, as more and more employees are struggling with multiple roles (e.g., employees, parents, students, caretakers of elderly

parents). Research to date suggests that high levels of work-family conflict are related to dysfunctional outcomes for individuals (e.g., life dissatisfaction, anxiety, depression, poor health), for

relationships (e.g., increased interpersonal conflict, divorce), and for organizations (e.g., absenteeism, tardiness, loss of talented employees).

Allen et al., (2000) reviewed the relationships between work-family conflict and (a) work-related outcomes, (b) non-work-related outcomes, (c) stress-related outcomes and generally found significant relationships across these areas. Hence, they concluded that work-family conflict has important personal and organizational consequences. It is important to note that most early research on multiple roles focuses on women, particularly on those who occupy the roles of wives, mothers, and employees. The multiple roles of women may affect the well-being of the family such as the husband, children and the wife herself. Conflict occurs when a family is unable to cope with these multiple roles effectively and the result has been found to affect work satisfaction and psychological well-being (Greenhaus and Beutell, 1985; Loscocco & Roschelle, 1991; Phelan et al., 1991).

Ewing and Smith (2003) reported that between 25% and 40% of beginning teachers in the western countries are leaving teaching or facing burnout syndrome. In Malaysia, teaching is one of the most stressful jobs. The talk on "Stress Management for Teachers" (Kolej Disted-Stamford news, 23 February 2008) declared that teaching is a challenging profession and hence, teachers could do with learning how to de-stress to maintain good health and high spirits. The talk also informed that there are two main sources of stress which affect teachers: heavy workload and students' problems. Nowadays, a teacher's duty is multifaceted as they undertake not only teaching but also matters associated with curriculum, students, parents, the school community as well as departmental initiatives.

Another key point to note, the success of the newly launched National Education Blueprint poses a big impact on the development of schools and teachers themselves. This plan is expected to produce intellectual students who are able to collect information and acquire knowledge and skills, instead of purely memorizing knowledge. Education system should cater to the needs of all students: smart, mediocre, weak or disabled. The success of the National Education Blueprint depends on the teacher's ability, quality, skills and effectiveness in educating students. Teachers are required to have proficient skills in teaching and educating students to fulfill the government's aspiration in providing a world class education. As a result of this new system, married female teachers may face an increase in workload which will in turn, to a certain degree, affect their work performance as well as their psychological well-being.

1.1 Work-Family Conflict

For the past 40 years, a study by Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964) which focused on work-family conflict (WFC) had become the basis for the WFC concept. WFC was originally conceptualized as a one-dimensional but bidirectional construct, which is dimension with simultaneous influence of work on family and family on work.

Work-family conflict has been defined as "a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect" (Greenhouse and Beutell, 1985). Participation in one role (work or family) is made more difficult by virtue of participation in the other role. Work conflict is defined as the extent to which an individual experiences incompatible role pressures within the work domain, and family conflict is defined as the extent to which an individual experiences incompatible role pressures within the family domain

(Kopelman, Greenhaus, and Connolly 1983). In other words, the responsibility of participating in both work and family domains is unfulfilled due to pressures from work and family related conditions.

Thus, work, family, and work-family (inter-role) conflict are three measures of role conflict, measured at the individual level.

Much of the research on work-family conflict is based on the premise that multiple roles inevitably create strain (e.g., Chapman, Ingersoll-Dayton, & Neal, 1994; Frone et al., 1992; Goff, Mount, & Jamison, 1990; Hammer, Allen, & Grigsby, 1997), as suggested by the role theory (Katz & Kahn, 1978) and role scarcity (Goode, 1960).

These dimensions of directionality are identified as distinct and reciprocal constructs that have independent antecedents and outcomes (Frone, Russell, & Cooper, 1992; Frone, Yardley, & Markel, 1997). For instance, Frone & colleagues (1997) demonstrated that work-to-family conflict is primarily caused by work-related stressors, while family-to-work conflict is caused by family-related stressors. In addition, these dimensions of directionality differ between the sources of conflict, i.e. work interfering with family and family interfering with work. But most of the early research focused on either conflict that included both directions or just work interfering with family, with substantially less attention paid to family interfering with work.

As previously mentioned, work-family conflict is bidirectional where work may interfere with family (referred to as work-to-family conflict) and family may interfere with work (referred to as family-to-work conflict). Although it was once assumed that WFC was a uni-dimensional construct (e.g., Kopelman, Greenhaus, & Connolly, 1983), most recent definitions display a bi-directional conceptualization (Frone et al., 1992; Frone et al., 1997; Gutek, Searle, & Klepa, 1991; Netemeyer, Boles, & McMurrin, 1996), with WFC having two components: work interfering with family (WIF Conflict), and family interfering with work (FIW Conflict). As recent literature suggests, WIF Conflict and FIW Conflict are distinct, yet related forms of inter-role conflict. Mikkelsen and Burke (2004), studied on the directionality of work-family conflict and they naturally found that work-to-family conflict had more negative consequences for employees.

2. Methods

2.1 Participants

13 schools were selected in the Hulu Langat district and from the total of 2000 population of the teachers in the schools only 300 teachers were chosen to participate in the study. Samples were selected based on the characteristics needed by the study, namely, married female teachers with at least one child, and below 15 years of teaching experience. From the selected 300 teachers, only 245 responses were taken for the analysis and five sample responses were incomplete, indicating that the missing rate was small.

2.2 Instrument

Data were gathered through a demographic background of the sample. Then, the researcher adapted Work-Family Conflict Scale (WFC) by Netemeyer, Boles and McMurrin (1996). The questionnaires were translated from English language to Malay language by an English expert. To establish translation validity, a proficient linguist in both languages translated the English version into Malay version. This translation portrayed the degree of accuracy of the Malay version in capturing the

meanings attached to the contents of the original instrument in order to facilitate respondents' understanding.

The demographic characteristics assessed include age, years in teaching and number of children. Work-Family Conflict Scale (WFC) Netemeyer et al. (1996) developed and validated separate scales of work-family conflict (WFC) and family-work conflict (FWC). The instruments were assessed using a 5-point scale. The responses ranged from "1", rated as "never" to "5", rated as "always". Prior to the development of these scales, the literature regarding work-family conflict was without sound measures to assess this construct. The researchers defined work-family conflict as "a form of interrole conflict in which the general demands of time devoted to, and strain created by the job interfere with performing family-related responsibilities" (Netemeyer et al., 1996, p. 401). A list of 43 items had been administered to three different occupational groups along with measures of other related constructs. A confirmatory factor analysis confirmed the items into a 22-item work-interfering-with-family scale and a 21-item family-interfering-with-work scale. Items were deleted based on a number of heuristics suggested in the scale development literature (Bagozzi & Yi, 1998; DeVilli, 1991) leaving five items for each scale that reflected a combination of time- and strain-based items. Coefficient alphas reported in the reference article averaged 0.88 for work interfering with family and 0.86 for family interfering with work across the three samples. However, across few studies that had used these measures, the alphas were very strong (0.91 and 0.88, respectively).

Reliability is synonymous with repeatability or stability. A measurement that yields consistent results over time is said to be reliable. When a measurement is prone to random error, it lacks reliability. Most research used some form of internal consistency. When there is a scale of items attempting to measure the same construct, then we would expect a large degree of coherence. If the items are scored as continuous variables (e.g., strongly agree to strongly disagree), the alpha provides a coefficient to estimate consistency of scores on an instrument (Creswell, 2005). The Cronbach Alpha technique computes mean reliability coefficient estimates for all possible ways of splitting a set of items in half. Guideline in the literature suggests that Cronbach alpha between 0.9 is very good, between 0.8 is considered good while 0.7 is considered enough (Kline, 1998). A pilot test was conducted to check the reliability of the measurement for Malaysian sample.

Content validity is the extent to which the questions on the instrument and the scores from these questions are representative of all the possible questions that a researcher could ask about the content or skills (Creswell, 2005). To validate the instruments, the researcher asked expert opinions regarding the representativeness of the instruments to the area of the current study.

2.3 Procedure

Prior to data collection, the researcher formally obtained permission from the Education Planning and Research Division (EPRD) and the Selangor State Education to distribute the questionnaires to the selected schools. The researcher visited the identified schools, introduced herself and explained the aims of the study and the ethical aspects involved. The researcher then briefly explained the purpose of the survey to the principal or to the person in charge and secured a teachers' name list based on the characteristics mentioned above. After the selection of the sample, questionnaires were given to the respondents through their principal. The questionnaires which contained demographic information and level of WFC, could be self-administered, thus the respondents were informed by their principal verbally and in written form that they must complete the questionnaires.

Three hundred sets of questionnaires were administered on married female teachers in thirteen schools. After the respondents completed the questionnaires they returned the questionnaires to the

principal. 245 questionnaires were completed and returned out of 300 sets distributed. The completion of the questionnaires took about one month. The procedures to test the hypothesized linkages between the observed variables and their underlying latent variables are referred to as confirmatory factor analysis (CFA) and within the context of SEM, CFA is considered to represent the

measurement models of WFC. CFA enables us to test how well the measured variables represent the constructs. CFA is also used to provide a confirmatory test of our measurement theory. The WFC model was developed based on the proposed hypotheses and was intended to examine the psychometric properties of WFC. The measurement theory or CFA could be represented as a model that showed how measured variables came together to represent the constructs.

The research question represented a measurement model of Work-family Conflict (WFC) as depicted in Figure 1 labeled as WFC, represented the underlying factor for Work-interfering-with-family and Family-interfering-with-work. WFC occurs when participation in the work role and the family role is incompatible in some respect. Work-family conflict can arise from; 1) the time demands of one role that interfere with participation in the other role and; 2) the stress that originates in one role spills over into the other role which, only detracts from the latter's quality of life. As a result, participation in one role is made more difficult by virtue of participation in the other role. Individuals who invest more time or more psychological involvement in their work rather than their family experience the highest levels of work-to-family conflict and life stress, which ultimately reduce their quality of life.

2.4 The Model's Goodness-of-Fit

The consistency of the model with the data was determined via five measures of model fit. The first measure is the chi-square statistics which determines if the nonzero in the residual matrix may have occurred simply due to chance. A "reject of null-hypothesis" decision indicates that the hypothesized model lacks fit and that the model is somewhat inconsistent with the data. On the other hand, the "fail to reject decision" suggests that the model fits the data. Besides the chi-square (χ^2) index, normed chi-square (CMIN/DF) was used to evaluate the model fit. It shows that the value of χ^2 divided by the degree of freedom, and this index should be as small as possible.

The second index is the root mean square error of approximation (RMSEA). RMSEA approximates the discrepancy that may be expected in a population and a value of less than .08 is judged reasonable for a fit model. Third, the study examined the Tucker-Lewis index (TLI) which compared the estimated model with the null-model. Each index ranges from approximately zero to 1, with values of .90 or more reflecting good fit of the model to the data. Next, the comparative fit index (CFI) defined as a measure used to compare the fit of the target model with the baseline model with values close to 1.0 indicate fit (Hoyle & Panter, 1995).

2.4 Parameter Estimate

The study examined the magnitude and direction of individual parameter estimates to determine their reasonableness. This examination sought for offending estimates, such as negative error variances and theoretically inconsistent coefficients, which could undermine the validity of the model. Finally the study examined the estimated R² of the learning outcomes; the higher the value of the R², the better the explanation of the endogenous variable by the model.

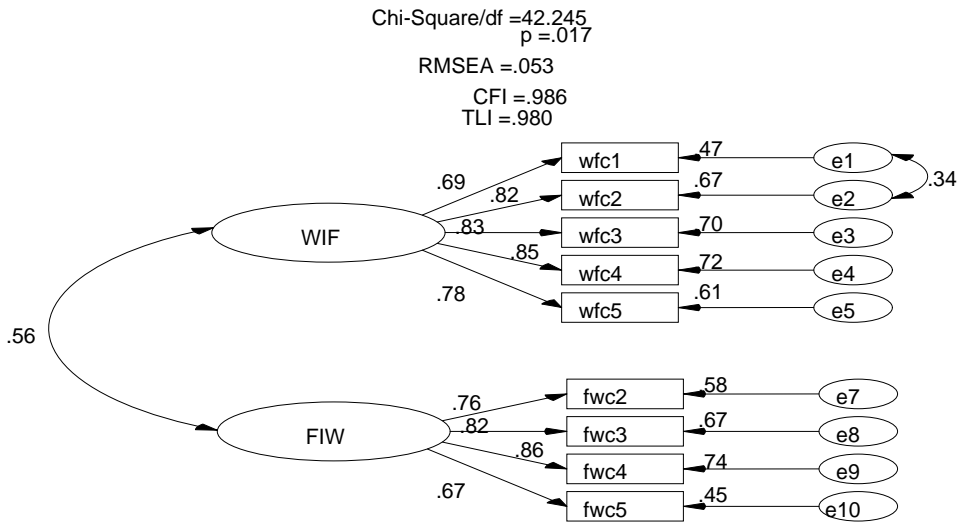


Figure 1: The Measurement Model of Work-Family Conflict

Note: WIF (work-interfering-with family); FIW (family-interfering-with work); wfc1 (the demands of my school work interfere with my home and family life) wfc2 (the amount of time my job takes up makes it difficult for me to fulfill my family responsibilities, wfc3(things I want to do at home do not get done because of the demands my job puts on me), wfc4 (my job produces strain that makes it difficult to fulfill family duties), wfc5 (due to work-related duties, I have to make changes to my plans for family activities), fwc2 (I have to put off doing things at school because of demands on my time at home), fwc3 (things I want to do at work don't get done because of the demands of my family or spouse/partner), fwc4 (my home life interferes with my responsibilities at school such as getting to work on time, accomplishing daily tasks, and working overtime), fwc5 (family-related strain interferes with my ability to perform job-related duties).

3. Results

This section provides the data analysis results that address the research questions of the study. This study applied one-stage structural equation modeling using AMOS (version 16.0) model-fitting program to test the research hypotheses. The study assessed the validity of the WFC measurement models which was the confirmatory factor analysis (CFA) of Work-family Conflict (WFC).

Table 1: Maximum Likelihood Parameter Estimates of the Standardized Factor Loadings, Standard Error, Critical Ratio and Squared Multiple Correlations for a 2-factor Model of the

Parameter	Standard Error (S.E)	Critical Ratio (C.R)	SMC
Factor Loadings			
wfc1	.739	-	.547
wfc2	.851	.089	13.228
wfc3	.813	.084	12.627
wfc4	.842	.085	13.087
wfc5	.766	.084	11.850
fwc1	.649	-	.421
fwc2	.780	.125	10.130
fwc3	.801	.129	10.337
fwc4	.835	.134	10.633
fwc5	.681	.130	9.106
Measurement error variances			
e1	.416	.043	9.706
e2	.266	.033	8.091
e3	.291	.033	8.852
e4	.257	.031	8.303
e5	.350	.037	9.463
e6	.378	.038	9.993
e7	.283	.032	8.763
e8	.272	.032	8.390
e9	.242	.032	7.642
e10	.445	.045	9.789
Factor variances and correlations			
wif	.502	.077	6.530
fiw	.274	.051	5.408
wif↔fi	.607	.037	6.046
w			

Note: wfc=work-family conflict, fwc=family-work conflict, wif=work-interfering-with-family conflict, fiw=family-interfering-with-work conflict, SMC=squared multiple correlations. All the underlined items were constrained to 1.00 and not tested for statistical significance $p < 0.01$ for all un-standardized estimates.

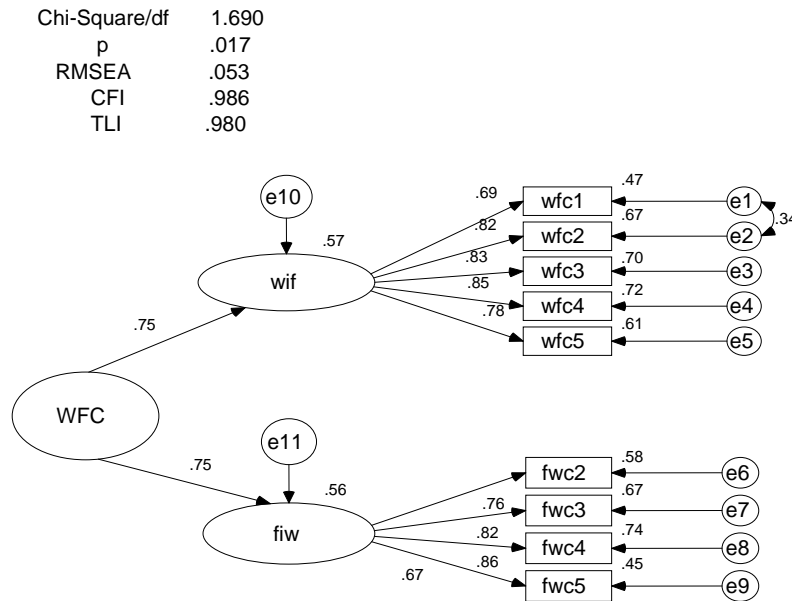


Figure 2: The Measurement Second-order Model of Work-Family Conflict

Note: WIF (work-interfering-with family); FIW (family-interfering-with work); wfc1 (the demands of my school work interfere with my home and family life) wfc2 (the amount of time my job takes up makes it difficult for me to fulfill my family responsibilities, wfc3(things I want to do at home do not get done because of the demands my job puts on me), wfc4 (my job produces strain that makes it difficult to fulfill family duties), wfc5 (due to work-related duties, I have to make changes to my plans for family activities), fwc2 (I have to put off doing things at school because of demands on my time at home), fwc3 (things I want to do at work don't get done because of the demands of my family or spouse/partner), fwc4 (my home life interferes with my responsibilities at school such as getting to work on time, accomplishing daily tasks, and working overtime), fwc5 (family-related strain interferes with my ability to perform job-related duties).

4. Discussion

This research question was aimed at validating the measurement models of work-family conflict (WFC). As stated in the hypothesis, Work-family Conflict (WFC) is explained by two factors of work-interfering-with-family conflict and family-interfering-with-work conflict. Based on the research question, a series of confirmatory factor analysis was performed in which the hypothesis related to the measurement model of the WFC was tested. It was found that the measurement model with the two inter-correlated factors WIF (work-interfering-with-family) and FIW (family-interfering-with-work), with nine observed variables and two error correlations provided a reasonable explanation to the correlations among the observed variables. The results supported the assertion that the dimensions being WIF and FIW. The work-family conflict construct has shown to be a second-order construct which can be explained by two factors of the work-interfering-with-family conflict and family-interfering-with-work conflict. Work-family conflict scale is a reliable and valid scale. The instrument can be utilized in educational setting, especially in assessing teachers' WFC. This model can contribute to the existing theory regarding the latent factors of WFC construct by examining the role of each variable.

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