Malaysian Women's State of Well-Being: Empirical Validation of a Conceptual Model

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ABSTRACT. The author carried out the present study to examine the determinants of Malaysian women's well-being. Specifically, the author proposed a theoretical model of women's roles and well-being—made up of roles, negative affectivity, conflict, and health—and statistically validated it in a group of women occupying both work and family roles ($N = 389$). Using a life-course approach (P. Moen, 1998) to roles and well-being, the author further examined the model in women of 3 different age groups (age of Group 1 = 20–29 years, age of Group 2 = 30–39 years, and age of Group 3 = 40 years and older). The results supported the proposed model, which showed reasonable fit when applied to the 3 groups of women. The results also indicated that the predictors of women's well-being differ according to their respective age groups. The author discussed these findings in relation to the life-course approach to women's roles.

Key words: distress, life satisfaction, model validation, physical health, roles, work–family conflict

MALAYSIAN WOMEN'S WELL-BEING—the purpose of the present study was to examine its determinants. Specifically, I statistically validated a theoretical model of women's roles and well-being and examined this model using a life-course approach (Moen, 1998) to roles and well-being.

Researchers examining women's roles and well-being have indicated that well-being is determined by one's role experiences (e.g., Barnett & Hyde, 2001) and demographic variables such as age, education, marital status, number of children, and the like (e.g., Noor, 1996; Ross & Huber, 1985; Stack & Eshleman,

1998). Researchers have also shown conflict between work and family as predicting well-being (e.g., Frone, Russell, & Cooper, 1992; Greenhaus & Parasuraman, 1999; Kinnunen & Mauno, 1998). Noor (2003) proposed and tested an exploratory model using demographic variables, personality, and roles as predictors of well-being, with work–family conflict acting as a mediator or an intervening variable between these sets of predictors and well-being. Other researchers too have viewed work–family conflict as a mediator of relationships between pressures of work and family roles and individual well-being (e.g., Frone et al., 1992; Frone, Yardley, & Markel, 1997).

Noor's (2003) study is important because it incorporated personality variables (neuroticism and extraversion) as predictors of women's well-being. Although previous researchers (e.g., Amatea & Fong, 1991) have shown that the personal resources that women bring with them into their roles are important, Noor's (2003) study was one of the few studies that have directly tested personality variables within their frameworks. Noor's (2003) results showed that although work-related variables explained the most variance in the prediction of work-interfering-with-family (WIF) conflict and job satisfaction, personality variables accounted for the most variance in the prediction of family-interfering-with-work (FIW) conflict. The inclusion of personality variables in addition to role variables in the model also allows for some evaluation of the relative effects of these variables on well-being. However, because Noor (2003) used path analysis to examine the hypothesized relationships (by using a series of hierarchical multiple regressions), she could not consider the simultaneous effects of these predictors on well-being. So, in the present study, using a similar model (see Figure 1), I applied structural equation modeling (SEM) to the data to validate the proposed model.

FIGURE 1. Theoretical model of reported well-being.
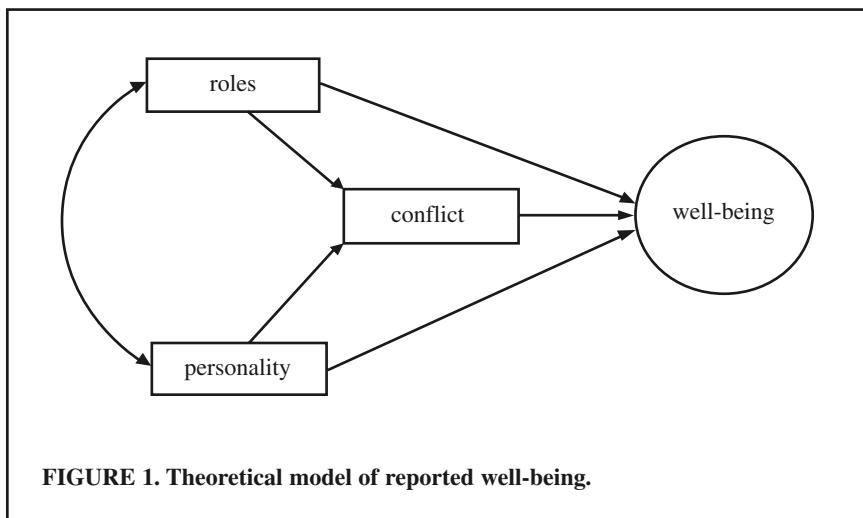
I preferred SEM over path analysis for several reasons. First, SEM facilitates the estimation of dependence relationships among the variables in the proposed model simultaneously, hence curtailing the inflation of estimation error. Second, SEM allows the assessment of both the directional relationships, implying the likelihood of causal links, and the nondirectional correlational relationships among the variables. Third, SEM enables the identification of underlying nonobservable constructs, the latent variables that are not measured directly in the study. This capability would substantially contribute to the building of theory because the purpose of a theory, in general, is to describe relationships among latent variables. Finally, the ability of SEM to extract latent variables on the basis of the observed covariances among the measured (manifest) variables permits the researcher to estimate the measurement error and the reliability of the data.

Figure 1 represents the proposed model of the present study and shows that women's well-being is a function of several sets of interrelated variables. Variability in these exogenous variables substantially accounts for women's well-being. The interrelationships among these antecedents can also affect well-being directly and indirectly via work–family conflict. Figure 1 illustrates a summary of these interrelated dependence relationships.

Support for the hypothesized relationships between roles and well-being comes from studies of multiple role experiences in relation to well-being (e.g., see review by Barnett & Hyde, 2001). The role of personality factors in relation to women's well-being, on the other hand, is less well documented. Carlson (1999) found negative affectivity to be directly related to greater WIF conflict. Noor's (2003) study indicated the possibility that neuroticism and extraversion are implicated differentially in the complex pathways by which work and family variables influence outcomes. Whereas neuroticism had a direct positive effect on distress symptoms, it also influenced well-being indirectly via work–family conflict. Extraversion, however, had a direct effect on job satisfaction.

Many researchers have viewed work–family conflict as a mediator between work and family variables and well-being (e.g., Aryee, Luk, Leung, & Lo, 1999; Frone et al., 1992; Noor, 2003). In addition, other researchers have shown that work and family conditions alone do not account for much variance in overall well-being (e.g., Amatea & Fong, 1991; Noor, 1996), suggesting that there may be other processes at work. One that has been examined is this intervening role of work–family conflict. Therefore, for the proposed model, I assumed that conflict acts as an intervening variable between both personality and role variables and well-being.

It should be noted that although past studies indicate the possibility that women's roles and personality factors have a direct impact on work–family conflict, I could not infer the causal link between roles and personality decisively. However, there is no reason to suggest that these two variables are independent of one another. On the contrary, it is plausible that there is an association between

these variables. For the proposed model, therefore, I allowed roles and personality factors to covary.

A Life-Course Approach to Women's Roles and Well-Being

There are two competing views regarding the effects of multiple roles on women's well-being (both physical and emotional). Although the role-enhancement hypothesis implies that support and gratification derived from the accumulation of diverse roles outweigh the adverse effects of combining roles (Marks, 1977), the role-strain hypothesis implies that the accumulation of roles creates role overloads and role conflicts, which are detrimental to health (Coser, 1974).

Although useful, these two hypotheses fail to account for the meaning and experiences of these roles and the context within which women experience these roles. For example, a woman may experience her work role as positive but her family role as negative. These experiences, however, may change over time. As children get older, her family role experiences may change for the better (or worse), and such change might occur for the work role too. Other roles—such as that of caregiver for an elderly parent—may become more dominant in later life. Thus, what is important is not any one particular role but the entries and exits of these roles over the adult years and their timing in relation to the woman's age and the other roles that she may occupy (Han & Moen, 1999; Moen, 1998; Moen & Sweet, 2004). These entries and exits of roles may affect her health and psychological well-being (Moen). Thus, a life-course approach may provide researchers with a better picture of the links between the woman's life history and the contexts that shape her and are shaped by her (Elder, 1996; Moen).

With the life-course approach, the researcher considers the relationship between multiple roles and well-being by focusing on continuity and change across the life span (Moen, 1998). Through that approach, one integrates the role-strain and role-enhancement perspectives and considers the number of role involvements and their nature, circumstances, and patterning over the life course. Thus, whether multiple roles have deleterious or beneficial effects on women's health depends on their timing and the contexts in which they occur. The challenge then, is to delineate the many life patterns of women and to ascertain which of these are the most adaptive. At the same time, one should recognize that what may promote health at one life phase may or may not be able to do so at a later phase.

The Present Study

The purpose of the present study was to examine the determinants of Malaysian women's well-being. As in other developed and developing coun-

tries, the number of employed women is increasing in Malaysia. Although women account for only a third of the Malaysian labor force, their labor force participation rate has increased from 37.2% in 1970 to 44.5% in 2000 (Economic Planning Unit, Malaysian Prime Minister's Department, 2001). Because of better educational and employment opportunities, this increase is likely to continue. As a result of this labor force participation, women's roles have changed, with most women currently combining work and family roles simultaneously. Research regarding these women has shown adverse consequences in their well-being similar to those reported by women in more developed countries (Noor, 1999). In the present study, I then addressed a need to collect more data from societies other than Western ones, where most research in women's roles with respect to well-being has been carried out. The proposed model, drawn from studies carried out in the West, would provide useful information on the applicability of such a model in a non-Western context. In the present study, first I validated a theoretical model of women's roles and well-being. Second, using the life-course approach to roles and well-being, I tested the model with women at different life stages, corresponding to different age groups. I deemed this approach most suitable because the various relationships, activities, and strivings that concern women at each of these periods of their lives are different. For example, although marriage, family, occupation, friendship, community involvement, leisure or avocation, religion, and the like are important, not all of them are important at any given life stage. A woman in her early 20s may be more concerned with finding a life role, whereas one in her 30s may be involved in making job–family tradeoffs. Therefore, the former needs to make a decision about which role she's going to play and to find suitable paths to reach her life goals. The latter, on the other hand, is concerned with finding alternative ways to cope with the conflicting priorities of her multiple roles.

Method

Participants and Procedure

I recruited participants from within the Klang valley, the most densely populated area in Malaysia, from among members of the Employees Providence Fund (a national social security organization operating through a provident fund scheme in Malaysia) and of several local universities. Before the actual study, the participants volunteered for it, and I gave each a questionnaire and a self-addressed stamped envelope.

I gave 677 unfilled questionnaires out to participants and got 399 filled-in questionnaires back. Incomplete or missing responses reduced the final sample to 389 employed women (with a response rate of 57.5%). Most of the women were married (91.0%), whereas the rest were single, widowed, or divorced (9.0%). The age range of the sample was 21–57 years, with 30.1% between 20

years and 29 years (Group 1), 37.5% between 30 years and 39 years (Group 2), 26.3% between 40 years and 49 years, and 6.1% between 50 years and 59 years. Because the number of participants in the 50–59-year age group was small, I combined them with those in the 40–49-year age group, resulting in 32.4% of participants in this group (Group 3). The overall mean age of the participants was 35.6 years (*SD* = 8.1 years). While most were Malays (92.5%), the remainder was made up of Indians (4.6%) and Chinese (2.9%).

Because participants' occupations varied widely, I coded this variable into several job categories: clerks and secretaries (1), schoolteachers (2), university lecturers (3), managers and consultants (4), professionals such as doctors and lawyers (5), and others such as designers, salespersons, programmers, writers, and brokers (6). The majority of the participants (51.8%) held clerical or secretarial jobs, earning between RM1000 and RM2000 (US$250 and US$500, respectively) per month. Managers and consultants made up the second largest category of participants (19.1%), and schoolteachers (12.9%) made up the third. The mean number of years in the present job was 8.4 years (*SD* = 5.2 years), and the mean number of years worked in total was 12.9 years (*SD* = 4.4 years).

In general, the women were relatively well educated, with 63% having at least 11 years of schooling. Of those well-educated women, 21.1% (of the 63%) had university degrees, and 9.3% (of the 63%) had postgraduate degrees.

Most of the participants had full-time employment, with 93.1% working a minimum of 35 hr per week. They spent an average of 8.5 hr per day at work (*SD* = 1.43 hr per day), amounting to 46.5 hr per week (most participants worked 5.5 days per week).

Whereas 6.1% of the married women had no children, the rest had at least one child at home (range = 0–9 children, *M* = 2.49 children, *SD* = 1.53 children). Of the married women, 63.1% had at least one child who was younger than 5 years of age.

Measures

Well-being. To assess well-being, I measured three variables: symptoms of psychological distress, physical health symptoms, and life satisfaction.

Symptoms of psychological distress. I used the General Health Questionnaire (GHQ) developed by Goldberg (1978) to measure symptoms of psychological distress. The GHQ identifies two main classes of problem: "inability to carry out one's normal 'healthy' functions, and the appearance of new phenomena of a distressing nature" (Goldberg & Hillier, 1979). Therefore, it focuses on breaks in normal functioning rather than life-long traits, covering personality disorders or patterns of adjustment when these are associated with distress. I used the 12-item GHQ in the present study. I scored items using the conven-

tional 0-1-2-3 Likert scale for the response categories, higher scores being associated with higher distress symptoms. The Cronbach's alpha for the present sample was .86.

Physical health symptoms. I used nine items from the physical health scale of the Occupational Stress Indicator (Cooper, Sloan, & Williams, 1988) to measure symptoms of physical health. I excluded three items from the original scale because I deemed them to be too extreme for the purpose of the present study ("*Muscles trembling (e.g., eye twitch),*" "*Pricking sensations or twinges in parts of your body,*" and "*Tendency to sweat or a feeling of your heart beating hard*"). In the Malaysian context, participants would see these three physical symptoms as reflecting profound psychological problems and would most likely not answer them truthfully. Participants rated the items on a 6-point Likert response scale (from 1 = *never* to 6 = *very frequently*), with higher scores indicating more physical problems. The Cronbach's alpha for the present sample was .85.

Life satisfaction. I assessed life satisfaction by the five-item Satisfaction With Life scale developed by Diener, Emmons, Larsen, and Griffin (1985). Participants rated each item along a 7-point Likert response scale (from 1 = *strongly disagree* to 7 = *strongly agree*), with higher scores reflecting greater satisfaction. The Cronbach's alpha for the present sample was .86.

Roles. I also measured the reported roles using summated scales. The three manifest variables were work experience (WE), marital experience (ME), and mother–child experience (CE).

I assessed the quality of experiences within each of the roles by modified versions of Baruch and Barnett's (1986) measure of role attributes, which included both positive and negative items pertaining to each particular role. In the present study, I changed or deleted several of the items to suit the present context (three from the work role and two from the parent role). For example, within the work role, the item "Good support facilities" was not clear, and I changed this to "Physical facilities at work are good, such as availability of computers, having proper places to work, etc." Another example is the item from the parent role, "Worrying about the teenage years: getting into trouble, drugs, sex," which was deleted because many participants may not have had teenage children, in which case they would respond to the item inappropriately. Each measure involved Likert scale scoring (a 4-point scale from 1 = *not at all* to 4 = *very much indeed*), and the author's instructions on the scale had participants indicate the extent to which each item was applicable to them.

In the present study, Cronbach's alphas for the 22-item work experience scale, the 14-item marital experience scale, and the 18-item mother–child experience scale were .72, .87, and .71, respectively.

Work–family conflict. I defined the latent variable *conflict* using two summated variables: the WIF conflict and FIW conflict variables.

I assessed work–family conflict by the 22-item work–family conflict scale developed by Kelloway, Gottlieb, and Barham (1999). The scale distinguishes between WIF conflict and FIW conflict and between *strain-based conflict* and *time-based conflict*. Whereas a person experiences time-based conflict when time pressures associated with a certain role prevent one from fulfilling the expectations of another role, one experiences strain-based conflict when strain or fatigue in a certain role affects one's performance in the other. The items involved a 4-point Likert response scale (from 1 = *never* to 4 = *almost always*), with higher scores indicating higher conflict. Because there were differences in the present sample from that reported by Kelloway et al., I carried out a factor analysis to check for differences in the underlying factor structure. The present analysis enabled me to distinguish between WIF conflict and FIW conflict only, not between time-based conflict and strain-based conflict. Therefore, the present study made a distinction between WIF conflict and FIW conflict only. The Cronbach's alphas for both conflict scales (each with 11 items) were .86.

Negative affectivity. In the present study, I used only one manifest variable, negative affectivity (NA), as the personality factor, because NA has been shown to be very salient in the prediction of well-being (e.g., Carlson, 1999; Moyle, 1995; Stova, Chiu, & Greenhaus, 2002).

I assessed NA by the 12 forced-choice items of the revised short-scale version of Eysenck's Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985). As measured by Cronbach's alpha, the internal consistency for the present sample was .78.

Because participants could answer the questionnaire either in English or in Malay, I adapted these measures into Malay using the back-translation method. Two steps were involved. First, a translator translated the English version of the measures into Malay. Second, another translator translated the Malay version of the measures back into English. Then, any items whose meanings differed from those of the original items were translated again.

Analytical Procedure

The present study involved the strategy of comparing alternative models, which included all nine manifest variables. The strategy added weight to the worth of the findings because it took into consideration the probability of confirmation bias (Greewald, Pratkanis, Leippe, & Baumgardner, 1986). To apply the strategy, I specified three distinct models a priori. Next, I estimated each model using the covariance matrix derived from the data. Then, I applied the procedure for evaluating the adequacy of the estimated models, that is, their goodness of fit, on the basis of the conventionally accepted criteria (MacCallum & Austin, 2000).

Finally, I examined the "best fit" model in both substantive and methodological terms and revised it if the need arose. The following sections will present detailed descriptions of the model specification and evaluation.

Model Specification

To address the confirmation bias, I identified three models of interrelated dependence relationships.

Model 1—Path model. This theoretical model contained the nine manifest variables. With the exception of the hypothesized correlation between roles and negative affectivity, I assumed causality among the variables. I expected the variables of major interest, distress symptoms (GHQ), physical health (PH), and life satisfaction (LIFE) to be directly influenced by role (WE, EM, and EC), conflict (WIF and FIW), and personality (NA) variables. Finally, I set the two conflict variables (WIF and FIW) to be determined by NA and roles.

Model 2—Latent variables model. As in the path model, this model also involved the nine manifest variables. However, I established three measurement models, each of which was meant to extract a latent variable, in the specification. I hypothesized the first measurement model, *health*, which explained the variability in GHQ, PH, and LIFE, as representing the participants' reported well-being. The second latent variable, *conflict*, represented the underlying factor for WIF and FIW. I included the third latent variable, *role*, in the specification to account for the variability in WE, EM, and EC.

Model 3—Manifest well-being. Model 3 is similar to Model 2, except for the involvement of manifest variables GHQ, PH, and LIFE to represent participants' well-being. Thus, I estimated the influence of roles, conflicts, and negative affectivity directly on the manifest variables.

Model Evaluation

To estimate the hypothesized models, I used the AMOS data-fitting program (Arbuckle & Wothke, 1995). The program involved the maximum likelihood estimation in generating estimates of the full-fledged SEM. In addition, because the program analyzed covariance matrices, the estimation procedure satisfied the underlying statistical distribution theory, thereby yielding estimates of desirable properties.

Once the models had been estimated, I applied a set of measures to evaluate the goodness of fit of each model. I used the measures, guided by the conventionally accepted criteria for deciding what constitutes good fit, to assess the (a) consistency of the hypothesized model with the empirical data, (b) explanations

of variability, (c) reasonableness of the estimates, and (d) simplicity (parsimony) of the estimated models.

I determined the consistency of the model with the data using five measures, which reflected the overall model fit. The first measure was the chi-square statistic, which indicates whether the nonzero in the residual matrix could have occurred simply because of chance. A "reject" decision indicates that the hypothesized model lacks fit, that is, the model is somewhat inconsistent with the data. On the other hand, the "fail to reject" decision indicates the possibility that the model fits the data. However, researchers should use the result of the chi-square test with caution. The test is particularly sensitive to sample size and departure from normality; even trivial differences will be found as significant. Thus, as suggested by Stevens (1996), researchers should view the result of the test as a descriptive index of fit, in addition to the other fit indexes.

The second measure was the minimum value of the discrepancy between the observed data and the hypothesized model divided by the degrees of freedom (C_{min}/df). Arbuckle and Wothke (1995) pointed out that a C_{min}/df that is less than 5 is considered acceptable. The third measure was the root mean square error of approximation (*RMSEA*), approximating the discrepancy that could be expected in the population. MacCallum and Austin (2000) considered a value of *RMSEA* that is less than .08 as reasonable for a fitting model. The fourth measure was the GFI (MacCallum & Austin), the adjusted Goodness-of-Fit index, which is analogous to the adjusted coefficient of determination in multiple regression. The fifth measure was the Tucker-Lewis index (MacCallum & Austin; TLI), which enables one to compare the estimated model with the null model. Each index ranges from approximately 0 to 1, with values of .90 or more reflecting good fit of the model to the data.

I examined the magnitude and direction of the individual parameter estimate to determine its reasonableness. This examination sought offending estimates, such as negative error variances and theoretically inconsistent coefficients, which could undermine the validity of the model. Next, I examined the estimated multiple R^2 of the reported well-being. The higher the value of the multiple R^2, the better the explanation of the endogenous variable by the model. Finally, I used the parsimony ratio (P-ratio) to assess the simplicity of the estimated model in terms of the improvement of fit that were due to an increase in the degree of freedom. The P-ratio is particularly useful in comparing contending models, in which a higher P-ratio value is desirable.

Modeling Procedure

I estimated the three hypothesized models using the data from the total sample ($N = 389$ participants). Then, I tested the model that best fit the data on each of the three age groups (Group 1 = 20–29 years old, Group 2 = 30–39 years old,

and Group 3 = 40 years and above). Finally, the estimated model for each age group was examined, modified, and reestimated.

Results

### Assessment of Competing Models of Women's Well-Being

I based the assessment of competing models on the results of the SEM on the data collected from 389 participants. Table 1 shows the indexes for the assessment of the goodness of fit of the models.

The results clearly indicate that Model 2, the model with latent variables, best fits the data. As shown by Figure 2, Model 2 produced better estimates than did the other two models. The indexes indicated that Model 2 was fit in terms of the overall consistency, variance of well-being that was accounted for, appropriateness of the parameter estimates, and simplicity of the solution. With the exception of an insignificant coefficient, Model 2 produced the desirable properties of a model that matched the covariances among the variables. Therefore, the model provides credible explanations for the dependence relationships of women's perceived well-being. In short, the present data supported the proposed model. Both roles and negative affectivity influenced health directly and indirectly via conflict (see Figure 2).

TABLE 1. Fit Indexes of the Competing Models

	Model		
Variable	1	2	3
C_{min}/df	33.6	2.27	2.45
RMSEA	.29	.06	.06
GFI	.91	.97	.97
TLI	−.09	.96	.95
R^2	< .35	.79	< .45
Insignificant coefficients	5	1	2
P-ratio	.17	.61	.52

Note. Model 1 is a path model containing only manifest variables. Model 2 includes three underlying constructs: well-being (health), roles, and conflicts. Model 3 contains only two underlying constructs: roles and conflicts. C_{min} = the minimum value of the discrepancy between the observed data and the hypothesized model; GFI = Goodness-of-Fit index; P-ratio = parsimony ratio; RMSEA = root mean square error of approximation; TLI = Tucker-Lewis index.
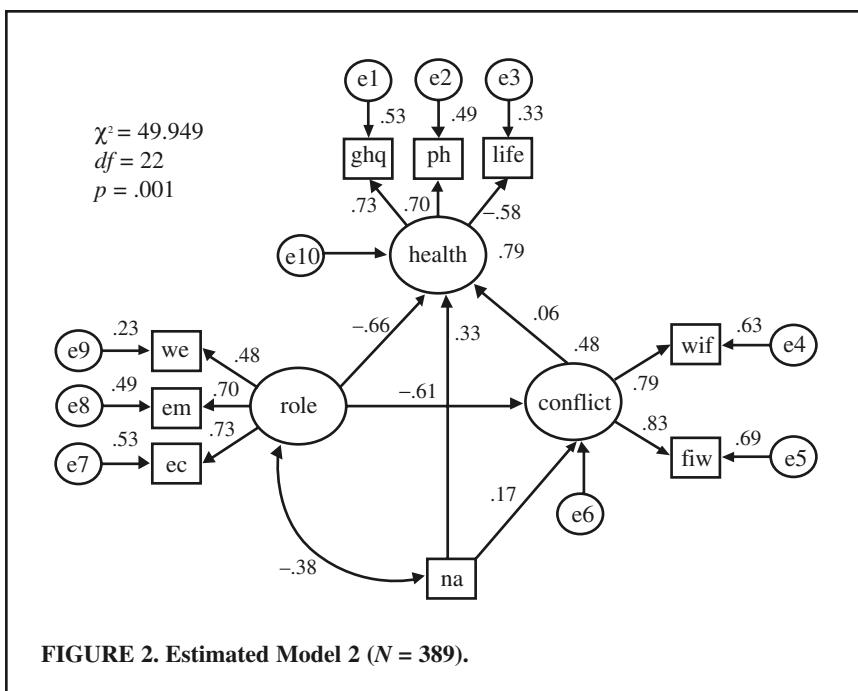
FIGURE 2. Estimated Model 2 (*N* = 389).

Well-Being of Employed Women Who Were 20–29 Years Old (Group 1)

The SEM estimated the likelihood of the theoretical model of perceived well-being among 117 working women whose ages ranged from 20 years old to 29 years old. The results indicated that the model was not consistent with the covariance matrix. Specifically, I rejected the hypothesis that the initial model was correct, $\chi^2(22, N = 117) = 34.89$, $p = .04$, reflecting the inadequacy of the overall fit. Also, an insignificant causal link between role and conflict contaminated the model. Thus, model revision was necessary. On the basis of substantive reasoning, the revised model fixed the direct effect of role on conflict at zero.

The revised model showed acceptable consistency of the hypothesized dependence relationships with the data. Although the chi-square index indicated the possibility of rejection of the revised model's overall fit, $\chi^2(22) = 38.09$, $p = .025$, the other four overall fit indexes ($C_{min}/df = 1.66$; *RMSEA* = .075; *GFI* = .94; *TLI* = .922) supported the adequacy of fit.

The revised model (Figure 3) was free of offending estimates. The parameter estimates were statistically significant at .05 level and were of practical importance, because each standardized structural coefficient was larger than .1. In Table 2, I will summarize the direct, indirect, and total effects on the variable, perceived well-being. The data indicated that the determinant of perceived well-being
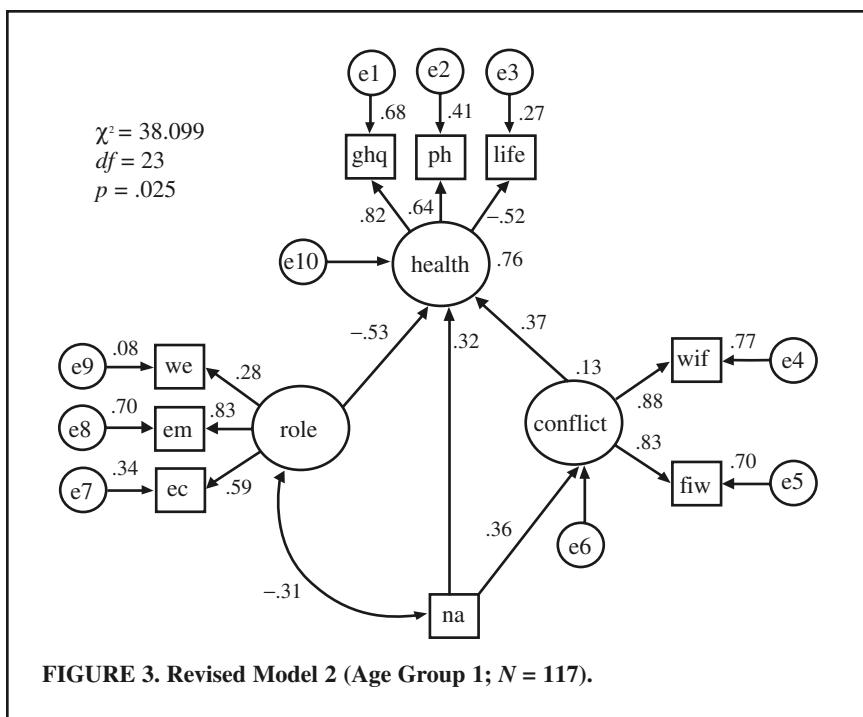
FIGURE 3. Revised Model 2 (Age Group 1; *N* = 117).

TABLE 2. Summary of Standardized Causal Effects of the Health of Group 1 (*N* = 117)

		Causal effects		
Outcome	Determinant	Direct	Indirect	Total
Health	Negative affectivity	.325	.132	.457
	Role	−.529	—	−.529
	Conflict	.367	—	.367

(health) that had the largest causal effect was role (−.529), which was entirely due to the direct effect. The next important determinant of well-being was negative affectivity, which had a total causal effect of .457, which was mainly due to the direct effect. Conflict influenced perceived well-being, having a total direct effect of .367. A substantial proportion (76%) of the variability of perceived well-being was accounted for by the determinants.

The data also indicated that negative affectivity significantly determined conflict (total effects = .36). Furthermore, whereas the moderate correlation

between role and negative affectivity was statistically significant ($r = -.31$, $p <$ .05), the model contained no direct effect of role on conflict.

Well-Being of Employed Women Who Were 30–39 Years Old (Group 2)

With the SEM, I estimated the theoretical model of perceived well-being using the data from 146 women who were 30–39 years old. The results indicated that the hypothesis of dependence relationships was statistically nonsignificant, $\chi^2(22) = 27.64$, $p = .19$, implying the consistency of the model with the data. Also, all indexes of fit measured the adequacy of the model. Nevertheless, the model indicated two insignificant determinants of perceived well-being: conflict and negative affectivity. To overcome the inadequacy, I modified the model. In the revised model (Figure 4), I constrained the direct effect of conflict on health.

The estimation of the revised model resulted in a good fit of the hypothesized model. First, the test of overall fit failed to invalidate significant discrepancy between the implied and the observed covariances, $\chi^2(23) = 27.70$, $p = .227$. In addition, the other overall fit indexes ($C_{min}/df = 1.20$, *RMSEA* = .04, GFI = .96, TLI = .98) too supported the adequacy of the overall fit of the revised model. The revised model (Figure 4) was free from offending estimates.
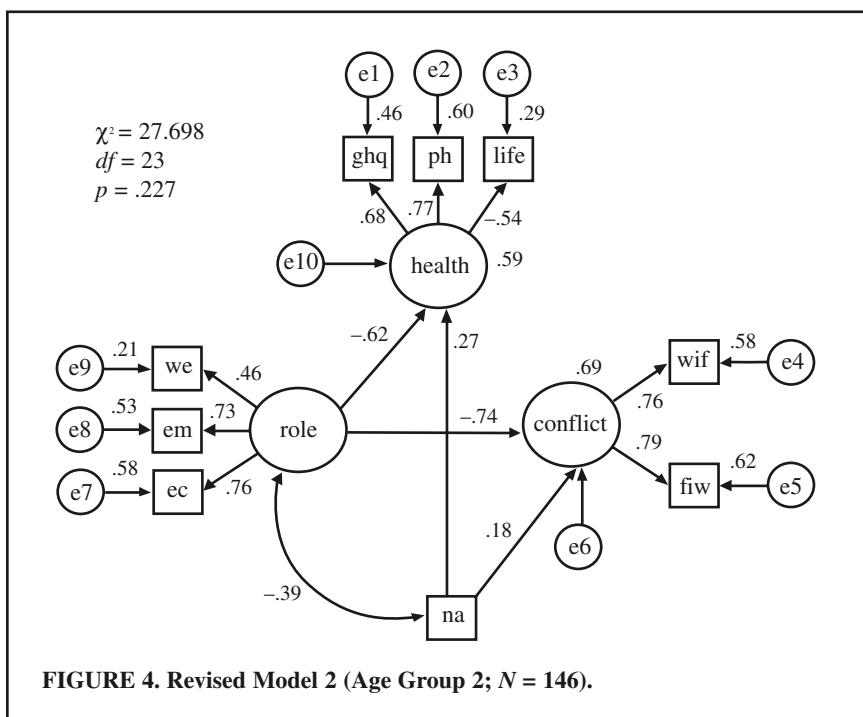

FIGURE 4. Revised Model 2 (Age Group 2; *N* = 146).

In Table 3, I will summarize the direct, indirect, and total effects on the variable of interest, perceived well-being. The data indicated that the determinant of perceived well-being with the largest causal effect was role (−.622), which was entirely due to the direct effect. The other determinant of well-being was negative affectivity, which created a total causal effect of .269, which too was due to the direct effect. The direct effects were statistically significant and were of practical importance. Role and negative affectivity explained almost 60% of the variance of perceived well-being. However, the model lacked the relationship between conflict and perceived well-being. Thus, among women who were 30–39 years old, conflict did not affect well-being.

In addition, the model showed that role (total effects = .75) and negative affectivity significantly determined conflict (total effects = .36). The correlation between role and negative affectivity was statistically significant ($r = -.39$, $p < .05$). Thus, roles and negative affectivity influenced both conflict and health directly. I observed no indirect effect of roles and negative affectivity on health, via conflict.

Well-Being of Employed Women Who Were 40 Years Old and Older (Group 3)

I tested the initial model on the data from the 126 women who were 40 years old and older. The data did not require rejection of the hypothesis that the model was correct, $\chi^2(22) = 27.66$, $p = .187$. The value of each of the discrepancy indexes (C_{min}/df, *RMSEA*, AGFI, and TLI) satisfied the standard deemed reasonable for a good-fitting model. However, unacceptable "noises" contaminated the remaining results. Specifically, the error variance for well-being was negative, and there were two nonsignificant determinants of perceived well-being: conflict and negative affectivity.

I then revised the model, fixing the directional relationships of conflict-health and negative affectivity-conflict (Figure 5). The revised model yielded good fit estimates and no offending estimates. Hence, it provided one of the plausible explanations for the dependence relationships in the population. The test of overall fit showed that the revised model was statistically nonsignificant, $\chi^2(24) = 29.08$,

TABLE 3. Summary of Standardized Causal Effects of the Health of Group 2 ($N = 146$)

| Outcome | Determinant | Causal effects | | |
		Direct	Indirect	Total
Health	Negative affectivity	.269	—	.269
	Role	−.622	—	−.622

$p = .217$, and the other overall fit indexes ($C_{min}/df = 1.21$, *RMSEA* = .041, GFI = .95, TLI = .982) also pointed out the adequacy of the model.

The parameter estimates were statistically significant and were of practical importance. The summary of effects (Table 4) again indicated that the most important determinant of perceived well-being with the largest direct effect was role (−.850). The other important determinant of well-being was negative affectivity, having a total causal effect of .245, which was mainly due to the direct effect. The two determinants accounted for 99% of the variance in perceived well-being.
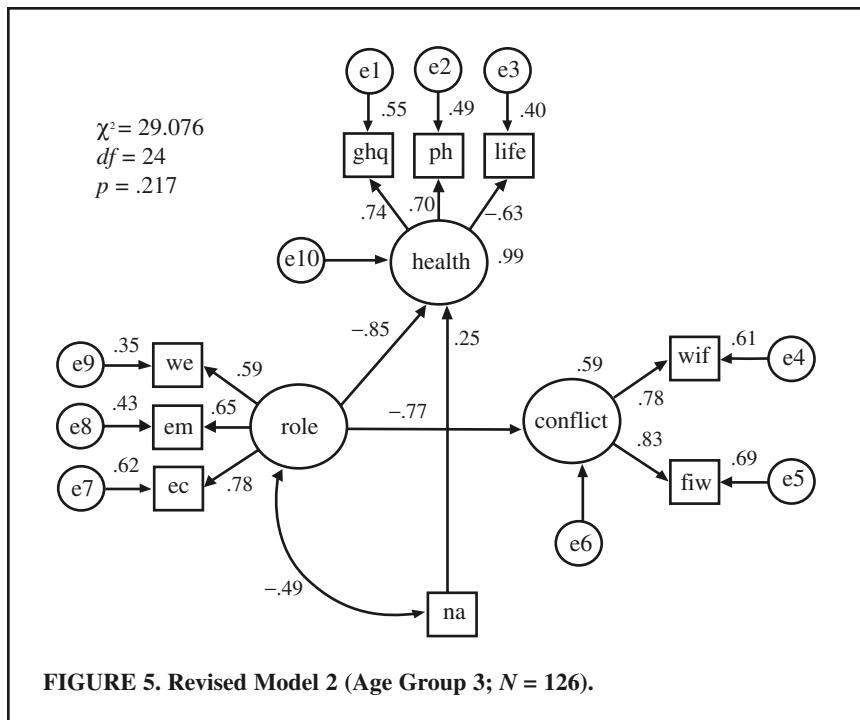

FIGURE 5. Revised Model 2 (Age Group 3; *N* = 126).

TABLE 4. Summary of Standardized Causal Effects of the Health of Group 3 (*N* = 126)

| Outcome | Determinant | Causal effects | | |
		Direct	Indirect	Total
Health	Negative affectivity	.245	—	.245
	Role	−.850	—	−.850

The results also indicated that role substantially and significantly affected variability in conflict. The total standardized effects were −.78. The correlation between role and negative affectivity was moderate and statistically significant ($r = -.49$, $p < .05$). Hence, role and negative affectivity influenced the perceived well-being of women who were older than 40 years old.

Discussion

The purpose of the present study was to examine the determinants of women's well-being. On the basis of previous studies, I proposed and statistically validated a theoretical model of women's roles and well-being within a sample of employed Malaysian women. I then tested the model that best fitted the data on women of three different age groups (Group 1 = 20–29 years old, Group 2 = 30–39 years old, and Group 3 = 40 years old and older). I examined, modified, and reestimated the estimated model for each age group.

The results supported the proposed theoretical model of women's roles and well-being. The model also provided reasonable fit when applied to the three groups of women (corresponding to the different age groups), supporting the life-course approach in considering women's roles and well-being. I will discuss these results next.

Among the three models, the model with latent variables fit the data best. Therefore, in terms of women's well-being, both roles and negative affectivity influence women's health directly and indirectly via conflict (see Figure 2). This finding extended Noor's (2003) study by showing that when all the variables are considered simultaneously, the latent variables model (where health was explained by the variability in distress, physical health, and life satisfaction; conflict by WIF and FIW; and role by work, marital, and mother–child experiences) was superior to the path model with either the nine manifest variables (Model 1) or the combination of manifest and latent variables (Model 3). Thus, when considering women's well-being, researchers should consider roles as accounting for the variability in the three most important areas of their life (work, marital, and parental areas) rather than only one specific area. Similarly, well-being or health depends on variability in symptoms of psychological distress and physical health and on life satisfaction.

The present study showed that a life-course approach in considering women's roles and well-being is more meaningful because the determinants of women's well-being are not the same for the three different age groups. As Table 2 and Figure 3 showed, for women in the 20–29 year old age group, the direct predictors of health were roles, conflict, and NA. NA also showed an indirect effect on health via conflict. I observed no direct effect of roles on conflict. That finding indicates that for this group of women, role experiences did not influence their conflict levels. This is not surprising because many women in this age group are either single or just married (with an average of one child), so that conflict

between work and family is still minimal. These determinants accounted for 76% of the variability in women's perceived well-being.

For women in Group 2 (30–39 years old), both roles and NA had direct effects on well-being. Although roles and NA also directly determined conflict, conflict did not predict women's health (Table 3, Figure 4). In contrast to the women in Group 1, women in Group 2 were raising children while being involved in their jobs. Therefore, conflict between work and family was inevitable. However, although women in this group reported experiencing conflict, it did not affect their health. These women may have developed certain coping strategies to handle their current situation. These two determinants (roles and NA) accounted for 59% of the variance in well-being.

In Group 3, although roles directly predicted conflict and health, NA had direct effect on health only (Table 4, Figure 5). As in Group 2, although roles had direct effect on conflict, conflict did not predict health. Conflict between work and family roles may change over time, and women too may become better at dealing with these changes. Therefore, for women older than 40 years old, role and negative affectivity influenced health. These two determinants accounted for 99% of the variance in perceived well-being.

As I expected, roles accounted for the largest amount of variance in the well-being or health of the three different groups of women. For the age groups in the present study, work, marriage, and parenting are the three most important areas of social role. Although women differ in exactly when they take on work responsibilities, form committed partnerships, and nurture children, there are normative age ranges for these roles. Usually, most women enter new jobs in their early 20s and begin advancing in their careers thereafter, marry in their mid-to-late 20s, and raise children in their 30s. In the 40s and beyond, their children are more independent, and the women have established their work lives more and also have more time to themselves. What is important is how these roles change over the adult years, which may have implications on women's well-being (Moen, 1998). And, as I found in the present study, there are indeed differences in the determinants of women's well-being among the three age groups.

In all three age groups, NA seems to be pervasive, influencing conflict and health. Burke, Brief, and George (1993) and Moyle (1995) have shown NA, a relatively stable personality trait that leads people to emphasize the negative side of their experiences (Watson & Clark, 1984), as influencing the stressor-strain relationship in several ways: as a confound, as a moderator, or simply having direct effects. Among these effects, the direct effect of NA on strain symptoms is the strongest (Moyle). Researcher can observe this finding also in the present study, where in all three groups, the direct effects of NA on health were observed. I saw the indirect effect of NA on health in Group 1. As a personality trait, NA is a personal resource that women bring into their environment, and researchers should include it in models of women's roles and well-being because it colors their perceptions of their reported role experiences and health outcomes.

Although the model was drawn up on the basis of research carried out in the West, it also applies to women in Malaysia. Of course there are differences between these societies in terms of culture, religion, beliefs, and the like, but the impact of work and family roles on health is similar (see Noor, 1999). More women work outside the home, and dual-earner families are fast becoming the norm in the urban areas. However, for many of these women, migration to areas with better job opportunities is slowly eroding the extended family network and support. Therefore, reports of work–family conflict, childcare problems, overload are increasing. Although Noor (1999) showed that these women's well-being are still reasonably good, this condition may not continue for long because of the changes that are occurring in Malaysian society. As noted by Yapko (1997), cross-cultural data showed that as Asian countries Westernized, their rates of depression increased.

However, researchers should consider the present findings within certain constraints. First, although—on the basis of past findings—I expected women's roles and personality factors to have a direct impact on the conflicts that they faced, I could not determine decisively the causal link between their roles and their personalities. However, there is no reason to believe that these two variables were independent of one another. In the proposed model, these two variables, roles and personality, were free to covary.

On the basis of past studies, I assumed for the final model in the present study that the direction of the dependence relationships between the variables was from roles and personality to conflict and to health. The reverse, however, may also hold: a consistent state of poor health may define a woman's roles, personality, and conflicts. Because the present study was a cross-sectional one, the causal ordering of variables was not possible. Related to this point is that differences in the three age groups may be due to the influence of different age cohorts instead of changes in the women's roles over time. Therefore, this field clearly needs longitudinal studies of the same group of women over a period of time.

Although the latent measures of health, roles, and conflict were multidimensional, I used only one construct, NA, to represent personality. Although this restriction could limit the general applicability of the model, researchers have shown that NA is one of the most pervasive and encompassing personality constructs (see Bolger & Schilling, 1991; Davila, Karney, Hall, & Bradbury, 2003; Watson & Clark, 1984). The present study supported that finding: After roles, NA accounted for a substantial amount of variance in the health measure.

Despite these limitations, the present study validated a model of women's well-being within a Malaysian sample, and the model was applicable to women of three different age groups. The results supported use of the life-course approach to women's roles and NA as the determinants of their well-being, and those determinants varied with the women's age groups.

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