The Effect of Workload and Work-Family Conflict on Emotional Exhaustion

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Abstract
This study aims to examine the effect of workload and work-family conflict on emotional exhaustion. The population of this research are all the emergency room (ER) nurses of all the private general hospitals in Padang. The sample size is 67 people. The sample was classified by using proportional cluster sampling. The data were collected through a questionnaire using Likert scale. Convergent and discriminant validity are used to test the validity and reliability of the questionnaire. Partial least square (PLS) was chosen as the structural equation model (SEM) to test the hypotheses. The study found that: (1) workload has a positive and significant effect on emotional exhaustion, (2) workload significantly influences on work-family conflict, and (3) work-family conflict has a negative and significant effect on emotional exhaustion.

Keywords: workload, work-family conflict, emotional exhaustion

Introduction
The hospital is one of the organizations engaged in the field of health services. Like other organizations, hospital is also affected by the changing times. In the health services era in providing health insurance, the competition between government and private hospitals is no longer on the difference in service costs, because the amount of service costs is now determined by the Social Insurance Administration Organization (BPJS).

The competition to get more patients is more determined by the quality of hospital services. For this reason, hospitals are required to provide quality and high-value health services.

Nurses, which are the largest number of all health workers in hospitals, determine whether the quality and image of the hospitals are good or poor. Nurses have moral obligations and responsibilities in providing professional care (Moody and Pesut, 2006). Nursing services have specificities, where services are provided directly to patients for 24 hours. To arrange 24-hour nursing services, rotational work must be done (Moody and Pesut, 2006). Different shift work systems have the potential to have a stressful effect on shift workers (Costa, in France, 2010). This situation, if it continues, will cause emotional exhaustion (Dessler, 2009) which is one component of burnout (Maslach and Jackson, 1981; Maslach and Leiter, 2008; Demerouti, Bakker, Nachreiner and Schaufeli, 2001; Halbesleben and 2001). Biowler, 2007).

Some of the symptoms that indicate emotional exhaustion found in nurses in the hospital such as the nurse is impatient, grumpy, talking curtly to the patient and patient's family, even negligence at work, such as errors in administering drugs and delays in giving injection (Setiyana, 2013). High emotional exhaustion is a serious problem in an organization, because it can have an impact on the low quality of service (Davidson, et al, 2010; Halbesleben and Bowler, 2007), negligence in work, such as errors in drug delivery and delays in injection (Setiyana, 2013). High emotional exhaustion is a serious problem in an organization, because it can have an impact on the low quality of service (Davidson, et al, 2010; Halbesleben and Bowler, 2007).

The presence of emotional exhaustion is often associated with workload. The results of research conducted by Swedarma, 2011 (in Setyana, 2013) showed that nursing staff is one of the professions that has a high workload due to the lack of nurses. Normally, the ratio of the number of nurses to patients in one shift is 1 in 5 but in reality it is 1 in 7and it even can reach 1 in 14. In addition, nursing staff also complains about often doing other tasks that are not their job, such as doing administration job, making recipes and doing janitorial duty.
Workload is one aspect that must be considered by every company, because high workloads can cause work-family conflicts (Illis and Huth, 2015). Work-family conflict can be interpreted as a form of role conflict where the demands of the role of work and family are mutually incompatible in several respects. The results of research conducted by Apperson, et al (2002) state that work-family conflicts can occur in both men and women, but women are more likely to experience work-family conflicts than men. This work-family conflict phenomenon has many negative impacts, both on the employees themselves, their families, and the organizations where they work. Work-family conflicts individually result in emotional exhaustion (emotional exhaustion).

Based on the description of the problems in the background, it is interesting to do a research on the identification of the influence of workload and work-family conflict on the emotional exhaustion of nurses at the Emergency Department of the Public Hospital in Padang.

**Emotional Exhaustion**

Emotional exhaustion is one of the dimensions of burnout (Maslach, 1993). Burnout is a psychological syndrome that consists of three dimensions, namely emotional exhaustion, depersonalization, and low personal accomplishment (Maslach, in Anbar and Eker, 2008). Emotional exhaustion which is a key element of burnout is defined as the exhaustion of emotional resources from within an individual characterized by feelings of frustration, hopelessness, sadness, feeling saturated, irritable, irritable without cause, easily feeling tired, depressed and feeling trapped in work (Maslach and Jackson, 1981).

Nurse profession is a profession that is vulnerable to emotional exhaustion because their type of work is full of emotional pressure and demands (Schaufeli and Janczur, 1994 in Lailani, 2012). To reduce employee emotional exhaustion, it is very important for organizations to know what are the predictors of emotional exhaustion. Previous research shows several factors that can influence emotional exhaustion such as high workload (Alarcon, 2011; Sonnentag, Kuttler and Fritz, 2010; Van Ruyssveeldt, Verboon, and Smulders, 2011), work-family conflict (Yavas et al., 2011) 2008), and the work environment (Alarcon, 2011).

According to Maslach et al. (2001) emotional exhaustion indicators are namely: 1) Emotionally emotional, marked by exhaustion of resources (time and energy), unable to concentrate, hard to think, inclined to forget, not diligent in his work, reduced self-confidence, and difficult to control attitude. 2) Physically disturbed, can affect personal body conditions, such as resulting in sleep problems and are easily tired physically. 3) Tense feelings are fatigue in the form of anxiety and tension.

**Work Load**

Workload is one aspect that must be considered by every company, because workload is one of the factors that can have an impact on work-family conflict (Theorell and Karasek, 1996) and emotional exhaustion (Byrin, 2005). According to Tarwaka (2010) workload is defined as a difference between the capacity or ability of workers with the work demands that must be faced. Workload is the average activity frequency of each job within a certain period (Irwandy, 2007). Workload includes both physical and mental workload.

Since human work is both mental and physical, each has a different level of loading. The level of loading that is too high allows excessive energy usage and emotional exhaustion occurs. Workload indicators according to Putra (2002) include: 1) Targets to be achieved, namely the individual’s view of the amount of work targets given to complete his work. 2) Conditions of work, including about how the views held by individuals regarding the conditions of work. 3) Job standards are the impression that an individual has about his work standards.

**Work-Family Conflict**

In general, work-family conflict is defined as a form of inter-role conflict in which the pressure of the role of work and family conflict with each other in several respects (Greenhaus and Beutell, 1985; Nart and Batur,
Furthermore, Frone, Rusell and Cooper (1992) define work-family conflict as a role conflict that occurs in employees, where on the one hand he has to do work in the office and on the other hand must pay attention to the family as a whole. This conflict occurs when someone tries to meet the demands of roles in work and the business is influenced by the ability of the individual concerned to meet the demands of his family (Frone and Copper, 1992).

**Conceptual Framework**

This study uses three variables, namely: workload and work-family conflict as an exogenous variable, and emotional exhaustion as an endogenous variable. The relationship between these variables is illustrated in the research model as shown below:

Following is the conceptual framework of this research:

![Conceptual framework](image)

**Methods**

The purpose of this research is hypothesis testing using survey methods, where the data used were primary data collected through questionnaires. The population in this study were all the nurses at the Emergency Department of Private Hospital in Padang. Samples were 71 people. Of the 71 units of the questionnaire distributed, only 67 were eligible for further analysis. Data obtained from the results of the study were analyzed using Structural Equation Modeling (SEM) techniques using alternative Partial Least Square (PLS) with SmartPLS software version 2.0.

After the indicators of invalid research variables are discarded, a re-estimation of the variable model is carried out, then the final form of the inter-variable model is obtained which can be seen in Figure 2 below:

![Final Variable Relationship Model](image)
The following table is the final outer loading results:

**Table 1: Final Outer Loading**

<table>
<thead>
<tr>
<th>Code</th>
<th>Variable Indicator</th>
<th>Code</th>
<th>Workload Variable Indicator</th>
<th>Code</th>
<th>Variable Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE1</td>
<td>0.634</td>
<td>WL10</td>
<td>0.696</td>
<td>WFC1</td>
<td>0.669</td>
</tr>
<tr>
<td>EE2</td>
<td>0.549</td>
<td>WL2</td>
<td>0.500</td>
<td>WFC2</td>
<td>0.581</td>
</tr>
<tr>
<td>EE3</td>
<td>0.687</td>
<td>WL6</td>
<td>0.787</td>
<td>WFC3</td>
<td>0.732</td>
</tr>
<tr>
<td>EE4</td>
<td>0.768</td>
<td>WL8</td>
<td>0.663</td>
<td>WFC4</td>
<td>0.700</td>
</tr>
<tr>
<td>EE5</td>
<td>0.846</td>
<td>WL9</td>
<td>0.701</td>
<td>WFC5</td>
<td>0.657</td>
</tr>
<tr>
<td>EE7</td>
<td>0.659</td>
<td>WFC6</td>
<td>0.515</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE8</td>
<td>0.671</td>
<td>WFC7</td>
<td>0.576</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EE9</td>
<td>0.519</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Results of SmartPLS processing, 2018

In table 1 above, it can be concluded that the indicators of each variable provide a high convergent validity value, because all indicators have a loading factor above 0.5. To see discriminant validity aside from the cross loading value can also be seen from the AVE value. Indicators of endogenous variables and exogenous variables are said to be valid, in the sense of having good discriminant validity if it has a AVE value ≥ 0.5. Below shows the AVE value of each endogenous and exogenous variable, as follows

**Table 2: Results of Analysis of Average Variance Extracted (AVE)**

<table>
<thead>
<tr>
<th>Variabel</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>0,555</td>
</tr>
<tr>
<td>Work Load</td>
<td>0,609</td>
</tr>
<tr>
<td>Work-Family Conflict</td>
<td>0,506</td>
</tr>
</tbody>
</table>

Source: Results from processing with SmartPLS, 2018

Based on table 2 above, it can be seen that each construct has a AVE value above 0.5. It can be concluded that the indicators of latent variables have a goodlevel of validity. Reliability testing can be done by looking at the composite reliability value of the indicator block that measures variables. The results of composite reliability will show a satisfactory value if above 0.7. Following are the composite reliability results from SmartPLS output:

**Table 3: Hasil Analisis Composite Reliability**

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Composite Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>0,867</td>
</tr>
<tr>
<td>Work Load</td>
<td>0,805</td>
</tr>
<tr>
<td>Work-Family Conflict</td>
<td>0,825</td>
</tr>
</tbody>
</table>

Source: Results from processing with SmartPLS, 2016

Table 3 above shows that the composite reliability value for all constructs is above 0.7 which shows that all indicators of the estimated variables meet the criteria or reliable.

**Structural Model Measurement (Inner Model)**

Testing the inner model or structural model is done to be able to see the relationship between variables, significance values and the R-square of the research model. The structural model is evaluated using R-square to see what percentage of the influence of exogenous variables on endogenous variables and t test for the significance of latent variables. Measurement of structural models through PLS, can be started by looking at
R-square on endogenous latent variables. The following are the results of the R-square estimation using Smart PLS.

Table 4. R-square Analysis Results

<table>
<thead>
<tr>
<th>Variabel</th>
<th>R-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>0.079</td>
</tr>
<tr>
<td>Work Load</td>
<td></td>
</tr>
<tr>
<td>Work-Family Conflict</td>
<td>0.501</td>
</tr>
</tbody>
</table>

Source: Results from processing with SmartPLS, 2018

Table 4 above shows the R-square value of the emotional exhaustion variable, obtained by 0.079, which means 7.9% (weak), thus the emotional exhaustion variable can be influenced by the variable work-family conflict and workload. Whereas the work-family conflict variable obtained an R-square of 0.501, or 50.1%, this result shows moderate. In the sense of work-family conflict variables can be influenced by workload. According to Chin in Imam Ghozali (2015) states that 0.67, 0.33 and 0.9 indicate a strong, moderate and weak model. To answer the hypothesis in this study, it can be seen from the value contained in the Path Coefficients. The following are estimated output for testing the structural model.

Table 5: Results of Inner Model Analysis

| Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | Standard Error (STERR) | T Statistics (|O/STERR|) |
|---------------------|-----------------|----------------------------|------------------------|------------------|
| Work Load -> Emotional Exhaustion | 0.240368 | 0.239293 | 0.111182 | 0.111182 | 2.161938 |
| Work Load -> Work-Family Conflict | 0.707679 | 0.704118 | 0.033726 | 0.033726 | 20.983157 |
| Work-Family Conflict -> Emotional Exhaustion | -0.394067 | -0.406797 | 0.067247 | 0.067247 | 5.859974 |

Source: Results from processing with SmartPLS, 2016

Research Hypothesis Testing

In PLS statistical testing, every hypothesized relationship is done using simulations. In this case, the bootstrap method is performed on the sample. Bootstrapping testing is also intended to minimize the problem of research data abnormalities. According to Chin in Imam Ghozali (2015) states that t-statistics > of t-table (1.96) the variable is significant.

Bootstrapping test results from PLS analysis are as follows:
1) Hypothesis 1 Testing: Effect of workload on emotional exhaustion: The results of the first hypothesis testing showed that the path coefficient value is 0.240 with a t-test is 2.162. This value is greater than the t-table value (1.96). This result means that the first hypothesis is accepted, where there is a significant and positive influence between workload and emotional exhaustion. If nurses feel a high workload, it can increase emotional exhaustion, and vice versa.
2) Hypothesis Testing 2: Effect of workload on work-family conflict: The test result shows that the influence of the workload variable on work-family conflict shows a path coefficient of 0.707 with a t-test of 20.983, the value is greater than the value of t-table (1.96). This result means that the second hypothesis is accepted, namely; there is a positive and significant effect between workload and work-family conflict. Thus, it can be concluded, if nurses feel a high workload, it will have an impact on nurses’ emotional exhaustion.
3) Hypothesis Testing 3: Effect of work-family conflict on emotional exhaustion: The third hypothesis testing result shows that the
influence of work-family conflict variables on emotional exhaustion shows the path coefficient value of -0.394 with a t-test of 5.86 is greater than the value of t-table (1.96). This result means that the third hypothesis is not accepted, namely; there is a negative and significant influence between work-family conflict with emotional exhaustion. Thus, it can be concluded that if the nurse’s work-family conflict increases, the nurse’s emotional exhaustion is low.

**Determining the Magnitude of Indirect Effect Coefficient**

Testing the indirect effect between the independent variables and the dependent variable is done using the calculation of the Sobel formula.

Table 6. The Calculation of Indirect Variable Coefficients

<table>
<thead>
<tr>
<th>Variabel Lamang</th>
<th>Original Sample</th>
<th>Standar Error (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Load -&gt; Work-Family Conflict</td>
<td>A</td>
<td>0.707679</td>
</tr>
<tr>
<td>Work-Family Conflict -&gt; Emotional Exhaustion</td>
<td>B</td>
<td>-0.394067</td>
</tr>
</tbody>
</table>

Source: Results from processing with SmartPLs, 2018.

From the above table, the following calculation is obtained:

\[ ab = a \times b \]

\[ ab = 0,707679 \times -0,394067 \]

\[ = -0.278873 \]

The magnitude of the indirect coefficient of workload variable (X1) on emotional exhaustion (Y) is the multiplication of the influence of the workload variable (X1) on work-family conflict (X2) with work-family conflict variable (X2) on emotional exhaustion (Y), so, the results of indirect influence is -0.278873. This means that there is a negative effect caused by workload on emotional exhaustion through work-family conflict as a mediating variable of -27.88%.

**Test the Significance of the Effect of Indirect Variables**

The indirect effect shown by the coefficient calculation (ab) needs to be tested with the Sobel test as follows:

\[ S_{ab} = \sqrt{\frac{b^2S_a^2 + a^2S_b^2 + S_a^2S_b^2}{n}} \]

\[ = \sqrt{(-0.394067)^2(0.033726)^2 + (0.707679)^2(0.067247)^2 + (0.033726)(0.067247)^2} \]

\[ = 0.049467 \]

To calculate t-statistics for indirect effects, the following formula is used:

\[ t = \frac{ab}{S_{ab}} \]

\[ = \frac{-0.278873}{0.049467} \]

\[ = -5.64 \] (This value is suitable with the sobel test baron and Kenny’s application).

The t value of -5.64 is smaller than 1.96 (standard sobel test) which means that the parameter is not significant. Thus, the indirect effect model of the workload variable on emotional exhaustion through work-family conflict as a mediator cannot be accepted.

**The effect of total variables**

Table 7. Path coefficients, Direct and Indirect Effects, Total Influence of X1 X2 Variables on Y

<table>
<thead>
<tr>
<th>N</th>
<th>Pengaruh Variabel</th>
<th>Koefisien Jalur</th>
<th>t-total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Work Load -&gt; Work-Family Conflict</td>
<td>0.707679</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Work-Family Conflict -&gt; Emotional Exhaustion</td>
<td>-0.394067</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Work Load -&gt; Emotional Exhaustion</td>
<td>0.240368</td>
<td>-0.278873</td>
</tr>
</tbody>
</table>

Source: The Results using SmartPLs with Sobel test, 2018.
The explanation from the table above is the direct effect of workload on emotional exhaustion is 0.240368, and through indirect work-family conflict is -0.278873, if the relationship of workload to emotional exhaustion through work-family conflict as a mediator, then the result will be 0.038505. This shows that work-family conflict apparently does not cause high emotional exhaustion, the causes of high emotional exhaustion is the workload.

Discussion
Based on the results of the analysis above, it is known that the workload variable has a positive and significant effect on emotional exhaustion. This means that if the workload perceived by nurses is high, it can increase nurses’ emotional exhaustion in the organization. The results of this study are in line with research conducted by Illis and Huth, 2015; Alarcon, 2011; Sonnentag, Kuttler and Fritz (2010); Van Ruysseveldt, Verboon, and Smulders, (2011) stated that the workload felt by employees has a positive relationship with emotional exhaustion in the organization.

Then the workload also has a positive and significant effect on work-family conflict. It can be concluded if the workload increases the nurse’s work-family conflict increases. The results of the study were supported by Theorell and Karasek (1996). Furthermore, the indirect effect of workload variables on emotional exhaustion, in the sense of work-family conflict, has a negative and isignificant influence. The value of the direct effect between workload on emotional exhaustion is greater than the effect through work-family conflict. This means that if the workload felt by nurses is high, it can directly increase emotional exhaustion. Work-family conflict in this study did not result in emotional exhaustion. So it is the workload that affects emotional exhaustion, not work-family conflict.

Conclusion
Based on the results of data processing, it can be concluded, that; workload and work-family conflict have a positive and significant influence on the emotional exhaustion of emergency room nurses at Private Hospital in Padang. Work-family conflict has a negative and significant effect on emotional exhaustion where the higher the work-family conflict, the lower the emotional exhaustion. The research results show that work-family conflict has not caused high emotional exhaustion but a high workload will increase emotional exhaustion.

References


