Performance of female nurses: Dual career, work environment and work stress
Wiji Utami¹, Markus Apriono¹, Sudarsih², Nadia Azalia Putri², Niken Probowati³

¹Department of Management, Faculty of Economics and Business, University of Jember, Indonesia
²Department of Islamic Banking, IAIN Jember, Indonesia
³College of Management, National Taipei University of Science and Technology, Taiwan

Corresponding author:
Wiji Utami (wiji.feb@unej.ac.id)

Abstract:
Performance of female nurses in several hospital in Bondowoso, Indonesia. The aim of this study is to determine the effect of dual career and work environment on the performance of female nurses with work stress as an intervening variable. The population in this study were all female nurses in several hospitals in Bondowoso namely Dr. Kusnadi Hospital, Bhayangkara Hospital, and Mitra Medika Hospital who are married and or have children. The sampling technique used is saturated samples or censuses. The data used are qualitative and quantitative data. Path analysis. In this study, based on the result of path analysis in this study, dual career has positive and significant effect on job stress, work environment has negative and significant effect on job stress, dual career has negative and significant effect on job performance, work environment has positive and significant effect on job performance, and job stress has negative and significant effect on the job performance of female nurses in Bondowoso, Indonesia. Conclude, demands to balance work duties as nurses and demands as family members have the potential to create work–family conflicts that have an impact on work stress and reduce performance. Uncomfortable and disturbing work environment also can be a stress trigger and then bring bad effect on nurse performance. The result showed that dual career triggers job stress and reduce performance, work environment decreases job stress and increase job performance, and job stress decreases the job performance of female nurses in Bondowoso, Indonesia.

Keywords: Balance work duties, hospitals, job performance.

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Introduction
Human resource management must be run professionally because it has an important role in the company. Well–managed and professional human resource management will be able to create good human resources and it has favorable impact for the company. Nowadays, the level of competition for employment is not only felt by men. A dual career woman were exception in the 1960, but as the year goes by, we could not count how many dual career women in this world (¹). Women are also taking part in competition as the emancipation of women is encouraged. In the past, women tended not to work to earn a living, they only did housework such as serving husbands and taking care of children. Formerly, in society, there was an assumption that women or wives who worked to earn income lowered the dignity of men (husbands).

The shifting nature of women from a housewife to a working woman makes many families today have a dual career. In accordance with his nature as a mother and a wife, the demographic change in female labor creates a dual career conflict in some women who work mainly because they have a family. Work family conflict is one form of conflict between roles where the pressure of roles from work and family cannot be aligned or contradicted in several aspects (¹). Job demands relate to pressures originating from excessive workloads and work completion times, such as work that must be completed in a hurry and deadline. Work family conflict is a conflict that occurs to individuals due to bearing multiple roles, both in work and family, where time and attention are too devoted to just one role, so the demands of other roles cannot be fulfilled optimally (²). This role conflict must be considered as a factor forming
stress in the workplace. It has become a consequence for women who have a dual career to always maintain or maybe improve their performance beside having to take care of their household affairs. In addition to the dual role of women, the work environment in the company can also be one of the work stress factors. A good and representative working environment will improve employee performance. Work environment is a situation or place where someone carries out their duties and obligations and can influence employees in carrying out tasks that are charged. If someone feels comfortable with their work environment, it will have a good effect on their performance.

Performance is the result achieved by a person in carrying out tasks assigned to them based on skills, experience, excellence, and time. Employee performance is the assessment of whether an employee has done their job well both quality and quantity achieved in carrying out its work duties in accordance with the responsibilities given. The hospital is a health service institution that organizes individual health services in a comprehensive manner that provides inpatient, outpatient and emergency services (Decree of the Minister of Health of the Republic of Indonesia No. 340/MENKES/III/2010).

While the definition of hospital according to the Regulation of the Minister of Health of the Republic of Indonesia No. 1204/Menkes/SK/X/2004 concerning hospital environmental health requirements, stated that: Hospitals are health service facilities, a gathering place for sick people and healthy people, or can be a place of disease transmission and allow environmental pollution and health problems.

From the above understanding, the hospital carries out several types of services including medical services, medical support services, care services, rehabilitation, prevention and health improvement services, as a place of education and or medical training and medical services, as a place for research and development in health science and technology and to avoid the risks and health problems as intended, so that there is a need for organizing the health of the hospital environment in accordance with health requirements.

Nurse is a professional who has the ability, responsibility and authority to carry out nursing services or care at various levels of nursing services. Nurses are people who have completed nursing professional education, and are given the authority to carry out their roles and functions. Nurses are professions that have an autonomous function which is defined as professional nursing function (3). The professional function is to help recognize and find immediate patient needs. It is the responsibility of the nurse to know the patient's needs and help to fulfill them. The responsibility of the nurse helps whatever the patient needs to meet their needs (eg physical comfort and security when getting treatment or in monitoring). The nurse must know the professional role, namely the actions taken by the nurse freely and responsibly to achieve goals in helping patients. Another responsibility of nurses is to recognize the patient's behavior by observing what the patient says and the nonverbal behavior shown by the patient. In addition, the immediate reaction must also be done by the nurse in responding to the patient's needs.

In carrying out their duties nurses must understand the discipline of nursing processes namely total interaction which is done step by step, start form knowing what happens between nurses and patients in certain relations, understanding patient behavior, reacting those behaviors, identifying patient needs to help them and taking the right actions.

Seeing the big responsibilities of nurses, it is undeniable to that this kind of work can cause work stress. For female nurses who have multiple roles in their families, it will increase their level of stress. This will further worsen the situation if the work environment is not supportive. Therefore, a comfortable and harmonious work environment is needed so that nurses do not feel depressed, especially in women who undergo dual career (4). Stated that a healthy nurse work environment is a workplace that is safe, empowering, and satisfying. Not representative workplace can affect significantly nursing staff’s psychological health (5). A good work environment has been applied in the company so that it will bring a good influence, especially for women who undergo dual careers and it can minimize work stress. The purpose of this paper is to analyze whether the dual career and work environment influence work stress and the performance of female nurses who work at hospitals in Bondowoso, Indonesia.

**Literature review the effect of dual career on job stress**

Female employees who are married and have children have more severe roles and responsibilities than single women. The dual role was also experienced by these women because in addition to act in the family, the woman also played a role in her career. Family–work conflicts explain the clash between work at home or household life job responsibilities. Employees who cannot divide or balance time for family affairs and work can cause conflict, namely family conflict and work conflict, or often referred to as women's dual role conflict between family and work. On the one hand, women are required to be responsible for managing and fostering a good family, but on the other hand, as a good employee they are also required to work in accordance with company standards by showing good work performance. Women for this role are divided by their roles as housewives so that they can sometimes interfere with activities and constraints in their work. Job–family conflicts tend to lead to work stress because when work matters interfere with family life, pressure often occurs to individuals to reduce the time spent on work.
and provide more time for the family, found that inability to manage work–family time, improper delegation of work and home priorities, long work hour pressure can trigger stress and make dual–career couples facing work–life balance problems (1). Overload work and having children whose age less than five years as significant predictors of work–family conflict (6). Married women should work longer than average working hours in order to fulfill the company and family demands and it can trigger exhaustion, dissatisfaction, and conflicts (7).

H1: Dual career has significant positive effect on job stress

The effect of dual career on job performance
A research by (8) found that houses and overlapping jobs can reduce performance. For example, difficulties at home can cause workers to spend work time, lack of concentration, hunt down to do tasks, and reschedule work to do other work. Therefore, with the increasing pressure and demands on work–family life, the performance of someone in the work environment is getting lower. This happens because the pressure and demands that come from the dual role of a person (as a worker and husband or wife) cause a person to be not maximal in completing his work. However, basically the level of conflict has a positive or negative effect on performance. Multiple role conflicts experienced by career women can cause obstacles in employment. Multiple roles can make it difficult for women to succeed in the fields of work, family and interpersonal relationships at once. If you do not want to be like that it is recommended that the woman should not be principled as a super woman who is capable of doing everything herself. The inability of career women to resolve multiple role conflicts can cause them to display negative work attitudes, for example, lack of motivation in work, lack of concentration, because of family affairs so that it will affect the performance of the organization or company as a whole owned by female employees will increase the level of work stress of female employees, which in turn will also affect the performance of the female employees.

Found that some companies with role duality CEOs do not perform as well as their counterparts measured by accounting performance measurements (9). Proved that a dual career woman leads to increased productivity at workplace only when there was a balance in their personal life but failed to be effectively productive when there is a misbalance in their personal life (10). Also found that married women perform lower than unmarried women because married women tend to face work–life balance issues (8).

H2: Dual career has significant negative effect on job performance

The effect of work environment on job stress
A working environment condition is said to be good or appropriate if humans can carry out activities optimally, healthy, safe, and comfortable. Suitability of the work environment can be seen as a result in the period of time for a long time, furthermore poor working environments can demand more labor and time and do not support the obtaining of efficient work system designs. So the work environment here is an important factor and a large influence on the agency or company concerned (11) stated that stress can arise as a result of pressure or tension stemming from an inconsistency between someone and his environment. Environmental stress reduces not only the cognitive capacity for work, but the rate of work (i.e. by reducing motivation). In other words, if the facilities and demands of the task are not in harmony with one's needs and abilities, they will experience stress. Usually stress gets stronger when someone faces a problem that comes repeatedly, each employee can gradually be exposed to stress due to the difficulties of the problems he faces, both in the work environment and outside the work environment. Found that work environment stressors (role ambiguity, role overload, role conflict, organizational constraints, and interpersonal conflicts have significant correlation with nurse’s stress (12). Also found that environmental factors have a significant effect on the level of stress of the nurses more than work conditions on the University College Hospital (UCH), Nigeria (13).

H3: Work environment has negative and significant effect on job stress

The effect of work environment on job performance
According to (14), the work environment in a company is very important to be considered by hospital management. A work environment that focuses on employees can improve performance. Conversely, an inadequate work environment can reduce performance. A working environment condition is said to be good or appropriate if humans can carry out activities optimally, healthy, safe and comfortable. Furthermore, a poor working environment can require more labor and time and does not support obtaining an efficient work system design. The
work environment is an important factor in supporting nurse performance. A nurse may not perform to a level that is believed to be capable, so check their work environment to see what is supporting (11). Found that uncomfortable work place can reduce good performance, trigger additional stress, and reduce attention and concentration(11). Also found that nurses who perceived their work environment to be good experienced higher job performance and lower rates of burnout syndrome (13).

H1: Work environment has positive and significant effect on job performance

The effect of work stress on job performance
Stress leads to aggression and low job performance when it functions as a negative factor (16). The stress experienced by employees causes organizations to suffer losses. The stress experienced by employees will have a bad effect on employees. These effects include increasingly bad decision making and a decrease in effectiveness. Besides that, stress can also increase job dissatisfaction. Job dissatisfaction can be associated with a number of dysfunctional outcomes, including turnover, increased absenteeism, and declining work performance. Also found that there was negative significant relationship between work–family–conflict and job performance of working mothers (17). Also found that work stress has significant negative effect on employee performance (19). Proved that job stressors such as workload, procedural injustice, role ambiguity, work–family conflict and physical environment has significant explanation on job performance (18).

H2: Job stress has negative and significant effect on job performance

Patients and methods
This study uses explanatory research, who explains the causal relationship between variables through hypothesis testing. Respondents from this study are all female nurses who are married and or have children who work at the Dr. Kusnadi Hospital, Bhayangkara Hospital and Mitra Medika Hospital Bondowoso, Indonesia. As many as 67 nurses were chosen as respondents. Samples were taken using saturated sampling method, which means that the population was carried out thoroughly. The data used in this study were quantitative data, while based on data sources, the data obtained were primary data. Primary data in this study were obtained from the results of questionnaires distributed to the respondents. The analysis method used is path analysis.

Results
Characteristics of respondents
Respondents in this study are female nurses who are married and or have children. The characteristics of the respondents in this study are as follows:

Table 1. The characteristics of respondents by age

<table>
<thead>
<tr>
<th>Age (yr old)</th>
<th>Number of respondent(s)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 to 30</td>
<td>11</td>
<td>16.41</td>
</tr>
<tr>
<td>31 to 35</td>
<td>16</td>
<td>23.89</td>
</tr>
<tr>
<td>36 to 40</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>&gt; 40</td>
<td>15</td>
<td>22.39</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100</td>
</tr>
</tbody>
</table>

Source : Processed primary data

Table 2. Characteristics of respondents based on latest education

<table>
<thead>
<tr>
<th>Latest education</th>
<th>Number of respondent(s)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma IV</td>
<td>11</td>
<td>16.42</td>
</tr>
<tr>
<td>Diploma III</td>
<td>24</td>
<td>35.82</td>
</tr>
<tr>
<td>Bachelor</td>
<td>32</td>
<td>47.76</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100</td>
</tr>
</tbody>
</table>

Source : Processed primary data
Table 3. Characteristics of respondents based on length of work

<table>
<thead>
<tr>
<th>Length of work</th>
<th>Number of respondent(s)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 3 yr</td>
<td>12</td>
<td>17.91</td>
</tr>
<tr>
<td>4 to 6 yr</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>&gt; 6 yr</td>
<td>35</td>
<td>52.23</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Processed primary data

Table 1 captures that the age of nurses in Bondowoso, Indonesia from the most to the least is 36 yr old to 40 yr old, 31 yr old to 35 yr old, > 40 yr old, and 25 yr old to 30 yr old. Table 2 shows that, in terms of education, the majority of respondents were bachelor graduates. Table 3 shows that the highest number of employees is with more than 6 yr of service. The length of work period reflects the quality of work of employees because with a longer working period employees will have more experience and better skills.

Instrument testing

Validity and reliability test

After testing the validity, all items in the questionnaire in this study have Sig. value (0.00) which are smaller than Sig. table (0.05) and it indicates that all items in this study are valid. Similarly, the reliability test results that all variables have a Cronbach Alpha value of more than 0.60. Thus all the variables are met by the reliability requirements. In the data normality test, all data are normally distributed.

Path analysis

Path analysis is used to analyze causal relationships between variables where the independent variables affect the dependent variable through one or more intermediaries. The recapitulation of the results of path analysis is as follows:

Table 4. Result of path analysis

<table>
<thead>
<tr>
<th>Path</th>
<th>Coefficient</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 – Z</td>
<td>0.546</td>
<td>0.000</td>
</tr>
<tr>
<td>X2 – Z</td>
<td>-0.391</td>
<td>0.016</td>
</tr>
<tr>
<td>X1 – Y</td>
<td>-0.563</td>
<td>0.000</td>
</tr>
<tr>
<td>X2 – Y</td>
<td>0.635</td>
<td>0.017</td>
</tr>
<tr>
<td>Z – Y</td>
<td>-0.137</td>
<td>0.004</td>
</tr>
</tbody>
</table>

Source: SPSS output, 2019

Based on Table 4 can be seen the multiple linear regression equation as follows:

\[
Z = 0.546X1Z - 0.391X2Z + e \tag{1}
\]

\[
Y = -0.563X1Y + 0.635X2Y - 0.137ZY + e \tag{2}
\]

classical assumption test

In the regression equation, there is no multicollinearity because the variance value of the inflation factor is smaller than 5. For heteroscedasticity test, the significance value is greater than 0.05, so we report that there is no heteroscedasticity.

Hypotheses testing (t-test)

i. The effect of dual career (X1) on work stress (Z)

The level of significance of the dual career variable (X1) on work stress (Z) is 0.002 and it is smaller than \( \alpha = 0.05 \). The coefficient is positive. It means that dual career has positive and significant effect on work stress (H1 is accepted).

ii. The effect of dual career (X1) on job performance (Y)

The level of significance of the dual career variable (X1) on job performance (Y) is 0.011 and it is smaller than \( \alpha = 0.05 \). The coefficient is negative. This means that dual career has a negative and significant effect on job performance (H2 is accepted).

iii. The effect of work environment (X2) on work stress (Z)
The level of significance of the work environment variable (X2) is 0.021 and it is smaller than \( \alpha = 0.05 \). The coefficient is negative. This means that the work environment has a negative and significant effect on work stress (H3 is accepted).

iv. The effect of work environment (X2) on job performance (Y)
The level of significance of the work environment variable (X2) is 0.003 and it is smaller than \( \alpha = 0.05 \). The coefficient is positive. This means that the work environment has a positive and significant effect on job performance (H4 is accepted).

v. The effect of work stress (Z) on job performance (Y)
The level of significance of the work stress variable (Z) is 0.013 and it is smaller than \( \alpha = 0.05 \). The coefficient is negative. This means that work stress has a negative and significant effect on job performance (H5 is accepted).

**Discussion**

**The effect of dual career on work stress**
The result of analysis showed that dual career significantly affects work stress. Among dual career indicators, 79% respondents agree or give high score on the fifth indicator, that is about work interference. Whereas for the work stress variable, 78.1% respondents agree or give high score on the first indicator, that is about Behavior. This means that the level of employee intervention is very influential in increasing the work stress of employees to achieve the suitability of the quality of work produced. Female workers who have a family dual career role, which is to act as a housewife who regulates family affairs and acts as a member of the organization that is responsible for the task at hand. This proven relationship is also in line with a research by (1) which stated that long working hour, the obligation to do housework in the evening, lack of quality time with the family, and work pressure could triggers stress and frustration among female employees. This research also support a research by (7) which argued that married women should work longer than average working hours in order to fulfill the company and family demands and it can trigger exhaustion, dissatisfaction, and conflicts. This result is on the contrary to research by (20) which found that there was not a significant relationship between the level of role engagement and physiological stress.

**The effect of dual career on job performance**
Statistical result showed that dual career significantly affects job performance of female nurses in Bondowoso, Indonesia. Among dual career indicators, 79% respondents agree or give high score on the fifth indicator, that is about work interference. Whereas for the job performance variable, 62.5% of respondent agree or give highest point on the second indicator, that is about quantity. This means that the level of employee intervention is very influential in improving employee performance to achieve the suitability of the work quality produced.

When a woman decides to have a career, she must be aware of the function and purpose of the career itself. The goals and intentions must be truly for the good, such as helping the family economy or wanting to devote themselves to religion, nation and country. If someone does something with the right intentions and intentions, then the results will be good too. Female workers who have a family face various kinds of problems in carrying out their different roles, namely the role of wife, mother, housekeeper and as a worker. This result supports a research by (10) that a dual career woman leads to increased productivity at workplace only when there was a balance in their personal life but failed to be effectively productive when there is a misbalance in their personal life. This result is also in line with a research conducted by (9) that married women perform lower than unmarried women because married women tend to face work–life balance issues. This result does not support a research by (21) which found that work load, role ambiguity, role conflict, work–family conflict do not influence couple performance in the apparel sector in Sri Lanka.

**The effect of work environment on work stress**
Most respondents answered the highest points on indicator three, which was 78.1% about employee attitudes or behavior. The work environment can affect the employee’s emotional. If the employee likes the work environment, the employee will feel at home in his workplace, carry out his activities so that work time is used effectively. Productivity will be high and employee work performance is also high. If the work environment is felt to be very comfortable by employees, it causes female workers to be able to trigger a decrease in work stress. This result supports a study by (12) which analyzed the predictors causing work stress on nurse manager in 36 hospitals in

Southwestern US then found that the most important predictor is about role overload, and the other predictors are role ambiguity, role conflict, organization constraints, and interpersonal conflict. This result is also in line with a research by (13) which also found that environmental factors have a significant effect on the level of stress of the nurses more than work conditions on the University College Hospital (UCH), Nigeria.

The effect of work environment on job performance
The result of path analysis showed that work environment significantly affects the performance of female nurses in Bondowoso, Indonesia. Work environment is the surroundings where a person works, the method of work, and work arrangements both as individuals and as a group. If the employees feel comfortable with their work environment, they will feel at home in his workplace and carry out his activities well, so the work time will be used effectively. Their productivity will be high and so does their work performance. Representative work environment will trigger an increase in the performance of employees in the company. This result is in line with a research conducted by (11) which found that environmental stressor can significantly reduce job performance by between 2.4 % and 14.8 %. This result is also in accordance with a research conducted by (15) who found that nurses who perceived their work environment to be good experienced higher job performance and lower rates of burnout syndrome.

The influence of job stress on job performance
Statistical result showed that job stress significantly affects the performance of female nurses in Bondowoso, Indonesia. Stress can be viewed positively because sometimes normal stress can increase the productivity and makes employees work better to achieve what they wants, for example if an employee wants to move up to become manager, then he will be faced with the workload that causes higher stress level. But stress can also affect negatively on the job performance. Stress can have a very negative impact on organizational behavior and the health of an individual. If employees can not deal or adjust to the circumstances of the work environment, it makes them feel depressed and irritable. But this result is not in accordance with a study by (16) which found that there is positive and insignificant impact of work stress on work performance on employee of Iranian petrochemical company. This result is in line with a study by (17) which found that there was negative significant relationship between work–family–conflict; family–work–conflict and job performance of working mothers. Also found that stress work has significant negative effect on employee performance (15). Also proved that job stressors such as workload, procedural injustice, role ambiguity, work–family conflict and physical environment has significant explanation on job performance (18).

Conclusions
Demands to balance work duties as nurses and demands as family members have the potential to create work–family conflicts that have an impact on work stress and reduce performance. Uncomfortable and disturbing work environment also can be a stress trigger and then bring bad effect on nurse performance. Based on the result of path analysis in this study, dual career significantly triggers job stress and reduce performance, work environment significantly decreases job stress and increase job performance, and job stress significantly decreases the job performance of female nurses in Bondowoso, Indonesia.

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