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Job Stressors and Coping Mechanisms among Emergency Department Nurses in the Armed Force Hospitals of Taiwan

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***Abstract*—**Nurses in an Armed Force Hospital (AFH) expose to stronger stress than those in a civil hospital, especially in an emergency department (ED). Ironically, stresses of these nurses received few if any attention in academic research in the past. This study collects 227 samples from the emergency departments of four armed force hospitals in central and southern Taiwan. The research indicates that the top five stressors are a massive casualty event, delayed physician support, overloads of routine work, overloads of assignments, and annoying paper work. Excessive work loading was found to be the primary source of stress. Nurses who were perceived to have greater stress levels were more inclined to deploy emotion-oriented approaches and more likely to seek job rotations. Professional stressors and problem-oriented approaches were positively correlated. Unlike other local studies, this study concludes that the excessive work-loading is more stressful in an AFH.

***Keywords*—**Emergency nurse; Job stressor; Coping behavior; Armed force hospital.

I. INTRODUCTION

ALONG with the continuous improvement of technology development and health-related knowledge diffusion, patients and their significant others are more knowledgeable and demanding than ever. This has strongly moderated the relationship between healthcare service providers and their receivers to more or less a commodity selling and purchasing relationship. Beyond national laws, almost all hospitals in Taiwan are circumscribed by a contract with National Health Insurance Bureau (NHIB). Decreasing reimbursements and cost-down pressures of the newly launched Global Budget Payment System (GBPS) have further squeezed the hospital's revenue and inevitably created stronger stresses on nurses [1]. Armed force hospitals (AFH) were primarily established and commissioned for the medical and health needs of the armed forces, under the consideration of the national security system. Medical professionals, such as physicians and nurses, were trained and supplied by the National Defense Medical Center. Compared to general hospitals, AFH enjoyed a superior reputation in several services including emergency services, orthopedics, and surgical services. Despite that opposite criticism, two rivalries of the Taiwan Strait have now become more amicable to each other. This has shaped the Taiwan's policy to maintain a small but quality amount of the armed force, force, and accordingly altered the role of an AFH. Military or armed force's hospitals have to include the civilian services as an important source of income. However, norms shared in this particular medical system experienced few changes. This may jeopardize the competitiveness of the AFH between competing customers and national insurance reimbursement with other civilian hospitals that are traditionally more customer-oriented. As a result, the number of military hospitals has reduced from 20 in 1994 to 14 in 2008.

The Yerkes-Dodson Law [2] suggests that a higher stress leads to a higher job performance for simple jobs, whereas lower stress is active in affecting highly complicated jobs. This means that a moderate stress, and not an extra-ordinary stress, could be good to improve an individual's job performance. Literature had suggested a strong relationship between stress and undesirable health among medical professionals, for example, an extra-ordinary stress may be responsible for an individual's coronary diseases [3], hypertension, headaches, asthma, peptic ulcers, and lower-back pain among others [4][5], and others of mental and physical health[6]. This, in turn, induces lower work productivity, job morale [7], and other human resource management problems, such as higher absenteeism, lower job satisfaction [8] [9], and higher turnover [10]. As a result, higher operational costs, lower job efficiency, and worse service quality may occur, all of which are detrimental to the hospital's performance.

Nurses, as one of the professional service groups, tend to be exposed to extreme workloads. Their works are generally characterized by having a high contagious potential, being labor-intensive, having an overwhelming job shifting, and experiencing malicious complaints from patients. Compare to other general and professional service jobs, nursing requires handling complicated and dynamic occurrences under strict time pressures. Studies have generally revealed that continuously excessive workloads tend to lower their job satisfaction and deteriorate in turnover intentions. These contextual difficulties indeed continuously challenge a nurse's

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temper and professional performance. This may be particularly true for nurses in the emergency departments of the AFH.

The main cause that exposes nurses in the AFH to a much higher stress level stems from the hospital they work at that generally lags in keeping pace with the current competition. Other factors that cause higher stress for this particular group of nurses include their personal status in respective hospitals. Nurses working in the AFH are primarily viewed as part of the armed forces with military ranks. This means that nurses in these hospitals shall perform well and behave properly, not only in the nursing professional under normal nursing supervision, but also by incorporating the military command system. This creates more sources of stress for the nurses in the AFHs, compared to those in general hospitals. In addition, situations may become more complicated when conflict is present between medical professionals and the military command. Work in the AFH emergency department requires a higher concentration than other special disciplines, of which personal mood is not allowed. Privileged patients or high-ranking officers under emergency, irrational, or uncommon orders from a senior official, and others associated with professional dissonances, may suddenly alter the departmental atmosphere and create further stress to nurses in this department.

It has been suggested that effectively identifying and managing the sources of stress would be helpful in reducing the occurrence of bad stress [11], or alleviating its impacts on individual behavior. This study identifies the sources of stress among ED nurses in AFH in Taiwan and uncovers approaches this particular group of nurses takes in response to such stress. The present study also calculates particular actions that the hospital management and ED nurses could do to enhance the effectiveness of an emergency team and to be beneficial to the competitiveness of the AFH.

II. LITERATURE REVIEW

A. Job Related Stress

Although perceptions towards the construct of work related stress may vary from one nurse to another, studies, in general, view this term as a representation of physiological or psychological reactions, or both, that are caused by routine work. Stress emerges when the work environment or job requirements constantly exceed one's limits [12] in terms of individual job capability, or personal cognition towards the work and the associated environment, or psychological tolerance. In general, the term "job" includes varied types of employment or assignments that exceed those items stated in individual job specification.

Emergency services departments, intensive care units (ICU), and operating rooms are conventionally the three most challenging service units within a hospital [13]. Nurses involved in these services are always exposed to a context with high uncertainty and tension, of which may negatively impact their mental and physical health [14]. Types and levels of stress nurse perceived may be varied along with the stage of the care they perform with patients [15]. Sources of stress that significantly affect ICU and ED nurses could be classified into six major types [16]. The first type of stresses are associated with administrative regulation, such as those on medical disputes, scheduling, rotations, special mission orders, unidentified patients, workloads or unpredictable service demands. The next stress type relates to patient care, such as emergency cases, danger lists, and patient pains, some of which may be perceived by young nurses as exceptional stressors originated from patients and family.

The third type of stress stems from communication with colleagues who jointly provide services, such as team members, managers, physicians, and other department associates. Knowledge and techniques, like care techniques, timely judgment, and patient education, are critical to perform services properly. Lacking such knowledge is the fourth type of stress, for this not only generates potential disputes, but also horrifies nurses by being accused of mal-practice lawsuits. The physical facility is the fifth type of stress, including noise, physical hazardous and badly restricted work areas. The compensation system of the organization specific to particular work is the sixth type of stress source.

Similar studies have further indicated that workload, time pressure, and the lack of support from management are the primary predictors of distress. Stress may stem from varied sources; ways to cope with stress are many as well. Coping strategies or behaviors or mechanisms can vary from one type of stress to another and from one person to another.

B. Coping Behaviors

Coping refers to a phenomenon that an individual alters their personal perception and behavior in response to the conflicts raised from the environment the individual exchanges with [17]. In workplaces, people develop proper attitudes and behaviors by reacting to difficulties or barriers on their way to the mission accomplishment.

Lazarus & Folkman [18] categorized the stress coping behavior as two strategies of "problem focused" and "emotion focused". The former represents actions that are taken to solve the problem directly, and the latter refers to action that an individual change the personal attitudes towards emotion that was irritated by external stimuli [18] [19]. Although categorizing the coping behaviors into two distinctive types while describing a stress-coping behavior may be oversimplified [20], a dichotomous approach remains useful for our discussion. To our knowledge, there has been no consensus on further categorization.

Problem oriented approaches center on finding the causes of the current problem. This is an active and rational approach. Emotion oriented approaches aim to ease respondent's emotional reactions by accepting stress as part of life, or as natural, by which to alleviate painful feelings. Compare to the emotional-focused method, the problem-focused method is generally more acceptable as a positive or preferred reaction to stress. Boey [21] indicated that nurses capable of dealing with stress tended to adopt a problem or active coping strategies.

This particular approach may include taking courses to upgrade professional knowledge or to sharpen their problem-solving techniques, seeking support from supervisors or colleagues, and other alternatives that would effectively enrich their personal knowledge and capability in dealing with inevitable stress [22]. Focusing on what and how the problems occur and how the problem is defined and handled is the core of the problem-oriented behavior [23]. Since this method reduces the complexity of a problem, in which logical alternatives aim for solution becomes possible. This has been proven a more efficient way in dealing with work stresses, thus are generally recommended by healthcare management experts [22].

On the other hand, the emotion reaction that nurses may have in response to a stress may include either of the following while on duty, such as complaining, performing duties in a passive manner, fewer intents of cooperating, absent from work for any reason [23]. These reactions would be a drawback for personal growth and would cause negative impact on service quality.

It is interesting to note that a nurse is unique as an independent human, with which is distinctive when responding to a difficulty. Many studies have shown that an individual nurse may behave quite differently in stress perceiving and associated coping. These factors may include, for example, gender [24], age [15], education [15]. However, the effects of personal factors, such as those studies regarding the effects of education, religion [23], marital status, and size of household [14], and the number of children [15] [25], on stress perception and associated coping behaviors had not come to a consensus. It is also questionable that whether being older in age of an individual may represent such a person having more experience, higher nurse status and position ranks, or being more knowledgeable in predicting and coping with possible job related stresses [26]. Past studies on stress and coping with stress have failed to reach a consensus on whether the differences of personal characteristics can significantly affect individual's stress perceptions, thus this research will not attempt to examine the role of personal factors in the stress and coping relationship.

III. RESEARCH METHOD

The conceptual framework of the current study is illustrated in Figure 1. This study assumes that different stressors have varied levels of correlations with coping approaches, whereas the differences within the nurses′ personal characteristics may affect the relationships between these variables.

A. Samples

Samples for the study included full-time nurses currently working in the emergency departments in the AFH around Taiwan. A self-administered written questionnaire, as illustrated in detail in the next section, was dispatched to all ED nurses through the head of the emergency departments of four AFHs (two in the southern and two in the central part of Taiwan) through one of the authors' personal network in the months of November 2007 through January 2008. Since this is not an experimental study, no ethical approval prior to the study was required. However, a notice containing "informed consent" was added to the bottom of the cover page before the questions. There were 227 valid responses out of 278 questionnaires, with a respondent rate of 81.65%. No significant differences were found between respondents and the entire ED nurses of case hospitals in terms of demographic factors. We are confident that non-response bias did not occur.

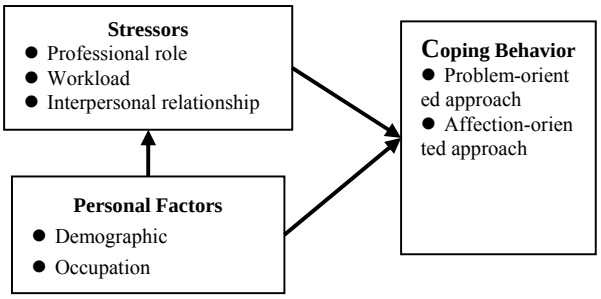


Fig. 1 Conceptual framework

B. Measurements

Drawn on the comprehensive literature review and professional experiences of researchers and experts, we used a 5-point Likert scale to measure the constructs (in which '1' represented 'non-stress' and '5' as 'highly stressful' regarding the sources of stress; and '1' for 'never' to '5' for 'always' regarding the coping behavior). In the last part of the questionnaire, we inquire respondent's demographic information in three separate sections. The questionnaire was composed of 37 items written in traditional Chinese.

The first section measured 27 sources of stressors the respondents perceived. These questions were obtained from past studies [13] [25] [27] [28] [29] as well as several depth interviews with industry leaders. Despite the fact that six factors were suggested by previous studies [16], this study extracted three factors from these items: the "Professional role," "Workload," and Interpersonal relationship" with the total variance explained at 63.15%. The second section enquired about the respondents' coping behavior using ten items for each of the two distinctive approaches [18]. The third section probed into the types of support the respondents seek from the organization.

A) Reliability and Validity

Five experts experienced in stress issues in academic study or industrial practice, or both, were invited as industry leaders to assess the content of the questionnaire. Based on their feedback, we amended the items until they reached a satisfied level (at 4.5 on averages for each item in a 5-point scale) in terms of appropriateness, clarity, and validity. By doing this, we are confident about the face and content validity. We then conducted a pilot test with this initial questionnaire in two regional teaching hospitals. At last, the questionnaire was then shortened to the current length with Cronbach's α ranges from 0.86 (problem oriented behavior), 0.85 (interpersonal), 0.84 (workload), 0.85 (affection oriented behavior), to 0.91 (professional role) with grand reliability at 0.94. This shows

TABLE I
DESCRIPTIVE STATISTICS

Variables		n	%	Variables		n	%
Level	Junior	22	9.7	Gender	F	22	97.
	Senior	20	89.		M	6	2.6
	N.A.	3	1.3	Age	19	3	1.3
Work in	Own will	14	63.		20-29	12	56.
ED	Order	8	3.5		30-39	86	37.
	Rotate	75	33		40	9	4
Yrs,	6 m.	11	4.8	Edu.	High	4	1.8
Nurse	6m.~2 v.	33	14.		2 yrs.	11	52
	2 v. +~ 4	56	24.		Bach	10	45.
	4 y. +	12	55.		Mas	2	0.9
Yrs, ED	6 m.	21	9.3	Marriage	M	73	32.
	6m ~2 v	36	15.		S	15	66.
	2 v+~ 4	60	26.		N/A	3	1.3
	4 y+	11	48.	Kids	Nil.	16	71.
Yrs, ICU	Nil.	18	79.		1-2	57	25.
	3 m.	20	8.8		3-4	6	2.6
	3 m. +~1	12	5.3		5+	1	0.4
	1 v+~2 v	5	2.2	License	N0	32	14.
	2 y +	10	4.4		N1	71	31.
Accred.	District	12	54.		N2	73	32.
	Regional	10	45.		N3	44	19.
Religion	None	12	55.		N4	4	1.8
	Buddhism	42	18.	Leave	Y	67	29.
	Taoism	40	17.		N	16	70.

that the questionnaire has good reliability of internal consistency.

B) Statistical Methods

Data gathered were analyzed using several statistical techniques. This study applied a descriptive statistical analysis to illustrate the global view of the respondents. This included an *exploratory factor analysis* with varimax rotating to extract the primary components of each factor, *t-test* and a *One-Way ANOVA* technique to examine whether primary research constructs were different in terms of personal factors. Finally, a *Canonical Correlation* analysis was conducted to examine the relationship among all of the variables.

IV. RESULTS

A. Descriptive Statistics

We collected 227 valid responses out of 278 dispatched questionnaires from ED nurses in four AFHs.

Most of the respondents were female (221, 97.4%), aged between 20 and 29 (129, 56.8%), with a college education (118, 52.0%), and single (151, 66.5%). A majority of them had no children (163, 71.8%). As far as experience, most respondents had four or more years (127, 55.9%) of experience in nursing, four or more years in emergency services (110, 48.5%), and no experience in ICU (180, 79.3%). Almost all respondents in this study served their job with a primary license (22, 9.7%) or advanced licenses (202, 89.0%). The licenses they had most often included the N1, N2, and N3 (188, 82.9%). All data indicated that nurses in emergency services in Taiwan were highly qualified and experienced. Another general description of the respondents included the reasons to work in ED (63.4% are at personal will), intent to leave ED (29.5% intend to leave), the hospital accreditation category (district and regional hospitals supply about equal samples), and religions (55.5% has no religious belief). These results are illustrated in Table I A and IB.

B. Job Stressors

The scale used to measure the job stressors included 26 questions in three distinctive categories. These were stresses of the professional role, of the interpersonal relationship, and of the workload. ED nurses perceived rather heavy stresses in general (3.54), as revealed in Table 2, whereas the professional role acted as the primary source of stress (3.61), followed by the interpersonal relationships (3.52), and the workload (3.51).

The top five stressors ED nurses frequently addressed in descending order included: quantities of injuries (4.06 on the 5.0 scale), physician absent when a patient badly ill (4.04), insufficient work force (3.83), adverse events occurs when busy (3.81), and preparing case reports (3.78). These are illustrated with other stressors in Table II.

TABLE II
STRESSORS FOR ED NURSES (N=227)

Items	Avg.	SD.	Rank
Professional	*3.51*	*.55*	***3***
Emergency cases CPR	3.46	***.55***	6
Violent environment	3.66	0.9	3
Metal disorder patients	3.59	0.9	4
Transport ill patient	3.47	0.9	5
Prepare case report	3.78	0.9	2
Interpret examination output	3.00	0.9	9
Gauge risky symptoms	3.36	0.8	7
Intubed patients	3.25	0.9	8
Mass injuries concurrently	4.06	0.9	1
Interpersonal	*3.52*	0.8	***2***
Unreasonable work shift	3.15	*.63*	9
Irrational supervisor	3.41	1.0	6
Lacking support from colleagues	3.40	1.0	7
Lacking of leisure time	3.77	1.0	1
Poor communication, nurse	3.66	0.9	4
Poor communication, physician	3.70	0.9	2
Dispute with medical staff	3.33	0.9	8
Work with malicious colleagues	3.67	0.8	3
Inconsistent caring procedures	3.55	0.9	5
Workload	*3.61*	0.8	***1***
Adverse events occurs when busy	3.81	*.69*	3
Caring VIP patients	3.52	0.8	6
Physician absent	4.04	1.0	1
Lost property on shift change	3.66	0.8	4
Caring media patients	3.65	1.0	5
Unable to off-work timely	3.15	0.9	8
Insufficient work force	3.83	1.0	2
Caring dying patient	3.24	0.8	7

C. Coping Behavior

In most instances, ED nurses adopted problem-oriented approaches to deal with job stress (3.74 on a 5-point scale), rather than emotion oriented approaches (2.85), as revealed in Table III. The top five actions ED nurses used in descending order included: accepting it as experience and to commit him/herself performing proper avoidance in the future (3.97 on a 5 point scale), examining carefully the process that results in such outcomes (3.94), seeking advanced learning or training to improve technique improvements (3.87), identifying the causes of the problems (3.83), and solving the problem using my own experience (3.76). This revealed that most ED nurses had been well educated to be patient and self-restrain themselves not to confront the problems while providing nursing services. In addition, they would have been encouraged to solve the problems in rational ways.

TABLE III
COPING BEHAVIOR ED NURSES ADOPTED FOR JOB STRESS (N=227)

Coping behavior	Avg.	S.D.	Rank
Problem Oriented Approaches	***3.74***	***1.12***	***1***
Probe causes with experience	3.76	0.64	5
Improve techniques	3.87	0.62	3
Explore causes / friends	3.83	0.72	4
Examine causes carefully	3.94	0.66	2
Advanced education	3.67	2.16	6
Seek advices	3.67	0.74	7
Commit improvement	3.97	0.70	1
Examine the events	3.54	0.76	10
Create a action plan	3.65	2.79	8
Deliberate causes	3.55	0.72	9
Emotion Oriented Approaches	***2.85***	***1.13***	***2***
Ingurgitate to be comfortable	2.66	1.71	7
Sleep off one's problem	3.05	1.15	4
Good bowl	2.70	1.06	6
Job transfer	2.46	1.04	9
Fall depress	3.14	1.96	3
Self condemn	3.19	0.90	2
Avoid the problem	2.55	1.58	8
Loose one's temper	2.44	0.87	10
Leave for long-weekend	2.83	1.14	5
Accept it without alternative	3.48	0.87	1

D. Personal Factors and Stress Perception

In the general job stress, the test result illustrated that ED nurses who were married and had children significantly perceived less stress than those that were single or married and had no children (Table IV). ED nurses who expressed intentions to leave perceived more job stress, and N1 and N0 level nurses appeared to have stronger stress perceptions than those in higher levels.

TABLE IV
PERSONAL CHARACTERISTICS AND JOB STRESSES

	Variables	n	mean	s.d.	*p*
Stressors (General)					
Marriage	M	73	3.43	0.54	0.03*
	S	151	3.60	0.56	
Children	Y	163	3.60	0.54	0.00**
	N	64	3.40	0.56	
Intent to leave ED	Y	67	3.67	0.50	0.03*
intention	N	160	3.49	0.57	
Advance levels	N1 or -	103	3.62	0.55	0.04*
	N2 +	124	3.48	0.55	
Stressors (Professional role)					
Marriage	M	73	3.38	0.64	0.03*
	S	151	3.58	0.62	
Children	Y	163	3.57	0.61	0.03*
	N	64	3.37	0.66	
Why work ED	Personal	144	3.43	0.56	0.03*
	Order	8	3.63	0.75	
	Rotate	75	3.66	0.57	
Advance levels	N1 or -	103	3.61	0.60	0.03*
	N2 +	124	3.43	0.65	
Stressors (Interpersonal Relationship)					
Age	29	132	3.60	0.66	0.04*
	30 39	86	3.44	0.71	
	40	9	3.09	0.97	
Children	Yes	163	3.59	0.69	0.01*
	No	64	3.32	0.68	
Leave ED	Yes	67	3.71	0.62	0.00*
	No	160	3.43	0.72	
Stressors (Workload)					
Leave ED	Y	67	3.72	0.49	0.05*
	N	160	3.56	0.66	

*p 0.05 ** p 0.01 *** p 0.001

The test results indicated that the stress and professional roles are positively correlated As far as the stressors originated from interpersonal relationships, this study revealed that the younger the ED nurses, the heavier stress they perceived. Compare to their colleagues, nurses who had no children, or who had no intention to leave emergency services, perceived less interpersonal-related job stresses. As to the workload-related stressors, those nurses that expressed intentions to leave emergency services had stronger reactions. Personal demographic factors had a certain level of influence in shaping ED nurses' perception levels toward varied kinds of stressors. In general, married nurses with children were more stable, and thus, little or no intention to leave, of which jointly affected (more possibly inactivated) their job stress perception.

TABLE V
PERSONAL CHARACTERISTICS AND COPING BEHAVIOR

Variables	n	mean	s.d.	*p*
Problem Oriented				
Licenses				
Primary	22	3.04	1.03	0.01*
Advanced	20	3.71	0.53	
Emotion Oriented				
Reasons to work in ED				
Personal will	14	2.79	0.56	0.02*
Being assigned	8	3.25	0.48	
Being rotated	78	2.94	0.57	
Leave ED intention				
Yes	67	3.06	0.51	0.00***
No	16	2.77	0.57	
Licenses				
Primary	22	3.12	0.55	0.02*
Advanced	20	2.83	0.56	
Advance levels				
N1 and lower	10	2.96	0.64	0.01*
N2 and higher	12	2.76	0.48	

F. Relationship between Job Stress and Coping Behavior

A canonical correlation analysis was conducted by using the variables of stressors and their corresponding coping behaviors to detect the relationship between these two sets of variables (Table VI and Figure 2). The variance of stressors can be explained by the first χ_1 (at 69.04%) and the second χ_2 (at 30.96%), whereas coping behaviors can be explained by the first η_1 (at 87.07%) and the second η_2 (at 22.93%). Both canonical correlations were significant with $\rho_1 = .30$ ($p<0.01$), and $\rho_2 = .12$ ($p<0.01$). This indicates that coping behaviors could be explained by different stressors.

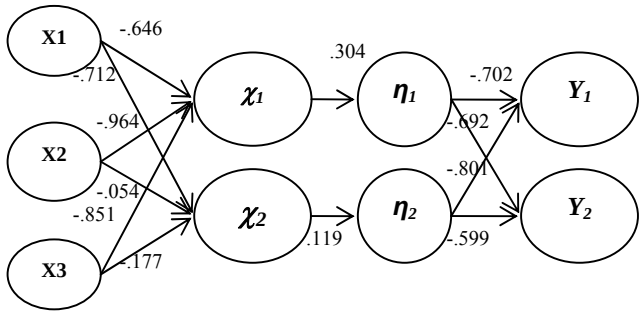
TABLE VI
CANONICAL ANALYSIS ON JOB STRESS AND COPING BEHAVIOR

Stress	Canonical factor		Coping	Canonical factor	
X	χ_1	χ_2	Y	η_1	η_2
Professional	-0.646	-0.712	Problem	-0.722	-0.692
Interpersonal	-0.964	-0.054	Emotion	-0.801	-0.599
Work loading	-0.851	-0.177			
Variance E.	69.03	30.96	Variance E	87.06	22.93
Index of Redundancy	6.351	2.849	Index of Redundancy	8.01	0.321
			ρ^2	0.092	0.014
			ρ	.304*	.119*

**P□0.05□ **P□0.01□ ***P□0.001*

The first predicting factor (χ_1) explained 9.2% (ρ_1^2= .092) of the variance of the first dependent variable (η_1). The index of redundancy of job stress (χ_1) was 6.35, indicating that these two canonical factors of dependent variables η_1 and η_2 can explain 6.35% and 2.85% of the variances of job stress, respectively. η_1 was more important than η_2 when trying to explain the variance of stressors. The redundancy indexes of coping behavior (η_1) (η_2) were 8.01 and .32, respectively, indicating that these canonical factors of independent variables χ_1 and χ_2 explain 8.01% and 0.3% of the variances of coping behavior, respectively. The first canonical factor was significantly more important than the second in explaining the variance of coping behavior.

In the first canonical correlation, interpersonal relationships, and the workload of job stress had a strong relationship with the first canonical factor (χ_1) at levels of -.96 and -.85, respectively; whereas emotion focused (oriented) of coping behavior had a strong relationship with the first canonical factor (η_1) of the dependent variables, at a level of -.80. This means that the emotion primarily focused coping behavior was closely related with the "interpersonal relationship" and "workload" stressors.



X1 = Professional Role
X2 = Interpersonal Relationship
X3 = Work Loading
Y1 = Problem Oriented Approaches
Y2 = Emotion Oriented Approaches

Fig. 2 Canonical correlations of job stressor and coping behavior

V. DISCUSSION

The question of whether perception on stress and types of coping behavior undertaken to cope with stress varied in terms of personal factors remained unsolved in the past studies. Significant differences in stress perception and types of coping behavior existed in terms of personal factors. The group of ED nurses who were married or had kids, or both, perceived the lowest levels of stresses from all sources. This group of nurse tends to exhibit problem-focused stress-coping behavior. These results were similar to past studies in a varied context [30] [31] [32]. Continuous supports from their families may be a good explanation for these differences. ED nurses who held licenses under N2 perceived a stronger job stress than those with an N3 or above. This was also similar to previous studies [33]. This may partly be related to better compensation, better training, or more experiences. This implies that the hospital management may be advised softening its stand by amending traditional hawkish manner as a troop commander into a home keeper to create a climate like a family. Besides, an AFH hospital may further encourage friendly interpersonal interactions by establishing certain forms of inner circles, by which provide substantial social support for nurses, particularly those young and single girl.

The current study indicated that ED nurses from AFH generally rank excessive work-loading as the primary source of stress, similar to the study of Lambert et al (2004) in Japan [14]. Ironically, the result is different from the literature in Taiwan that generally reports the professional knowledge not the work loading as the most important source of stress [34].This difference may stem from the dual roles of ED nurses in the AFH. They are military employees and nurses at the same time. AFH management may need to review the job description again to see whether there are excessive assignments other than professional nursing that requires substantial effort. As the Yerkes-Dodson Law [2] reveals, stress acts as an important mediator for job performance as long as the work is simple. Thus, it is suggested to simplify the caring job by equipping sufficient care-assisted facilities as well as reducing assignment that not directly associated with patient care.

Similar to other studies in different contexts, this research reports that difference in personal characteristics may perceive quite differently in work stress, impact at different levels to health, and may react as response in different directions. This implies that hospital administrator shall appreciate the difference and consider this while designing training program in response to distinctive need of each individual.

So as what we may also find in previous studies, work conditions and resource (or assistance) inadequacy were the top two stressful sources for stress [35]. Event related to patients waiting for care is the most stressful. This may occur when massive casualties poured into the emergency for care (such as the case of the "921 quake" in Taiwan in 1999), or insufficient emergency staff, or insufficient facility, or both. It is suggested that a support mechanism toward emergency department should be built and ready for use, such as flexible inter-use system of easy transfer of care facility and medical staff. Since time is vital for almost every case in ED, easy and error-free system for effective and efficient communication will be critical for the care performance. Such a system is deserved to be periodically examined with time to time exercised among ED members and supporting departments. Support from the top management of an AFH would be the most important factor for the success of such systems.

VI. EDITORIAL POLICY

Levels of stress perceived and types of stress-coping behavior vary in terms of marital status, having children, age

groups, and levels of licenses. Unlike other studies, the current study concluded that excessive workloading, not the professional role, was the primary source of stress. Study results revealed that respondents were primarily problem-focused when stress emerged. As most studies suggested, this was a healthy approach to follow. This study found a positive relationship between professional stressors and problem oriented approaches.

Nurses worked in the emergency department of AFH apparently expose themselves to a more challenging organizational climate than civil hospitals. Along with the increasing rigidity of the competitive environment for this type of hospital, stresses to these ED nurses were more difficult than before. A mission for today's AFH has somehow tuned to be part of the national healthcare system, instead of the national defense system. Given that, the government and the AFH authority should pay attention to the special needs of this particular group of ED nurses. Stresses are inevitable in all emergency departments and training and encouraging appropriate problem-oriented coping strategies among nurses are always helpful. It is worthy to note the fundamental differences and associated needs of ED nurses in AFH deserve special care.

Limitations and Future Research Directions

This study used cross-sectional data instead of a longitudinal study design because of time and financial limitations. This prevented us from detecting causal relationships between specific stresses and coping behaviors. However, this study successfully provided evidence of the relationship between the sources of stress and the types of coping behavior through a canonical correlation analysis. Moreover, samples were recruited from two central and two southern Taiwan AFHs. This may limit its generalizability to the entire AFH system in Taiwan. A self-administered questionnaire may have social expectation bias, of which it may disguise respondents' true psychological properties to the questions.

Although some experts were purposefully included in the depth interviews and questionnaire content review from the AFH, the literature we referred that not AFH-specific may lessen the uniqueness of AFH. Given that the job nature in AFH is distinctive, an advanced study on the stressors specific from the part of non-nursing assignment and associated impacts on nurses' mental and physical health may be worth to conduct in the future to advance our understanding on this issue under a special environment. Finally, a fit between employee and department or employer (i.e. person-environment fit [36]) has been proven helpful in fostering organizational citizen behavior, of which accordingly can increase an employee's moral and service quality. It is possible yet remains unknown that a better p-e fit advanced by mutual efforts of nurse and hospital management may empower nurse in facing stressful jobs.

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