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FACTORS ASSOCIATED WITH PSYCHOLOGICAL HEALTH OF FEMALE NURSES IN MALAYSIAN GOVERNMENT HOSPITALS

SUZANA BINTI MOHD HANIFA

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By

SUZANA BINTI MOHD HANIFA

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Chair   : Zanariah Binti Ismail, PhD
Faculty : Human Ecology

Women's psychological health has become an important issue in the past few decades due to the changes in the workforce demographics and the existence of blurry boundaries between the domains of work and family. However, how a resource-based perspective or favourable conditions influence women's psychological health have received scant attention from researchers. Specifically, this research was carried out to investigate the relationship of schedule control, family-supportive supervision, core self-evaluations, and work-family conflict with nurses' psychological health (i.e., psychological distress and life satisfaction). The study likewise examined whether work-family conflict will have a mediating influence on these relationships.

The present quantitative study utilised a correlational research design. A total of 691 female nurses, who, at the time of the survey, were married with at least one child and working on shifts in state hospitals under the Ministry of Health (MOH) in Peninsular Malaysia, were selected using the multistage cluster random sampling. This study utilised six established instruments, namely, the Schedule Control Scale, Family-Supportive Supervisor Behaviour Scale, Work-Family Conflict Scale, Core Self-Evaluations Scale (CSES), The Satisfaction With Life Scale (SWLS), and the General Health Questionnaire (GHQ). Data obtained from the self-administered questionnaires were analysed with structural equation modeling (SEM) using analysis of moment structures (AMOS).

This study revealed that core self-evaluations had a significant association with nurses' psychological distress as well as life satisfaction. Furthermore, schedule control was not significantly related to nurses' psychological distress and life satisfaction; whereas, family-supportive supervision emerged as having a significant direct relationship only with life satisfaction. This study likewise found that family-supportive supervision and core self-evaluations had significant associations with nurses' work-family conflict. In

addition, work-family conflict only predicted nurses' psychological distress and not their level of life satisfaction.

Results also showed that work-family conflict significantly mediated the association of schedule control, family-supportive supervision, and core self-evaluations with nurses' psychological distress. The mediating structural model of work-family conflict contributed 41% to the direct model (33.8%) to explain the variance in nurses' psychological distress. Specifically, work-family conflict partially mediated the association of core self-evaluations with psychological distress; while, work-family conflict was found to have an indirect effect on the link between schedule control and nurses' psychological distress as well as that between family-supportive supervision and psychological distress. However, work-family conflict did not mediate the relationship of schedule control, family-supportive supervision, and core self-evaluations with nurses' life satisfaction.

Generally, this study highlights the importance of core self-evaluations, family-supportive supervision and work-family conflict in influencing nurses' psychological health. The findings of the study also contribute to the body of knowledge, especially on the significant role of personal resources in shaping nurses' psychological health compared to contextual resources. Several prospective training and intervention programs to promote nurses' psychological health were suggested, including those aimed at enhancing the personal characteristics of nurses, encouraging supervisors to engage in family-supportive behaviour, and promoting the creation of family-supportive work environment for nurses' well-being.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

FAKTOR BERKAITAN KESIHATAN PSIKOLOGI DALAM KALANGAN JURURAWAT WANITA DI HOSPITAL KERAJAAN MALAYSIA

Oleh

SUZANA BINTI MOHD HANIFA

September 2020

Pengerusi : Zanariah Binti Ismail, PhD
Fakulti   : Ekologi Manusia

Kesihatan psikologi wanita telah menjadi isu penting sejak beberapa dekad lalu berikutan perubahan demografi guna tenaga serta wujudnya persempadanan yang kabur di antara domain kerja dan keluarga. Walau bagaimanapun, penyelidik kurang memberi perhatian mengenai bagaimana perspektif berasaskan sumber atau keadaan yang baik mempengaruhi kesihatan psikologi wanita. Dalam hal ini, kajian ini dijalankan untuk mengkaji perkaitan di antara kawalan jadual, sokongan penyelia berorientasikan kekeluargaan dan penilaian teras kendiri dengan kesihatan psikologi jururawat (tekanan psikologi dan kepuasan hidup). Selain itu, kajian ini turut mengkaji sama ada konflik-kerja keluarga memainkan peranan sebagai pengantara dalam hubungan ini.

Kajian kuantitatif ini menggunakan reka bentuk kajian korelasi. Sejumlah 691 jururawat wanita yang telah berkahwin dan mempunyai sekurang-kurangnya seorang anak dan bekerja secara syif di hospital negeri telah dipilih melalui teknik persampelan berkelompok pelbagai peringkat. Kajian ini menggunakan enam instrumen yang telah dibina iaitu *Schedule Control Scale, Family-Supportive Supervisor Behaviour Scale, Work-Family Conflict Scale, Core Self-Evaluations Scale (CSES), The Satisfaction With Life Scale (SWLS)* dan *General Health Questionnaire (GHQ)*. Data yang diperolehi menerusi soal selidik yang ditadbir sendiri dianalisis menggunakan pemodelan persamaan berstruktur berasaskan *Analysis of Moment Structures (AMOS)*.

Kajian mendapati penilaian teras kendiri mempunyai perkaitan yang signifikan dengan tekanan psikologi dan kepuasan hidup jururawat. Di samping itu, kawalan jadual didapati tidak mempunyai sebarang perkaitan signifikan dengan tekanan psikologi dan kepuasan hidup jururawat. Manakala, sokongan penyelia berorientasikan kekeluargaan mempunyai perkaitan signifikan dengan kepuasan hidup sahaja. Kajian ini juga mendapati sokongan penyelia berorientasikan kekeluargaan dan penilaian teras kendiri mempunyai hubungan yang signifikan dengan konflik-kerja keluarga. Didapati juga,

konflik-kerja keluarga hanya peramal kepada tekanan psikologi sahaja dan tidak kepada kepuasan hidup jururawat.

Keputusan juga menunjukkan bahawa konflik-kerja keluarga merupakan pengantara yang signifikan dalam hubungan di antara kawalan jadual, sokongan penyelia berorientasikan kekeluargaan dan penilaian teras kendiri dengan tekanan psikologi jururawat. Model struktur pengantara konflik-kerja keluarga telah menyumbang 41% kepada model langsung (33.8%) dalam menerangkan variasi dalam tekanan psikologi jururawat. Secara khususnya, konflik-kerja keluarga mengantara secara separa hubungan di antara penilaian teras kendiri dengan tekanan psikologi. Manakala, konflik-kerja keluarga didapati mempunyai hubungan secara tidak langsung di antara kawalan kerja dengan tekanan psikologi dan sokongan penyelia berorientasikan kekeluargaan dengan tekanan psikologi. Walau bagaimanapun, konflik–kerja keluarga tidak berperanan sebagai pengantara dalam hubungan di antara kawalan jadual, sokongan penyelia berorientasikan kekeluargaan dan penilaian teras kendiri dengan kepuasan hidup jururawat.

Secara keseluruhannya, kajian ini menunjukkan kepentingan penilaian teras kendiri, sokongan penyelia berorientasikan kekeluargaan dan konflik-kerja keluarga dalam mempengaruhi kesihatan psikologi jururawat. Hasil dapatan kajian ini juga menyumbang kepada ilmu pengetahuan, terutamanya mengenai peranan penting sumber personal berbanding sumber kontekstual dalam meningkatkan kesihatan psikologi jururawat. Beberapa kemungkinan bagi meningkatkan kesihatan psikologi dalam kalangan jururawat dicadangkan seperti meningkatkan ciri-ciri personal dalam kalangan jururawat, menggalakkan penyelia untuk terlibat dalam tingkahlaku berorientasikan kekeluargaan dan menggalakkan penyediaan suasana persekitaran kerja yang kondusif untuk meningkatkan kesejahteraan jururawat.

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This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Zanariah Ismail, PhD
Senior Lecturer
Faculty of Human Ecology
Universiti Putra Malaysia
(Chairman)

Zarinah Arshat, PhD
Associate Professor
Faculty of Human Ecology
Universiti Putra Malaysia
(Member)

Sa'odah Ahmad, PhD
Senior Lecturer
Faculty of Human Ecology
Universiti Putra Malaysia
(Member)

ZALILAH MOHD SHARIFF, PhD
Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 11 February 2021

Declaration by Members of Supervisory Committee

This is to confirm that:
- the research conducted and the writing of this thesis was under our supervision;
- supervision responsibilities as stated in the Universiti Putra Malaysia (Graduate Studies) Rules 2003 (Revision 2012-2013) are adhered to

Signature: _____
Name of Chairman
of Supervisory
Committee: _____

Signature: _____
Name of Member
of Supervisory
Committee: _____

Signature: _____
Name of Member
of Supervisory
Committee: _____

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LIST OF ABBREVIATIONS

AMOS	Analysis of Moment Structures
AVE	Average Variance Extract
CSES	Core Self-Evaluations Scale
CFA	Confirmatory Factor Analyses
CFI	Comparative Fit Index
CI	Confidence Intervals
CMIN/df)	Relative Chi Square
GFI	Goodness of Fit Indices
GHQ	General Health Questionnaire
HPP	Hospital Pulau Pinang
HSA	Hospital Sultan Ismail
HTAA	Hospital Tengku Ampuan Afzan
HTAR	Hospital Tengku Ampuan Rahimah
IFI	Incremental Fit Index
KMO	Kaiser-Meyer Olkin
MCAR	Missing Completely at Random
MOH	Ministry of Health
MREC	Medical Research and Ethics Committee
NFI	Normed Fit Index
NMRR	National Medical Research Register
PCA	Principal Component Analysis
PNFI	Parsimonious Normed Fit Index
RMSEA	Root Mean Square Error of Approximation

SE	Standard Error
SEM	Structural Equation Modeling
SIE	Standardised Indirect Effect
SWLS	Satisfaction with Life Scale
SPSS	Statistical Package for the Social Sciences
TLI	Tucker-Lewis Index
WHO	World Health Organisation

CHAPTER 1

INTRODUCTION

The present chapter mainly introduces the nature of this study's variables. Specifically, this chapter describes the background of the study, the statement of the problem, and the research questions. Then, the theoretical and conceptual frameworks of the study will be discussed. Next, this chapter presents the general and specific objectives, hypotheses, significance of the study as well as the definitions of the major terminologies used in this research. Finally, a chapter summary will be presented.

1.1   Background of the Study

Psychological health problems have become a major global issue. Over 300 million individuals worldwide are going through a mental disorder, such as, depression and anxiety (World Health Organisation [WHO], 2017a). In addition, a study by the WHO (2017b) revealed that the global economy loses about $1 trillion in productivity annually due to mental ill-health. In Malaysia, it is predicted that, by 2020, the second major health problem would be mental disorders. Based on the Malaysia National Health and Morbidity Survey 2015, almost 29.5% or 4.2 million Malaysian adults who were 16 years old and older at the time of the survey suffered from a psychological disorder (Institute for Public Health, 2015). This number is alarming as it is a three-fold increase compared to the 10.7% reported in 1996. According to the said report, females, young adults, and adults from low-income families are more susceptible to mental health problems. In fact, the Malaysian government has allotted almost RM900 million in the Ninth Malaysia Plan (2006-2010) to ameliorate mental health problems in Malaysia (Mukhtar & Oei, 2011).

Psychological health, also known as mental health from the medical perspective, pertains to a condition wherein a person is emotionally and mentally balanced (Zulkefly & Baharudin, 2010). Psychological health has a crucial role in the well-being of an individual. Particularly, an individual who is psychologically healthy displays behaviours indicative of the presence of wellness. Thus, psychological health has been a fundamental component of human development because it serves as a key determinant of the well-being and effective functioning of an individual and the whole community (WHO, 2010). Individuals with positive psychological health exhibit a range of developmental outcomes, including, increased productivity and earnings, better employment status, higher educational performance, healthier lifestyles and improved quality of life (WHO, 2010). However, individuals with poor psychological health are susceptible to decreased quality of life, educational difficulties, lower productivity, social ills, and more health problems.

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Within the field of human development, it is well-known that individual well-being is influenced by various contexts. Basically, a context denotes when and where a person develops. Hence, the field of human development provides several ways in conceptualising a context and highlights which of its aspects are important in shaping individual development. In other words, it provides an explanation and understanding on what shapes an individual's level of functioning, such as health and well-being. (Newman & Newman, 2007).

From the ecological perspective on human development, contexts include various aspects of physical and social environment, such as the family, school, workplace, neighbourhood, and culture. The interaction and transaction between the individual and his or her physical and social environment will influence the quality and direction of human development (Brofenbrenner, 1979). This is because the interactions in various levels of contexts can bring a variety of risk and protective characteristics and processes that impact individual well-being (Osher, Cantor, Berg, Steyer, & Rose, 2020). Thus, this study is relevant in the field of human development as it explains how environmental and social contexts shape individual psychological health.

Generally, psychological health problems can occur at any stage of an individual's life, be it in childhood, adolescence or adulthood. In terms of gender, there is an increasing prevalence of mental health illness among women. Women consistently demonstrate higher prevalence rates for mental health issues as compared to men (WHO, 2017c). Therefore, improving women's psychological health is crucial as it has implications not only to their own well-being but that of their children and families as well.

Women's psychological health is also influenced largely by the roles they play. In today's world, work and family play major roles in the life of most employed women. The changing scenarios in the workforce, demographic and family characteristics, together with the rapid advancement of technology in the work environment have created complicated demands from both work and family aspects, especially for most employed women. The multiple roles and responsibilities performed in the workplace and at home have become sources of stress that affect women's psychological health. Women experience higher levels of stress than men do as they need to juggle between work and family responsibilities. When the burden becomes unbearable, women are prone to experiencing mental health problems.

However, the difficulty in balancing work and family life is more alarming among women in a specific occupational context, that is, among nurses who work in the government hospitals. Nursing is well known as a physically and psychologically demanding profession due to the potential exposure of nurses to various job stressors, such as excessive workloads and job demands (McVicar, 2003), poor work-environment (Aiken et al., 2011) and irregular work shift (Matheson, O'Brien, & Reid, 2014; Tahghighi, Rees, Brown, Breen & Hegney, 2017). Nurses frequently find themselves caught between the demands of their work and their family in order to fulfil the role of being a nurse and to take care of their family's well-being. Both work and family

responsibilities experienced by nurses can be physically and psychologically demanding, thus increasing the conflict or strain between both domains.

The role theory conceived by Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964) highlights the concept of inter-role conflict that occurs when the demands of one role clashes with those of other roles (Kahn et al., 1964; Katz & Kahn, 1978). The principle of role theory was elaborated by the scarcity hypothesis of Goode (1960), which emphasises that individuals have restricted or fixed resources, including, attention, energy, and time. The scarcity hypothesis stipulates that taking part in several roles can be overly demanding for an individual because engaging in one role will reduce the as well as energy to fulfil the demand of another role. Hence, individuals who are trying to fulfil multiple roles will experience role strain and conflict due to the limitations of his or her energy. In sum, the role theory posits that, the greater are the number of roles performed by an individual, the higher is the probability that he or she will experience inter-role conflict, which can further bring about negative effects on his or her well-being.

Moreover, the role theory provides an explanation about how an individual engaging in multiple roles is likely to experience greater role conflict and role strain. This theory suggests that individuals possess an insufficient amount of resources (e.g., time and energy). As such, those engaging in multiple roles have a greater likelihood of experiencing inter-role conflict.

In view of the above, this study focused on the psychological health of female nurses working on a shift basis in Malaysia's government hospitals at the time of the survey, and who were constantly exposed to a stressful and demanding environment. Nurses who are exposed to high job demands find it difficult to fulfil their family demands, and therefore will go through inter-role conflict. In the present study, inter-role conflict specifically pertained to work-family conflict, which is a chronic stressful condition that harms an individual's psychological health. Numerous studies have found that nurses' excessive workload and job demands have adverse consequences, such as, having low job and life satisfaction (Yildirim & Aycan, 2008), burnout, psychosomatic symptoms (Pisanti, van der Doef, Maes, Lazzari, & Bertini, 2011) and intention to leave (Chiu, Chung, Wu, & Ho, 2009; Yamaguchi, Inoue, Harada, & Oike, 2016). This highlights that nursing is a challenging career and nurses face several challenges in managing their work and personal life, which makes them susceptible to experiencing poor psychological health.

The theoretical and research literature have shown that psychological health is often investigated as an outcome of the experiences at work and in the family (Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Michel, Mitchelson, Kotrba, LeBreton, & Baltes, 2009). Psychological health is a multidimensional concept which has always been defined based on the dimensions and description of health and well-being. In work-family research, psychological health is frequently explained in the context of mental health, emotional state, satisfaction in work and family matters, or life satisfaction in general (Rantanen, 2008; Greenhaus, Allen, & Spector, 2006). In this study,

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psychological health was defined based on positive and negative mental health states (Bartlett & Coles, 1998). More specifically, in the current study, psychological health pertained to the existence of positive feelings about one's life and the lack of mental disorders, and was measured using the psychological distress and life satisfaction constructs. In sum, this study recognises the significance of incorporating both the positive and negative indicators of mental health in order to provide a more comprehensive depiction of human functioning.

A person's characteristics and environment have been identified as among the factors that influence one's psychological health (Huppert, 2009). In relation to nurses' psychological health, the work environment is among the crucial factors that determine their optimal functioning. Previous studies have shown that there are several factors that contribute to nurses' poor psychological health, such as, shift work, job demands, and workplace setting (Adriaenssens, De Gucht, & Maes, 2015; Jenaro, Flores, Orgaz, & Cruz, 2011). Therefore, it is crucial to determine the factors that can help nurses in coping with work and family-related stressors in the health care environment. Guided by the ecological systems theory, conservation of resources theory and integrative model of work-family interface, the present research intended to investigate the influence of schedule control, family-supportive supervision, core self-evaluations, and work-family conflict on nurses' psychological health.

One of the main characteristics of the nursing profession is shift work, a form of work arrangement that involves non-standard working hours or irregular working hours (Rosiello & Mills, 2015). Shift work is a major job demand experienced by many nurses and has been related to various negative consequences, such as health problems and burnout. Past studies have indicated that schedule control is useful to assist nurses to withstand irregular working hours. Specifically, schedule control is a more important contributor to nurses' psychological health compared to workload and actual work schedule (Fenwick & Tausig, 2001; Krausz, Sagie, & Bidermann, 2000). Furthermore, schedule control is more applicable to nurses who work in shifts in the hospital as it increases their chances to choose their preferred shifts and work hours (Hurtado et al., 2015). In this study, schedule control was conceptualised as the nurses' ability to control their work timing and arrange work schedules (Kelly & Moen, 2007; Swanberg, McKechnie, Ojha, & James, 2011). Schedule control has been identified as a tool that can provide an assurance to employees that they will have work-life balance, positive well-being, and favourable job experiences (Nijp, Beckers, Geurts, Tucker, & Kompier, 2012). Previous studies have shown that employees who have the ability to work according to their preferred shifts have higher work engagement (Swanberg et al., 2011), higher job satisfaction, lower turnover intention (Hurtado, Berkman, Buxton & Okechukwu, 2014), lower work-to-family conflict (Beutell, 2010) and diminished psychological distress (Hurtado et al., 2015).

Likewise, a supervisor is a powerful agent of change in the organisation (Straub, 2012) due to his or her ability to influence an employee's productivity as well as the morale of the workforce. Past studies have shown that having supervisors with specific support towards family matters is vital for an employee's health, well-being and organisational functioning (Hammer, Kossek, Bodner, & Crain, 2013; Straub, 2012). A supervisor with

specific support or family-supportive supervision refers to someone who demonstrates a specific supportive behaviour towards an employee's family responsibilities. Prior research have demonstrated that family-supportive supervision brings about less work-family conflict (Kossek, Pichler, Bodner, & Hammer, 2011; Lapierre & Allen, 2006; Yildirim & Aycan, 2008), increased satisfaction with job (Hammer, Kossek, Yragui, Bodner, & Hanson, 2009; Bagger & Li, 2014), diminished stress (Behson, 2005; Thompson & Prottas, 2006) and greater life satisfaction (Yucel & Minnotte, 2017; Newman, Nielsen, Smyth, & Hooke, 2014).

Finally, this study also investigated core self-evaluations as an important personality construct that influence nurses' psychological health. Core self-evaluations pertain to the assessment of one's capabilities, sense of worth, and efficiency (Judge, Bono, Erez, & Locke, 2005). It is a multi-dimensional construct that consists of different aspects of the self such as self-esteem, generalised self-efficacy, stability of one's emotions, and locus of control. The four traits of core self-evaluations are indicative of positive beliefs about the self. Specifically, individuals with high levels of core self-evaluations can efficiently cope with stressors and strains (Chang, Ferris, Johnson, Rosen, & Tan, 2012; Kammeyer-Mueller, Judge, & Scott, 2009). Initially, core self-evaluations were primarily associated with job satisfaction. Nonetheless, in recent years, core self-evaluations have been found to bring about numerous organisational outcomes, such as, work engagement (Karatepe & Demir, 2014) and career success (Stumpp, Muck, Hülsheger, Judge, & Maier, 2010). Further, several studies have also associated core self-evaluations with employee well-being (Judge, Ilies, & Zhang, 2012; Tsaousis, Nikolaou, Serdaris, & Judge, 2007).

Numerous studies have likewise reported that work-family conflict adversely impacts employees' well-being (Allen, Herst, Bruck, & Sutton, 2000; Amstad et al., 2011; Blanch & Aluja, 2012; Kalliath, Kalliath, Chan, & Thachil, 2013; Nohe, Meier, Sonntag, & Michel, 2015). Among nurses, work-family conflict has been identified as a determinant of the stress that they experience (Mauno & Rantanen, 2013) due to their demanding jobs. Moreover, a number of studies have suggested that work-family conflict significantly relates to domain-unspecific psychological health outcomes, including, psychological distress, depression, and life satisfaction among nurses (Burke & Greenglass, 1999; Sharma, Dhar, & Tyagi, 2016; Minnotte, Gravelle, & Minnotte, 2013; Hao, Wu, Liu, Li, & Wu, 2015).

Additionally, work-family conflict can potentially mediate the relationship between various resources and psychological health (Lapierre & Allen, 2006). To date, previous studies have demonstrated the contribution of work-family conflict to the link between the working environment (e.g., work demand) and individuals' psychological health (Shimazu, Bakker, Demerouti, & Peeters, 2010; Minnotte et al., 2013; Winefield, Boyd, & Winefield, 2014). However, studies focusing on positive antecedents and their relationship with nurses' psychological health through work-family conflict are scarce. Hence, schedule control, family-supportive supervision, and core self-evaluations were incorporated in the current research as the contextual and personal resources that can potentially impact nurses' psychological health through work-family conflict.

1.2   Statement of the Problem

Women's psychological health has become an important issue in the past few decades due to the changes in the workforce demographic and the blurry boundaries between work and family matters. The National Health and Morbidity Survey 2015 highlighted that there is an increasing trend in the number of women suffering from poor mental health in Malaysia (Institute for Public Health, 2015). A few empirical studies have shown that women have a higher risk of experiencing mental ill-health compared to men. Social factors, such as, work stress and family relationships, are among the circumstances that contribute to women's vulnerability to poor psychological well-being (Ng, 2014; Sidek, Arroll, Goodyear-Smith, & Ahmad, 2012).

Furthermore, working women are vulnerable to poor psychological health due to their multiple roles and responsibilities from the work and family domains. However, the problem is more alarming among nurses who work in government hospitals. Compared to other professionals, such as teachers and managers in the private sectors, nurses are facing more challenges and work-family conflict as they work in a stressful environment (Cho, Park, Jeon, Chang, & Hong, 2014). Previous studies have shown that nurses who work in the hospital are exposed to negative consequences that affect their health, such as, burnout, job dissatisfaction (Aiken et al., 2011), clinical anxiety (Mark & Smith, 2011), depressive symptoms (Letvak, Ruhm, & McCoy, 2012; Mark & Smith, 2011) and stress (Tyson & Pongruengphant, 2004).

In Malaysia, the nursing personnel has been identified as one of the professions in the healthcare industry that experience high work stress. Innumerable studies have shown that the nature of nurses' job, such as, shift working and excessive workload in Malaysia's government hospitals, contribute to psychosocial problems (Fauziah, Quek, & Agus Salim, 2006), sleep disturbance (Nazatul, Saimy, Moy, & Nabila, 2008) and a high prevalence of stress (Emilia & Ismail, 2007; Raja Lexshimi, Tahir, Santhna, & Md Nizam, 2007; Sharifah Zainiyah, Afiq, Chow, & Siti Sara, 2011).

Subsequently, the present study focused on nurses who work on shifts in Malaysia's government hospitals. Nursing is a profession that has a high proportion of workers who are females and is dominant in the healthcare sector in Malaysia. Based on the Human Resources for Health Country Profiles 2015, 97% of nurses in the government hospitals were females (Ministry of Health Malaysia, 2016a). Due to the nurses' large population, their psychological health is crucial as they are the frontliners in providing care for the patients in the healthcare services. As health care providers, nurses need to remain physically and mentally healthy in order to serve professionally with the highest standards possible. Moreover, enhancing nurses' psychological health is essential as it is in line with the objective of the Eleventh Malaysian Plan, which is, to enhance health

care personnel capacity and capabilities in improving system delivery (Economic Planning Unit, 2015).

As such, nurses' psychological health is vital for organisational effectiveness and in ensuring a high quality of patient care. Additionally, nurses with poor psychological well-being have been found to have higher rates of absenteeism (Daouk-Öyry, Anouze, Otaki, Dumit, & Osman, 2014; Davey, Cummings, Newburn-Cook, & Lo, 2009; Roelen et al., 2014), turnover (Chan, Tam, Lung, Wong, & Chau, 2013), incidence of medical errors (Suzuki et al., 2004) and lower work engagement (Kanten & Ulker, 2014).

Several studies have been conducted on nurses' psychological health in the Western and Malaysian contexts. However, most of these studies focused on nurses who experienced stress and burnout resulting from work demands only, such as, excessive workload, job demand, and poor hospital work environment. Unlike past studies, this study focused on a resource-based perspective or favourable conditions that are beneficial for nurses in enhancing their psychological health. Based on the integration of two theories and one model, namely, the ecological systems theory (Brofenbrenner, 1979), conservation of resources theory (Hobfoll, 1989), and the integrative model of work-family interface (Frone, Russel, & Cooper, 1992), this study investigated the influence of resources, namely, schedule control, family-supportive supervision, and core self-evaluations, on strengthening nurses' psychological health. In addition, the current study also looked into whether work-family conflict will mediate the association of these resources with nurses' psychological health. In the context of this study, psychological health was measured based on two indicators, namely, psychological distress and life satisfaction.

Despite that, a lot of research have examined the association between schedule control and psychological health; however, the results were mixed and inconclusive (Nijp et al., 2012; Hurtado et al., 2015). Further, based on online database searches from 2000 to 2018, no study was found which examined the association of schedule control with work-family conflict and psychological health among Malaysian nurses. Thus, this study attempted to investigate schedule control as a contextual resource to explain the psychological health of nurses who work on shifts in Malaysia's government hospitals.

Numerous studies have shown that family-supportive supervision and psychological health are significantly related (Hammer et al., 2009; Crain & Stevens, 2018). However, the association between family-supportive supervision and employees' health and well-being is still understudied (Hammer, Kossek, Anger, Bodner, & Zimmerman, 2011; Straub, 2012) as the majority of the studies have focused on work-related outcomes (Crain & Stevens, 2018). In the Malaysian context, family-supportive supervision has been examined among single mothers (Ngah, Ahmad, Hamid, & Ismail, 2010) and general employees (Md-Sidin, Sambasivan, & Ismail, 2010). Among nurses, support from the supervisor has been identified as having a positive relationship with well-being, family and job satisfaction (Rashid, Nordin, Omar & Ismail, 2011) and work engagement (Othman & Nasurdin, 2013). Nonetheless, none of these studies focused on how family-supportive supervision diminishes work-family conflict and fosters psychological health in nurses using the Family-Supportive Supervision Behaviour Scale. Hence, this study

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examined family-supportive supervision as an independent variable to explain the psychological health of Malaysian nurses in government hospitals.

Finally, limited research have explored the link between core self-evaluations and employees' health. Judge et al. (2012) have indicated that there is an inadequate empirical evidence on the association between core self-evaluations and health. One of the possible reasons for this may be that, studies on core self-evaluations have primarily been within the organisational context (Tsaousis et al., 2007). Correspondingly, research involving the relationship of core self-evaluations with work-family conflict are also scarce (Selvarajan, Singh, & Cloninger, 2016). To date, just a handful of researchers have examined whether core self-evaluations influence work-family conflict (Boyar & Mosley, 2007; Haines, Harvey, Durand, & Marchand, 2013; Selvarajan et al., 2016). Thus, this research intended to determine the association of core self-evaluations with psychological health as well as work-family conflict.

Realising that nurses' psychological health is essential in enhancing their capabilities to improve system delivery, the current study was designed to identify the determinants of mental well-being. In summary, the objective of this study was to investigate how schedule control, family-supportive supervision, core self-evaluations, and work-family conflict are associated with nurses' psychological health. This study likewise sought to identify the degree to which work-family conflict plays a mediating role in the relationship of schedule control, family-supportive supervision, and core self-evaluations with psychological health.

1.3   Research Questions

This study sought to examine whether schedule control, family-supportive supervision and core self-evaluations foster nurses' psychological health, and if such associations would be mediated by work-family conflict. In particular, this research attempted to respond to these questions:

1.   What are the nurses' levels of schedule control, family-supportive supervision, core self-evaluations, work-family conflict, and psychological health (i.e., psychological distress and life satisfaction)?
2.   To what extent do schedule control, family-supportive supervision and core self-evaluations influence the psychological health (i.e., psychological distress and life satisfaction) of nurses in Malaysia's government hospitals?
3.   To what extent does work-family conflict impact the psychological health (i.e., psychological distress and life satisfaction) of nurses in government hospitals in Malaysia?
4.   To what extent do schedule control, family-supportive supervision, and core self-evaluations affect work-family conflict among nurses in Malaysia's government hospitals?
5.   Does work-family conflict mediate the association of schedule control, family-supportive supervision, and core self-evaluations with the psychological health (i.e., psychological distress and life satisfaction) of nurses in government hospitals in Malaysia?

1.4   Theoretical Background

The ecological systems theory (Brofenbrenner, 1979), conservation of resources theory (Hobfoll, 1989), and the integrative model of work-family interface (Frone et al.,1992), provided the theoretical framework that guided this study in exploring the relationships of schedule control, family-supportive supervision and core self-evaluations to nurses' psychological health as well as the mediating impact of work-family conflict.

1.4.1   Ecological Systems Theory

In 1979, Urie Brofenbrenner developed the ecological systems theory, also known as the human ecology theory. This theory postulates that an individual's development is brought about by the ongoing interactions between the individual and his or her environment (Brofenbrenner, 1979). Specifically, this theory conceptualises the environment in the context of four levels of ecological systems that are nested within one another: the microsystem, the mesosystem, the exosystem, and the macrosystem. Brofenbrenner (1977) further elaborated that each system arises from a setting which he conceptualised as, "a place with particular physical features in which the participants engage in particular activities in particular roles for particular periods of time" (p.514).

A *microsystem* refers to the immediate environment that directly impacts individual development. For instance, the family and workplace are microsystems wherein an individual has a direct role, involvement and direct interaction with others. On the other hand, the *mesosystem* refers to the interactions among these microsystems in which the individual participates in; whereas, the *exosystem* is used to describe the domains that are indirectly linked to the individual, such as, the spouse's workplace. Moreover, the *macrosystem* refers to a larger cultural context, including shared belief systems or ideologies that influence both the mesosystem and the microsystem.
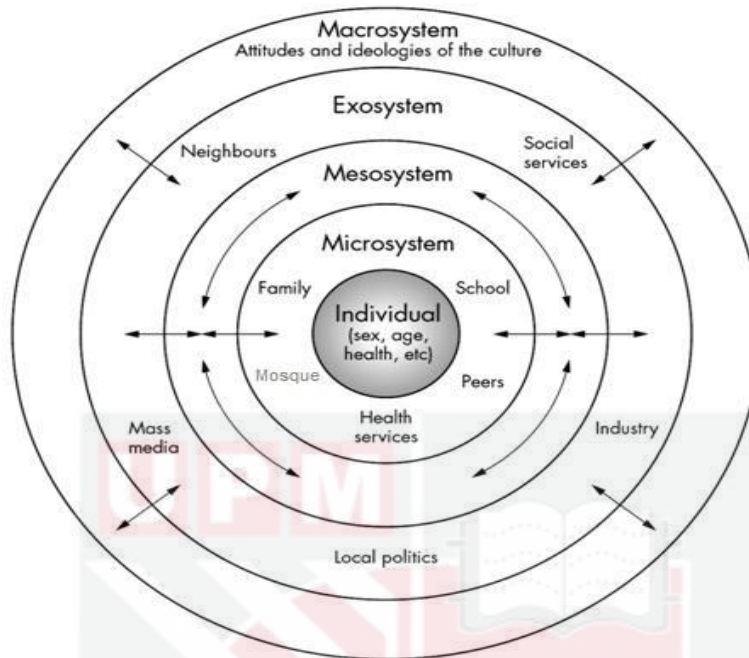
Figure 1.1: Brofenbrenner's Ecological Systems Theory

The ecological systems theory emphasises the importance of the interactions between the individual and his or her ecological context. This theory postulates that the ecological systems are nested and interconnected within one another. Further, each system has its norms, rules, and regulations that affect individual development.

As such, this theory provided a framework for understanding the interactions between the individual (i.e., psychological health and core self-evaluations) and his or her ecological context (i.e., schedule control, work-family conflict, and family-supportive supervision). Specifically, this theory enabled all research variables to be viewed at the microsystem and mesosystem levels. This is because all research variables pertained to the domains of work and family. Interactions between the microsystems, such as, the work and family domains, are at the level of the mesosystem, which has an impact on an individual's psychological health.

Moreover, some studies have shown the importance of the ecological systems theory in work-family research. Voydanoff (2008) explained that both work and family are parts of the microsystem which are interconnected at the mesosystem level. Relationships between the work and family domains in the mesosystem may be bidirectional, whereby the former can influence the latter, and vice versa. Moreover, the relationship between work and family can be positive (i.e., work-family enhancement) or negative (i.e., work-family conflict) at the mesosystem level and may have an influence on role performance

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and well-being. Also, Grzywacz and Marks (2000) used the ecological systems theory to explain how the work-family interface affects an individual's well-being.

In sum, the ecological systems theory is useful and relevant to this research as it offers a framework for better understanding how environmental systems interact and influence individual psychological health.

1.4.2 Conservation of Resources Theory

The conservation of resources theory, proposed by Steven Hobfoll in 1988, has been extensively employed in work-family research to explain human stress and well-being (Ten Brummelhuis, Oosterwaal, & Bakker, 2012). The conservation of resources theory highlights the role of resources in explaining how an individual deals with stressful life events that threaten his or her well-being.

This theory suggests that stress occurs if a person is exposed to threats involving losing resources, actually losing resources, or not being able to gain resources (Hobfoll, 1989). Thus, "individuals are motivated to obtain, retain, foster, and protect resources that they value" to reduce stress (Westman, Hobfoll, Chen, Davidson, & Laski, 2004, p.168). Based on this basic tenet, two assumptions of the theory emerged. The first principle is the *primacy of resource* loss, which suggests that a resource loss is more harmful to an individual than resource gains. The second principle of this theory is the *resource investment* which stipulates that, "people must invest in resources in order to protect against resource loss, recover from losses, and gain resources" (Hobfoll, 2011, p.4).

In this theory, resources pertain to objects (such as a house), personal characteristics (such as self-esteem, and optimism), conditions (such as physical health), energies (such as time, and knowledge), or other things that people value (Hobfoll, 1989). Resources are valued based on an individual's experiences and situations that contribute positively to his or her well-being. A resource can be categorised based on its source, namely, contextual or personal. Contextual resources are external resources usually found in the social settings of an individual, such as, a spouse or organisational support. In contrast, personal resources originate within the self, such as, dispositional or personal traits (Hobfoll, 2002; Ten Brummelhuis et al., 2012).

The first principle of the conservation of resources theory serves as an underlying framework to gain insights into how inter-role conflict can diminish nurses' psychological health. In the context of this study, time and energy were deemed valued resources for nurses. However, nurses who work on a shift basis and engage in multiple roles are vulnerable to resource loss when juggling between family and work responsibilities. This is because work-family conflict acts as a stressor that can deplete resources among nurses who work on a shift basis. Thus, resources like time and energy

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are threatened or lost when nurses experience work-family conflict. This situation can lead to nurses' psychological strain, that can further affect their well-being.

To prevent resource loss, nurses can develop and acquire resources to protect their psychological health. Consistent with the second principle of the conservation of resources theory, nurses endeavour to possess contextual as well as personal resources to anticipate inter-role conflict. In this study, schedule control and family-supportive supervision were identified as contextual resources which have the capacity to elicit conservation of resources because of the demands from work and the family. In contrast, core self-evaluations serve as a personal resource that enables nurses to develop resilience against role conflict.

Studies have demonstrated the importance of the conservation of resources theory in understanding the correlates of work-family conflict. Initially, Grandey and Cropanzano (1999) used this theory to explain work-family conflict as an interaction between resource gains and losses in the domains of work and family. The said study indicated that inter-role conflict will be created when trying to perform multiple roles, and that the more role conflicts are experienced in the workplace, the fewer resources are left in the family domain. Thus, an individual goes through stress stemming from the loss of resources, which further harms the well-being. Sharma et al. (2016) also used the conservation of resources theory to investigate how work–family conflicts leads to stress, which ultimately affects the psychological health of the nursing staff. In another study, Krisor and Rowold (2014) used the conservation of resources theory to examine the roles of organisational and personal resources as determinants of work-family conflict, and their associations with irritation in employed family caregivers.

By and large, the conservation of resources theory is important in elucidating how people react to the stress that they encounter in their environment and how it influences their well-being (Ten Brummelhuis & Bakker, 2012). In this study, nurses' psychological health depended on how they responded to work–family conflict and on how well they utilised resources. Work-family conflict may be stressful because it can affect nurses' family life as well as attention and function at work. When they have higher levels of resources, their work-family conflict can be reduced; therefore, their psychological health is enhanced. In sum, the conservation of resources theory stipulates that those having more resources have a higher likelihood of sustaining role conflict and minimising loss of resources that can trigger stress. Conversely, individuals who have less resources would suffer from resource loss and become less capable of resource gain.

1.4.3 Integrative Model of the Work-Family Interface

Basically, work-family conflict is a major stressor that could jeopardise nurses' well-being. According to Greenhaus and Beutell (1985), work-family conflict occurs when a person's involvement in a role negatively affects his or her completion of the demands of another role. The role theory conceived by Kahn et al. (1964) has always been used to explain work-family relationships (Voydonoff, 2008). However, this theory is limited

as it only explains how an individual who engages in multiple roles will experience greater role conflict and role strain.

In the past few decades, the Integrative Model of Work-Family Interface established by Frone et al. (1992) has been extensively utilised as an underlying framework for investigating the factors that influence work-family conflict, and consequently individual outcomes. Accordingly, this model emphasises work-family conflict as a potential mediating variable in the link between various antecedents and consequences. The said comprehensive model of work-family conflict consists of four major elements, namely, the main determinants of work-family conflict and well-being as the antecedents, domain-specific and general measures of well-being as the outcomes, the two directions of work-family conflict, and a large, heterogeneous sample representing employed adults.

Since then, several models on work-family conflict have been proposed. For instance, Carlson and Perrewe (1999) developed a model which explains work-family conflict as having an intermediary role in the link between work social support and work or family satisfaction. Further, Michel et al. (2009) conceived a full range model that consists of three main components, namely: (1) work and family antecedents; (2) domain-specific and general outcomes; and (3) work-family conflict as a mediating variable.

Based on the theoretical framework by Frone et al. (1992), it is proposed that work-family conflict would mediate the relationship between resources and nurses' psychological health. The proposed framework of the present study highlights work-family conflict as an important mediating variable in the relationship between resources and psychological health. The proposed framework has been supported empirically by previous studies (Boyar & Mosley, 2007; Winefield et al., 2014; Braunstein-Bercovitz, Frish-Burstein, & Benjamin, 2012). Thus, the main objective of the present study was to examine the relationship between personal and contextual resources and psychological health among nurses, through the mediation of work-family conflict.

1.4.4 Integration of Theories

Based on the theoretical background described earlier, two theories and one model were integrated to explain how contextual and personal resources were hypothesised to directly relate to work-family conflict, and ultimately nurses' psychological health. The current study was grounded on the ecological systems theory (Brofenbrenner, 1979), conservation of resources theory (Hobfoll, 1989), and the integrative model of work-family interface (Frone et al.,1992). The theoretical framework of this research is illustrated in Figure 1.2.

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┌─────────────────────────────────────────┐
│         Ecological Systems Theory         │
│          (Brofenbrenner, 1976)            │
└─────────────────────────────────────────┘
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Conservation of Resources Theory (Hobfoll, 1989)

Antecedents (Resources)
- Organizational Support
- Personal Characteristics

Work-family Conflict

Individual Outcomes
- Psychological Health

Intergrative Model of Work-Family Interface (Frone, Russel, and Cooper, 1992)
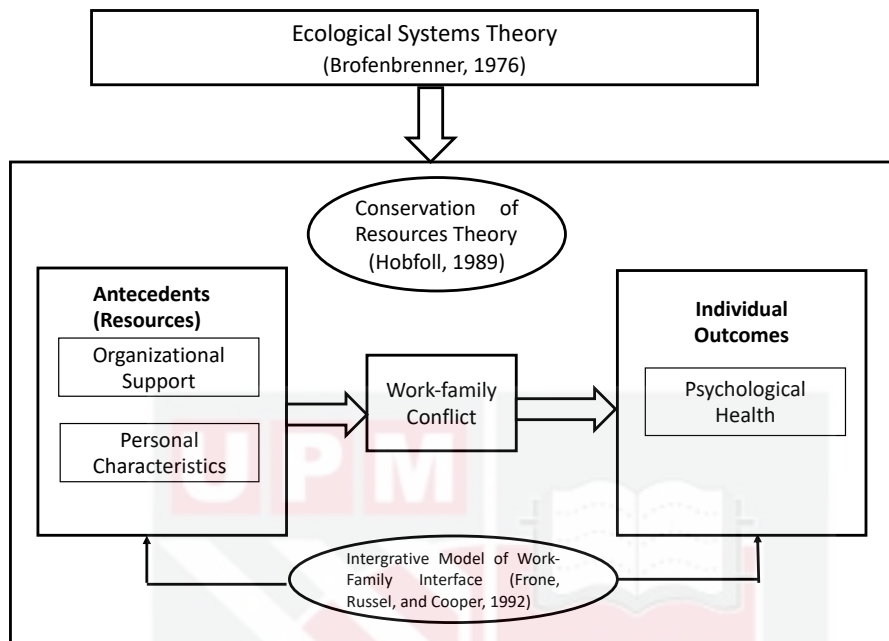
Figure 1.2: Theoretical Framework of the Study

The theoretical framework of the present study was derived from the ecological systems theory (Brofenbrenner, 1979), conservation of resources theory (Hobfoll, 1989) and the integrative model of work-family interface (Frone et al., 1992). The ecological systems theory developed by Urie Brofenbrenner provides a basic foundation on how an individual's health and development are shaped by ongoing interactions between himself and several environmental systems around him or her (Brofenbrenner, 1979). To be specific, human development is influenced by the characteristics of different contexts (i.e., environmental systems), namely, microsystem, mesosystem, exosystem, and macrosystem. Each of these environmental system has its own roles, rules, and norms that shape human development.

In the context of this study, only the microsystem and mesosystem were represented by the variables of interest. The microsystem encompasses the immediate environment within which an individual operates. In this study, work and family domains were the microsystems. The interactions and processes occurring between work and family are reflected at the level of the mesosystem, which has an impact on psychological health. To be specific, the negative effects of work and family relationships at the mesosystem levels contribute to the individual's well-being.

Within the resource perspective, individuals have limited amounts of resources to use in all aspects of work and life, as such, individuals engaging in multiple roles is likely to experience inter-role conflict, which leads to psychological strain due to ineffective allocation of resources (Grzywacz & Marks, 2000). Based on the conservation of

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resources theory, Hobfoll (1989) proposed that individuals with greater internal and external resources are less vulnerable to resource loss and are therefore likely to experience greater well-being. In the present study, inter-role conflict specifically pertained to work-family conflict, which is a chronic stressful condition that threatens valued resources and harms nurses' well-being, which in turn, leads to less satisfaction with life and psychological distress.

The conservation of resources theory was used in this study to explain how the availability of resources would help an individual to successfully manage inter-role conflict and enhance his or her psychological health. Therefore, the availability of contextual and personal resources enables individuals to efficiently deal with this conflict, thereby enhancing their psychological health. Thus, the present research sought to examine the association of contextual and personal resources (i.e., schedule control, family-supportive supervision, and core self-evaluations) with nurses' psychological health. Further, this study aimed to identify whether work-family conflict will mediate the abovementioned hypothesised associations. This is in accordance with Frone et al.'s (1992) model which emphasised the role of work-family conflict as a potential mediator in the relationship between various antecedents and consequences.

1.5 Conceptual Framework

The conceptual framework of this study was constructed from the ecological systems theory (Brofenbrenner, 1979), the conservation of resources theory (Hobfoll, 1989) and the integrative model of work-family interface (Frone et al., 1992). As illustrated in Figure 1.3, it outlines the hypothesised relationship of schedule control, family-supportive supervision, and core self-evaluations with psychological health through work-family conflict. The conceptual framework demonstrates five main research variables. The dependent variable investigated was psychological health, which pertained to psychological distress and life satisfaction. The independent variables examined were schedule control, family-supportive supervision, and core self-evaluations. Finally, work-family conflict was studied as the mediating variable. The conceptual framework of the current study is presented in Figure 1.3.

The conceptual framework of this study was based on the integration between the ecological systems theory (Brofenbrenner, 1979), the conservation of resources theory (Hobfoll, 1989) and the integrative model of work-family interface (Frone et al., 1992). The ecological systems theory emphasises that individual development is based on the interaction of the individual with his or her ecological context. As depicted in the conceptual framework, all variables were investigated within the ecological system (i.e., microsystems and mesosystem). The individual elements were represented by core self-evaluations and psychological health. Meanwhile, the ecological context was represented by schedule control, family-supportive supervision, and work-family conflict. This theory also specifically explains how the interactions between the domains of work and family in the mesosystem impact an individual's psychological health.

This study focused on nurses working on a shift basis in Malaysia's government hospitals at the time of the survey, and who were constantly exposed to a stressful and demanding environment. Nurses who are exposed to high job demands find it difficult to fulfil their family demands, and therefore will go through inter-role conflict. According to the conservation of resources theory, nurses are susceptible to resource loss due to inter-role conflict originating from the work and family domains.

Building upon the conservation of resources theory (Hobfoll, 1989) and the integrative model of work-family interface (Frone et al., 1992), the conceptual framework highlights the role of contextual and personal resources as the antecedents that influence nurses' psychological health (i.e., psychological distress and life satisfaction) and the potential capacity of work-family conflict as a mediator in the said relationship. In this research, schedule control and family-supportive supervision represented contextual resources, also known as workplace resources, that permit individuals to meet organisational expectations and family role demands more effectively. On the other hand, core self-evaluations signified personal resources which promote general individual resilience when encountering environmental demands and stressful conditions.

In this research, the contextual and personal resources were hypothesised to directly relate to work-family conflict and ultimately psychological health. Nurses who possess several resources are able to anticipate and manage inter-role conflict, which further leads to good psychological health. Personal and contextual resources can aid nurses in dealing with their demanding schedules, therefore limiting the negative effects of shift work on health and well-being (McVicar, 2003). Past studies have shown that nurses have greater psychological health and work life balance (Fenwick and Tausig, 2001; Greenhaus and Beutell, 1985) when they have greater schedule control and have managers who engage in more family-supportive behaviors (Hammer et al., 2011; Kelly et al., 2014). In addition, nurses with higher levels of core self-evaluations view themselves as having high self-worth and effectiveness and more capabilities to have control over a situation under challenging conditions.
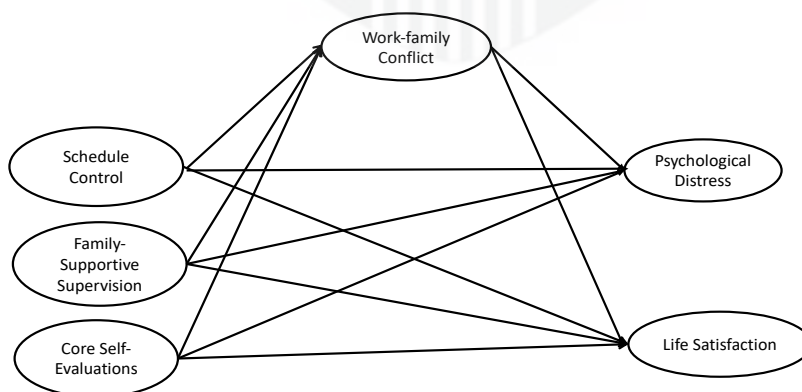
Figure 1.3: Conceptual Framework of the Study

As shown in Figure 1.3, the conceptual framework illustrates how nurses' psychological health may be influenced by their use of resources within their ecological environment. Accordingly, schedule control, family-supportive supervision, and core self-evaluations were deemed as important resources in enhancing nurses' psychological health. This framework also examined work-family conflict as a mediating factor in the respective relationship of schedule control, family-supportive supervision, and core self-evaluations with psychological health.

1.6   Objectives of the Study

1.6.1   General Objective

This study attempted to investigate the relationships between schedule control, family-supportive supervision, core self-evaluations, work-family conflict and psychological health among nurses in the government hospitals in Malaysia. The study also sought to identify the degree to which work-family conflict mediates the corresponding association of schedule control, family-supportive supervision, and core self-evaluations with psychological health.

1.6.2   Specific Objectives

This study specifically aimed to:

1. Describe the study variables, namely, schedule control, family-supportive supervision, core self-evaluations, work-family conflict, and psychological health (i.e., psychological distress and life satisfaction) of nurses in Malaysia's government hospitals.
2. To determine the relationships of schedule control, family-supportive supervision, core self-evaluations, and work-family conflict with the psychological health (i.e., psychological distress and life satisfaction) of nurses in Malaysia's government hospitals.
3. To determine the relationships of schedule control, family-supportive supervision, and core self-evaluations with work-family conflict among nurses in Malaysia's government hospitals.
4. To determine the mediating effects of work-family conflict on the relationships of schedule control, family-supportive supervision, and core self-evaluations with the psychological health (i.e., psychological distress and life satisfaction) of nurses in Malaysia's government hospitals.

1.7   Hypotheses

The following hypotheses were developed based on the research questions and objectives:

Objective 2: To determine the relationships of schedule control, family-supportive supervision, core self-evaluations, and work-family conflict with the psychological health (i.e., psychological distress and life satisfaction) of nurses in Malaysia's government hospitals.

H_1:   There is a significant negative association between schedule control and psychological distress among nurses.

H_2:   There is a significant negative association between family-supportive supervision and psychological distress among nurses.

H_3:   There is a significant negative association between core self-evaluations and psychological distress among nurses.

H_4:   There is a significant positive association between work-family conflict and psychological distress among nurses.

H_5:   There is a significant positive association between schedule control and life satisfaction among nurses.

H_6:   There is a significant positive association between family-supportive supervision and life satisfaction among nurses.

H_7:   There is a significant positive association between core self-evaluations and life satisfaction among nurses.

H_8:   There is a significant negative association between work-family conflict and life satisfaction among nurses.

Objective 3: To determine the relationships of schedule control, family-supportive supervision, and core self-evaluations with work-family conflict among nurses in Malaysia's government hospitals.

H_9:   There is a significant negative association between schedule control and work-family conflict among nurses.

H_{10}:   There is a significant negative association between family-supportive supervision and work-family conflict among nurses.

H_{11}:   There is a significant negative association between core self-evaluations and work-family conflict among nurses.

Objective 4: To determine the mediating effects of work-family conflict on the relationships of schedule control, family-supportive supervision, and core self-evaluations with the psychological health (i.e., psychological distress and life satisfaction) of nurses in Malaysia's government hospitals.

$H_{12:}$ Work-family conflict has a mediating influence on the negative association between schedule control and psychological distress among nurses.

$H_{13:}$ Work-family conflict has a mediating influence on the negative association between family-supportive supervision and psychological distress among nurses.

$H_{14:}$ Work-family conflict has a mediating influence on the negative association between core self-evaluations and psychological distress among nurses.

$H_{15:}$ Work-family conflict has a mediating influence on the positive association between schedule control and life satisfaction among nurses.

$H_{16:}$ Work-family conflict has a mediating influence on the positive association between family-supportive supervision and life satisfaction among nurses.

$H_{17:}$ Work-family conflict has a mediating influence on the positive association between core self-evaluations and life satisfaction among nurses.

1.8 Significance of the Study

The findings of the current research may significantly add to the body of knowledge about the psychological health of nurses. Academically, this research may enhance the literature on work-family dynamics in two ways. Firstly, by integrating the ecological systems theory, conservation of resources theory and the integrative model of work-family interface, this study centered around the role of resources from the domains of work and family to better understand the relation between work-family conflict and psychological health among nurses. Specifically, the present study may extend previous studies by investigating two types of resources, namely, contextual and personal resources, which can serve as protective factors for nurses' against work-family conflict and foster psychological health (Ten Brummelhuis & Bakker, 2012).

Secondly, this study supported the use of a multivariate model or a full-range model to examine the link between work-family conflict and psychological health by taking into account four main criteria, namely: (1) the predictors of work-family conflict and well-being; (2) both domain-specific and general measures of well-being as outcomes; (3) two directions of work-family conflict; and (4) a sample representing employed adults (Michel et al., 2009). To be specific, this study focused on the potential of work-family conflict in mediating the associations between various types of resources and an individual's well-being.

Apart from the theoretical implications, the findings of this research may provide practical implications for nurses, hospitals and policymakers. Since nurses make up the largest workforce in the healthcare sector, investigating their psychological health status is important for employee retention. This is because nurses with poor psychological health will increase organisational costs due increases in absenteeism, reduced productivity, violence at work and higher turnover. Thus, this study focused on favourable conditions or positive factors that influence nurses' psychological health. Informal organisational support such as schedule control and family-supportive

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supervision can be relevant strategies for promoting nurses' health and well-being, especially for those who have difficulty in managing their family and work affairs.

The empirical outcomes of the present study may likewise provide valuable input to policymakers in increasing the attractiveness of the nursing profession and reducing the shortage of nurses in government hospitals. The enhancement of nurses' psychological health will increase their capacity to improve quality services provided to patients. Such scenarios may further lead to patients' satisfaction and contribute to the formation of a positive image of government hospital nurses to the society. The outcome of this study is also in line with one of the objectives of the Eleventh Malaysian Plan, that is, to enhance healthcare personnel capacity and capabilities in improving system delivery (Economic Planning Unit, 2015).

This study may also provide useful information in terms of promoting and enhancing a conducive working environment in Malaysia's government sector. This is also aligned with the objective of the Eleventh Malaysian Plan to improve work-life balance among public sector employees, especially for women to increase their participation in the labour force (Economic Planning Unit, 2015).

1.9   Definition of Terminology

1.9.1   Schedule Control

Conceptual Definition

Schedule control is the capacity to arrange work timing and schedule (Kelly & Moen, 2007; Swanberg et al., 2011).

Operational Definition

Operationally, schedule control is the respondent's score on the 12-item Schedule Control Scale adopted and adapted from Thomas and Ganster (1995), Krausz et al. (2000) and Hurtado et al. (2015). The said scale was used to measure nurses' capacity to control their number of working days and hours, modify their shift schedules, employment arrangement (i.e., shift to non-shifts), timing of breaks, vacations, days off and where the work is done. Higher scores indicate that nurses had greater autonomy or control over their work timing and schedule.

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1.9.2 Family-Supportive Supervision

Conceptual Definition

Family-supportive supervision encompasses attitudes and behaviours demonstrated by supervisors that manifest support towards their employees' family concerns (Kossek, Odle-Dusseau, & Hammer, 2018).

Operational Definition

In this study, family-supportive supervision was measured using the 14-item Family Supportive Supervisor Behaviour Scale designed by Hammer et al. (2009). This scale consists of four dimensions, namely, emotional support, role model behaviour, creative work-family management, and instrumental support. Higher scores indicate that the respondents received greater family-supportive supervision.

1.9.3 Core Self-Evaluations

Conceptual Definition

Core self-evaluation is the primary assessment of one's self-worth, efficiency, and personal capacity (Judge et al., 2005), consisting of self-esteem, generalised self-efficacy, locus of control, and emotional stability.

Operational Definition

Core self-evaluations were operationalised as the respondent's score on the Core Self-Evaluations Scale developed by Judge et al. (2005). This instrument measured the nurses' levels of self-esteem, generalised self-efficacy, locus of control and emotional stability. Higher scores indicate higher levels of core self-evaluations.

1.9.4 Work-Family Conflict

Conceptual Definition

Work-family conflict is defined as a type of inter-role conflict wherein there is a mutually incompatible relationship between work and family pressures (Greenhaus & Beutell, 1985, p.77).

Operational Definition

Work-family conflict was operationalised in terms of the respondent's score on the Work-Family Conflict Scale created by Carlson, Kacmar, and Williams (2000). This instrument measured work-to-family conflict and family-to-work conflict as well as, time, strain, and behaviour-based conflict experienced by nurses. Higher scores suggest greater perceptions of work-family conflict.

1.9.5   Psychological Health

Conceptual Definition

Psychological health is defined as the absence of mental illness and the presence of positive feelings about one's life. It comprises two major dimensions, specifically, psychological well-being (the positive dimension) and psychological distress (the negative dimension) (Dagenais-desmarais, Forest, Girouard, & Crevier-Braud, 2014).

Operational Definition

Psychological health refers to the nurses' satisfaction in overall life (i.e., positive dimension) and their negative emotional state (i.e., negative dimension). Specifically, psychological health was measured using two indicators, namely, psychological distress and life satisfaction.

1.9.5a   Psychological Distress

Conceptual Definition

Psychological distress refers to the psychological discomfort or unpleasant emotions experienced by an individual in response to a specific stressor or demand that influence an individual's level of functioning (Ridner, 2004). It is the negative dimension of psychological health, which may indicate the beginning of mental illness in an individual.

Operational Definition

Psychological distress was assessed using the respondent's score on the General Health Questionnaire (GHQ-12) (Goldberg, 1978). This scale measured the nurses' symptoms of depression and anxiety, lack of interest in normal activities, and problems in sleeping as the indicators of psychological distress that impact their level of functioning (Schieman & Glavin, 2016). Higher scores indicate higher levels of psychological distress among nurses.

1.9.5b Life Satisfaction

Conceptual Definition

Life satisfaction is the positive dimension of psychological health that emphasises overall satisfaction in life. Specifically, it is defined as an individual's evaluation of his or her quality of life (Diener, Emmons, Larsen, & Griffin, 1985).

Operational Definition

Life satisfaction refers to the respondent's score on The Satisfaction With Life Scale (SWLS) created by Diener et al. (1985). Higher scores indicate more satisfaction with life.

1.9.6 Nurse

Conceptual Definition

An individual who has completed accredited nursing courses (diploma or degree) and is listed in the Nursing Register in Malaysia (Ministry of Health, 2016a). The main responsibility of registered nurses is to provide direct care for patients in the hospital.

Operational Definition

Female registered nurses aged 23 to 60 years, who, at the time of the survey, were working on a full-time basis and holding positions as either a Sister (Grade 32) or a Staff Nurse (Grade 29) in state hospitals under the Ministry of Health Malaysia.

1.10 Chapter Summary

This chapter began by introducing the background of the study. Then, discussions on the statement of the problem ensued, that led to the derivation of the research questions. Next, this chapter presented the theoretical and conceptual frameworks that contributed to the development of the research objectives and hypotheses. Finally, the significance of the study and the definitions of the terminologies used were described. The next chapter will review the literature related to the current study.

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