Group number: 3

THE EMPLOYEE ENGAGEMENT IN NURSING INDUSTRY: A STUDY ON HOSPITAL-BASED NURSES

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DECLARATION

We hereby declare that:

1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

3) Equal contribution has been made by each group member in completing the research project.

4) The word count of this research report is 22,825.

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DEDICATION

Dedicated to:

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Dear supervisor who is supportive and able to guide and lead us to the right path in the process of this study.

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LIST OF ABBRECIATIONS

ABS	Absorption
COR	Conservation of Resources
DED	Dedication
EE	Employee Engagement
HR	Human Resource
OCB	Organization Citizen Behavior
PJ	Procedural Justice
POS	Perceived Organizational Support
PSS	Perceived Supervisor Support
PsyCap	Psychological Capital
RR	Reward and Recognition
SAS	Statistical Analysis System
SE	Self-efficacy
SEFF	Self-efficacy
SUPPORT	Supervisor Support
TCOMP	Trait Competitiveness
VIG	Vigor
VIE	Valence, Instrumentality, and Expectancy

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PERFACE

This report was written in completion of Bachelor of Business Administration (HONS) Final Year Project (FYP) at Universiti Tunku Abdul Rahman (UTAR). This report was a research project carried out by the students to determine the factors that contribute to the employee engagement which have beneficial impacts on the business outcomes. The research project aims to study on the relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, self-efficacy and employee engagement among hospital-based nurses.

For the past few decades, researchers have been focused on the role of subjective work issues and their impact on important worker-related outcomes. However, in attempting to manage today's organization, management should not only focus on the profit but need to consider more on the employee because employee is the most valuable asset and plays an important role in the organization in order to survive in the high competitive environment.

Upon completion of this study, the relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy with the employee engagement among hospital-based nurses will be identified and established. Hopefully this study can provide the management a better understanding of the relationship of employee engagement and at the same time can assists the future academicians or practitioners to gain a better understanding of employee engagement and how it influences the employees to engage to the organization in nursing industry.

In addition, this research is also committed to any organizations which faced the same problem and aiming to offer some useful information to the management of organization in formulating effective strategies to cope with the problem and boost up its employee engagement level.

ABSTRACT

The study investigates the relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, self-efficacy and employee engagement among hospital-based nurses. The research focuses on hospital nurses both from private and public hospital in Kedah, Penang and Perak. Statistical Analysis System (SAS) version 5.1 had been used in order to run the reliability analysis, frequency analysis, explaining the correlation coefficient analysis and test of hypothesized relationships among the dependent variable and the independent variables. The results of analysis confirmed that positive correlation exists between the perceived supervisor support, perceived organization support, procedural justice, reward and recognition, self-efficacy and employee engagement. This study is believed to enhance the literature gap since not much research emphasize on employee engagement of nurses on Malaysian context.

Keyword: perceived supervisor support, perceived organization support, procedural justice, reward and recognition, self-efficacy, employee engagement, hospital-based nurses.

CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter provides an overview of the research which outlines the study based on the background of the research, problem statement, objectives of the research, research questions, hypotheses, significance, layout of the chapter and conclusion of the study. The purpose of this study is to examine the relationship among the factors that contribute to the degree of employee engagement which is vital to the business outcomes. The most commonly studied outcomes of employee engagement included the turnover intention, job satisfaction, organization commitment, and the organizational productivity and profitability. Recently, there is increasingly focused on the shortage of nurses which has become a significant issue around the world. Thus, this study will be conducted to examine the factors that contribute employee engagement among the hospital-based nurses which will have beneficial impact on the nursing industry. Generally, the study of employee engagement in nursing is gradually being concerned as a result of the increased in its importance to the well-being and healthcare service quality of a society and country.

1.1 Research Background

Nursing is a unique profession that harmoniously blended of compassion, knowledge, skill and critical thinking (Rao, 2012). Nurses are well known as dedicated

professionals who work inexhaustibly for their patients. However, nursing is career characterized by heavy workload and tend to experience significant stress and reporting high level of burnout (Rao, 2012; Laschinger, Wilk, Cho & Greco, 2009; Freeney & Tiernan, 2009; Willoughby, 2011; Maslach, Schaufeli & Leiter as cited in Wilson, 2009). According to Teoh and Noraida (2006), nearly half of the nurses in Malaysia plan to change their job within the next two years. This indicates the high turnover rate among nurses (Castle, 2011). The reasons behind are understaffed of their facilities, high stress level, compromised patient care, department overcrowding and closing of beds (Teoh et al., 2006).

Since the year 1957, healthcare in Malaysia has seen vast improvements in which from only seven health centers and now expanded to more than 4000 clinics and hospitals under the Ministry of Health (Ministry of Health, 2001). Siew, Chitpakdee & Chontawan (2011) and Mohamed and Mohamad (2012) had stated that the shortage of nursing is a major problem that has been concerned in the healthcare service throughout the world and it is the major symptom of high turnover rate in the healthcare industry. This high nurse's turnover issue can negatively impact on the organization's capacity to meet the patient's need. Bolton study (as cited in Chan, McBey, Basset, O'Donnell & Winter, 2004) apparent that nursing work has been vastly affected by management and also by the government led initiatives to deliver service to patients at low cost. Hunt study (as cited in Choong, Lau, Kuek & Lee, 2012) obvious that turnover intention will decreased quality of patient care, and caused the increased contingent staffing costs, staff costs, absenteeism rates, nurse turnover, and loss of patients.

The World Health Organization (WHO) recommend a nurse-to-patient ratio should of 1:200 however the statistic of Ministry of Health (2012) shows that Malaysian nurse–ratio is 1:410 (Intan, Nurazree & Hanafiah, 2011; Mohamed et al., 2012; Choong, Lau, Kuek & Lee, 2012). According to Willoughby (2011), nurses are the first

employees to leave their workplace and it is extremely costly to the hospital where the cost of replacing someone is approximately 150% of the employee's annual compensation. Tang and Ghani (2012) found that nursing shortage in Malaysia was clear cut through a recent report by the American Society of Registered Nurses (2007). It pointed out Malaysia needs 20,000 registered nurses in all specialization and approximately 1,000 of Malaysian nurses are leaving the nursing profession annually.

Based on the study of Rao et al. (2012), employee engagement is the central issue for 21st century professionals and specifically for nurses in the health care industry. Saks (2006) stated that employee engagement is related to employee's behaviors, attitudes and intention. Employee engagement is a notion that generally viewed as managing discretionary effort. This means that when employees are given options, they will further their interests toward an organization (Bhattacharya & Mukherjee, 2009). In the study of Schaufeli and Bakker (as cited in Bhatnagar, 2007; Mauno, Kinnunen & Ruokolainen, 2007; Laschinger, Wilk, Cho & Greco, 2009; Mender & Stander, 2011; Van Der Kleij, 2011; Karatepe, 2013) defined the engagement as "a positive, fulfilling, work-related state of mind that characterized by vigor, dedication, and absorption."

Robinson, Perryman and Hayday (2004) stated that the employee engagement is originally derived from, or contains of two concepts that have been subjected to the empirical research- Commitment and Organizational Citizenship Behavior (OCB). This employee engagement has been defined as "a positive attitude that held by employee towards the organization and its values." This means that an engaged employee is highly aware and willing to work in group with colleagues for the benefit of the organization in the business context. However, this requires a two-way relationship whereby the employer must put in effort to maintain and build up the level of engagement of its employee."

In proportion to Blessing White and Erickson; Macey and Schnieder studies (as cited in Markos & Sridevi, 2010), the engagement is concerning the passion and commitment (the willingness of the employees to spend and extend one's effort to help the employer succeed), which is beyond the fundamental loyalty to the employer or the simple satisfaction level with the employment arrangement. Bhattacharya et al. (2009) also defined the employee engagement is the level of involvement and commitment of an employee has towards their organization and also its value.

1.2 Problem Statement

Employee engagement has been defined by many researchers in many ways but there is no single definition is generally accepted (Markos & Sridevi, 2010). Kahn' study (as cited in Saks, 2006; Bhattacharya & Mukherjee, 2009; Stander & Rothmann, 2012; Bhattacharya, Dey & Saha, 2012; Andrew & Sofian, 2012) state that employee engagement is the status of being psychologically present when performing the role and responsibility in the organization. According to Men (2012), employee engagement is defined as how employees deal with themselves when performing their role in organization. Therefore, employee engagement is referring to the level of involvement and commitment of an employee has towards the organization (Andrew et al., 2012). This is further explained by Saks (2006) that employee engagement involves the behaviors, attitudes and intention (Wilson, 2009; Mendes & Stander, 2011; Men, 2012).

Rothbard (as cited in Saks, 2006) defines engagement as psychological presence but is in depth of two dimensions which are attention and absorption. In the study of Schaufeli and Bakker (as cited in Bhatnagar, 2007; Mauno et al., 2007; Laschinger et

al., 2009; Mender et al., 2011; Van Der Kleij, 2011; Karatepe, 2013) engagement is defined as "a positive, fulfilling, work-related state of mind that characterized by vigor, dedication, and absorption." It is advance stated that engagement is "a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior".

Employee engagement is employee communication's buzz word term and has recently gain high attention from both academic field and industry and it is being widely studied in different disciplines due to the positive effect on the work experience and the positive effect it brings to the organization (Saks, 2006; Simon, 2011; Park & Gursoy, 2012). Engaged employees are aware of the business context, stay focus and clear on the organizational goals and able to perform what is expected by the organization on them (Bakker & Demerouti, 2008; Simon, 2011). Retention of engaged employee is critical as highly engaged employees are the key factor for business success. This was because they are more likely to perform better compared to the disengaged employee who will cost an organization with higher cost such as low productivity, high absenteeism and intention to leave the organization (Makhbul, Rahid & Hasun, 2011; Simon, 2011; Andrew et al., 2012; Mohamed et al., 2012; Choong et al., 2012; Karatepe, 2013).

However, the reality today is that, the engagement of employee is declining due to the tendency of both organization and employee being more materialistic and there is a trend of deepening disengagement among employees nowadays (Saks, 2006; Bhattacharya et al., 2012). This leads to 'engagement gap' in the workplace and it is a drawback for the organization as disengaged employee will cost an organization more.

As what was being mentioned in the research background, nursing shortage has become a critical problem in Malaysia's health care industry. The most important

resource of an organization is employees. Organization can reduce all the costs but it does not make a much difference if ignorance of its employee's aspect occurs (Simon, 2011). Deese (2009) says that, engagement is now becoming an important issue to be studied in the area of healthcare profession. With the increase in national nursing shortage, employee engagement is very important for the retention of nurses. This is because employee engagement has a great impact on productivity of employee and retention of talented employees of the organization (Bhatnagar, 2007). High turnover rate among nurses can negatively impact the capacity of the hospitals to meet the patient's need as the quality of nursing care received by patients will decrease (Omar, Anuar, Majid & Johari, 2012; Choong et al., 2012). In order to deal with nurses' turnover rate, most of the health care institute focus in increasing the recruitment and retain their nurses to maintain adequate staffing (Siew et al., 2011). However, the causes of this problem can be identified by studying the relationship between employee engagement and retention of employee.

In Malaysia, there are 79700 numbers of nursing personnel which makes up 75% of the total healthcare workforce. However, the turnover rate of nurses had increased more than 50% from the year 2005 to the year 2010 with the number of 400 to 1049 nurses leaving their present workplace in Malaysia. In addition, there are currently about 25000 Malaysian nurses who are working in the overseas country such as Middle East where the number of migration is at an attribution rate of 400 per year (Amree, n.d.). Based on the situation, Malaysia is forecast will face a shortage of nurses in future. Nevertheless, Malaysia is still facing a deficit of 7000 nurses per year and it is estimated that a total of 70000 nurses will be required by the year 2020 (Siew et al., 2011; Mohamed et al., 2012). According to Tang and Ghani (2012), 20000 registered nurses in all specialization are needed by Malaysian and there is approximately 1000 Malaysian nurses leaving the industry annually.

High turnover rate among nurses is expected due to the nature of the job (Mauno, Kinnunen & Ruokolainen, 2007). The understanding of nurse engagement is still inadequate because there are only a few numbers of academic researches in nursing engagement especially in Malaysia. Research in this area should be done in depth, so that nurse leaders can be better informed about the impact of engagement on outcomes for the institute (Simpson, 2008; Freeney et al., 2009). Therefore, this study is undertaken in order to gain an in-depth understanding of employee engagement among nurses in Malaysia.

1.3 Research Objectives

1.3.1 General Objective

To identify the relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy as factors that will influence the employee engagement in nursing industry.

1.3.2 Specific Objectives

- To determine whether there is a significant relationship between perceived supervisor support and employee engagement in nursing industry.

- To determine whether there is a significant relationship between perceived organization support and employee engagement in nursing industry.

- To determine whether there is a significant relationship between procedural justice and employee engagement in nursing industry.

- To determine whether there is a significant relationship between reward and recognition and employee engagement in nursing industry.

- To determine whether there is a significant relationship between self-efficacy and employee engagement in nursing industry.

- To determine whether there is a significant relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, self-efficacy and employee engagement in nursing industry.

1.4 Research Questions

Based on the research objectives, we have identified several research questions as below:

1. Does perceived supervisor support influences employee engagement in nursing industry?

2. Does perceived organization support influences employee engagement in nursing industry?

3. Does procedural justice influences employee engagement in nursing industry?

4. Does reward and recognition influences employee engagement in nursing industry?

5. Does self-efficacy influences employee engagement in nursing industry?

6. Does perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy influences employee engagement in nursing industry?

1.5 Hypotheses of the Study

Hypothesis 1

$H1_0$: There is no significant relationship between perceived supervisor support and employee engagement in nursing industry.

$H1_1$: There is a significant relationship between perceived supervisor support and employee engagement in nursing industry.

Hypothesis 2

$H2_0$: There is no significant relationship between perceived organization support and employee engagement in nursing industry.

$H2_1$: There is a significant relationship between perceived organization support and employee engagement in nursing industry.

Hypothesis 3

$H3_0$: There is no significant relationship between procedural justice and employee engagement in nursing industry.

$H3_1$: There is a significant relationship between procedural justice and employee engagement in nursing industry.

Hypothesis 4

$H4_0$: There is no significant relationship between reward and recognition and employee engagement in nursing industry.

$H4_1$: There is a significant relationship between reward and recognition and employee engagement in nursing industry.

Hypothesis 5

$H5_0$: There is no significant relationship between self-efficacy and employee engagement in nursing industry.

$H5_1$: There is a significant relationship between self-efficacy and employee engagement in nursing industry.

Hypothesis 6

$H6_0$: The five independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) are no significant explain the variance in employee engagement in nursing industry.

$H6_1$: The five independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) are significant explain the variance in employee engagement in nursing industry.

1.6 Significance of the Study

The purpose of this research is to examine the employee engagement in nursing industry. This study is beneficial to several parties which are organization, industry, researcher and individual.

1.6.1 Organization Perspective

Nowadays, most of the organization is trying to retain their employees. Hospital administration recently have become increasingly focused on retaining competent nurse staffs as to maintain the quality of healthcare services (Chan, McBey, Basset, O'Donnell & Winter, 2004). According to Mitchell study as cited in Adi (2012), high performance and retention is important to organization because without concerning these two elements, it is definitely difficult to survive in the globalization era. Thus, the results of this study will provide insight and information for leaders regard how critical is the employee engagement impact on employee productivity and talent retention in nursing industry as now nursing profession is experiencing shortages (Spence Laschinger, Wilk, Cho & Greco, 2009).

1.6.2 Nursing Perspective

According to previous studies, nurses contribute to the health and well-being of the society in a country. Consequently, a nurse plays an important role in organization competence in which their attitudes and behaviors toward a patient would have significant impact on the patient's perceived service quality and satisfaction. This support by the broaden-and-build theory that positive emotions help individuals bring positive outcomes and it shows that higher levels of engagement is because of frequent positive emotions (Gillet, Fouquereau, Bonnaud-Antignac, Mokounkolo & Colombat, 2013). For that reason, a comprehensive understanding of the factors that contribute to the degree of engagement in the nursing industry will positively impact on the healthcare institutes' performance and success. In nursing, by understanding the factors that contribute to the positive attitudes and job performance is crucial as it directly influences the quality and safety of the healthcare services and most importantly, the health of the patient.

1.6.3 Researcher Perspective

It is important to know the ways of retaining nurses and now it is gradually gaining importance among the practitioners and consultants around the world. They may benefit from the feedback of this study and could implement relevant strategies for particular industry's retention plans to guarantee their organizational survival. This study will be helpful to the academy researchers in a way to find out more with clearer definition and dimensions that will be used for measuring employee engagement and vindicating importance concept

(Markos et al., 2020). Rivera, Fitzpatrick and Boyle (2011) stated that with a higher employee engagement, it actually helps organization to enjoy benefits including better employee retention, improved customer satisfaction, and overall business success. Therefore, this study may provide the worthiness for future research in which the elements that identified may help researchers to investigate more details about engagement and its positive consequences. Researchers who their research interest is in the field of employee engagement may find the information that we have found would contribute to the knowledge base about employee engagement. Moreover, further research is needed in order to identify the levels of employee engagement in order to describe the benefits of engagement and the factors that affecting it.

1.6.4 Individual Perspective

The leaders may also benefit by understanding more in employee engagement and thus reducing the risk of nurse burnout and turnover, where nurses are working in a job which they can fully engage. In Kahn studies as cited in Saks (2006) said that the engagement leads to both individual outcomes (quality and experiences of one's work) and organizational outcomes (growth and productivity of organizations). Therefore, an engaged employee is willing to put extra efforts and commitment in their work in the form of time, brainpower and energy with the desire of doing the best job. This eventually will reduce the chances of the employee to jump ship to another healthcare institutes. When the turnover rate is low, the cost to recruit and train the new employees can be saved. With the increased in understanding towards the employee's needs, this is actually helping the organization to boost its image in attracting and retaining employee (Kanten & Sadullah, 2012). According to

Kanten and Sadullah (2012), work engagement has positive impact in dedication to an organization and will increase the work task performance, initiative and innovative behavior.

1.7 Chapter Layout

This study will consist of five chapters.

Chapter 1: Introduction

Chapter one is the introductory chapter where research background will be outline detailed and research problem will be discussed. In addition, research objectives will be accomplished, research questions will be determined, hypotheses to be tested as well as the importance and contribution of this research.

Chapter 2: Literature Review

Chapter two focuses on the literature review that has been studied previously. Relevant literature will be reviewed and expressed clearly and understandably. We would then propose our own theoretical or conceptual framework in this chapter.

Besides, hypotheses development will be formulated and conclusion to conclude the overall of the literature review.

Chapter 3: Research Methodology

Chapter three describes the overview of the research methodology which includes research design, data collection methods, sampling design, research instrument, constructs measurement, data processing and data analysis that will be applied in the research.

Chapter 4: Research Results

The analysis of the results which are relevant to the research questions and hypotheses in chapter four will be presented through descriptive analysis, scale measurement and inferential analysis.

Chapter 5: Discussion and Conclusion

Eventually, constructive discussions and conclusion will be demonstrated in chapter five. It covers the summary of statistical analysis, discussion of major findings, implications of the study, the potential limitations of the study as well as

recommendations for the future research. In this chapter, we will make an overall summary for each of the research questions and research objectives.

1.8 Conclusion

Conclusively, the purpose of this study is to figure out the factors that are contributed to the employee engagement in nursing industry. This however will be conducted in the next chapter. Chapter 2 will be the literature review that builds a theoretical foundation for the research by reviewing relevant journals and articles to determine research issue.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

In Chapter 2, the literature review of the study will be covered. Literature review is the secondary source of data obtained after the review of available work such as thesis, journals, research paper and so on.

This chapter consists of five sections. Section 2.1 is the review of research done previously by researchers. Section 2.2 reviews the relevant theoretical model. Section 2.3 is about the proposed conceptual/ theoretical framework of this study and section 2.4 shows the hypothesis development. The last section, section 2.5 concludes the whole chapter 2.

2.1 Review of the Literature

2.1.1 Dependent Variable:

Employee Engagement

The concept of employee engagement is vast. In recent, managers' keep eye on how to keep employees engaged in their work as they realized that by

focusing on employee engagement, it is able to generate addition efficient and dynamic workforce (Markos & Sridevi, 2010). Employee engagement is a theory which being viewed as directing discretionary effort in general, which is when employees have choices they will act in a way that furthers their organization's interest. Thus, employee engagement is the extent of participation and commitment which employees posses toward their organization and its principles (Bhattacharya & Mukherjee, 2009). Simon (n.d.) stated that when employees gain positive interpersonal support, personal meaning, and work in an efficient working environment as well as attain motivation in work, they will feel a sense of engagement.. This can also justified by Social exchange theory (SET) where SET provides useful guideline to explain the relationship- i.e. employee who received economic and socio-emotional resources from the organization will be likely to pay back the organization with higher work performance and work engagement in return (Karatepe, 2013).

According to the studies of Kahn (as cited in Simon, n.d.), engagement was conceptualized as the connection of the organizational employees to their job responsibilities. This is further explained by May, Gilson and Harter study (as cited in Stander & Rothmann, 2010) that meaningfulness, safety and availability predicts employee engagement. Engaged employees are alert and understand well on the business circumstances, then cooperate and work out with their colleagues to enhance job performance for the benefits of the organization and they will constantly perform beyond expectation. In order to do so, the employer should create higher motivation for the commitment of their employees toward the organization (Bhattacharya et al., 2009). Engaged employees are entirely committed, and enthusiastic about their jobs (Falcone studies as cited in Bhatnagar, 2007).

Bakker and Demerouti and Othman and Nasurdin (2011) stated that, engaged employees often: (1) have better health; (2) feel positive emotions, including enthusiasm, happiness, and joy; (3) pass on their engagement to others; (4) build their own career and individual resources; and (5) attain better job performance. Results indicated that engaged employees are adapt to fulfill the demands they encounter in a broad array of context. This consistent with Bakker studies (as cited in Bakker & Demerouti, 2008) which also explained that engaged employees are operating efficiently and effectively in addition keen to go to further mile. Luthans and Peterson studies (as cited in Bhatnagar, 2007) and Markos et al. (2010), stated that Gallup has defined the employee engagement as a major predictor of positive results such as profitability , productivity , employees retention and customer satisfaction. Recently studies also showed that engagement is positively related to customer satisfaction (Salanova, Agut & Peiro study as cited in Xanthopoulou et al., 2009), in-role performance (Schaufeli, Taris & Bakker studies as cited in Xanthopoulou et al., 2009), and monetary returns (Xanthopoulou et al., 2009).

Vance (as cited in Markos & Sridevi, 2010) define employee engagement as the results of individual qualities (personality, skills, abilities, attitudes, knowledge and temperament), and organizational perspectives (HR practices , physical and goal setting as well as leadership) which impact precisely on the process, person, and context elements of job performance and research found that, there are positive relationship between the employee engagement and organizational performance outcomes such as profitability, productivity, customer safety, employee retention, and loyalty (Markos et al., 2010). In overall, engagement gains can serves as important predictors of organizational successfulness in long term period as employee engagement is closely linked with organizational outcomes in which an organization with engaged employees maintain higher employee retention as a result in reduced intention

to leave and lowered employee turnover rate, boosted up growth, customer satisfaction, productivity, and profitability (Markos et al., 2010; Simon, n.d.).

There is a significant impact on talent retention and productivity shown by implementing employee engagement (Bhatnagar, 2007). Martel (as cited in Bhatnagar, 2007) further explained that "engaging employees- particularly by providing them participation, freedom, and trust is the most comprehensive response to the ascendant postindustrial values of self-realization and self-actualization. Joo and Mclean studies (as cited in Bhatnagar, 2007), further explained that engaged employees are strong and strategic assets for sustained competitive advantage. These engaged employees are difficult to be imitated by other organization and are unique to the organization respectively (Bhatnagar et al., 2007). In addition, excellent performance, job satisfaction, organizational commitment and lower turnover intentions are the positive organizational outcomes lead by employee engagement (Karatepe & Olugbade, 2009).

The studies of Macey and Schneider; May, Gilson and Harter (as cited in Xanthopoulou et al., 2009) explained that, those who are enthusiastic, highly energetic, and often completely immersed on their jobs are engaged employees who feel the time flies when working. This is consistent with Markos et al. (2010) finding as employees are more willing and desire to work for the organization where they find means and values at job. Table 2.1 depicts some of the definition of employee engagement.

Table 2.1: Definition of Employee Engagement

Rafferty (2005)	Employee engagement emanated from two concepts- Commitment and Organizational Citizen Behavior (OCB) which have been recognized and been the subject of empirical research.
Perrin's Global Workforce Study (2003)	Employee willingness and ability to help their company succeed by providing discretionary effort on a sustainable basis. Engagement is affected by many factors which involve both emotional and rational factors relating to work and the overall work experiences.
Gallup	The involvement and enthusiasm for work. Employee engagement is the positive employee's emotional attachment and employee commitment towards the organization.
Robinson, Perryman and Hayday (2004)	"A positive attitude held by the employee towards the organization and its value". An engaged employee is aware of business context, and work with colleagues to improve performance within the job for the benefits of the organization.

Erickson (2005) BlessingWhite (2008) Macey & Schnieder (2008)	Engagement is about passion and commitment- the willingness to invest oneself and expand one's discretionary effort to help the employer succeed, which is beyond simple satisfaction with the employment arrangement or basic loyalty to the employer.

Source: Kompaso, S. M., & Sridevi, M. S. (2010). Employee engagement: The key to improving performance. *International Journal of Business and Management*,*5*(12), p89.

Schaufeli study (as cited in Bhatnagar, 2007; Bakker & Demerouti, 2008; Karatepe & Olugbade, 2009; Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009; Othman & Nasurdin, 2011) implied engagement "as a positive, fulfilling, job-associated emotional state that is characterized by vigor, dedication, and absorption. The studies of Bakker and Schaufeli (as cited in Karatepe & Olugbade, 2009) explained that it is critical in realizing the positive characteristics of works in which organizations want people to feel vigor, dedicated, and are absorbed by their jobs. In other words, engagement is a work-related state of fulfillment and affective-motivational on employees that is characterized by vigor, dedication and absorption. According to Law, Dollard, Tuckey and Dormann (2011), engagement especially shows how employees face their work. Employees may be able to encounter their work as meaningful (dedication), motivating (absorption), and something to which they wish to put effort (vigor).

Based on the research we had done, three dimension of employee engagement can be listed out: (1) vigor, (2) dedication and (3) absorption.

Vigor

Acorrding to Kahn study (as cited in Stander & Rothmann, 2010), vigor is a physical dimension. In Schaufeli study (as cited in Bakker & Demerouti, 2008; Heather et al., 2009; Karatepe & Olugbade, 2009; Nahrgang et al., 2010; Stander & Rothmann, 2010; Othman & Nasurdin, 2011; Van Der Kleij, 2011; Gillet et al., 2012; Park & Gursoy, 2012), vigor is defined as "the willingness to devote efforts in one's work, a high level of mental resilience and energy while working, and persistence even when facing difficulties". In other words, vigor is referring to a state in which people having a high level of energy and strong work ethic, willing to put efforts in one's work, and capable to persevere when deal with challenging tasks. In 2006, Mauno, Kinnunen and Ruokolainen proposed that an employee who is highly motivated by his or her job and most likely to preserve when facing difficulties or hassles at work, feels a great sense of vigor Mauno et al. (2006) also take the dimension of vigor into account as a motivational concept in consistent with Atkinson's study (as cited in Mauno et al., 2006) stating that: "Motivation is the contemporary or instantaneous effect on vigor, direction, and persistence of action".

Dedication

According to Kahn study (as cited in Stander & Rothmann, 2010), dedication is an emotional dimension. Bhatnagar et al. (2007) explained that emotionally engaged is refer as to shape meaningful connection with others (friends and colleagues) and to obtain or offer empathy and concern from or to them. In Schaufeli study (as cited in Bakker & Demerouti, 2008; Heather et al., 2009; Karatepe & Olugbade, 2009; Nahrgang et al., 2010; Stander & Rothmann, 2010; Othman & Nasurdin, 2011; Van Der Kleij, 2011; Gillet et al., 2012; Park & Gursoy, 2012),dedication refer to "a sense of pride, significance, challenge, enthusiasm and inspiration". Dedication, in another word, refers to being strongly committed in one's work and experiencing a sense of enthusiasm, challenge and significance, individuals who feel dedication also perceive their work to be critical and they express problems as challenges rather than strains. According to Mauno et al. (2007), dedication shares similarity with a more conventional concept- job involvement/ commitment which defined as the level of an employee psychologically link his job and the performance of the job. Mauno et al. also indicate that there are no actual differences between dedication and job involvement as both of them are rather stable phenomena.

Absorption

According to Kahn study (as cited in Stander & Rothmann, 2010), absorption is a cognitive dimension. Cognitively engaged stand for those who are intensely aware of their mission and responsibility in their work environment (Luthans & Peterson study as cited in Bhatnagar, 2007). In Schaufeli study (as

cited in Bakker & Demerouti, 2008; Heather et al., 2009; Karatepe & Olugbade, 2009; Nahrgang et al., 2010; Stander & Rothmann, 2010; Othman & Nasurdin, 2011; Van Der Kleij, 2011; Gillet et al., 2012; Park & Gursoy, 2012), absorption refers to "being fully concentrated and intensely engrossed in one's work, in which time elapse rapidly and one has difficulties when detaching oneself from work". Schaufeli further explained that absorption is characterized by being concentrated thoroughly and deeply immersed in one's work, in which time passes speedily and one has difficulties while separating oneself from work. Mauno et al. (2007) refers absorption to total concentration on the job given. In other words, absorption is the state of mind where people fully concentrate and involving themselves in an activity purely for the sake of doing it even it is at a great cost and nothing else seems to be a matter for them.

2.1.2 1st Independent Variable:

Perceived Supervisor Support

According to Eisenberger et al. (2002), perceived supervisor support defines as to assess employees' perception that their supervisor valued their contribution and cared about their well-being. Kotte and Sharafinski study (as cited in Pazy & Ganzach, 2006) defined perceived supervisor support as the belief that employees adopt concerning the degree to which supervisor values their effort and care about their well-being. Eisenberger, Stinglhamber, Vandenberghe, Sucharski, and Rhoades research (as cited in Cole, Bruch & Vogel, 2006) have defined perceived supervisor support as the degree to which employees form general impressions that their superiors appreciate

their contributions, are supportive and care about their subordinates' well-being.

Supervisor support is defined as the employees' perceived social support from supervisors, including instrumental and emotional support (Law et al., 2011). Social support from supervisors is a component of job resource that consistently showed in the result of several researches that has conducted and it was positively related with work engagement (Bakker & Demerouti; Schaufeli & Salanova, as cited in Bakker & Demerouti, 2008). According to the Bakker and Demerouti (as cited in Xanthopoulou et al., 2009) verify that those employees who experience autonomy at work, have supportive colleagues, receive proper coaching and high-quality feedback, and have opportunities for professional development have the instrumental means and are intrinsically motivated to achieve their work goals. The motivational potential of job resources can generate the upshot of high work engagement and increased work performance extrinsically and intrinsically (Law et al., 2011).

Perceived supervisor support has been found to be related to employee withdrawal behaviors such as absenteeism and turnover (Eisenberger et al., 2002). The research also said that a supervisor's role is very important in the organization because it may enhance fulfillment of socio-emotional needs of the employees. Employees who believed that the supervisor valued their contributions and cared will tend to decrease the turnover (Eisenberger et al, 2002). Shanock and Eisenberger (2006) said that perceived supervisor support will be positively related to subordinates' in-role and extra-role performance.

The direct effects of leadership, using a clear measure of engagement given the wealth of proof that good leadership is positively related to follower attitude and behavior concepts that overlap with engagement. In addition, psychological safety proposes the most potential for leadership to influence engagement especially leadership that provides a supportive, trusting environment allows employees to fully invest their energies into their work roles (Xu & Thomas, 2010).

According to McShane and Von Glinow study (as cited in Choong et al, 2012) reveal that leadership style can be described as the process of leader ability to influence, motive and enable others in an organizational culture in order to assure the effectiveness of the organizations of which they are members. Transactional leadership style is the leader that achieving current objective more efficiency as they focus on day to day operation. The transactional leaders are more active and utilize their transactions on an exchange of rewards and benefits to employee's job performance and achievement. They also will assure employees have necessary resources to finish their daily task and reaching their target setting. However, transactional leadership fails to capitalize on discretionary effort that comes from engaging an employee fully even though the transactional leadership can be both an active and effective form of leadership (Marquard, 2010).

Aside from these, transformational leadership style is a leader that includes consideration intellectual stimulation and changing the organization to fit the environment. The transformational leader can be recognized as change agent of the company. They have the ability to change the employees' attitudes, behaviors and values by showing favorable, influential and supportive interactions (McShane & Von Glinow study as cited in Choong et al, 2012). Based on the past study has demonstrated that transformational leadership is

positively related with follower commitment (Lee study as cited in Xu & Thomas, 2010), job satisfaction (Judge & Piccolo study as cited in Xu & Thomas, 2010), and work motivation (Judge & Piccolo study as cited in Xu & Thomas, 2010), and leader-member exchange is positively related with organizational citizenship behaviors (Ilies et al. study as cited in Xu & Thomas, 2010). Furthermore, distributed leadership is group dynamics formed by inclusive management practices where leader are not always above followers but frequently work together. Result of the Tower Perrin (as cited in Marquard, 2010) in employee engagement survey proved that concepts of distributed leadership are not yet main stream.

2.1.3 2nd Independent Variable:

Perceived Organization Support

According to Aselage and Eisenberger; Rhoades and Eisenberger; Eisenberger, Armeli, Rexwinkel, Lynch and Rhoades; Rhoades, Eisenberger and Armeli; Shore and Shore research (as cited in Shanock & Eisenberger, 2006), organizational support theory considers the development, nature, and results of perceived organizational support. Eisenberger, Huntington, Hutchison, and Sowa; Shore and Shore; Eisenberger, Cummings, Armeli and Lynch (as cited in Lin & Chen, 2004; Rhoades & Eisenberger, 2002; Eisenberger, Stinglhamber, Vandenberghe, Sucharski & Rhoades, 2002; Rhoades et al, 2001) indicated that employee perceptions of organization support are related to their beliefs regarding the extent to which organizations value their contributions and care about their not so important components, thus increasing their attachment to the organization and the expectation that greater effort to achieve organizational goals will be awarded. Based on Shore and

Wayne study (as cited in Loi, Ngo & Foley, 2006), perceived organizational support is enhanced by the positive and discretionary treatment by the organization which gets the employees' perception of the organization's commitment to them. According to Eisenberger et al. research (as cited in Shanock & Eisenberger, 2006), based on the theory in organization support, perceived organization support helps organization to achieve its goal in which including extra-role behaviors like helping other employees.

Perceived organization support (POS) focuses on the exchange relationship between the employee and the organization and this can be said that the employer's commitment to the employee. It is picturing in one's mind that employees' general perception of the level to where organization values their contribution and cares about their well-being (Wayne, Shore, Bommer & Tetrick, 2002; Gyekye & Salminen, 2007). According to Eisenberger, Fasolo and Davis-LaMastro; Settoon, Bennett and Liden; Wayne et al. studies (as cited in Loi et al., 2006), POS is related to variety of important outcomes such as organizational commitment. Pazy and Ganzach (2006); Makanjee, Hartzer and Uys (2006) indicated that POS is related to job satisfaction, to positive mood, to attitudinal and behavioral indicators of commitment such as reduced of turnover, absenteeism and withdrawal.

Other than that, social organizational values, norms, beliefs, practices and structures also should be considered in the workplace (Gyekye & Salminen, 2007). POS is also valued as the aid to help the organization to deal with stressful situations and it is definitely important to help to carry out one's job effectively in such condition (Rhoades & Eisenberger, 2002; Makanjee et al., 2006). Pazy and Ganzach (2006) also said that the POS refers to the significant social exchange in employment relationships. Masterson's (2001) analysis of social exchange in organizations focus on the ability of employees

to repay favorable treatment they received (as cited in Shanock & Eisenberger, 2006). It is to be said that in order to meet socio-emotional needs to determine the organization's readiness to reward, employees develop POS based on the organizational support theory as mention above (Shanock & Eisenberger, 2006).

Pazy and Eisenberger (2006); Loi et al. (2006) said that high POS is expected to have positive attitude and behavior from the employees and these outcomes are benefiting the organization. Bell and Menguc (2002) indicated that the employees in service industry with high POS were rates as more courteous, attentive, and concerned more on the customers' interest compare with the employees with low POS (as cited in Shanock & Eisenberger, 2006). According to Gyekye and Salminen (2007), employees with support from organization will come with loyalty, efficiency and increased productivity. They actually have greater involvement and stronger feelings of allegiance and faithfulness towards the organization. However, POS also is highly relevant to the fixed pay contexts in term on performance. When compensation is not contingent on performance, employees are not receiving more pay although their performance is very good but improved performance can definitely be a return for concern and support (Pazy & Eisenberger, 2006).

2.1.4 3rd Independent Variable:

Procedural Justice

Justice or also known as fair treatment is always center of attention among people. People have strong reaction to situations that they perceived as fair or

unfair (van Prooijen, De Cremer, van Beest, Stahl, Dijke & Van Lange, 2008). When people perceived they are being treated fairly, they tend to be more appreciating and have greater satisfaction with their social relationship (Clay-Warner, Hegtvedt & Roman, 2005; van Prooijen et al., 2008) but if they believe they are being treated unfairly, negative emotions such as anger, fear will be shown (van Prooijen et al., 2008).

Procedural justice has been defined by Greenberg (as cited in Naumann & Bennett, 2002) as the perceived fairness of the procedures in making a decision. ElAkremi, Vandenberghe and Camerman (2010) stated that procedural justice refers to how employee judges the procedure that led to the fairly made decision and procedural justice is mainly conceptualized at individual level (Naumann et al., 2002). Leonardelli and Toh (2011) further discuss procedural justice as the fair treatment given to each and every individual especially in terms of authority as authority increases recognition and gaining respect within the group. Konovsky (2000) and Clay-Warner et al. (2005) demonstrates that employee behavior and work attitude, including job satisfaction and the level of engagement of employee is predictable by procedural justices. Tyler study (as cited in Konovsky, 2000) stated that procedural justice can affect the emotion of an individual towards positive or negative based on the fairness of the outcome and thus lead to the consequences such as positive or negative employee behavior and attitude.

Lind, Kanfer and Earley (as cited in Konovsky, 2000) proposed that voice has significant impact on the valuing of fairness of procedural justice even when the voice does not related to the decision making and control process. Voice opportunity increases the satisfaction level, view the social relationship of the group as positive, increase willingness to accept the decision made and improve their performance and sense of engagement with the organization and

authorities (van Prooijen et al., 2008). Leonardelli and Toh (2011) also suggest the authorities to communicate and allows group member to voice out their opinion so that they will perceived the authorities as fair. Tyler and Blader (2003) stated in their research that previous researchers proposed that people evaluate procedural justice (voice or process control) based on decisions making that will affect their interest. However, voice is no longer the only factor to consider when looking into procedural justice. More attention should be put on the interpersonal aspect such as team interaction, market exchange and bargaining (Tyler & Blader, 2003).

Tyler and Blader (2003) and Blader and Tyler (2008) proposed that procedural justice has linkage with the group engagement model as the engagement of people is highly related with one's emotion. In 2003, Tyler and Blader proposed that the key objective of group engagement model is to understanding the factors that shapes and bond the relationship among group members, this can be done by study the attitudes, behavior and values of the members and these are highly influence by the judgment about the fairness of procedure and decision made by authorities. The framework is further discussed by Blader and Tyler (2008) that the employee's evaluation on the outcomes and decision making process as well as the quality of treatment received from group members has a strong influence on the employee's behavior. Procedural justice is important in this context because it plays an important role in determining whether an employee will link their social identity with the organization (Blader & Tyler, 2008). Procedural justice can increase the members' identification and commitment within the group as it creates identity secure and respect (Leonardelli & Toh, 2011) and people will feel stronger bonding in within the group (Clay-Warner et al., 2005).

2.1.5 4th Independent Variable:

Reward and Recognition

Among economical, human resources and financial aspects, human resources which have highly motivated employees are more crucial and serve as competitive advantage for a company as they can lead company to meet its goals due to their well performance. Therefore, according to Lawler (2003), the survival and prosperity of the organization is determined through the way how human resources are being treated (Ali & Ahmed, 2009; Danish, 2010).

Kerr (2005) define rewards as any tangible present which employees receive from organization as an award of their contribution on the organization. While Bhattacharya and Mukherjee (2009) define rewards as simply something which the individual who presents it deems to be desirable. Rewards can be formal, informal or designed for a particular achievement. Besides, recognition has been defined by Kerr (2005) as an acknowledgment to the public about an employees' contribution to the organization.

Rewards can be characterized as intrinsic and extrinsic. Intrinsic rewards are internal to the individual such as accomplishment or satisfaction. Whereas, extrinsic rewards are external to the individual such as promotion, praise and increase in pay (Bhattacharya & Mukherjee, 2009; Salie & Schlechter, 2012). Therefore, according to Bhattacharya and Mukherjee (2009), reward can act as the 'catalyst' for performance improvement and higher productivity due to a greater proportion of 'engaged' employees.

Reward and recognition are important to employee engagement as they enhance motivation, morale and satisfaction in a research from Mone and London (2009). Brun and Dugas (2008) research shows that there is a positive relationship between recognition with the contribution of company success and employee performance (Ali & Ahmed, 2009; Danish, 2010; Mone, Eisinger, Guggenheim, Price, & Stine, 2011).

Maslach and Leiter's study (as cited in Willoughby, 2011) suggest that reward and recognition are postulated to be crucial facilitators for engagement. Individual's vulnerability to burnout caused from inadequate in reward (whether institutional, financial, or social) (Chappell & Novak, 1992; Maslanka, 1996; Siefert, Jayaratne & Chess, 1991). Lack of recognition from managers, service recipients, external stakeholders and colleagues devalues employees and is closely associated with feeling of inefficacy (Cordes & Dougherty, 1993; Maslach et al., 1996).

2.1.6 5th Independent Variable:

Self-efficacy

According to Wood and Bandura studies (as cited in Karatepe & Olugbade, 2009), self-efficacy is defined as "people's beliefs in their capabilities to mobilize the motivation, cognitive resources, and courses of action needed to exercise the control over events in their lives". Consistently with Bandura studies as cited in Deese (2009) stated that, perceived self-efficacy always refers to the beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments. In Bandura, Gist and Mitchell

studies (as cited in Moran & Gareis, 2004) defined that, self-efficacy has a significant impact on goal-setting, level of aspiration, effort, adaptability, and persistence. Also, as stated in the studies of Chen, Gully, and Eden (as cited in Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009), self-efficacy refer as an individual's perceptions of their ability to meet demands in a broad array of context. From the studies of Bandura (as cited in Deese, 2009), individuals with high self-efficacy are more likely to attempt a task than those who believe that they cannot succeed, in which this is similar to the expectancy beliefs that the effort is leads to performance. Thus, when an employee believes that his or her effort will lead to certain level of performance, this will influence that particular employee behavioral choices (putting more effort and staying on task). This can be seen in an engaged employees in those who expect to perform successfully are more likely to work with vigor, dedication, and absorption.

As stated by researchers among the studies, self-efficacy is one of the key personal resources that lead to employee engagement. In the studies of Hobfoll, Johnson, Ennis and Jackson (as cited in Deese, 2009) explained that, personal resources are aspects of oneself that help to persist through challenges and obstacles. According to Bakker and Demerouti (2008), employees who possess personal resources including self-efficacy, optimism, self-esteem, resilience and active coping style enables them to control their work environment and achieve success in their career. This supported by the studies of Hobfoll as cited in Karatepe and Olugbade (2009) which proposed the Conservation of Resources (COR) theory, resources are defined as "those objects, personal characteristics, conditions, or energies that are valued by the individual or that serve as a means for attainment of these objects, personal characteristic, conditions, or energies". In relation to the COR theory in the studies of Hobfoll (as cited in Deese, 2009), it refers to those who have stable resources pool and likely to invest resources for the future gain. Thus,

employees who have greater self-efficacy will be more likely to be engaged in their work through maintained vigor (effort) and absorption (passion) that constitutes engagement. Apparently, self-efficacy is serves as one of the key personal resources in this COR theory. This is also consistent with the VIE theory which stated in Pinder study as cited in Deese (2009) that employees who believe their effort will lead to higher satisfactory performance will be more likely to exert more effort to perform. Therefore, this personal resource (self-efficacy) that supported by both COR and VIE theories indicate that people who believe that they will succeed in their career will be more likely to try (Deese et al., 2009) and generally will be more engaged in their work (Bakker et al., 2008).

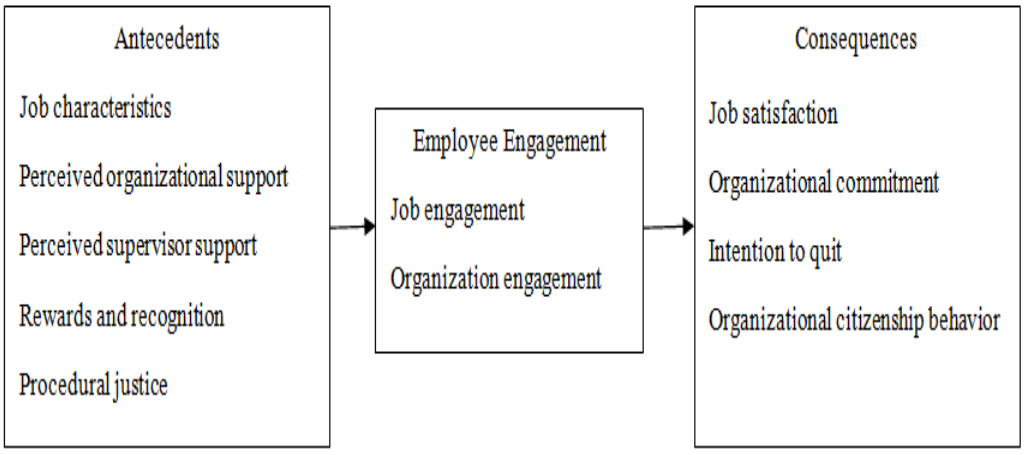
Followed the studies by Luthans, Youssef, and Avolio (as cited in Othman & Nasurdin, 2011), in order to promote high work engagement in the nursing staffs, nurses serve as boundary-spanner of healthcare organizations in which it needs to have higher psychological capital (PsyCap). This PsyCap refers as an individual's positive state of development and characterized by self-efficacy, optimism, hope, and resilience which will lead to greater work engagement and higher job performance in the organization. Consequently, it may play an important role in predicting the employee engagement in healthcare organizations. In Gist and Mitchell studies (as cited in Karatepe & Olugbade, 2009), self-efficacy is derived from social cognitive theory, and it is a positive psychological strength which stated in Luthan study as cited in Karatepe and Olugbade (2009). According to Schaufeli studies (as cited in Mendes & Stander, 2011), engaged employees see themselves as competent in dealing with their job demands and have positive self-efficacy. Maslach, Leiter and Maslach studies (as cited in Simpson, 2009) proposed that, high energy, high involment, and high efficacy are characteristics of engagement. As discussed in Karatepe and Olugbade (2009), there is an empirical evidence demonstrated a linkage between self-efficacy and employee engagement and

self-efficacy is one of the personal resources which will be positively and strongly influence the three main dimensions (vigor, dedication, and absorption) of employee engagement. This also specifically explained in the Xanthopoulou study as cited in Karatepe and Olugbade (2009) that particular personal resource (self-efficacy) enhanced employees' work engagement. Lastly, Deese et al. (2009) also stated that, self-efficacy predicted both vigor and dedication and this indicated that self-efficacy is one of the key players in engagement prediction.

2.2 Review of Relevant Theoretical Models

2.2.1 Alan M. Saks and Joseph L. Rotman (2006)

Figure 2.1: A Model of Antecedents and Consequences of Employee Engagement.



Adapted from: Saks, A.M. and Rotman, J.L. (2006). Antecedents and Consequences of Employee Engagement: A model of antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.

A comprehensive framework of antecedents and consequences of employee engagement was advanced by Kahn (1990) and Maslach et al. (2001) model. Saks and Rotman (2006) had developed a theoretical conception which relies on framework developed by Kahn (1990) and Maslach et al. (2001) and tries to extend it in several ways.

At the core of the model are two important types of employee engagement: job and organization engagements. This follows from the conceptualization of engagement as role related. Therefore, the model explicitly acknowledges this by including both job and organization engagements.

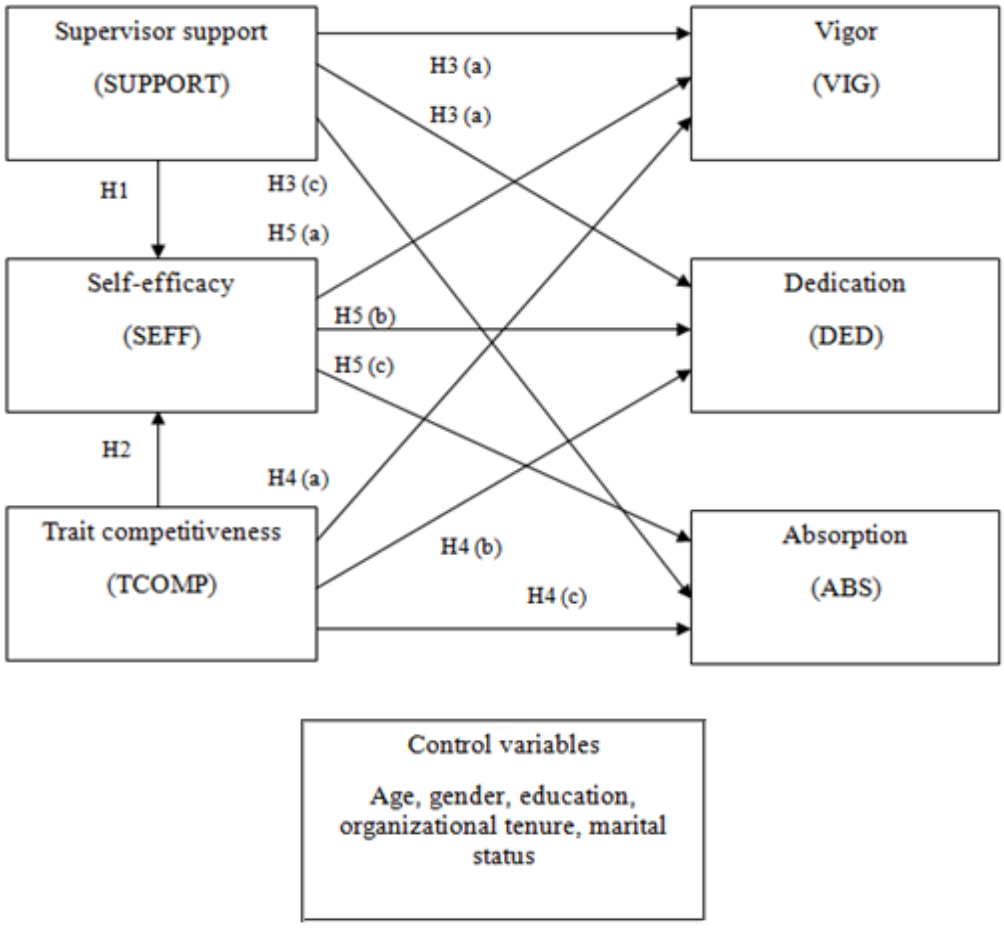
The model starts with the antecedents which includes job characteristics, perceived organization support, perceived supervisor support, rewards and recognition, procedural justice and lastly distributive justice. It shows that the antecedent as mention in the framework is positively related to employee engagement. Engagement has been found to be positively related to organizational commitment and negatively related to intention to quit and it is believed to be related to job performance and extra-role behavior.

Therefore, it is predicted that the job and organization engagement have positively related to job satisfaction, organizational commitment and

organizational citizen behavior while it has negatively related to intention to leave for both job and organization engagement.

2.2.2 Osman M. Karatepe and Olusegun A. Olugbade

Figure 2.2: Research Model



Adapted from: Karatepe, O. M. and Olugbade, O. A. (2009)

Figure 2.2 is a proposed theoretical or conceptual framework which hasbeen developed based on literature review. It illustrates and links all the variables tested in the research. The relationships among all the independent variables and dependents variables are being displayed in this conceptual framework.

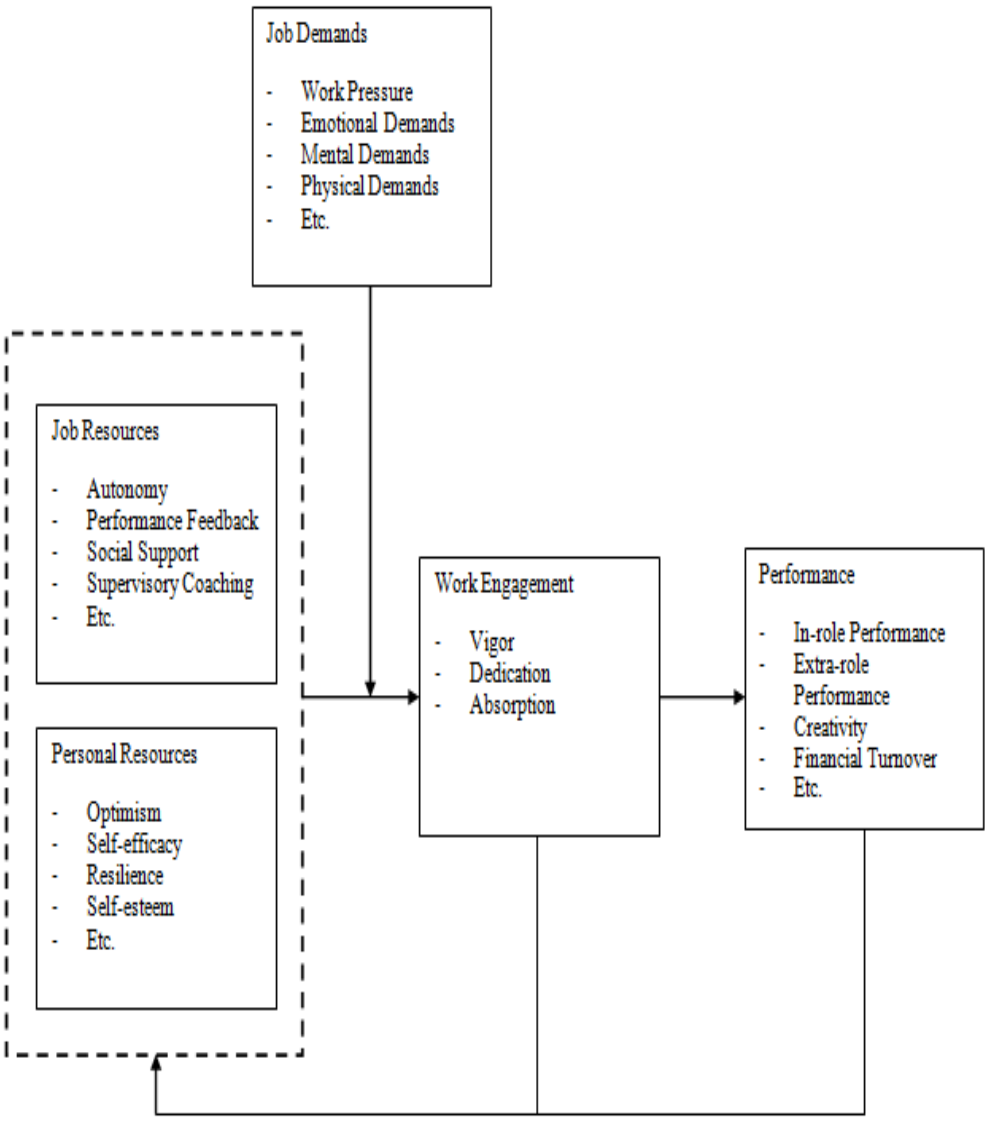
In the conceptual framework, there are three independent variables indicated from the detailed and vast reading on literature review which then to be used in determining their relationship with dependent variables. As shown in the framework, the independents variables are supervisor support (SUPPORT), self-efficacy (SEFF) and trait competitiveness (TCOMP). On the other hand, the dependent variables are vigor (VIG), dedication (DED) and absorption (ABS).

According to the framework, self-efficacy is being enhanced by both supervisor support and trait competitiveness. Furthermore, control variables such as age, gender, education, organizational tenure, and marital status are integrated into the framework.

This framework reveals that frontline employees' work engagement has been enhanced by both job and personal resources. The framework implies that support from supervisors in the workplace increases the feeling of vigor, dedication and absorption for frontline employees. Besides, frontline employees who are competitive and self-efficacious in workplace will have a high level of vigor, dedication and absorption as well.

2.2.3 Arnold B. Bakker and Evangelia Demerouti

Figure 2.3: The JD-R Model of Work Engagement



Adapted from: Bakker, A.B. and Demerouti, E. (2008) based on Bakker & Demerouti (2007).

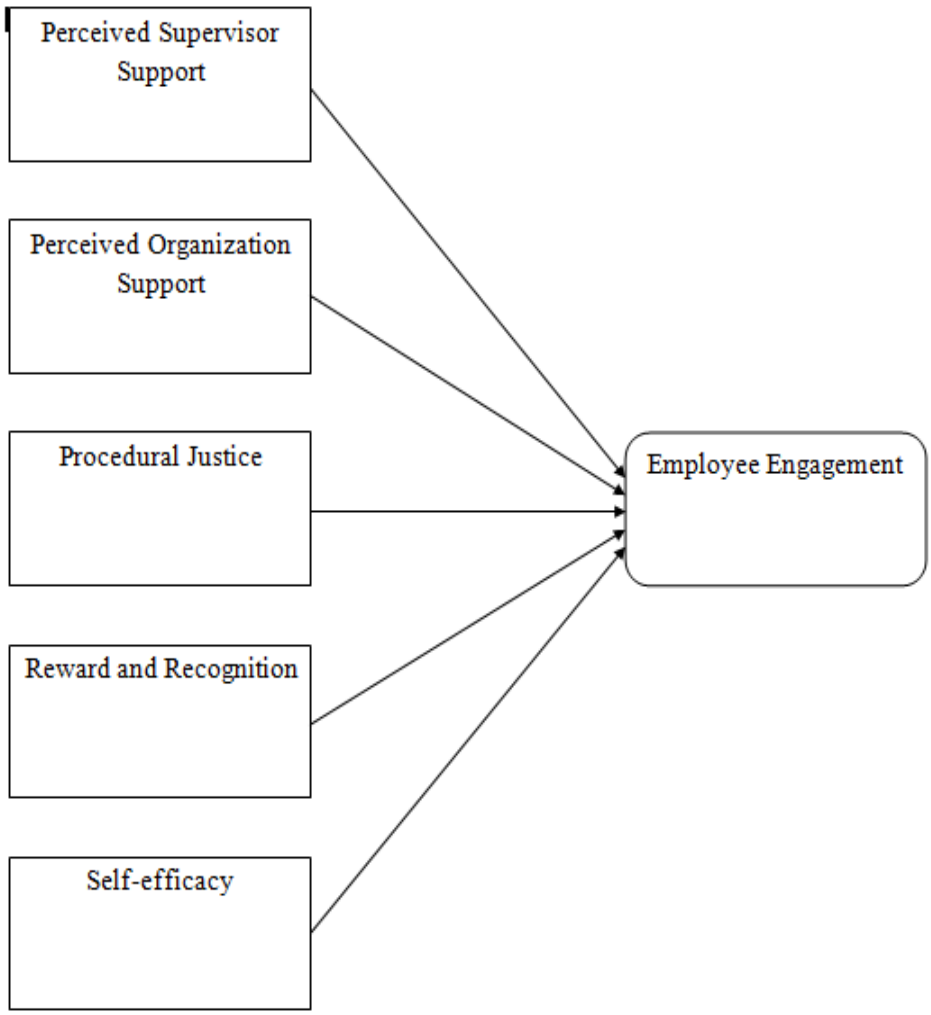
According to Bakker (as cited in Bakker & Demerouti, 2008) and Demerouti studies (as cited in Bakker & Demerouti, 2008), the overall model of the employee engagement have demonstrated two assumptions in which draw from the job resources demand-resources (JD-R) model. In the first assumption stated that job resources including social support from colleagues and supervisor, performance feedback, skill variety, and autonomy, start a motivational process that leads to work engagement. The second assumption explained that job resources become more salient and gain their motivational potential when employees are confronted with high job demand (including workload, emotional demands, and mental demands).

On the other hand, the Xanthopoulou study (as cited in Bakker & Demerouti, 2008) also expanded the work on JD-R model by indicating that job resources and personal resources are mutually related and the personal resources can be independent predictors of work engagement. Therefore, employees who score high on optimism, self-efficacy, resilience, and self-esteem are able to mobilize their job resources and more engaged to their work.

As result showed in Figure 2.3, job resources (autonomy, performance feedback, social support, supervisory coaching, etc.) and personal resources (optimism, self-efficacy, resiliency, self-esteem, etc.) independently or combined predict work engagement. Both job and personal resources have a positive impact on job performance. Thus, employees who engaged and perform well are able to create their own resources, which then foster engagement and create a positive gain spiral.

2.3 Proposed Theoretical/ Conceptual Framework

Figure 2.4: Model of Proposed Framework



Independent Variable (IV) **Dependent Variable (DV)**

Source: Developed for the research

A proposed theoretical or conceptual framework has been developed based on the literature review. This is a diagram that visually displays and connects the variables in which to be tested in this research. The conceptual framework demonstrates the relationships among all the independent variable and dependent variables. It also provides a general framework for data analysis and essential in preparing a research for using descriptive and experimental methods. In this study, the independent variables are consists of perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy.

The dependent variable will be examined in order to determine the influences of all the independent variables toward employee engagement. Based on the past research findings, researchers had viewed the framework and developed five hypotheses to identify the relationship of the independent variables and the dependent variable is shown above. Furthermore, research objectives, research questions, and research hypotheses would assist in emphasizing the variables which included in this study.

2.4 Hypotheses Development

2.4.1 Relationship between Perceived Supervisor Support and Employee Engagement

Based on the Corporate Leadership Council meta-analysis as stated in Rivera et al. (2011) the role of an employee's direct manager was the key to influence the level of employee engagement. Furthermore, the Nursing and Midwifery Services Strategic Direction for 2011-2015 stated that emphasis the strong

nursing leadership on addressing priority health issues by "ensuring the active engagement and leadership of nurses and midwives at every level of health policy/program development and decision-making" (Wilson & Fowler, 2012).

The perceived supervisor support is believable an important in predictor of employee engagement because the lack of support from supervisors has been found to be connected to burnout (Saks & Rotman, 2006). It was one of the variables that are appropriate to capture the substance of social support, which refers to "an interpersonal transaction that involves emotional concern, instrumental aid, information, or appraisal" (Saks & Rotman; Carlson & Perrewe studies as cited in Karatepe & Olugbade, 2009). According to the Malslach et al. model (as cited in Saks & Rotman, 2006) stated that a lack social support has also significantly found to be connected to burnout, and a research done by Schaufeli and Bakker pointed out a measure of job resources that includes support from co-workers prophesied engagement.

There have the several researches shown that a positive relationship between job resource and work engagement. Job resources were significantly and positively connect with work engagement (Llorens study as cited in Karatepe & Olugbade, 2009; Hakanen, Bakker & Schaufeli; Saks; Xanthopoulou et al. study as cited in Xanthopoulou, 2009; Bakker & Demerouti, 2008). Demerouti et al. (as cited in Karatepe & Olugbade, 2009) indicated feedback, rewards, job, control, participation, job security, and supervisor support are job resources and it was significant predicted of engagement. Hence, supervisor support is an important job resource affecting work engagement.

Furthermore, there is lack of study looking at the direct influences of leadership, using a clear measure of engagement (Xu & Thomas, 2010). Those

studies that had conducted frequently were on the relationship of leadership dimensions with engagement, or antecedents of engagement rather than engagement itself. Moreover, researchers mostly have certified both indirect relations (Kahn; May et al.; Rich et al. study as cited in Xu & Thomas, 2010) and moderating effects of leadership on engagement (Bakker & Demerouti study as cited in Xu & Thomas, 2010).

Accordingly, researchers hypothesized that:

$H1_0$: There is no significant relationship between perceived supervisor support and employee engagement.

$H1_1$: There is a significant relationship between perceived supervisor support and employee engagement.

2.4.2 Relationship between Perceived Organization Support and Employee Engagement

Based on the model of antecedents and consequences of employee engagement (Saks & Rotman, 2006), it has found that the perceived organization support is positively related to employee engagement. Rhoades et at. (2001) study indicated that organization support is also positively related to employee engagement. Saks (2006) study suggests that employees who perceived higher organizational support will more likely connect with greater

levels of engagement to their individual job roles. According to Pazy and Ganzach (2006), it is expected to have positive attitudinal and behavioral outcomes with high perceived organization support. It shows that perceived organization support is related to good mood and most notably to attitudinal and behavioral indicators of commitment such as withdrawal and tardiness (Pazy & Ganzach, 2006).

However, Makanjee et al. (2006) research explained that POS should strengthen the belief of the employees in which the organization recognizes their performance by having favorable outcomes for both employees and organization. These includes increase affective commitment and performance, reduced turnover intention and increase job satisfaction. Loi et al. (2006) also state that high perceived organization support obliged to respond favorably to the organization in the form of positive job attitudes or organizational behaviors. Perceived organization support is relatively important to organizational commitment (Loi et al., 2006).

Accordingly, researchers hypothesized that:

$H2_0$: There is no significant relationship between perceived organization support and employee engagement.

$H2_1$: There is a significant relationship between perceived organization support and employee engagement.

2.4.3 Relationship between Procedural Justice and Employee Engagement

Based on the model of antecedents and consequences of employee engagement (Saks & Rotman, 2006), the study found that the procedural justice is positively related to employee engagement. Tyler and Blader (2003) also argue that people who perceive fair procedure, authority and feel respected by others in their groups are predicted to become highly engaged to the group and voluntarily motivated to act in ways that make use of distinctive qualities and abilities. It shows that people is using justice information to determine the social identity in within the group.

Clay-Warner et al. (2005) indicates that procedural justice has positive relationship to the level of engagement of the employee in an organization. Blader and Tyler (2009) shows that procedural justice has a big impact on employee engagement and the relationship is a positive relationship. This is shown through the result of the research as employee who perceived the procedure and decision making are fairly made will be more willing to engage themselves in the group.

Inoue, Kawakami, Ishizaki, Shimazu, Tsuchiya, Tabata, Akiyama, Kitazume and Kuroda study (as cited in Malinen et al., 2013) found a positive relationship between procedural justice perceptions and work engagement. Robinson study (as cited in Malinen et al., 2013) also indicates that employee's perception on procedural justice drives engagement. This is consistent with Malinen et al. (2013) study as the findings of the research shows employee's perception of procedural justice influenced the level of engagement in positive ways.

Accordingly, researchers hypothesized that:

$H3_0$: There is no significant relationship between procedural justice and employee engagement.

$H3_1$: There is a significant relationship between procedural justice and employee engagement.

2.4.4 Relationship between Reward and Recognition and Employee Engagement

In the research done by Maslach and Leiter (as cited in Willoughby, 2011), indicates that reward and recognition are proposed to be crucial facilitators for engagement. Besides, according to Bhattacharya and Mukherjee (2009), reward plans play a vital role and function in energizing, motivating and inspiring employees and hence, it serves as 'engaging' employees. Furthermore, reward acts as the 'catalyst' in generating larger proportion of 'engaged' employees which helps in improving employees' performance and increasing the productivity in the organization.

Apart from that, Mone and London (2009) suggests that reward and recognition are significant to employee engagement and they helps in boosting the morale, satisfaction, and motivation level of employees. In addition, research from Brun and Dugas (2008) indicates that recognition links to

performance of employees and successfulness of the company (Mone, Eisinger, Guggenheim, Price, & Stine, 2011).

On the other hand, based on the recent studies, Chappell and Novak, 1992; Maslanka, 1996; Siefert, Jayaratne, and Chess, 1991, the rises of individual's vulnerability to burnout is due to insufficient reward whether in social, financial or institutional aspects (Willoughby, 2011). According to Mone et al. (2011), employees could suffer from emotional and mental distress and burnout as well if their efforts are not being recognized. As such, a significant relationship between reward and recognition and employee engagement can be shown based on the evidences and researches as shown above.

Accordingly, researchers hypothesized that:

$H4_0$: There is no significant relationship between reward and recognition and employee engagement.

$H4_1$: There is a significant relationship between reward and recognition and employee engagement.

2.4.5 Relationship between Self-efficacy and Employee Engagement

According to Bakker, Gieveld and Rijswijk study (as cited in Othman & Nasurdin, 2011; Bakker & Demerouti, 2008) concluded the research among female school principals those with high personal resources which include self-efficacy, resilience, and optimism scored highest in work engagement. Similarly with the studies by Xanthopoulou as cited in Karatepe and Olugbade (2009) found that, the self-efficacy elevated work engagement among the sample of flight attendants in the Netherlands. In further, Chemers, Hu and Garcia studies (as cited in Deese, 2009) explained that self-efficacy has been investigated in a variety of context, including stress in first year college students. Results showed that students who score higher in academic self-efficacy are more likely to view academic work as challenges (rather than as a threat), more likely to expect academic success, and more likely to succeed.

Generally, self-efficacy has been showed that it has no influence in vigor and dedication. However, se-efficacy enhances employees' feelings of absorption. This finding recommends that employees have strong beliefs in their capabilities become more immersed in the work. Followed by the study of Schaufeli (as cited in Bakker & Demerouti, 2008) found that engaged employees have high energy and self-efficacy. Consequently, this assists them to exercise influence over events that affect their lives in which their positive attitude and activity level enables them to create their own positive feedback in terms of appreciation, recognition, and success. In Maslach, Schaufeli and Leiter (as cited in Stander & Rothmann, 2010), stated that there is a strong correlation between self-efficacy and employee engagement. Consequently in Xanthopoulou study (as cited in Bakker & Demerouti, 2008), results also found that engaged employees are highly self-efficacious and they believe

they are able to meet the demands they face in broad array of contexts. From the result, Deese et al., (2009) showed that nurses' self-efficacy are positively related to their work engagement in which this indicated that nursing staffs who are more efficacious are also more likely to work with high level of energy (vigor) and find meaning in their work (dedication).

Accordingly, researchers hypothesized that:

$H5_0$: There is no significant relationship between self-efficacy and employee engagement.

$H5_1$: There is a significant relationship between self-efficacy and employee engagement.

2.5 Conclusion

This chapter talks on relevant literature in our proposed framework and discussed about our hypotheses development. Research methodology of this study will be discussed in detailed in the following chapter, Chapter 3.

CHAPTER 3: METHODOLOGY

3.0 Introduction

In this chapter, the methodology of the research will be discussed. Chapter three has undergone the steps of research design where it specifies whether qualitative or quantitative research is used and justify whether it is exploratory, descriptive or casual research. It also covers the data collection methods which primary data will be collected from respondents are discussed and the collection of secondary date will be shown. Next, the procedure of sampling design is being selected are discussed. Research instrument such as pilot study and questionnaire development, constructs measurement, methods of data processing and data analysis also will be included in this chapter.

3.1 Research Design

Shank (2002) defines qualitative research as "a form of systematic empirical inquiry into meaning" where systematic means planned, ordered and public (as cited in Ospina, 2004). It is based on the rules agreed by the members in the qualitative research community (as cited in Ospina et al., 2004). Quantitative research is different with the qualitative research where it focuses on measurement and proof (Hesketh & Laidlaw, n.d.). It is only considered as meaningful if it can be observed

and counted because its key characteristics are numerical data that permits a range of statistical analysis (Hesketh et al., n.d.).

There are three types of business research that used to classify on the basis of technique or purpose: (1) descriptive research, (2) exploratory research and (3) causal research. In this research, it consists of numerical measurements and statistical analysis which falls to the quantitative research. Causal research is being chosen as the research design in the research. It shows the effect of one variable on another and it is created to identify a cause-and-effect relationship.

The causal research is used to determine the relationship between the independent variable (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) and dependent variable (employee engagement). When there is a cause-and-effect relationship between variables, causal research was undertaken.

3.2 Data Collection Method

Data and information is very important for every research. There are two types of data which are primary and secondary data. Data collection from both primary and secondary data sources are essential for researchers to gather data and information regarding this research which is used to test the hypotheses and answer research questions as described earlier.

3.2.1 Primary Data

The original or new data that is collected for a specific research purpose is primary data. It is information that obtained from first-hand sources by using techniques such as in-depth interview, participant observation, or focus group (Hox & Boeiji, 2005). In this study, the method for collecting primary data which is questionnaires has been conducted to answer the research questions stated in Chapter 1.4. This set of questionnaires are extracted and adopted from journals articles written by previous researchers in related area of study. The questionnaires consist of all six parts that used to test the dependent variable and the five independent variables.

A survey by using structured questionnaires is an important method in which it involves collecting data from a large number and representative sample of target respondents (Hox et al., 2005). According to Sekaran and Bougie (2010), the main advantage through the uses of questionnaires is that the researchers able to obtaining the data from respondents within a short period of time. Besides, the questionnaires also help to develop hypotheses through the responses and feedback of relevant respondents. This method providing anonymity in which the answer of respondents are being kept strictly confidential.

3.2.2 Secondary Data

According to Sekaran et al. (2010), secondary data can be defined as information gathered by someone other than the researcher conducting the current study. Secondary data is the existing data that can be obtained through various published information for different purposes and reused for another research question (Hox et al., 2005). Data and information can be gathered from existing sources such as academic and professional journals, articles, published books and other online sources. In this study, most of the journals are retrieved from online database such as ProQuest, ScienceDirect, Scopus, Emerald, and others to conduct the research especially for the literature review of studies. Moreover, this study also using the data collected from earlier studies by other researchers such as the official statistics via Internet to support the problem statement of research.

A secondary data is useful for assist researchers to seek for the sources effectively and having a better understanding of research problem. Both academic and professional journals are essential and reliable sources of information in which it provide a detailed framework and description of the study. It has become easier to retrieve data and information in a usable format due to the widespread of email and the World Wide Web (Hox et al., 2005). Besides, it will be less time consuming and less costly of obtaining data and information by seeking for secondary data (Sekaran et al., 2010).

3.3 Sampling Design

Sampling is a process of selecting a small number of units from the total population of interest to represent the whole population in the study (Zikmund, Babin, Carr, & Griffin, 2010). According to Zikmund et al. (2010), a sample is defined as a subset of larger population in which the purpose serves to enable researchers to estimate some of the unknown characteristic of the population. This is very important as researchers are not able to conduct survey on the whole population due to the financial and time constraint. The sampling methods are probability and non-probability sampling. Probability sampling consists of simple random sampling, systematic sampling, stratified sampling, cluster sampling and multistage area sampling while non-probability sampling consists of convenience sampling, quota sampling, judgment sampling and snowball sampling.

3.3.1 Target Population

The first step of the sampling process is to define target population. Target population is the specific number of group or people that is the respondents of the research conducted. The target population for this research is all hospital-based nurses in the nursing industry in Malaysia. Both public and private hospital-based nurses are the target population.

3.3.2 Sampling Frame and Sampling Location

Choosing the sampling frame and sampling location is the second step in sampling process. Since the method sampling used in this research is based on non-probability techniques, all public and private hospital-based nurses in Kedah, Penang, and Perak are targeted randomly based on convenience sampling. Zikmund et al. (2010) says that sampling frame is also called the working populations whereby it provides the list can be worked with as the whole population might not be accessible. The whole research is based on the location where the researchers are able to reach to.

3.3.3 Sampling Elements

Sampling elements are the respondent involved in the study. All public and private hospital nurses in Kedah, Penang, and Perak are being targeted as the respondents of this research. The questionnaires are being distributed to the nurses who are being targeted randomly based on availability. Researchers had been travelled to several public and private hospitals around the targeted sampling location to distribute the questionnaires. Hospital-based nurses are being selected as the sampling element as nursing is a career characterized by heavy workload and nurses tend to experience significant stress and reporting high level of burnout, therefore, the research is being conducted on studying the relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy with the variance in employee engagement in nursing industry.

3.3.4 Sampling Techniques

Basically, sampling techniques are divided into two categories: probability techniques and non-probability techniques. In this study, researchers select non-probability sampling as the research method. Convenience sampling of non-probability sampling is being chosen to be used in this research.

Convenience sampling is being defined as gathering information from members of the population who are most conveniently available (Zikmund et al., 2010). This is the best way of collecting information quickly as researchers are able to obtain a large number of completed questionnaires efficiently and economically. Due to the constraint of time and limited budget, convenience sampling method is the most suitable sampling method to be used. Moreover, nurses are well known for their heavy workload and a lot of duty to be performed during their working hour and therefore, convenience sampling will be the most suitable method to be used as the researchers can distribute the questionnaire to the available nurses at that moment to let them to fill up the questionnaire.

3.3.5 Sampling Size

Sampling size is the targeted number of respondent for the research conducted. It is generally accepted that with a greater sample size, the outcome of the result will be more accurate. The sample size of this study is relatively small compare to the actual sample size requirement for the whole population.

According to Sekaran and Bougie (2010), the sample size of the total population of 79700 nurses should be more than 283 as 283 responses are needed for 75000 number of population. However, taken into account the time and other constraints, for undergraduate degree program, only 100-150 sample size is required in order to fulfill the completion of final year project. Therefore, 150 questionnaires are being distributed to the targeted respondents in this research.

3.4 Research Instrument

3.4.1 Questionnaire Survey

According to Sekaran et al. 2010, questionnaire is a pre-formulated written set of questions to which the respondent records the answers, usually within rather closely delineated alternatives.

To conduct our research study, the research instrument which we chosen to used is self-administered questionnaires. It was used as a tool to collect the primary data. The questionnaire is being design by using fixed-alternative questions. It has been split into four types which were (a) simple-dichotomy (dichotomous), (b) determined-choice question, (c) frequency-determination question, and (d) checklist question.

Simple-dichotomy question is requires the respondent to choose one of two alternatives (e.g. gender- male or female), determinant-choice question is requires the respondent to choose one response from among multiple alternatives (e.g. race, age), frequency-determination question is ask for an answer about general frequency of occurrence (e.g. often, occasionally, or never), and checklist question is allows the respondent to provide multiple answers to a single question by checking off items. There was only simple-dichotomy and determination question being used in our questionnaire. The paper questionnaires will be print out and the in-person drop-off survey method will be used.

There were 200 sets of questionnaires distributed to the respondents and each questionnaire is collected back within 10 to 20 minutes and around 5 days is being using to collect all of the questionnaires. The actual number of questionnaire needed is 150 sets only. Those questionnaire that consist the problem of illogical response (outline response-abnormal answer) and illegal code (answer given is not provide in the question) will be taken out and, the problem of omissions (missing data) will be key in as 99 (variable).

3.4.2 Questionnaire Design

The questionnaire divided into two sections: section A (demographic profile) and section B. Section A consists of the data includes gender, age group, nationality, race, monthly income, highest educational degree earned, and prior clinic experience. Section B consists of the questions for the five independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) and one

dependent variable (employee engagement). There are seven to eight questions each for independent variable and five to seven questions for each dimension of dependent variable (vigor, dedication and absorption).

3.4.3 Distribution Method

Non-probability sampling design method has been used. It was a sampling design in which the elements in the population do not have a known or predetermined chance of being selected as sample subjects (Sekaran et al., 2010). Non-probability sampling is cost saving but it requires all the respondents to be homogenous and zero probability (not everyone have the chance to be selected) of selection.

The convenience sampling from the non-probability sampling method is being selected as the distribution method. Convenience sampling method is the way whereby the researchers handed the questionnaires to the respondent (nurses) randomly without choosing. It is the best way of getting some basic information quickly and efficiently (Sekaran et al, 2010).

3.4.4 Reason for Sampling

The reasons for using sample rather than collecting data from the entire population are: (1) less cost and time, (2) less errors due to less fatigue, and (3) destruction of elements avoided. Sampling is cost and time saving because in real world, constraints will be faced and that is impossible to test on whole population. Besides that, it also lessens errors due to less fatigue because the size of data needed to key in is not so large. Lastly, due to the reason that certain item is impossible to be tested as a whole, sampling is used to avoid destruction of elements.

3.4.5 Pilot Studies

The main purpose to conduct the pilot test is to test the respondents' understanding toward the question. It also can check on the reliability of the questionnaires to ensure the effectiveness of the questionnaire. It is pre-testing process that conducted before the actual set of questionnaire is being distributed and to make any adjustment such as the sequences of questions, construction error of question and so on.

There are 12 sets of questionnaires being collected to run the pilot test via online questionnaires. Online questionnaires also known as internet surveys, it is a self-administration questionnaire posted on a Website. The SAS version 5.1 is being used to run the reliability result of the questionnaires in the pilot

test. Table 3.1 shows the internal consistency of the variables while Table 3.2 shows the result of the reliability analysis.

Table 3.1: Internal Consistency (Cronbach's Alpha)

Coefficient Alpha (α)	Level of Reliability
0.80 to 0.95	Very good reliability
0.70 to 0.80	Good reliability
0.60 to 0.70	Fair reliability
<0.60	Poor reliability

Source: Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). Chichester, West Sussex: John Wiley & Sons, Inc, (*page325.)*

Table 3.2: Reliability Analysis

Variables	Dimensions	Cronbach's Alpha
Independent Variables	Perceived Supervisor Support	0.754717
	Perceived Organization Support	0.746804
	Procedural Justice	0.838865

	Reward and Recognition	0.774217
	Self-efficacy	0.762421
Dependent Variable	Employee Engagement	0.816823

Source: Data generated by SAS version 5.1

Interpretation of Perceived Supervisor Support

The reliability test shows the alpha value is 0.754717. This value 0.754717 falls within the range 0.70 to 0.80 showing the 8 items measuring perceived supervisor support have good reliability.

Interpretation of Perceived Organization Support

The reliability test shows the alpha value is 0.746804. This value 0.746804 falls within the range 0.70 to 0.80 showing the 7 items measuring perceived organization support have good reliability.

Interpretation of Procedural Justice

The reliability test shows the alpha value is 0.838865. This value 0.838865 falls within the range 0.80 to 0.95 showing the 8 items measuring procedural justice have very good reliability.

Interpretation of Reward and Recognition

The reliability test shows the alpha value is 0.774217. This value 0.774217 falls within the range 0.70 to 0.80 showing the 7 items measuring reward and recognition have good reliability.

Interpretation of Self-efficacy

The reliability test shows the alpha value is 0.762421. This value 0.762421 falls within the range 0.70 to 0.80 showing the 8 items measuring self-efficacy have good reliability.

Interpretation of Employee Engagement

The reliability test shows the alpha value is 0.816823. This value 0.816823 falls within the range 0.80 to 0.95 showing the 18 items measuring employee engagement have very good reliability.

With reference to table 3.1, all of the variables must have an alpha value, α in the range of 0.6 to 0.95. The overall results of the five independent variables with the one dependent variable show a good reliability and indicate there is an internal consistency of reliability in this study.

3.5 Constructs Measurement (Scale and Operational Definitions)

3.5.1 Origins of Construct

Table 3.3: The Origins of Construct in the Research

Construct	Adopt From
Demographic profile	Omar, Majid & Johari, 2012; Omar et al., 2012; Tang et al., 2012; Rivera et al., 2011
Perceived Supervisor Support	Karatepe et al., 2009; Saks, 2006; Deese, 2009; Abdullah, Musa, Zahari, Rahman& Khalid, 2011; Saks, 2006;
Perceived Organization Support	Siew et al., 2011; Saks, 2006; Keefer, Martin & Bundy, 2010
Procedural Justice	Blader & Tyler, 2009; Beehr et al. as cited in Rhoades, Eisenberger & Armeli, 2001
Reward and Recognition	Abdullah et al., 2011
Self-efficacy	Karatepe et al., 2009; Deese, 2009
Employee Engagement	Karatepe et al., 2009; Karatepe, 2013; Kanten et al., 2012; Woodcock, 2012; Deese, 2009;

Source: Developed for the research.

3.5.1.1 Modified Operational Definition of Construct

Table 3.4: Modified Operational Definition of Construct for

Perceived Supervisor Support

No.	Item	Author	Modification	Remark
1.	I can depend on my supervisor for help when things get tough at work.	Karatepe et al., 2009	-	Adopt
2.	My supervisor treats me with respect.	Abdullah et al.,2011	-	Adopt
3.	My supervisor cares about my opinions.	Saks, 2006	-	Adopt
4.	My work supervisor really cares about my well-being.	Saks, 2006	-	Adopt
5.	My supervisor strongly considers my goals and values.	Saks, 2006	-	Adopt
6.	My supervisor is willing to listen to my personal problems.	Karatepe et al., 2009	-	Adopt

7.	My supervisor shows very little concern for me.(R)	Saks, 2006	-	Adopt
8.	Manager would ignore any complaint from me.(R)	Deese, 2009	-	Adopt

Source: Developed for the research.

Table 3.5: Modified Operational Definition of Construct for Perceived Organization Support

No.	Item	Author	Modification	Remark
9.	The organization I work for provides me little opportunity to move up the ranks.(R)	Keefer, Martin & Bundy, 2010	-	Adopt
10.	The organization I work for really cares about my well-being.	Saks, 2006	-	Adopt
11.	The organization I work for strongly considers my goals and values.	Saks, 2006	-	Adopt

12.	I find that my values and the organization's values are very similar.	Siew et al., 2011	-	Adopt
13.	Help is available from my organization when I have a problem.	Saks, 2006	-	Adopt
14.	My organization shows little concern for me.(R)	Saks, 2006	-	Adopt
15.	I talk up this organization to my friends as a great organization to work for.	Siew et al., 2011	-	Adopt

Source: Developed for the research

Table 3.6: Modified Operational Definition of Construct for

Procedural Justice

No.	Item	Author	Modification	Remark
16.	Decisions are usually made in fair-ways at my company.	Blader & Tyler, 2009	Decisions are usually made in fair-ways at my work organization.	Modified and used "work organization" to replace the term "company" to make all question consistent.
17.	The procedures used to make decisions about pay and promotions are fair.	Blader & Tyler, 2009	-	Adopt
18.	Decisions that affect me are usually made in fair-ways at my company.	Blader & Tyler, 2009	Decisions that affect me are usually made in fair-ways at my work organization.	Modified and used "work organization" to replace the term "company" to make all question consistent.

19.	The procedures used to decide how much I am paid are fair.	Blader & Tyler, 2009	-	Adopt
20.	Most of the issues involving me are handled in fair-ways where I work.	Blader & Tyler, 2009	-	Adopt
21.	I am usually not told about important things that are happening in this work organization.(R)	Beehr et al. as cited in Rhoades, Eisenberger & Armeli, 2001	-	Adopt
22.	Overall, people are treated fairly where I work.	Blader & Tyler, 2009	-	Adopt
23.	Overall, I am fairly treated where I work.	Blader & Tyler, 2009	-	Adopt

Source: Developed for the research.

Table 3.7: Modified Operational Definition of Construct for Reward and Recognition

No.	Item	Author	Modification	Remark
24.	I'm satisfied with the amount of health care paid for.	Abdullah et al., 2011	-	Adopt
25.	I have the opportunities to learn and grow.	Abdullah et al., 2011	-	Adopt
26.	This company gives enough recognition for work that is well done.	Abdullah et al., 2011	This organization gives enough recognition for work that is well done.	Modified minor sentence structure and used "organization" to replace the term "company" to make all question consistent.
27.	I feel I am valued at this company.	Abdullah et al., 2011	I feel I am valued at this organization.	Modified and used "organization" to replace the term "company" to make all question consistent.
28.	My salary is fair for my responsibilities.	Abdullah et al., 2011	-	Adopt

29.	If I do good work, I can count on being promoted.	Abdullah et al., 2011	-	Adopt
30.	Overall, I am satisfied with the company' benefit package.	Abdullah et al., 2011	Overall, I am satisfied with the organization' benefit package.	Modified and used "organization" to replace the term "company" to make all question consistent.

Source: Developed for the research.

Table 3.8: Modified Operational Definition of Construct for Self-efficacy

No.	Item	Author	Modification	Remark
31.	When I try, I generally succeed.	Deese, 2009	-	Adopt
32.	My job is well within the scope of my abilities.	Karatepe et al., 2009	-	Adopt

33.	I have all the technical knowledge I need to deal with my job, all I need now is practical experience.	Karatepe et al., 2009	-	Adopt
34.	I feel confident that my skills and abilities equal or exceed those of my colleagues.	Karatepe et al., 2009	-	Adopt
35.	I could have handled a more challenging job than the one I am doing.	Karatepe et al., 2009	-	Adopt
36.	Professionally speaking, my job exactly satisfies my expectations of myself.	Karatepe et al., 2009	-	Adopt

37.	I complete tasks successfully.	Deese, 2009	-	Adopt
38.	I am filled with doubts about my competence.(R)	Deese, 2009	-	Adopt

Source: Developed for the research.

Table 3.9: Modified Operational Definition of Construct for Employee Engagement

No.	Dimension	Item	Author	Modification	Remark
39.	Vigor	At my work, I feel bursting with energy.	Karatepe et al., 2009; Karatepe, 2013; Woodcock, 2012; Deese, 2009	-	Adopt
40.		At my job I feel strong and vigorous.	Karatepe et al., 2009; Karatepe, 2013; Woodcock, 2012; Deese, 2009	-	Adopt

41.	Vigor	When I get up in the morning, I feel like going to work.	Karatepe et al., 2009; Karatepe, 2013; Deese, 2009	-	Adopt
42.		I can continue working for very long periods at a time.	Karatepe et al., 2009; Kanten et al., 2012	-	Adopt
43.		At my job, I am very resilient, mentally.	Karatepe et al., 2009	-	Adopt
44.		At my work I always persevere, even when things do not go well.	Karatepe et al., 2009	-	Adopt

45.		I find the work that I do full of meaning and purpose.	Karatepe et al., 2009	-	Adopt
46.		I am enthusiastic about my job.	Karatepe et al., 2009; Karatepe, 2013; Kanten et al., 2012; Woodcock, 2012	-	Adopt
47.	**Dedication**	My job inspires me.	Karatepe et al., 2009; Karatepe, 2013; Kanten et al., 2012; Woodcock, 2012	-	Adopt
48.		I am proud of the work that I do.	Karatepe et al., 2009; Karatepe, 2013; Woodcock, 2012	-	Adopt
49.		To me, my job is challenging.	Karatepe et al., 2009	-	Adopt

50.	Absorption	Time flies when I am working.	Karatepe et al., 2009	-	Adopt
51.		When I am working, I forget everything else around me.	Karatepe et al., 2009	-	Adopt
52.		I feel happy when I am working intensely.	Karatepe et al., 2009; Karatepe, 2013; Kanten et al., 2012; Woodcock, 2012	-	Adopt
53.		I am immersed in my work.	Karatepe et al., 2009; Karatepe, 2013; Kanten et al., 2012; Woodcock, 2012	-	Adopt

54.		I get carried away when I am working.	Karatepe et al., 2009; Karatepe, 2013;	-	Adopt
55.		It is difficult to detach myself from my job.	Karatepe et al., 2009; Kanten et al., 2012	-	Adopt
56.		I was absorbed in my work.	Deese, 2009	-	Adopt

Source: Developed for the research.

3.5.2 Scale Measurement

A scale is a tool or mechanism by which individuals, events, or objects are distinguished on the variables of interest in some meaningful ways. There are four basic types of scale (1) nominal; (2) ordinal; (3) interval; and (4) ratio (Sekaran et al, 2010). Nominal scale and ordinal scale are categorized as non-metric whereas interval scale and ratio scale are categorized as metric.

3.5.2.1 Nominal Scale

Nominal scale is a scale that categorizes individuals or objects into mutually exclusive and collectively exhaustive groups, and offers basic, categorical information on the variable of interest (Sekaran et al, 2010). In section A, demographic profile of the questionnaire, question 1 (gender), question 3 (nationality), and question 4 (race) are designed by using nominal scale.

3.5.2.2 Ordinal Scale

Ordinal scale is a scale that not only categorizes the qualitative differences in the variable of interest, but also rank-ordering of these categories in a meaningful way (Sekaran et al, 2010). In section A, demographic profile of the questionnaire, there are only question 6 (highest educational degree earned) is designed by using ordinal scale.

3.5.2.3 Interval Scale

Interval scale is a multipoint scale that taps the differences, the order, and the equality of the magnitude of the differences in the responses (Sekaran et al, 2010). It shows the differences, order, and distance (arbitrary origin, where 0 ℃ means existence of temperature). All the questions in section B are designed by using interval scale. The 5-Likert scale is adopted to allow the

respondents to indicate how strongly they agree or disagree with the statement of the questions. The range is from "strongly disagree, SD", "disagree, D", "neutral, N", "agree, A", to "strongly agree, SA".

3.5.2.4 Ratio Scale

Ratio scale is a scale that has an absolute zero origin, and hence indicates not only the magnitude, but also the proportion, and the differences (Sekaran et al, 2010). It shows the difference, order, distance and it has a unique origin (e.g. 0 means absent of something). In section A, demographic profile of the questionnaire, question 2 (age), question 5 (monthly income), and question 7 (prior clinic experience) are designed by using ratio scale.

3.6 Data Processing

According to Sekaran et al. (2010), after receiving data collected from the respondents, the next step is to analyze the data to test the research hypotheses. However, some preliminary steps are necessary to be done before analyzing the data to test hypotheses. These preliminary steps are crucial to make sure that the data are accurate, complete, and appropriate for further analysis.

3.6.1 Data Processing

The preliminary steps are also known as data processing steps which involve data checking, editing, coding, and transcribing. All the uncommon responses are indentified at the same time as well.

Before proceed to data checking, each questionnaires are being numbered and counted to ensure that questionnaires are being reverted back to us by the respondents.

3.6.1.1 Data Checking

Data checking is the first step of data preparation. Each questionnaire is checked carefully to ensure that is was being filled up properly and to avoid any error such as illogical response, illegal codes, omissions and inconsistent responses. Questionnaires with such errors are being removed.

3.6.1.2 Data Editing

Illogical response is an outlier response. An outlier is an observation that is substantially different from other observations. Therefore, existence of

outliers will impact on the research results. In order to make sure that the outliers are correct, investigation is made on these responses.

Illegal codes are values that are not specified in the coding instructions. The best way to check for illegal codes is by frequency distribution. Besides that, not all respondents answered every question. Omissions may happen because respondents do not fully understand the question, have no answer for that question, or not willing to disclose the answer for that question. There are two ways to handle this problem. First, ignore the blank response during analyzes. Second, look at the participant's pattern of responses to other questions and from these answers, deduce a logical answer for the question replacing the missing response. In this case, we choose to ignore the blank response by coding 99 as missing data to a maximum of two questions with incomplete responses per questionnaire and take out any questionnaire with more than two blank responses to solve the problem of omissions.

Finally, inconsistent responses are responses that are not in harmony with other information. We edit and alter the data of this kind of response. However, whenever possible, it is desirable to follow up with the respondent to get the correct data, even though this is an expensive solution.

3.6.1.3 Data Coding

After data editing, we move forward to data coding. This process is assigning a number to the participants' responses so they can be entered into the database. For part A-Personal details, questions are designed in nominal and

ordinal scale. Each alternative of the question will be code as 1, 2, 3, 4, and so on accordingly and code 99 for missing data. For example, under detail for gender, we assigned "1" to male, "2" to female whereas for alternatives under age, we assigned "1" to "6" for all responses. While for part B and C, we code the likert scale accordingly as well. For example, 1= strongly disagree (SD), 2=disagree (D), 3=neutral (N), 4=agree (A), 5= strongly agree (SA) and 99 = missing data.

3.6.1.4 Data Transcribing

After responses have been coded, the data can be entered into a database. We are using Statistical Analysis System (SAS) version 5.1 for this research. This process is also known as data transcribing.

3.6.1.5 Data Transformation

Before running the reliability test on the next step, we need to carry out data transformation which is a data coding variation by changing the initial numerical interpretation of a quantitative value to another value (Sekaran et al, 2010).

Reverse scoring for negative questions is the data transformation which we need to do in order to maintain consistency in the meaning of a response. For

our questionnaire of this research, there are 6 negative questions (marked as "(R)" in Table 3.4, 3.5, 3.6 and 3.8).

3.7 Data Analysis

Once we complete the data preparation process, we can launch data analysis. We use the SAS version 5.1 to analyze the data collected. The major statistical techniques applied and findings' summarize of the data analysis will be further explained as follow.

3.7.1 Descriptive Analysis

Descriptive analysis is the process of transforming data into useful information by interpreting the collected data. It is usually used in calculating the average, frequency distribution, and distribution percentage of demographic data given by respondents in Part A- Personal details (Sekaran et al, 2010).

3.7.2 Scale Measurement

In the scale measurement, we use reliability analysis to test whether we can get a reliable result. Reliability is the degree to which the measures are free from error and therefore have consistent and stable results. According to Zikmund, Babin, Carr, and Griffin (2010), Cronbach's alpha (α) is the most commonly applied estimate of a multiple item scale's reliability and it represents the average of all possible split-half reliabilities for construct. It ranges in value from 0 (no consistency) to 1 (complete consistency). The higher the internal consistency reliability, the closer the Cronbach's alpha is to 1 (Sekaran et al, 2010).We use SAS version 5.1 to find out the Cronbach's alpha value. Based on Zikmund et al. (2010), the standard coefficient alpha (α) is stated as follow:

Table 3.10: Coefficient Alpha Ranges

Level of reliability	**Coefficient Alpha ranges, α**
Poor reliability	Less than 0.60
Fair reliability	0.60 to 0.70
Good reliability	0.70 to 0.80
Very good reliability	0.80 to 0.95

Source: Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). Chichester, West Sussex: John Wiley & Sons, Inc, (*page325.)*

3.7.3 Inferential Analysis

In this study, there are five independent variables and one dependent variable. Questions for both of the independent and dependent variables are designed using interval scale (Likert scale) and under metric scale measurement. Therefore, we choose Pearson Correlation Coefficient and Multiple Regression Analysis for the inferential analysis to test all the hypotheses.

The relationship between each independent variable with dependent variable is tested using Pearson Correlation Coefficient. Strength and direction of linear relationship between two random variables is shown. Multiple Regression Analysis is used to test on the impacts of more than one independent variables towards one dependent variable (Sekaran et al, 2010). From these analyses, we can determine and identify clearly on the most influential factor (independent variable) that impact on employee engagement (dependent variable).

3.8 Conclusion

This chapter is about the research methodology which explains how our proposal is carried out based on research design, data collection methods, sampling design, research instrument used to launch pilot study, operational definitions of constructs, measurement scales as well as methods of data processing and analysis.

Cronbach's alpha coefficient is used to test the internal reliability of the independent variables and dependent variable. Besides, all the hypotheses are tested by using Pearson Correlation Coefficient and Multiple Regression Analysis in indicating the extent of the relationship between independent variables and dependent variable. From this, we can determine whether there is a significant relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition as well as self-efficacy with employee engagement on hospital-based nurses.

Therefore, in conclusion, we have completed all the parts in chapter 3 and the next chapter will be explained in detailed about systematic understanding by demonstrating and interpreting the data gathered from the pilot test and actual survey.

CHAPTER 4: RESEARCH RESULTS

4.0 Introduction

In this chapter, the results of questionnaire were being analyzed. The objective is to investigate and interpret the data collected throughout the survey. The data collected from respondents from Kedah, Penang and Perak will be analyzed using Statistical Analysis System (SAS) version 5.1. The result will be analyzed and divided into several parts such as demographic analysis, reliability test, Multiple Regression Analysis and Pearson Correlation Analysis.

4.1 Descriptive Analysis

4.1.1 Respondent Demographic Profile

This section provides an analysis of the demographic characteristics of the respondents which includes the gender, age, nationality, race, monthly income, education level, and experience based on one-way frequencies analysis.

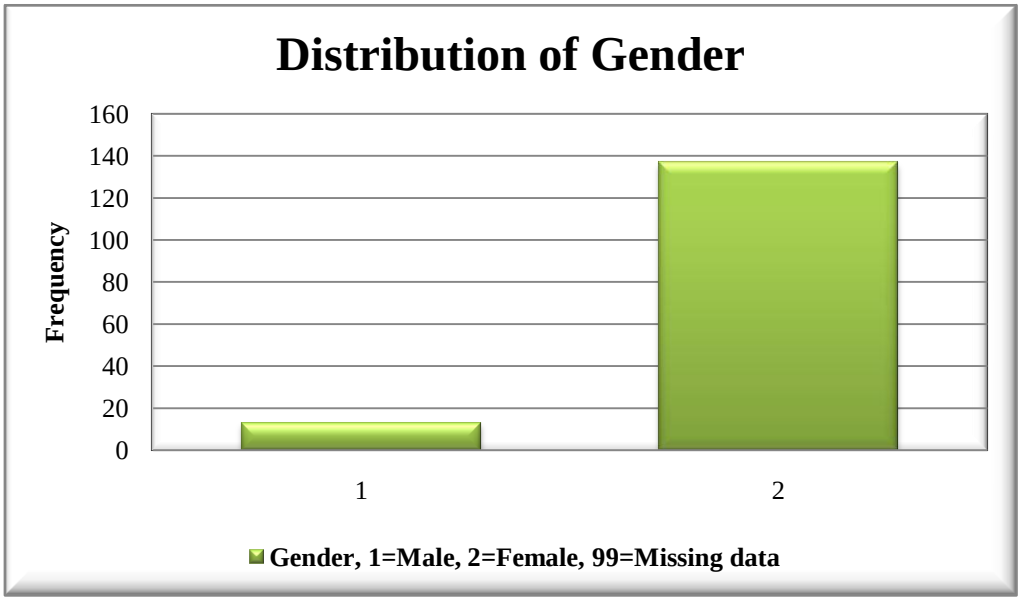
4.1.1.1 Gender

Table 4.1: Gender

Gender, 1=Male, 2=Female, 99=Missing data				
Gender	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	13	8.67	13	8.67
2	137	91.33	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.1: Distribution of Gender



Source: Data generated by the SAS system

Table 4.1 and figure 4.1 shows the frequency of male and female respondents who participated in the questionnaires. Out of the total respondents (N=150), 13 respondents (8.67%) are male and 137 respondents (91.33%) are female.

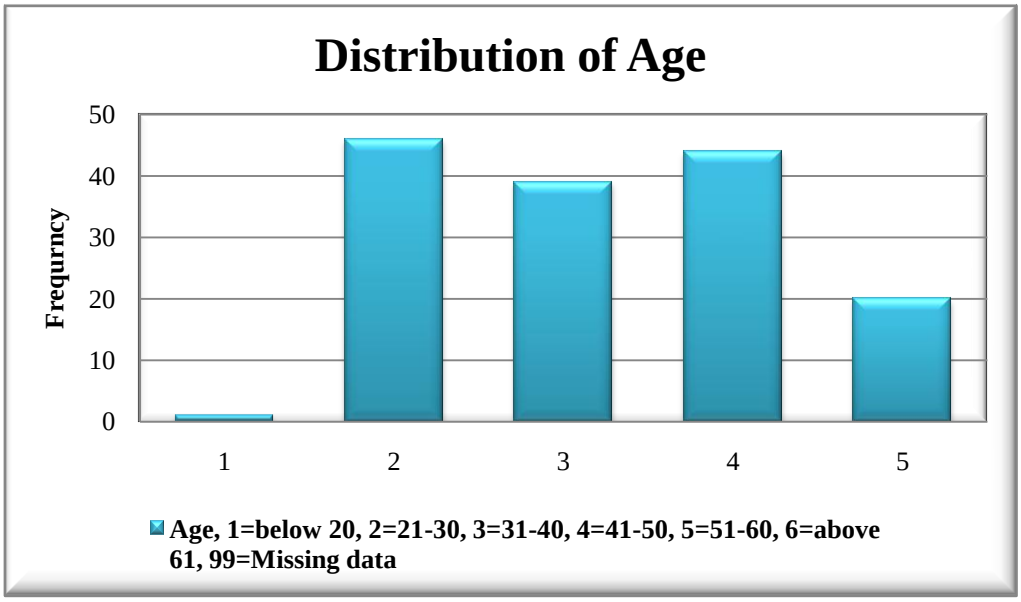
4.1.1.2 Age

Table 4.2: Age

Age, 1=below 20, 2=21-30, 3=31-40, 4=41-50, 5=51-60, 6=above 61, 99=Missing data				
Age	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	1	0.67	1	0.67
2	46	30.67	47	31.33
3	39	26.00	86	57.33
4	44	29.33	130	86.67
5	20	13.33	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.2: Distribution of Age



Source: Data generated by the SAS system

Table 4.2 and figure 4.2 shows the frequency of different age range of respondents who participated in the questionnaires. Out of the total respondents (N=150), only 1 respondent (0.67%) is below 20 years old, 46 respondents (30.67%) are from 21-30 years old, 39 respondents (26.00%) are from 31-40 years old, 44 respondents (29.33%) are from 41-50 years old and 20 respondents (13.33%) are from 51-60 year old. There is no respondent above 60 years old.

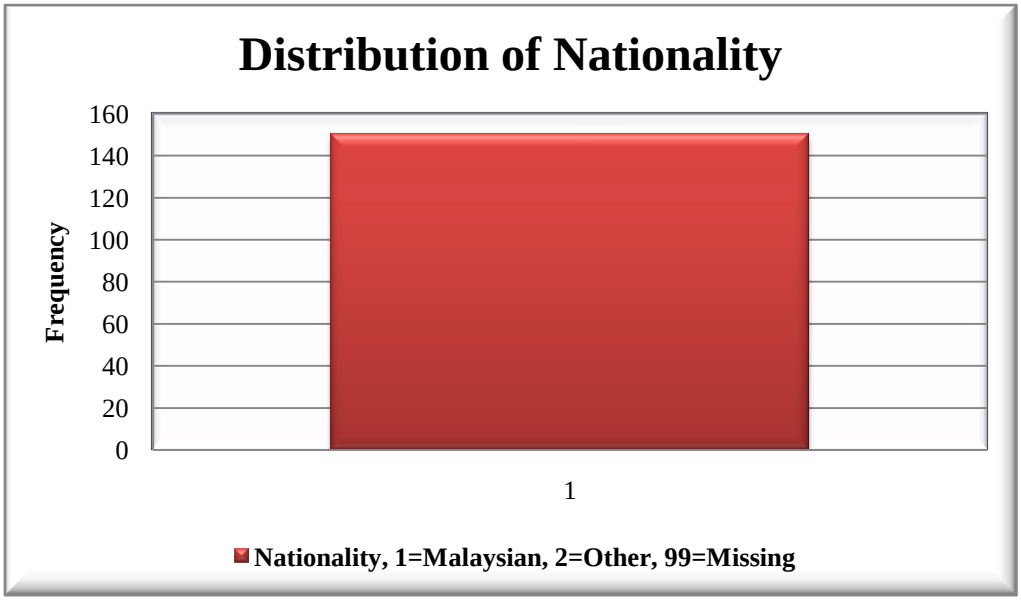
4.1.1.3 Nationality

Table 4.3: Nationality

Nationality, 1=Malaysian, 2=Other, 99=Missing				
Nationality	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	150	100.00	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.3: Distribution of Nationality



Source: Data generated by the SAS system

Table 4.3 and figure 4.3 shows the frequency of nationality of the respondents who participated in the questionnaires. Out of the total respondents (N=150), 100% of respondents are Malaysian.

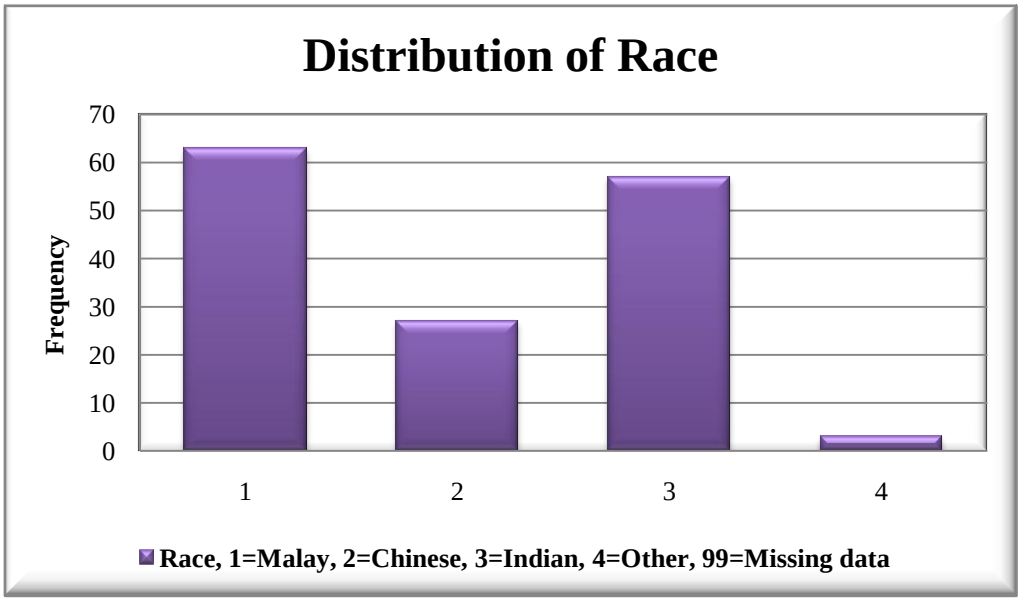
4.1.1.4 Race

Table 4.4: Race

Race, 1=Malay, 2=Chinese, 3=Indian, 4=Other, 99=Missing data				
Race	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	63	42.00	63	42.00
2	27	18.00	90	60.00
3	57	38.00	147	98.00
4	3	2.00	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.4: Distribution of Race



Source: Data generated by the SAS system

Table 4.4 and figure 4.4 shows the frequency of different races of respondents who participated in the questionnaires. Out of the total respondents (N=150), 63 respondents (42.00%) are Malay, 27 respondents (18.00%) are Chinese, 57 respondents (38.00%) are Indian, and only 3 respondents (2.00%) are other races.

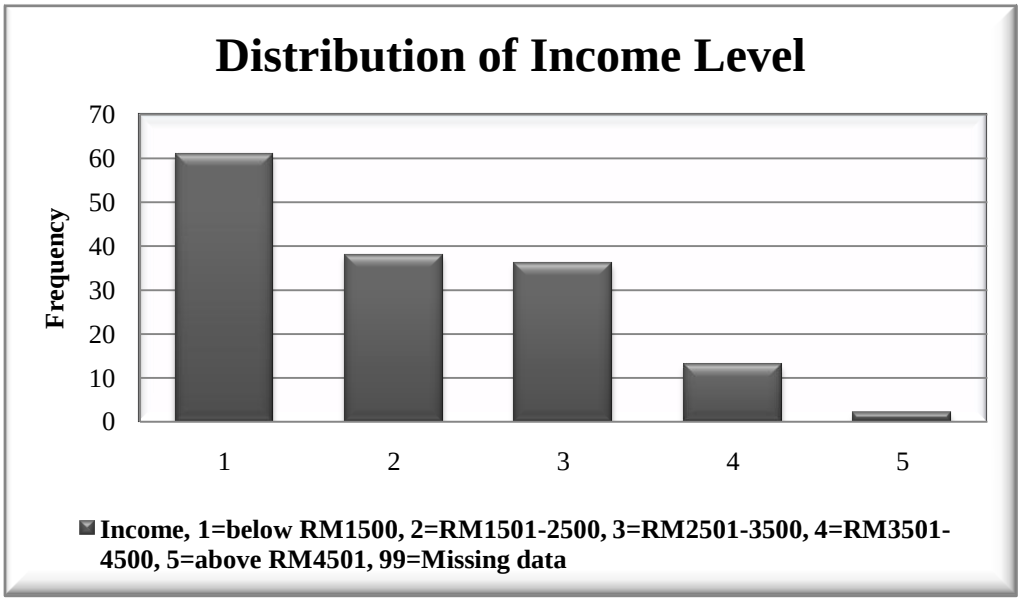
4.1.1.5 Monthly Income

Table 4.5: Income Level

Income, 1=below RM1500, 2=RM1501-2500, 3=RM2501-3500, 4=RM3501-4500, 5=above RM4501, 99=Missing data				
Income Level	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	61	40.67	61	40.67
2	38	25.33	99	66.00
3	36	24.00	135	90.00
4	13	8.67	148	98.67
5	2	1.33	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.5: Distribution of Income Level



Source: Data generated by the SAS system

Table 4.5 and figure 4.5 shows the frequency of different income level of respondents who participated in the questionnaires. Out of the total respondents (N=150), there are 61 respondents (40.67%) with salary below RM 1500, 38 respondents (25.33%) with RM 1501-RM 2500, 36 respondents (24.00%) with RM 2501-RM 3500, 13 respondents (8.67%) with RM 3501-RM 4500 and only 2 respondents' (1.33%) salary is above RM 4501.

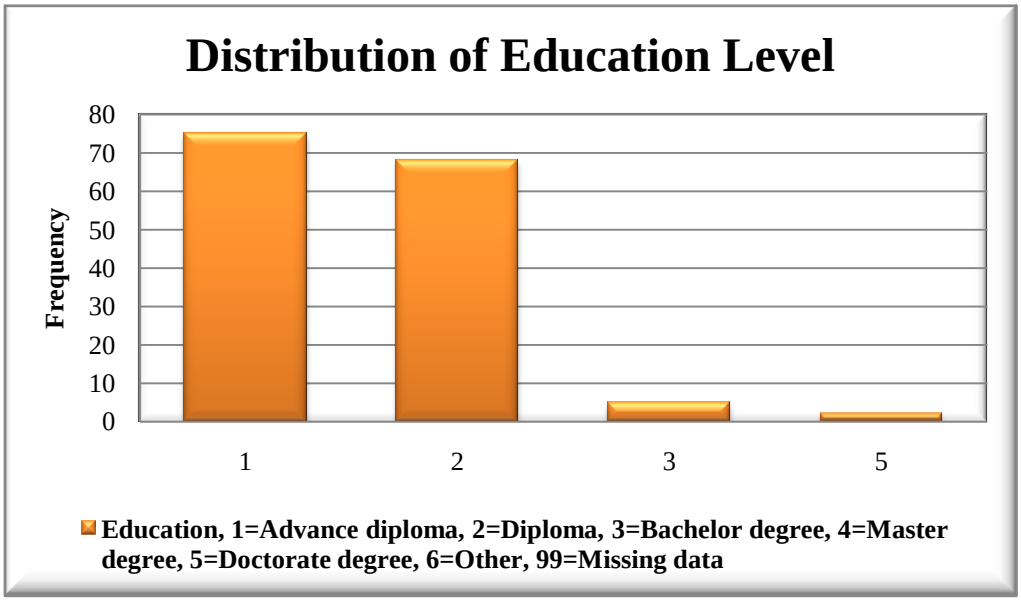
4.1.1.6 Education Level

Table 4.6: Education Level

Education, 1=Advance diploma, 2=Diploma, 3=Bachelor degree, 4=Master degree, 5=Doctorate degree, 6=Other, 99=Missing data				
Education Level	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	75	50.00	75	50.00
2	68	45.33	143	95.33
3	5	3.33	148	98.67
5	2	1.33	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.6: Distribution of Education level



Source: Data generated by the SAS system

Table 4.6 and figure 4.6 shows the frequency of highest education level earned by respondents who participated in the questionnaires. Out of the total respondents (N=150), 75 respondents (50.00%) holding Post-basic certificate/ advanced diploma, 68 respondents (45.33%) holding Diploma, 5 respondents (3.33%) holding Bachelor degree, and 2 respondents (1.33%) holding Doctorate degree. There is no respondent holding Master degree.

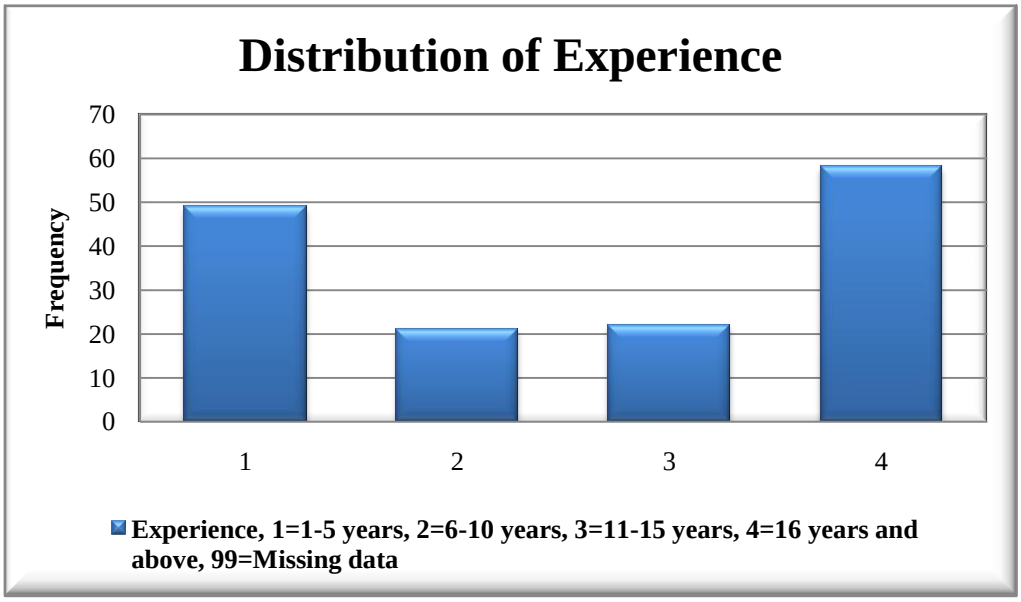
4.1.1.7 Experience

Table 4.7: Experience

Experience, 1=1-5 years, 2=6-10 years, 3=11-15 years, 4=16 years and above, 99=Missing data				
Experience	**Frequency**	**Percent**	**Cumulative Frequency**	**Cumulative Percent**
1	49	32.67	49	32.67
2	21	14.00	70	46.67
3	22	14.67	92	61.33
4	58	38.67	150	100.00

Source: Data generated by the SAS system version 5.1

Figure 4.7: Distribution of Experience



Source: Data generated by the SAS system

Table 4.7 and figure 4.7 shows the frequency of prior nursing experience of respondents who participated in the questionnaires. From the total respondents (N=150), 49 respondents (32.67%) have 1 to 5 years of nursing experience, 21 respondents (14.00%) have 6 to 10 years of nursing experience, 22 respondents (14.67%) have 11 to 15 years of nursing experience, and 58 respondents (38.67%) have 16 years and above of nursing experience.

4.1.2 Central Tendencies Measurement of Constructs

Central tendencies will be used to show the value of mean and standard deviation of 50 questions in the questionnaire. The SAS system version 5.1 will be used to identify the value of mean and standard deviation of each question.

4.1.2.1 Perceived Supervisor Support

Table 4.8: Central Tendencies Measurement of Perceived Supervisor Support

No.	Statement	Sample size, N	Mean	Standard deviation	Mean Ranking	Standard deviation Ranking
P1.	I can depend on my supervisor for help when things get tough at work.	150	3.90000	0.88803	1	2
P2.	My supervisor treats me with respect.	150	3.86000	0.86723	2	4

P3.	My supervisor cares about my opinions.	150	3.81333	0.71781	3	7
P4.	My work supervisor really cares about my well-being.	150	3.79333	0.79678	4	5
P5.	My supervisor strongly considers my goals and values.	150	3.81333	0.76313	3	6
P6.	My supervisor is willing to listen to my personal problems.	150	3.81333	0.76313	3	6
P7.	My supervisor shows very little concern for me.	150	3.40667	0.99729	6	1
P8.	Manager would ignore any complaint from me.	150	3.53333	0.87980	5	3

Source: Data generated for the research

Based on the table 4.8, the ranking of the PSS is arranged in descending order. Based on the data above, P1 has the highest value of mean (3.90000).Although P7 has the lowest value of mean (3.40667), it has the highest value of standard deviation (0.99729). P3 has the lowest value of standard deviation (0.71781).

4.1.2.2 Perceived Organization Support

Table 4.9: Central Tendencies Measurement of Perceived Organization Support

No.	Statement	Sample size,N	Mean	Standard deviation	Mean Ranking	Standard deviation Ranking
O1.	The organization I work for provides me little opportunity to move up the ranks.	150	3.08000	0.96600	7	1
O2.	The organization I work for really cares about my well-being.	150	3.62667	0.67104	3	6

O3.	The organization I work for strongly considers my goals and values.	150	3.53333	0.73882	4	5
O4.	I find that my values and the organization's values are very similar.	150	3.29333	0.83181	6	2
O5.	Help is available from my organization when I have a problem.	150	3.75333	0.74127	2	4
O6.	My organization shows little concern for me.	150	4.08667	0.28229	1	7
O7.	I talk up this organization to my friends as a great organization to work for.	150	3.51333	0.80882	5	3

Source: Data generated for the research

Based on the table 4.9 , the ranking of POS is arranged in descending order. Based on the data above, O6 has the highest value of mean (4.08667) with the lowest value of standard deviation (0.28229) whereas O1 has the lowest value of mean (3.08000) with the highest value of the standard deviation (0.96600).

4.1.2.3 Procedural Justice

Table 4.10: Central Tendencies Measurement of Procedural Justice

No.	Statement	Sample size, N	Mean	Standard deviation	Mean Ranking	Standard deviation Ranking
J1.	Decisions are usually made in fair-ways at my work organization.	150	3.38667	0.81748	4	5
J2.	The procedures used to make decisions about pay and promotions are fair.	150	3.27333	0.94760	6	3

J3.	Decisions that affect me are usually made in fair-ways at my work organization.	150	3.29333	0.81551	5	7
J4.	The procedures used to decide how much I am paid are fair.	150	3.21333	0.95247	7	2
J5.	Most of the issues involving me are handled in fair-ways where I work.	150	3.48000	0.81693	3	6
J6.	I am usually not told about important things that are happening in this work organization.	150	3.14667	1.06429	8	1

J7.	Overall, people are treated fairly where I work.	150	3.55333	0.85559	1	4
J8.	Overall, I am fairly treated where I work.	150	3.55034	0.74830	2	8

Source: Data generated for the research

Based on the table 4.10, the ranking of PJ is arranged in descending order. Based on the data above, J7 has the highest value of mean (3.55333). J6 has lowest value of mean (3.14667) with the highest value of the standard deviation (1.06429). J8 has the lowest standard deviation (0.74830).

4.1.2.4 Reward and Recognition

Table 4.11: Central Tendencies Measurement of Reward and Recognition

No.	Statement	Sample size, N	Mean	Standard deviation	Mean Ranking	Standard deviation Ranking
R1.	I'm satisfied with the amount of health care paid for.	150	3.21333	1.04648	7	1
R2.	I have the opportunities to learn and grow.	150	3.71333	0.78009	1	7
R3.	This organization gives enough recognition for work that is well done.	150	3.43333	0.82264	3	6

R4.	I feel I am valued at this organization.	150	3.66000	0.83409	2	5
R5.	My salary is fair for my responsibilities.	150	3.22000	1.04187	6	2
R6.	If I do good work, I can count on being promoted.	150	3.40000	0.93407	4	4
R7.	Overall, I am satisfied with the organization' benefit package.	150	3.30000	0.99495	5	3

Source: Data generated for the research

Based on the table 4.11, the ranking of RR is arranged in descending order. Based on the data above, R2 has the highest value of mean (3.71333) with the lowest value of the standard deviation (0.78009).R1 has the lowest value of mean (3.21333) with the highest value of standard deviation (1.04648).

4.1.2.5 Self-efficacy

Table 4.12: Central Tendencies Measurement of Self-efficacy

No.	Statement	Sample size, N	Mean	Standard deviation	Mean Ranking	Standard deviation Ranking
S1.	When I try, I generally succeed.	150	3.60000	0.79427	5	4
S2.	My job is well within the scope of my abilities.	150	3.62667	0.83984	4	2
S3.	I have all the technical knowledge I need to deal with my job, all I need now is practical experience.	150	3.77333	0.80391	3	3
S4.	I feel confident that my skills and abilities equal or exceed those of my colleagues.	150	3.83333	0.63897	1	8

S5.	I could have handled a more challenging job than the one I am doing.	150	3.79333	0.73546	2	5
S6.	Professionally speaking, my job exactly satisfies my expectations of myself.	150	3.83333	0.72738	1	6
S7.	I complete tasks successfully.	150	3.83333	0.71809	1	7
S8.	I am filled with doubts about my competence.	150	2.97333	1.01629	6	1

Source: Data generated for the research

Based on the table 4.12, the ranking of SE is arranged in descending order. Based on the data above, S4, S6, and S7 have the same highest value of mean (3.83333). However, the value of standard deviation for S4 (0.63897), S6 (0.72738), and S7 (0.71809) are low. S4has the lowest value of standard deviation. S8 has the lowest value of mean (2.97333) with the highest value of standard deviation (1.01629).

4.1.2.6 Employee Engagement

Table 4.13: Central Tendencies Measurement of Employee Engagement

No.	Statement	Sample size, N	Mean	Standard deviation	Mean Ranking	Standard deviation Ranking
E1.	At my work, I feel bursting with energy.	150	3.62000	0.89495	13	6
E2.	At my job I feel strong and vigorous.	150	3.65333	0.84334	12	8
E3.	When I get up in the morning, I feel like going to work.	150	3.56000	0.91578	15	5
E4.	I can continue working for very long periods at a time.	150	3.46667	1.02103	16	1
E5.	At my job, I am very resilient, mentally.	150	3.43333	0.83880	18	9

E6.	At my work I always persevere, even when things do not go well.	150	3.46000	0.85632	17	7
E7.	I find the work that I do full of meaning and purpose.	150	3.98667	0.70460	3	12
E8.	I am enthusiastic about my job.	150	3.75333	0.77664	8	11
E9.	My job inspires me.	150	3.94667	0.68333	4	16
E10.	I am proud of the work that I do.	150	4.17333	0.69269	1	15
E11.	To me, my job is challenging.	150	3.92000	0.97980	5	2
E12.	Time flies when I am working.	150	4.05333	0.69308	2	14
E13.	When I am working, I forget everything else around me.	150	3.67333	0.95184	10	3

E14.	I feel happy when I am working intensely.	150	3.80667	0.65227	6	17
E15.	I am immersed in my work.	150	3.76000	0.62046	7	18
E16.	I get carried away when I am working.	150	3.66000	0.69350	11	13
E17.	It is difficult to detach myself from my job.	150	3.58000	0.79655	14	10
E18.	I was absorbed in my work.	150	3.70667	0.93081	9	4

Source: Data generated for the research

Based on the table 4.13, the ranking of EE is arranged in descending order. Based on the data above, E10 has the highest value of mean (4.17333) with standard deviation (0.69269). E5 has the lowest value of the mean (3.43333). E4 has the highest value of standard deviation (1.02103) with low mean (3.46667). E15 has the lowest value of standard deviation (0.62046).

4.2 Scale Measurement

The scales of measurement which is employed in the questionnaires of this study are nominal scale, ordinal scale, ratio scale, and five-point Likert scale. For the part of Section A, the nominal scale is being used to question the gender, nationality, and race, while the ordinal scale is used to measure the education level. Besides, the ratio scale also being used to examine the age, monthly income, and prior clinic experience in the Section A.

On the other hand, the questions under Section B are using the five-point Likert scale to examine the influences of perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy on the employee engagement among hospital-based nurses. The five-point Likert scale in Section B is range from strong disagree (SD), disagree (D), neutral (N), agree (A) to strongly agree (SA).

The measurement scales is carried out on a reliability test to determine the extent to which the measures are free from error and therefore yield consistent results. Reliability analysis is established by testing both internal consistency and stability. Cronbach's alpha is a coefficient alpha (α) that indicates how well the internal consistency and correlation of the items in the questionnaire. The higher the internal consistency reliability, the closer the Cronbach's alpha is to 1 (Sekaran and Bougie, 2010). The description of the alpha value is showed below:

Table 4.14: Cronbach's Coefficient Alpha (α)

Level of reliability	Coefficient Alpha ranges, α
Poor reliability	Less than 0.60
Fair reliability	0.60 to 0.70
Good reliability	0.70 to 0.80
Very good reliability	0.80 to 0.95

Source: Sekaran, U., & Bougie, R. (2010). *Research methods for business: A skill building approach* (5th ed.). Chichester, West Sussex: John Wiley & Sons, Inc. (*page325).*

Table 4.15: Summary of Reliability Analysis

Variables		No. of Items	Cronbach's Alpha	
			Pilot Study	Full Study
Independent Variable (IV)	Perceived Supervisor Support	8	0.754717	0.847570
	Perceived Organization Support	7	0.746804	0.808505
	Procedural Justice	8	0.838865	0.854246
	Reward and Recognition	7	0.774217	0.931265

	Self-efficacy	8	0.762421	0.781927
Dependent Variable (DV)	Employee Engagement	18	0.816823	0.913023

Source: Data generated by SAS Enterprise Guide version 5.1

Table 4.15 shows the results for both pilot study and full study. The Cronbach's alpha is used to analyze the internal consistency and reliability of multiple items. The closer the Cronbach's alpha is to 1, the higher the internal consistency reliability of the particular item.

The dependent variable, employee engagement which constructed with 18 items shows the coefficient alpha at 0.816823 in pilot test and it has increased to 0.913023. The increased in alpha values indicates a very good reliability. On the other hand, all the five independent variables also show an increased in the internal consistency respectively. First, the perceived supervisor support which measured by total 8 items shows the Cronbach's alpha of 0.754717 in pilot test and increased to 0.847570 in the overall study. This shows that coefficient alpha of perceived supervisor support has improved from a good reliability to a very good reliability. Second, the perceived organization support which constructed with total 7 items also shows an increased from a good reliability alpha of 0.746804 in pilot test to very good reliability alpha value of 0.808505 in overall study. Next, the Cronbach's alpha of the procedural justice which measured by 8 items also slightly increased from 0.838865 in pilot test to 0.854246 in the full study, maintaining a very good reliability. Besides, the independent variable of reward and recognition which constructed with total 7 items

also increased its coefficient alpha from 0.774217 in the pilot test to 0.931265 in overall study. The increased Coefficient alpha indicates a very good reliability for reward and recognition in the full study. Lastly, the self-efficacy which measured by total of 8 items also slightly increased in the coefficient value from 0.762421 in pilot study to 0.781927 in full study. This alpha value is still indicating a good reliability and consistency.

In conclusion, the overall reliability of all the examined variables in the study is acceptable in which the Cronbach's coefficient alpha of all the variables are above 0.60. Moreover, some of the variables showed a very good reliability and this signifies the internal consistency and reliability in this study.

4.3 Inferential Analysis

According to Burns and Bush (2000), inferential analysis is used to provide the generation of conclusion regarding the characteristics of the population based on the sample data. The purpose of this analysis is aim to examine the individual variable and its relationship with other variables. In this research, all hypotheses will be tested using Pearson's Correlation Coefficient and Linear Regression Analysis. Pearson's Correlation Coefficient shows the results of correlation while Linear Regression Analysis shows the results of model summary and coefficient.

4.3.1 Pearson's Correlation Coefficient

A Pearson correlation coefficient will indicate the direction, strength and significance of the bivariate relationships among all the variables that were measured at an interval or ratio level. Hair et al. (2007) proposed the rules of thumb about the coefficient range and the strength of association as shown in table 4.16 below.

Table 4.16: Rules of Thumb about Pearson Correlation Coefficient size

Coefficient range	Strength of Association
±0.91 to ± 1.00	Very strong
±0.71 to ± 0.90	High
±0.41 to ± 0.70	Moderate
±0.21 to ± 0.40	Small but definite relationship
±0.01 to ± 0.20	Slight, almost negligible

Source: Hair, Jr., Money, A. H., Samouel, P., and Page, M. (2007). *Research Methods for Business*. West Sussex: John Wiley Sons, Inc.

4.3.1.1 Hypothesis 1: Relationship between Perceived Supervisor Support (PSS) and Employee Engagement (EE)

$H1_0$: There is no significant relationship between perceived supervisor support and employee engagement in nursing industry.

$H1_1$: There is a significant relationship between perceived supervisor support and employee engagement in nursing industry.

Table 4.17: Correlation between Perceived Supervisor Support (PSS) and Employee Engagement (EE)

		PSS	**EE**
PSS	Pearson Correlation	1	0.60045
	p-Value		<0.0001
	N	150	150
EE	Pearson Correlation	0.60045	1
	p-Value	<0.0001	
	N	150	150

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Direction

Based on the results, the relationship between perceived supervisor support and employee engagement is positive due to the positive value for correlation coefficient. The perceived supervisor support has a 0.60045 correlation with the employee engagement. Thus, when perceived supervisor support is high, employee engagement is high.

Strength

The value of 0.60045 falls within the coefficient range of ±0.41 to ± 0.70. Therefore, the relationship between perceived supervisor support and employee engagement is moderate.

Significance

The relationship between perceived supervisor support and employee engagement is significant because the p-value <0.0001 is less than alpha value 0.05. Therefore, null hypothesis ($H1_0$) is not accepted while the alternative hypothesis ($H1_1$) is accepted.

4.3.1.2 Hypothesis 2: Relationship between Perceived Organization Support (POS) and Employee Engagement (EE)

$H2_0$: There is no significant relationship between perceived organization support and employee engagement in nursing industry.

$H2_1$: There is a significant relationship between perceived organization support and employee engagement in nursing industry.

Table 4.18: Correlation between Perceived Organization Support (POS) and Employee Engagement (EE)

		POS	**EE**
POS	Pearson Correlation	1	0.56632
	p-Value		<0.0001
	N	150	150
EE	Pearson Correlation	0.56632	1
	p-Value	<0.0001	
	N	150	150

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Direction

Based on the results, the relationship between perceived organization support and employee engagement is positive due to the positive value for correlation coefficient. The perceived organization support has a 0.56632 correlation with the employee engagement. Thus, when perceived organization support is high, employee engagement is high.

Strength

The value of 0.56632 falls within the coefficient range of ±0.41 to ± 0.70. Therefore, the relationship between perceived organization support and employee engagement is moderate.

Significance

The relationship between perceived organization support and employee engagement is significant because the p-value <0.0001 is less than alpha value 0.05. Therefore, null hypothesis ($H2_0$) is not accepted while the alternative hypothesis ($H2_1$) is accepted.

4.3.1.3 Hypothesis 3: Relationship between Procedural Justice (PJ) and Employee Engagement (EE)

$H3_0$: There is no significant relationship between procedural justice and employee engagement in nursing industry.

$H3_1$: There is a significant relationship between procedural justice and employee engagement in nursing industry.

Table 4.19: Correlation between Procedural Justice (PJ) and Employee Engagement (EE)

		PJ	**EE**
PJ	Pearson Correlation	1	0.53951
	p-Value		<0.0001
	N	150	150
EE	Pearson Correlation	0.53951	1
	p-Value	<0.0001	
	N	150	150

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Direction

Based on the results, the relationship between procedural justice and employee engagement is positive due to the positive value for correlation coefficient. The procedural justice has a 0.53951 correlation with the employee engagement. Thus, when procedural justice is high, employee engagement is high.

Strength

The value of 0.53951 falls within coefficient range of ±0.41 to ± 0.70. Therefore, the relationship between procedural justice and employee engagement is moderate.

Significance

The relationship between procedural justice and employee engagement is significant because the p-value <0.0001 is less than alpha value 0.05. Therefore, null hypothesis ($H3_0$) is not accepted while the alternative hypothesis ($H3_1$) is accepted.

4.3.1.4 Hypothesis 4: Relationship between Reward and Recognition (RR) and Employee Engagement (EE)

$H4_0$: There is no significant relationship between reward and recognition and employee engagement in nursing industry.

$H4_1$: There is a significant relationship between reward and recognition and employee engagement in nursing industry.

Table 4.20: Correlation between Reward and Recognition (RR) and Employee Engagement (EE)

		RR	**EE**
RR	Pearson Correlation	1	0.39214
	p-Value		<0.0001
	N	150	150
EE	Pearson Correlation	0.39214	1
	p-Value	<0.0001	
	N	150	150

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Direction

Based on the results, the relationship between reward and recognition and employee engagement is positive due to the positive value for correlation coefficient. The reward and recognition has a 0.39214 correlation with the employee engagement. Thus, when reward and recognition is high, employee engagement is high.

Strength

The value of 0.39214 falls within coefficient range of ±0.21 to ± 0.40. Therefore, the relationship between reward and recognition and employee engagement is small but definite relationship.

Significance

The relationship between reward and recognition and employee engagement is significant because the p-value <0.0001 is less than alpha value 0.05. Therefore, null hypothesis ($H4_0$) is not accepted while the alternative hypothesis ($H4_1$) is accepted.

4.3.1.5 Hypothesis 5: Relationship between Self-efficacy (SE) and Employee Engagement (EE)

$H5_0$: There is no significant relationship between self-efficacy and employee engagement in nursing industry.

$H5_1$: There is a significant relationship between self-efficacy and employee engagement in nursing industry.

Table 4.21: Correlation between Self-efficacy (SE) and Employee Engagement (EE)

		SE	**EE**
SE	Pearson Correlation	1	0.73157
	p-Value		<0.0001
	N	150	150
EE	Pearson Correlation	0.73157	1
	p-Value	<0.0001	
	N	150	150

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Direction

Based on the results, the relationship between self-efficacy and employee engagement is positive due to the positive value for correlation coefficient. The self-efficacy has a 0.73157 correlation with the employee engagement. Thus, when self-efficacy is high, employee engagement is high.

Strength

The value of 0.73157 falls within coefficient range of ±0.71 to ± 0.90. Therefore, the relationship between self-efficacy and employee engagement is high.

Significance

The relationship between self-efficacy and employee engagement is significant because the p-value <0.0001 is less than alpha value 0.05. Therefore, null hypothesis ($H5_0$) is not accepted while the alternative hypothesis ($H5_1$) is accepted.

4.3.2 Multiple Linear Regression Analysis

Multiple regression analysis is used when there are more than one independent variable is used to explain variance in a dependent variable.

4.3.2.1 Hypothesis 6: Relationship between Perceived Supervisor Support (PSS), Perceived Organization Support (POS), Procedural Justice (PJ), Reward and Recognition (RR) and Self-efficacy (SE) with Employee Engagement (EE)

$H6_0$: The five independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) are no significant explain the variance in employee engagement in nursing industry.

$H6_1$: The five independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) are significant explain the variance in employee engagement in nursing industry.

Table 4.22: Analysis of Variance

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F value**	**Pr> F**
Model	5	7144.9988778	1428.99956	49.34	<0.0001
Error	143	4141.84877	28.96398		
Corrected Total	148	11287			

Source: Data generated by Statistical Analysis System (SAS) version 5.1

From the Table 4.22, the p-value (<0.0001) is less than the alpha value 0.05. Hence, the F-statistic is significant. The model for this study is a good descriptor of the relation between the dependent and predictor variables. Therefore, the independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) are significant explain the variance in employee engagement. The alternate hypothesis ($H6_1$) is supported by the data.

Table 4.23: Model Summary of R-Square

Root MSE	Dependent Mean	Coefficient Variance	R-Square	Adjusted R-Square
5.38182	63.71626	8.44654	0.6330	0.6202

Source: Data generated by Statistical Analysis System (SAS) version 5.1

R square

The R square indicates the extent or percentage the independent variables can explain the variations in the dependent variable. In this research, independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) can explain 63.30% of the variations in dependent variable (employee engagement). However, it is still leaves 36.70% (100% - 63.30%) unexplained in this research. In other words, there are other additional variables that are important in explaining employee engagement that have not been considered in this research.

Table 4.24: Parameter Estimates

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr> [t]**
Intercept	1	9.50212	3.52144	2.70	0.0078
PSS	1	0.63075	0.12268	5.14	<0.0001
POS	1	0.17393	0.20342	0.86	0.3940
PJ	1	0.11389	0.18474	0.62	0.5385
RR	1	-0.12894	0.14083	-0.92	0.3614
SE	1	1.25940	0.16438	7.66	<0.0001

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Perceived supervisor support (predictor variable) is significant to predict dependent variable (employee engagement) for this research because p-value for perceived supervisor support is <0.0001 which is less than the alpha value 0.05. Perceived organization support (predictor variable) is not significant to predict dependent variable (employee engagement) in this research because p-value for perceived organization support is 0.3940 which is more than alpha value 0.05. Procedural justice (predictor variable) is not significant to predict dependent variable (employee engagement) for this research because p-value for procedural justice is 0.5385 which is higher than alpha value 0.05. Reward and recognition (predictor variable) is not significant to predict dependent

variable (employee engagement) for this research because p-value for reward and recognition is 0.3614 which is higher than alpha value 0.05. Self-efficacy (predictor variable) is significant to predict dependent variable (employee engagement) for this research because p-value for self-efficacy is <0.0001 which is lower than the alpha value 0.05.

From the Table 4.24, the equation that used to determine the statistical significance of each independent variable on the dependent variable can be formed through substituting the values.

Regression Equation:

$$y = 9.50212 + 0.63075(x_1) + 0.17393(x_2) + 0.11389(x_3) - 0.12894(x_4) + 1.25940(x_5)$$

Where,

y = Employee Engagement

x_1 =Perceived Supervisor Support

x_2= Perceived Organization Support

x_3= Procedural Justice

x_4= Reward and Recognition

x_5= Self-efficacy

Self-efficacy is the predictor variables that contribute the highest to the variation of the dependent variable (employee engagement) because the value

of “Parameter Estimate” (under Table 4.24) for this predictor variable is the largest (1.25940) if compare to other predictor variables (perceived supervisor support, perceived organization support, procedural justice, and reward and recognition). This explains self-efficacy make the strongest contribution to explain the variation in dependent variable (employee engagement) as compared to other variables in this model.

Perceived supervisor support is the predictor variables that contribute the second highest to the variation of the dependent variable (employee engagement) because the value of “Parameter Estimate” (under Table 4.24) for this predictor variable is the second largest (0.63075) if compare to other predictor variables (perceived organization support, procedural justice, reward and recognition, and self-efficacy). This explains perceived supervisor support make the second strongest contribution to explain the variation in dependent variable (employee engagement) as compared to other variables in this model.

Perceived organization support is the predictor variables that contribute the third highest to the variation of the dependent variable (employee engagement) because the value of “Parameter Estimate” (under Table 4.24) for this predictor variable is the third largest (0.17393) if compare to other predictor variables (perceived supervisor support, procedural justice, reward and recognition, and self-efficacy). This explains perceived organization support make the third strongest contribution to explain the variation in dependent variable (employee engagement) as compared to other variables in this model.

Reward and recognition is the predictor variables that contribute the fourth highest to the variation of the dependent variable (employee engagement) because the value of “Parameter Estimate” (under Table 4.24) for this

predictor variable is the fourth largest (-0.12894) if compare to other predictor variables (perceived supervisor support, perceived organization support, procedural justice, and self-efficacy). This explains reward and recognition make the fourth strongest contribution to explain the variation in dependent variable (employee engagement) as compared to other variables in this model.

Procedural justice is the predictor variables that contribute the lowest to the variation of the dependent variable (employee engagement) because the value of "Parameter Estimate" (under Table 4.24) for this predictor variable is the smallest (0.11389) if compared to other predictor variables (perceived supervisor support, perceived organization support, reward and recognition, and self-efficacy). This explains procedural justice make the least contribution to explain the variation in dependent variable (employee engagement) as compared to other variables in this model.

4.4 Conclusion

All the hypotheses are tested in this chapter. The results obtained from this chapter enable a smooth transition into the final chapter whereby the major findings will be presented. The implications and limitations of the study will also be discussed in the next chapter followed by a few recommendations that relevant to this study.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 Introduction

In this chapter, the statistical analysis will be further discussed followed by the discussion of major implications and findings of the study. This includes descriptive and inferential analysis which has been discussed in Chapter 4. Apart from that, limitations of the study and the recommendations for future research are also highlighted. Lastly, the overall conclusion of the whole research project is developed to project the clear picture and ideas of the study.

5.1 Summary of Statistical Analyses

The summary description of the statistical analyses consists of the entire descriptive and inferential analyses introduced and discussed in Chapter 4 which are the descriptive analyses, scale measurement (reliability analysis), and inferential analyses.

5.1.1 Descriptive Analysis

5.1.1.1 Respondent Demographic Profile

Overall, there are 150 respondents contribute in our survey and research project. Our research primarily focuses on all public and private hospital-based nurses in three states of location which are in Kedah, Penang and Perak.

From the results generated in chapter 4, there are more than half of our total respondents are female nurses which comprise 137 respondents (91.33%) while the rest of 13 respondents (8.67%) are male nurses.

Most of the respondents are between 21-30 years old, which made up of 46 respondents out of total 150 respondents (30.67%). Whereas, respondents from age range of 20 years old and below is the least which only 1 respondent (0.67%) belongs to this group. All of our 150 respondents are Malaysian. Next, for ethic group, majority of our respondents are Malay which are 63 respondents (42.00%) while only 3 respondents (2.00%) are from other ethnic groups such as Punjabis, Bangladesh and Nepalese.

Furthermore, 61 respondents (40.67%)have income level that is below RM1500 and only 2 respondents (1.33%) are having high income level of RM4501 and above. Half of our respondents which made up of 75 respondents (50.00%) out of 150 respondents contribute the biggest portion are holding Post-basic certificate/advanced diploma while only 2 respondents (1.33%) are holding Doctorate degree. Lastly, 38.67% or 58 respondents are

having 16 years and above of nursing experience which is the greatest portion and 21 respondents or 14.00% are having 6-10 years of nursing experience made up the least portion on prior clinic experience aspects.

5.1.2 Central Tendencies Measurement of Constructs

According to the results on the analysis conducted, majority of the respondents are having the same opinion and agree with the 50 questions that constructed in our questionnaire regarding the five variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition as well as self-efficacy) are having significant relationship with employee engagement in nursing industry.

Table 5.1: Summary of Central Tendencies Measurement

Variables	Mean		Standard deviation	
	Lowest	**Highest**	**Lowest**	**Highest**
1) Perceived Supervisor Support (Refer table 4.8)	3.40667 P7.	3.90000 P1.	0.71781 P3.	0.99729 P7.

2) Perceived Organization Support (Refer table 4.9)	3.08000 O1.	4.08667 O6.	**0.28229** O6.	0.96600 O1.
3) Procedural Justice (Refer table 4.10)	3.14667 J6.	3.55333 J7.	0.74830 J8.	**1.06429** J6.
4) Reward and recognition (Refer table 4.11)	3.21333 R1.	3.71333 R2.	0.78009 R2.	1.04648 R1.
5) Self-efficacy (Refer table 4.12)	**2.97333** S8.	3.83333 S4. S6. S7.	0.63897 S4.	1.01629 S8.
6) Employee Engagement (Refer table 4.13)	3.43333 E5.	**4.17333** E10.	0.62046 E15.	1.02103 E4.

Source: Developed from research

From the results generated by SAS system version 5.1, the mean of all items is within the range of 2.97333 to 4.17333 while the standard deviation is ranging from 0.28229 to 1.06429.

5.1.3 Scale Measurement

5.1.3.1 Reliability Test

Based on results for the full study as shown in table 4.15, the variable of perceived supervisor support (8 items) has the alpha value of 0.847570, perceived organization support (7 items) has the alpha value of 0.808505, procedural justice (8 items) has the alpha value of 0.854246, reward and recognition (7 items) has the alpha value of 0.931265, self-efficacy (8 items) has the alpha value of 0.781927 and lastly the employee engagement (18 items) has the alpha value of 0.913023.

From Table 4.14, coefficient alpha that ranges within 0.80 to 0.95 indicates very good reliability. Therefore, other than self-efficacy, all variables are considered as very good reliability. Meanwhile, self-efficacy with alpha value of 0.781927 falls under scale within 0.70 to 0.80 is considered as good reliability. In conclusion, all variables in our study have achieved excellent internal consistency and reliable as all variables obtain coefficient alpha above 0.60.

5.1.4 Inferential Analyses

Under inferential analyses, we summarized the results tested by using Multiple Linear Regression Analysis and Pearson's Correlation Coefficient.

5.1.4.1 Pearson Correlation Coefficient

The value between perceived supervisor support and employee engagement is 0.60045, perceived organization support and employee engagement is 0.56632 whereas procedural justice and employee engagement is 0.53951; all fall under coefficient range from ± 0.41 to ± 0.70 signifies their relationships are moderate in strength. While, the value of correlation coefficient between reward and recognition and employee engagement is 0.39214, which falls under coefficient range from ± 0.21 to ± 0.40 indicates there is small but definite relationship. In addition, value of correlation coefficient between self-efficacy and employee engagement is 0.73157 that falls under coefficient range from ± 0.71 to ± 0.90 implies the strength of relationship is high.

Therefore, the results shown that there is positive relationship between each of the all five variables and employee engagement respectively due to the positive value of correlation coefficient acquire. Furthermore, all five variables has p-value <0.0001 which is lower than alpha value 0.05 indicates that the relationship is significant. In short, there is positive and significant relationship between each of all variables and employee engagement.

5.1.4.2 Multiple Regression Analysis

As refer to the results generated from table 4.24, self-efficacy (SE) contributes the highest to the variation of dependent variable (employee engagement), indicates the strongest beta coefficient with employee engagement, which is 1.25940. Next, is followed by perceived supervisor support (PSS), 0.63075,

perceived organization support (POS) is the third with moderate beta correlation 0.17393 as compared to other variables, fourth is reward and recognition (RR) with -0.12894 and lastly, procedural justice (PJ) is the predictor variables that has the lowest beta correlation with employee engagement, which is only 0.11389.

While based on the p-value, we found out that, only two predictor variables which are perceived supervisor support (PSS) and self-efficacy (SE) have p-value <0.0001 which is less than the alpha value 0.05 signified that, they are significant to predict dependent variable (employee engagement) on this research. Whereas, the rest three predictor variables (perceived organization support (POS), procedural justice (PJ) as well as reward and recognition (RR) are having the p- value of 0.3940, 0.5385 and 0.3614 respectively, which all p-values are more than alpha value 0.05 indicated these variables are not significant to predict dependent variable (employee engagement).

However, Table 4.22 revealed that, the result is significant as shown in the model that it is a good descriptor of the relation between the dependent and predictor variables (independent variables). Hence, in overall, the independent variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) are significant in explaining the variances in employee engagement.

In addition, as shown in table 4.23, the coefficient of determination (R square) is 0.6330 which means 63.30% of the variances in dependent variable (employee engagement) have been significantly demonstrated and explained by the five independent variables (perceived supervisor support, perceived

organization support, procedural justice, reward and recognition, and self-efficacy).

5.2 Discussions of Major Findings

Table 5.2: Summary of Hypotheses Testing Results

Hypothesis	Description	Accepted	Rejected
Hypothesis 1	**$H1_1$:** There is a significant relationship between perceived supervisor support and employee engagement in nursing industry.	$\beta = 0.60045$ $p = <0.0001$	
Hypothesis 2	**$H2_1$:** There is a significant relationship between perceived organization support and employee engagement in nursing industry.	$\beta = 0.56632$ $p = <0.0001$	

Hypothesis 3	**$H3_1$**: There is a significant relationship between procedural justice and employee engagement in nursing industry.	$\beta = 0.53951$ $p = <0.0001$	
Hypothesis 4	**$H4_1$**: There is a significant relationship between reward and recognition and employee engagement in nursing industry.	$\beta = 0.39214$ $p = <0.0001$	
Hypothesis 5	**$H5_1$**: There is a significant relationship between self-efficacy and employee engagement in nursing industry.	$\beta = 0.73157$ $p = <0.0001$	

Source: Developed from research

5.2.1 Hypothesis 1: Perceived Supervisor Support (PSS)

According to table 5.2, **$H1_1$** is accepted as it has positive correlation coefficient value of 0.60045 which indicates moderate correlation in strength and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown

that, there is a positive and significant relationship between perceived supervisor support and employee engagement. This hypothesis is proved and supported by various previous researches and studies.

According to Law et al., 2011, definition of supervisor support is the perceived social support valued by the employees from supervisors, involving emotional and instrumental support. One of the element of job resource which consistently proved in several researches that has being conducted with result that, social support from supervisor was positively related with work engagement (Bakker & Demerouti; Schaufeli & Salanova, as cited in Bakker & Demerouti, 2008).

Based on the saying by Bakker and Demerouti (as cited in Xanthopoulou et al., 2009) confirmed that those employees who obtain autonomy at work, proper coaching and high-quality, receive feedback, have opportunities for professional development as well as have supportive colleagues, are intrinsically motivated to accomplish their work objectives. Motivational job resources are potentially in creating the outcome of high work engagement and boosted up work performance extrinsically and intrinsically (Law et al., 2011). Therefore, this proved that, perceived supervisor support and employee engagement is positively related significantly.

5.2.2 Hypothesis 2: Perceived Organization Support (POS)

According to table 5.2, $\mathbf{H2_1}$ is accepted as it has positive correlation coefficient value of 0.56632 which indicates moderate correlation in strength

and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between perceived organization support and employee engagement. This hypothesis is proved and supported by various previous researches and studies.

The exchange relationship between the employee and the organization is focused on perceived organization support (POS). In another, it can be said that, employer is committed to employee (Wayne, Shore, Bommer & Tetrick, 2002; Gyekye & Salminen, 2007).

As shown by Gyekye and Salminen (2007), employees who gain organizational support will express themselves in high level of efficiency, enhanced productivity and with sense of loyalty towards the organization. They will have more involvement and stronger feelings of faithfulness and allegiance towards the organization. Hence, this lead to employee engagement and proved that there is a positive and significant relationship between perceived organization support and employee engagement.

5.2.3 Hypothesis 3: Procedural Justice (PJ)

According to table 5.2, **$H3_1$** is accepted as it has positive correlation coefficient value of 0.53951 which indicates moderate correlation in strength and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between procedural justice and employee engagement. This hypothesis is proved and supported by various previous researches and studies.

Greenberg define procedural justice as the procedures' perceived fairness in making decision (as cited in Naumann & Bennett, 2002). According to Konovsky (2000) and Clay-Warner et al. (2005), procedural justice is able to foreseen the employees' working attitude and behavior, involving the level of engagement and job satisfaction.

Furthermore, there is a linkage found between procedural justice with group engagement suggested by Tyler and Blader (2003) and Blader and Tyler (2008). The researches has shown that, procedural justice is able to raise identification of members and bring commitment within the group because it forms identity respect and secure (Leonardelli & Toh, 2011) and employees will have a sense of strong bonding within the group (Clay-Warner et al., 2005). Therefore, employees with great senses of belonging and bonding in their work groups will have a relatively high level of engagement and this proved that, procedural justice and employee engagement has positive and significant relationship.

5.2.4 Hypothesis 4: Reward and Recognition (RR)

According to table 5.2, $\mathbf{H4_1}$ is accepted as it has positive correlation coefficient value of 0.39214 which indicates small but definite relationship and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between reward and recognition and employee engagement. This hypothesis is proved and supported by various previous researches and studies.

According to Bhattacharya and Mukherjee (2009); Salie and Schlechter, (2012), there are two categories of rewards namely intrinsic and extrinsic. Accomplishment or satisfaction which more towards an individual internal feeling are intrinsic rewards. While, rewards such as increase in pay, praise and promotion are extrinsically and more towards an individual external experience. Meanwhile, recognition defined by Kerr (2005) about contribution of an employee to the organization has been viewed as an acknowledgement in the public.

Reward can serve as a 'catalyst' in increasing performance and creating greater productivity based on the larger population of 'engaged' employees (Bhattacharya & Mukherjee, 2009). In addition, Maslach and Leiter's study (as cited in Willoughby, 2011) proposed that reward and recognition are postulated to be important facilitators for engagement. Hence, this shown that there is a positive and significant relationship between reward and recognition and employee engagement.

5.2.5 Hypothesis 5: Self -efficacy (SE)

According to table 5.2, **$H5_1$** is accepted as it has positive correlation coefficient value of 0.73157 which indicates high correlation in strength and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between self-efficacy and employee engagement. This hypothesis is proved and supported by various previous researches and studies.

Perceived self-efficacy always refers to the faith of an individual that, one's abilities in performing and coordinating the courses of action needed to create given attainments as cites in Deese from Bandura study. Among the studies of several researchers, self-efficacy has been stated as one of the major individual resources which bring about employee engagement. In the studies of Hobfoll (as cited in Deese, 2009) related to the COR theory, self-efficacy indicates to those who have established resources pool and probably invest those resources for the future return. Therefore, employees with high self-efficacy are more possible to be engaged in work via keep on giving their level of vigor (effort) and absorption (passion) which form engagement.

Furthermore, both COR and VIE theories that support individual resource (self-efficacy) shown that, individuals who believe in themselves that they are able to achieve successfulness in their career have possibility to try on new and challenging work tasks (Deese et al., 2009) and eventually will be further engaged in their work (Bakker et al., 2008). According to Schaufeli studies (as cited in Mendes & Stander, 2011), engaged employees have positive self-efficacy and believe themselves have competency to deal with and accomplish their job demands. In addition, Maslach, Leiter and Maslach studies (as cited in Simpson, 2009) suggested that, high efficacy, high involvement and high energy are traits of engagement.

On the other hand, as discussed in Karatepea and Olugbade (2009), there is a practical evidence revealed a linkage between self-efficacy and employee engagement and self-efficacy is one of the individual resources which will be positively and give great impact to the three main dimensions (vigor, dedication, and absorption) of employee engagement. This also specially justified in the Xanthopoulou study as cited in Karatepe and Olugbade (2009) that distinct individual resource (self-efficacy) improved employees' work

engagement. Lastly, Deese et al., (2009) also declared that, self-efficacy forecasted both vigor and dedication and this pointed out that self-efficacy is one of the vital players in engagement prophecy.

Therefore, this proved that self-efficacy and employee engagement has a positive and significant relationship. From our research, we also found out that self-efficacy is the most important variable that lead to employee engagement as we indicates the highest correlation in strength between self-efficacy and employee engagement as compared to other four independent variables (perceived supervisor support, perceived organization support, procedural justice as well as reward and recognition).

5.3 Implications of the Study

5.3.1 Managerial Implications

From the results we obtained in our research, we found out that, employee engagement relates positively with all five variables which are perceived supervisor support, perceived organization support, procedural justice, reward and recognition and self-efficacy significantly. Therefore, in order to increase and enhance the level of employee engagement level in the organization, manager should focus on fulfill and giving these five variables to employees in order to retain them and boost up the employee loyalty in the organization.

It is crucial for manager to be able to bring up engagement in their employees. Our research offers further and detail information and understanding about the factors or variables which lead to employee engagement enables manager of the organization to be aware and take note on these areas and use it as a method to increase employee engagement and reduce the turnover rate in the organization.

To build up good relationship between supervisor support and employee dedication, it is beneficial and useful in giving training which shown supportive behaviors to nurse managers. Next, organizational resources may be a crucial component for employee blooming. It is definitely important for the manager in providing sufficient resources to employees to attain and maintain employees' engagement.

Meanwhile, individual are highly engaged to the work group and organization when they perceived fair authority, procedure and able to feel a senses of respectful by others in the organization. Hence, manager should ensure all the procedures and decision made are fair to all employees. On the other hand, employees feel themselves are being valued and appreciated when given certain rewards and recognition according to their contributions to the organization. Reward and recognition is able to make them fell satisfy and be loyalty to the organization. Hence, organization should always provide appropriate rewards and recognition to their employees whether in intrinsic way such as benefits and appraisal as well as in extrinsic way such as increase their salary and giving bonus to maintain their engagement level towards the organization.

Lastly, manager in the organization should encourage coworker support as coworker support could be helpful in increasing employee self-efficacy. As the supervisor support and coworker support are highly correlated, supervisors should play as a role model in encouraging and bringing a supportive environment in the organization. It is clearly indicated that a supportive environment is favorable and good for employee well-being as well as enhance engagement.

5.4 Limitation of the study

With the hard work and effort that contributed to this study, there are a number of limitations from this study that needed to be highlighted. First, limited journal databases access that deemed to be important for this study is one of the limitations. Due to the financial constraint, we are not able to access most of the journal that are important and related to this study as most of the journal required us to purchase in order to get access.

Secondly, the time constraint issue limits this study for a small sample size collection which is in total of 150 respondents. As this research was only carried out in Kedah, Penang and Perak, this small sample size might not be able to represent the whole population accurately.

Thirdly, the Likert scale measurement is applied in conducting the questionnaire survey whereby the respondents are required to choose from the suggested answer with a scale from 1 to 5. Therefore, the accuracy and reliability of the data and precise

result are difficult to collect as the measures are subjective and bias. Respondents will also randomly select the answer due to the difficult terms that used in the questionnaire. Thus, it leads to the misinterpretation of the result. As far as it may concern, there are the tendency for respondents to misrepresent their answer on some sensitive questions as they did not want to disclose to others.

Finally, the target respondent is hospital-based nurses. As far as it may concern, nurses are dealing with heavy workload. This might reduce their ability to analyze the questionnaire and might simply answer the questionnaire due to their heavy workload and insufficient time to interpret the questionnaire slowly.

5.5 Recommendations for Future Research

To have a better future research, future researchers are encouraged to conduct further studies throughout the whole Malaysia which includes Peninsular Malaysia and East Malaysia as our data collected are only done in Penang, Kedah and Perak. Wider area coverage is encouraged as it will be best representing the overall population and will give better and clearer implication and thus able to clarify the factors affecting employee engagement in Malaysia particularly in nursing industry.

Besides that, future researchers should not limit a time frame or take a longer period of time to conduct the research as it will reduce the constraint of getting a more accurate result. There should be no limit of time on completion of the study as the details of the data analysis could be affected by the time taken to conduct the research. Future researchers are also advised to have an in depth knowledge on the topic in

order to narrow down the scope of research to provide higher reliability and in depth research in the future.

5.6 Conclusion

In a nutshell, this research has disclosed a research framework of perceived supervisor support, perceived organizational support, procedural justice, reward and recognition, self-efficacy and employee engagement among hospital-based nurses. Future empirical studies should focus more on other factors affecting employee engagement so that future users are able to gain the benefits from it.

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APPENDIX 1.1

NURSING POPULATION IN MALAYSIA

TABLE 70
NUMBER OF APC ISSUED FOR NURSES IN PUBLIC & PRIVATE SECTORS, 2008 - 2010

Categories of Nurses	2008		2009		2010	
	Public	Private	Public	Private	Public	Private
Basic Diploma Nurse	38,575	15,633	45,478	14,414	56,291	21,118
Community Nurse	16,230	406	18,083	500	17,621	167
Assistant Nurse	2,289	2,327	1,781	2,488	771	957
Total	**57,094**	**18,366**	**65,342**	**17,402**	**74,683**	**22,242**

Source: Nursing Division, MoH

Table 1: Statistic for Total Number of Nurses and Ratio in Malaysia from 2000 to 2010

Years	Total Number of Nurses	Growth Rate (%) (CY-PY/PY) X 100%	Population	Ratio (No. of citizens per nurse)
2000	31, 129	Nil	23, 253, 363	1:747
2001	33, 295	6.96	23, 805, 925	1:715
2002	35, 280	5.96	24, 519, 600	1:695
2003	36, 784	4.26	25, 049, 904	1:681
2004	40, 220	9.34	25, 579, 920	1:636
2005	44, 120	9.70	26, 119, 040	1:592
2006	47, 642	7.98	26, 640, 200	1:559
2007	48, 916	2.67	27, 173, 600	1:556
2008	54, 208	10.82	27, 828, 700	1:512
2009	59, 375	9.53	28, 306, 700	1:477
2010	69, 110	16.40	28, 334, 100	1:410

Note: CY – Current Year, PY – Previous Year, Source: Ministry of Health, Malaysia (2012)

Asean Foreign And Local Registered Nurses Data

Host Country : MALAYSIA
Year : Jan – 31 December 2010
Total Number of Local Nurses : 69,110

ASEAN Country of Origin	Total Number of Foreign Registered Nurses Licensed to Practice	GENDER		AREA OF WORK			
				Clinical		Education	
		M	F	*Public*	*Private*	*Public*	*Private*
Brunei							-
Cambodia							
Indonesia	64	24	40		*10*		52
Lao PDR							-
Malaysia *(Local)*	69,110	492	68,618	*47,089*	*17,833*	903	3,285
Myanmar	[illegible]	[illegible]	[illegible]		[illegible]		5
Philippines	97	20	77		*83*		14
Singapore	2		2		2		
Thailand	-	-	-	-	-	-	-
Viet Nam	4	2	2		4		
TOTAL ASEAN	69,347	539	68,808	*47,089*	*1,7997*	*903*	3,356
Non-ASEAN	774	30	744	-	698	-	76

Amended 9th Nov 2010 /8th AJCCN ,Manila Philippines

APPENDIX 3.1

QUESTIONNAIRE

Universiti Tunku Abdul Rahman

The employee engagement in nursing industry: A study on hospital-based nurses.

Dear Respondents:

We are students of Bachelor of Business Administration (Hons) from Universiti Tunku Abdul Rahman (UTAR). We are currently doing our final year project with the title "The employee engagement in nursing industry: A study on hospital-based nurses." in order to complete our honours degree program.

The purpose of this research is to identify the significant relationship between the variables (perceived supervisor support, perceived organization support, procedural justice, reward and recognition, and self-efficacy) and employee engagement. This research will assist to know more about the reasons in which affect the nurses to be engaging in their job and workplace.

This questionnaire consists of 3 parts. Part A is about the personal details of the respondents, Part B is related to the factors that influence the employee engagement, and Part C is the general information on employee engagement.

Finally, please read the instructions carefully before answering the questions. Thank you for your cooperation and willingness to answer the questionnaire. Your response will be kept confidential and be used solely for academic purpose.

Hew Hui Ying	11ABB00331
Kong Pei Shin	11ABB00207
Moy Xue Min	11ABB00129
Ng Lai Yen	11ABB00274
Ng Siew Siew	11ABB00208

The employee engagement in nursing industry: A study on hospital-based nurses.

Dear respondents,

We are final year students of bachelor of business administration from Universiti Tunku Abdul Rahman (UTAR). We are currently doing our final year project on "The employee engagement in nursing industry: A study on hospital-based nurses". Thank you for your cooperation and willingness to answer the questionnaire. Your response will be kept confidential and be used solely for academic purpose.

Part A: Personal Details

Please provide the following information about yourself by placing a **"√"** on one of the blank space to assist us in analyzing the responses.

1. Gender
   □ Female
   □ Male

2. Age
   □ Below 20
   □ 21 - 30
   □ 31 - 40
   □ 41 – 50
   □ 51 - 60
   □ Above 61

3. Nationality
   □ Malaysian
   □ Others: _____

4. Race
   □ Malay
   □ Chinese
   □ Indian
   □ Others: _____

5. Monthly income:
   - □ Below RM1500.00
   - □ RM1501.00 - RM2500.00
   - □ RM2501.00 - RM3500.00
   - □ RM3501.00 – RM4500.00
   - □ Above RM4501.00

6. Highest educational degree earned
   - □ Post-basic ccertificate/ advanced diploma
   - □ Diploma
   - □ Bachelor degree
   - □ Master degree
   - □ Doctorate degree

7. Prior clinic experience
   - □ 1-5 year
   - □ 6-10 year
   - □ 11-15 years
   - □ 16 years and above

Part B: Factors influences employee engagement

The following set of statement related to the factors influencing employee's engagement. The Likert scale of measurement is being used. According to your experience as employee, please read and answer according to what best reflect your opinion.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

	SD	D	N	A	SA
1. I can depend on my supervisor for help when things get tough at work.	1	2	3	4	5
2. My supervisor treats me with respect.	1	2	3	4	5
3. My supervisor cares about my opinions.	1	2	3	4	5
4. My work supervisor really cares about my well-being.	1	2	3	4	5
5. My supervisor strongly considers my goals and values.	1	2	3	4	5
6. My supervisor is willing to listen to my personal problems.	1	2	3	4	5
7. My supervisor shows very little concern for me.	1	2	3	4	5
8. My manager would ignore any complaint from me.	1	2	3	4	5
9. The organization I work for provides me little opportunity to move up the ranks.	1	2	3	4	5
10. My organization really cares about my well-being.	1	2	3	4	5
11. My organization strongly considers my goals and values.	1	2	3	4	5
12. I find that my values and the organization's values are very similar.	1	2	3	4	5
13. Help is available from my organization when I have a problem.	1	2	3	4	5

14. My organization shows little concern for me.	1	2	3	4	5
15. I talk up this organization to my friends as a great organization to work for.	1	2	3	4	5
16. Decisions are usually made in fair ways at my work organization.	1	2	3	4	5
17. The procedures used to make decisions about pay and promotions are fair.	1	2	3	4	5
18. Decisions that affect me are usually made in fair ways at my work organization.	1	2	3	4	5
19. The procedures used to decide how much I am paid are fair.	1	2	3	4	5
20. Most of the issues involving me are handled in fair ways where I work.	1	2	3	4	5
21. I am usually not told about important things that are happening in this work organization.	1	2	3	4	5
22. Overall, people are treated fairly where I work.	1	2	3	4	5
23. Overall, I am fairly treated where I work.	1	2	3	4	5
24. I'm satisfied with the amount of health care paid for.	1	2	3	4	5
25. I have the opportunities to learn & grow.	1	2	3	4	5
26. This organization gives enough recognition for work that is well done.	1	2	3	4	5
27. I feel I am valued at this organization.	1	2	3	4	5
28. My salary is fair for my responsibilities.	1	2	3	4	5
29. If I do good work, I can count on being promoted.	1	2	3	4	5
30. Overall, I am satisfied with the organization' benefit package.	1	2	3	4	5
31. When I try, I generally succeed.	1	2	3	4	5
32. My job is well within the scope of my abilities.	1	2	3	4	5
33. I have all the technical knowledge I need to deal with my job, all I need now is practical experience.	1	2	3	4	5
34. I feel confident that my skills and abilities equal or exceed those of my colleagues.	1	2	3	4	5

35. I could have handled a more challenging job than the one I am doing.	1	2	3	4	5
36. Professionally speaking, my job exactly satisfies my expectations of myself.	1	2	3	4	5
37. I complete tasks successfully.	1	2	3	4	5
38. I am filled with doubts about my competence.	1	2	3	4	5

Part C: General information on employee engagement

According to your experience as employee, please read and answer according to what best reflect your opinion.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

	SD	D	N	A	SA
1. At my work, I feel bursting with energy.	1	2	3	4	5
2. At my job I feel strong and vigorous.	1	2	3	4	5
3. When I get up in the morning, I feel like going to work.	1	2	3	4	5
4. I can continue working for very long periods at a time.	1	2	3	4	5
5. At my job, I am very resilient, mentally.	1	2	3	4	5
6. At my work I always persevere, even when things do not go well.	1	2	3	4	5
7. I find the work that I do full of meaning and purpose.	1	2	3	4	5
8. I am enthusiastic about my job.	1	2	3	4	5
9. My job inspires me.	1	2	3	4	5
10. I am proud of the work that I do.	1	2	3	4	5
11. To me, my job is challenging.	1	2	3	4	5
12. Time flies when I am working.	1	2	3	4	5
13. When I am working, I forget everything else around me.	1	2	3	4	5
14. I feel happy when I am working intensely.	1	2	3	4	5
15. I am immersed in my work.	1	2	3	4	5
16. I get carried away when I am working.	1	2	3	4	5

17. It is difficult to detach myself from my job.	1	2	3	4	5
18. I was absorbed in my work.	1	2	3	4	5

APPENDIX 3.2

PILOT TEST

PSS

IV PSS Reliability Test

The CORR Procedure

8 Variables:	PSS 1	PSS 2	PSS 3	PSS 4	PSS 5	PSS 6	PSS 7 R	PSS 8 R

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
PSS 1	12	4.33333	0.77850	52.00000	3.00000	5.00000	PSS 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 2	12	4.08333	0.51493	49.00000	3.00000	5.00000	PSS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 3	12	3.50000	0.79772	42.00000	3.00000	5.00000	PSS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 4	12	3.75000	0.86603	45.00000	3.00000	5.00000	PSS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 5	12	3.91667	0.66856	47.00000	3.00000	5.00000	PSS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 6	12	4.33333	0.88763	52.00000	2.00000	5.00000	PSS 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 7 R	12	2.66667	1.23091	32.00000	1.00000	5.00000	PSS 7 R
PSS 8 R	12	3.41667	1.24011	41.00000	1.00000	5.00000	PSS 8 R

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.754717
Standardized	0.812655

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
PSS 1	0.355375	0.744772	0.394385	0.810247	PSS 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 2	0.708025	0.711101	0.785993	0.752321	PSS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 3	0.621694	0.701431	0.704871	0.765002	PSS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 4	0.476424	0.724616	0.525588	0.791751	PSS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 5	0.740409	0.692100	0.827615	0.745671	PSS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 6	0.453358	0.728590	0.541154	0.789497	PSS 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 7 R	0.292691	0.774629	0.218247	0.833700	PSS 7 R
PSS 8 R	0.370393	0.757125	0.294241	0.823771	PSS 8 R

Pearson Correlation Coefficients, N = 12
Prob > |r| under H0: Rho=0

	PSS 1	PSS 2	PSS 3	PSS 4	PSS 5	PSS 6	PSS 7 R	PSS 8 R
PSS 1	1.00000	0.37796	0.29277	-0.13484	0.58222	0.61394	-0.15811	0.31388
PSS 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		0.2258	0.3558	0.6761	0.0470	0.0337	0.6236	0.3204
PSS 2	0.37796	1.00000	0.77460	0.66254	0.81422	0.72929	0.04781	0.08305
PSS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.2258		0.0031	0.0189	0.0013	0.0071	0.8827	0.7975
PSS 3	0.29277	0.77460	1.00000	0.85534	0.76706	0.25678	0.27775	-0.04595
PSS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.3558	0.0031		0.0004	0.0036	0.4204	0.3821	0.8872
PSS 4	-0.13484	0.66254	0.85534	1.00000	0.58880	0.11826	0.42640	-0.06349
PSS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.6761	0.0189	0.0004		0.0440	0.7143	0.1669	0.8446
PSS 5	0.58222	0.81422	0.76706	0.58880	1.00000	0.66384	0.07365	0.15534
PSS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0470	0.0013	0.0036	0.0440		0.0186	0.8201	0.6298
PSS 6	0.61394	0.72929	0.25678	0.11826	0.66384	1.00000	-0.22188	0.35788
PSS 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0337	0.0071	0.4204	0.7143	0.0186		0.4883	0.2534
PSS 7 R	-0.15811	0.04781	0.27775	0.42640	0.07365	-0.22188	1.00000	0.63525
PSS 7 R	0.6236	0.8827	0.3821	0.1669	0.8201	0.4883		0.0264
PSS 8 R	0.31388	0.08305	-0.04595	-0.06349	0.15534	0.35788	0.63525	1.00000
PSS 8 R	0.3204	0.7975	0.8872	0.8446	0.6298	0.2534	0.0264	

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POS

POS

The CORR Procedure

7 Variables:	POS 1 R	POS 2	POS 3	POS 4	POS 5	POS 6 R	POS 7

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
POS 1 R	12	4.16667	0.71774	50.00000	3.00000	5.00000	POS 1 R
POS 2	12	4.58333	0.66856	55.00000	3.00000	5.00000	POS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 3	12	4.58333	0.51493	55.00000	4.00000	5.00000	POS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 4	12	3.58333	0.79296	43.00000	3.00000	5.00000	POS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 5	12	3.83333	0.83485	46.00000	3.00000	5.00000	POS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 6 R	12	4.58333	0.51493	55.00000	4.00000	5.00000	POS 6 R
POS 7	12	4.16667	0.93744	50.00000	3.00000	5.00000	POS 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.746804
Standardized	0.787631

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
POS 1 R	0.678872	0.666102	0.686672	0.726094	POS 1 R
POS 2	0.623217	0.682613	0.690894	0.725221	POS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 3	0.657185	0.690534	0.668767	0.729782	POS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 4	0.390856	0.734036	0.337519	0.793347	POS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 5	0.159177	0.790345	0.149181	0.825727	POS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 6 R	0.657185	0.690534	0.672112	0.729095	POS 6 R
POS 7	0.365542	0.750000	0.453272	0.772121	POS 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Pearson Correlation Coefficients, N = 12
Prob > |r| under H0: Rho=0

	POS 1 R	POS 2	POS 3	POS 4	POS 5	POS 6 R	POS 7
POS 1 R	1.00000	0.72624	0.45096	0.45257	0.50572	0.45096	0.09008
POS 1 R		0.0075	0.1412	0.1396	0.0935	0.1412	0.7807
POS 2	0.72624	1.00000	0.77021	-0.01429	0.02715	0.77021	0.41098
POS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0075		0.0034	0.9648	0.9333	0.0034	0.1844
POS 3	0.45096	0.77021	1.00000	-0.01855	0.03525	0.65714	0.72193
POS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.1412	0.0034		0.9544	0.9134	0.0202	0.0080
POS 4	0.45257	-0.01429	-0.01855	1.00000	0.57219	0.20409	0.22421
POS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.1396	0.9648	0.9544		0.0519	0.5246	0.4836
POS 5	0.50572	0.02715	0.03525	0.57219	1.00000	-0.17623	-0.30976
POS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0935	0.9333	0.9134	0.0519		0.5838	0.3272
POS 6 R	0.45096	0.77021	0.65714	0.20409	-0.17623	1.00000	0.72193
POS 6 R	0.1412	0.0034	0.0202	0.5246	0.5838		0.0080
POS 7	0.09008	0.41098	0.72193	0.22421	-0.30976	0.72193	1.00000
POS 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.7807	0.1844	0.0080	0.4836	0.3272	0.0080	

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PJ

IV PJ Reliability Test

The CORR Procedure

8 Variables: PJ 1 PJ 2 PJ 3 PJ 4 PJ 5 PJ 6 R PJ 7 PJ 8

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
PJ 1	12	3.91667	0.66856	47.00000	3.00000	5.00000	PJ 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 2	12	3.58333	0.99620	43.00000	2.00000	5.00000	PJ 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 3	12	3.00000	1.20605	36.00000	2.00000	5.00000	PJ 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 4	12	3.25000	1.28806	39.00000	2.00000	5.00000	PJ 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 5	12	3.50000	0.67420	42.00000	3.00000	5.00000	PJ 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 6 R	12	3.41667	0.99620	41.00000	2.00000	5.00000	PJ 6 R
PJ 7	12	2.66667	1.66969	32.00000	1.00000	5.00000	PJ 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 8	12	3.66667	0.88763	44.00000	2.00000	5.00000	PJ 8, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.838865
Standardized	0.838570

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
PJ 1	0.534708	0.828969	0.582063	0.817870	PJ 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 2	0.814942	0.790612	0.754479	0.795006	PJ 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 3	0.949424	0.762705	0.912888	0.772776	PJ 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 4	0.782497	0.787926	0.712740	0.800666	PJ 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 5	0.605449	0.823395	0.551114	0.821832	PJ 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 6 R	-.044648	0.884886	-.002737	0.885797	PJ 6 R
PJ 7	0.800579	0.789017	0.759734	0.794288	PJ 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 8	0.313526	0.846881	0.387793	0.842035	PJ 8, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Pearson Correlation Coefficients, N = 12
Prob > |r| under H0: Rho=0

	PJ 1	PJ 2	PJ 3	PJ 4	PJ 5	PJ 6 R	PJ 7	PJ 8
PJ 1	1.00000	0.35261	0.56373	0.23753	0.30253	0.19337	0.29861	0.86809
PJ 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		0.2609	0.0563	0.4573	0.3392	0.5471	0.3458	0.0003
PJ 2	0.35261	1.00000	0.83231	0.93873	0.47374	-0.08397	0.78337	0.23989
PJ 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.2609		0.0008	<.0001	0.1198	0.7953	0.0026	0.4527
PJ 3	0.56373	0.83231	1.00000	0.87781	0.67082	-0.07566	0.94804	0.33968
PJ 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0563	0.0008		0.0002	0.0169	0.8152	<.0001	0.2800
PJ 4	0.23753	0.93873	0.87781	1.00000	0.57577	-0.23025	0.88768	0.07951
PJ 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.4573	<.0001	0.0002		0.0501	0.4716	0.0001	0.8060
PJ 5	0.30253	0.47374	0.67082	0.57577	1.00000	-0.06768	0.72682	0.00000
PJ 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.3392	0.1198	0.0169	0.0501		0.8345	0.0074	1.0000
PJ 6 R	0.19337	-0.08397	-0.07566	-0.23025	-0.06768	1.00000	-0.12753	0.37696
PJ 6 R	0.5471	0.7953	0.8152	0.4716	0.8345		0.6929	0.2271
PJ 7	0.29861	0.78337	0.94804	0.88768	0.72682	-0.12753	1.00000	0.04089
PJ 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.3458	0.0026	<.0001	0.0001	0.0074	0.6929		0.8996
PJ 8	0.86809	0.23989	0.33968	0.07951	0.00000	0.37696	0.04089	1.00000
PJ 8, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0003	0.4527	0.2800	0.8060	1.0000	0.2271	0.8996	

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RR

IV RR Reliability Test

The CORR Procedure

7 Variables: RR 1 RR 2 RR 3 RR 4 RR 5 RR 6 RR 7

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
RR 1	12	2.66667	1.61433	32.00000	1.00000	5.00000	RR 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 2	12	4.75000	0.45227	57.00000	4.00000	5.00000	RR 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 3	12	4.41667	0.79296	53.00000	3.00000	5.00000	RR 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 4	12	4.16667	0.38925	50.00000	4.00000	5.00000	RR 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 5	12	2.66667	1.72328	32.00000	1.00000	5.00000	RR 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 6	12	4.50000	0.67420	54.00000	3.00000	5.00000	RR 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 7	12	3.33333	1.15470	40.00000	2.00000	5.00000	RR 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.774217
Standardized	0.785961

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
RR 1	0.848977	0.649395	0.651210	0.730909	RR 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 2	0.133286	0.793188	0.257899	0.805437	RR 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 3	0.231896	0.787310	0.449830	0.770597	RR 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 4	0.765604	0.750416	0.767048	0.706558	RR 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 5	0.872317	0.643864	0.678307	0.725315	RR 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 6	0.139212	0.796124	0.336259	0.791554	RR 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 7	0.742631	0.690275	0.485616	0.763784	RR 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Pearson Correlation Coefficients, N = 12
Prob > |r| under H0: Rho=0

	RR 1	RR 2	RR 3	RR 4	RR 5	RR 6	RR 7
RR 1	1.00000	0.00000	0.04734	0.67514	0.96946	-0.08353	0.94287
RR 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		1.0000	0.8838	0.0160	<.0001	0.7963	<.0001
RR 2	0.00000	1.00000	0.57035	0.25820	0.00000	0.44721	-0.17408
RR 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	1.0000		0.0528	0.4178	1.0000	0.1449	0.5884
RR 3	0.04734	0.57035	1.00000	0.34362	0.11088	0.93525	-0.16548
RR 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.8838	0.0528		0.2741	0.7316	<.0001	0.6073
RR 4	0.67514	0.25820	0.34362	1.00000	0.63246	0.34641	0.67420
RR 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0160	0.4178	0.2741		0.0273	0.2700	0.0162
RR 5	0.96946	0.00000	0.11088	0.63246	1.00000	0.00000	0.92895
RR 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	1.0000	0.7316	0.0273		1.0000	<.0001
RR 6	-0.08353	0.44721	0.93525	0.34641	0.00000	1.00000	-0.23355
RR 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.7963	0.1449	<.0001	0.2700	1.0000		0.4650
RR 7	0.94287	-0.17408	-0.16548	0.67420	0.92895	-0.23355	1.00000
RR 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	0.5884	0.6073	0.0162	<.0001	0.4650	

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SE

IV SE Reliability Test

The CORR Procedure

8 Variables:	SE 1	SE 2	SE 3	SE 4	SE 5	SE 6	SE 7	SE 8 R

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
SE 1	12	4.25000	0.45227	51.00000	4.00000	5.00000	SE 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 2	12	3.75000	0.75378	45.00000	3.00000	5.00000	SE 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 3	12	4.58333	0.66856	55.00000	3.00000	5.00000	SE 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 4	12	4.50000	0.67420	54.00000	3.00000	5.00000	SE 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 5	12	4.41667	0.79296	53.00000	3.00000	5.00000	SE 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 6	12	3.83333	0.83485	46.00000	3.00000	5.00000	SE 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 7	12	4.58333	0.51493	55.00000	4.00000	5.00000	SE 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 8 R	12	4.50000	0.67420	54.00000	3.00000	5.00000	SE 8 R

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.762421
Standardized	0.768618

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
SE 1	0.283896	0.762687	0.259528	0.778685	SE 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 2	0.114070	0.801205	0.102862	0.802987	SE 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 3	0.787733	0.676394	0.783764	0.685500	SE 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 4	0.579934	0.715695	0.558130	0.727940	SE 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 5	0.765207	0.670833	0.807829	0.680756	SE 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 6	0.182173	0.796929	0.168852	0.792939	SE 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 7	0.347990	0.754902	0.369486	0.760691	SE 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 8 R	0.800760	0.673209	0.821105	0.678120	SE 8 R

Pearson Correlation Coefficients, N = 12
Prob > |r| under H0: Rho=0

	SE 1	SE 2	SE 3	SE 4	SE 5	SE 6	SE 7	SE 8 R
SE 1	1.00000	0.46667	0.07516	-0.14907	0.19012	0.36116	0.09759	0.14907
SE 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		0.1262	0.8164	0.6438	0.5540	0.2487	0.7629	0.6438
SE 2	0.46667	1.00000	0.13530	-0.26833	-0.11407	0.65008	-0.29277	-0.08944
SE 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.1262		0.6750	0.3991	0.7241	0.0221	0.3558	0.7822
SE 3	0.07516	0.13530	1.00000	0.70591	0.87170	0.02715	0.50614	0.90760
SE 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.8164	0.6750		0.0103	0.0002	0.9333	0.0932	<.0001
SE 4	-0.14907	-0.26833	0.70591	1.00000	0.76521	0.16151	0.39279	0.80000
SE 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.6438	0.3991	0.0103		0.0037	0.6160	0.2066	0.0018
SE 5	0.19012	-0.11407	0.87170	0.76521	1.00000	-0.02289	0.68648	0.93525
SE 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.5540	0.7241	0.0002	0.0037		0.9437	0.0137	<.0001
SE 6	0.36116	0.65008	0.02715	0.16151	-0.02289	1.00000	-0.38770	0.00000
SE 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.2487	0.0221	0.9333	0.6160	0.9437		0.2130	1.0000
SE 7	0.09759	-0.29277	0.50614	0.39279	0.68648	-0.38770	1.00000	0.65465
SE 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.7629	0.3558	0.0932	0.2066	0.0137	0.2130		0.0209
SE 8 R	0.14907	-0.08944	0.90760	0.80000	0.93525	0.00000	0.65465	1.00000
SE 8 R	0.6438	0.7822	<.0001	0.0018	<.0001	1.0000	0.0209	

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EE

EE

The CORR Procedure

18 Variables:	EE Vigor 1 EE Vigor 2 EE Vigor 3 EE Vigor 4 EE Vigor 5 EE Vigor 6 EE Dedication 1 EE Dedication 2 EE Dedication 3 EE Dedication 4 EE Dedication 5 EE Absorption 1 EE Absorption 2 EE Absorption 3 EE Absorption 4 EE Absorption 5 EE Absorption 6 EE Absorption 7

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
EE Vigor 1	12	3.75000	0.96531	45.00000	2.00000	5.00000	Vigor, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 2	12	4.33333	0.49237	52.00000	4.00000	5.00000	Vigor 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 3	12	3.08333	1.31137	37.00000	2.00000	5.00000	Vigor 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 4	12	3.66667	0.77850	44.00000	3.00000	5.00000	Vigor 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 5	12	3.75000	0.96531	45.00000	2.00000	5.00000	Vigor 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 6	12	3.83333	1.02986	46.00000	1.00000	5.00000	Vigor 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 1	12	4.25000	0.62158	51.00000	3.00000	5.00000	Dedication 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 2	12	4.75000	0.45227	57.00000	4.00000	5.00000	Dedication 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 3	12	4.25000	0.62158	51.00000	3.00000	5.00000	Dedication 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 4	12	4.75000	0.45227	57.00000	4.00000	5.00000	Dedication 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 5	12	4.91667	0.28868	59.00000	4.00000	5.00000	Dedication 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 1	12	4.58333	0.66856	55.00000	3.00000	5.00000	Absorption 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 2	12	3.83333	1.02986	46.00000	1.00000	5.00000	Absorption 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 3	12	3.75000	0.75378	45.00000	2.00000	5.00000	Absorption 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 4	12	3.41667	0.79296	41.00000	2.00000	5.00000	Absorption 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 5	12	3.33333	0.88763	40.00000	2.00000	5.00000	Absorption 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 6	12	3.41667	1.08362	41.00000	1.00000	5.00000	Absorption 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 7	12	3.33333	1.15470	40.00000	1.00000	5.00000	Absorption 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.816823
Standardized	0.821565

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
EE Vigor 1	0.571727	0.796832	0.526470	0.806255	Vigor, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 2	0.363624	0.811463	0.314885	0.818132	Vigor 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 3	0.428068	0.810002	0.492327	0.808209	Vigor 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 4	0.297232	0.813632	0.263965	0.820908	Vigor 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 5	0.139153	0.825122	0.093216	0.829994	Vigor 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Vigor 6	0.251186	0.819102	0.212016	0.823709	Vigor 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 1	0.637032	0.798773	0.704430	0.795833	Dedication 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 2	-.113766	0.825961	-.026275	0.836150	Dedication 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 3	0.637032	0.798773	0.674413	0.797620	Dedication 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 4	0.407517	0.810523	0.379038	0.814589	Dedication 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Dedication 5	0.173405	0.817623	0.225084	0.823008	Dedication 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 1	0.321318	0.812237	0.271592	0.820495	Absorption 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 2	0.276881	0.817357	0.260088	0.821119	Absorption 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 3	0.454497	0.805462	0.498126	0.807878	Absorption 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 4	0.735829	0.789325	0.707314	0.795661	Absorption 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 5	0.711496	0.788553	0.738268	0.793806	Absorption 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 6	0.488657	0.802612	0.539253	0.805520	Absorption 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
EE Absorption 7	0.614407	0.792579	0.549003	0.804958	Absorption 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

APPENDIX 4.1

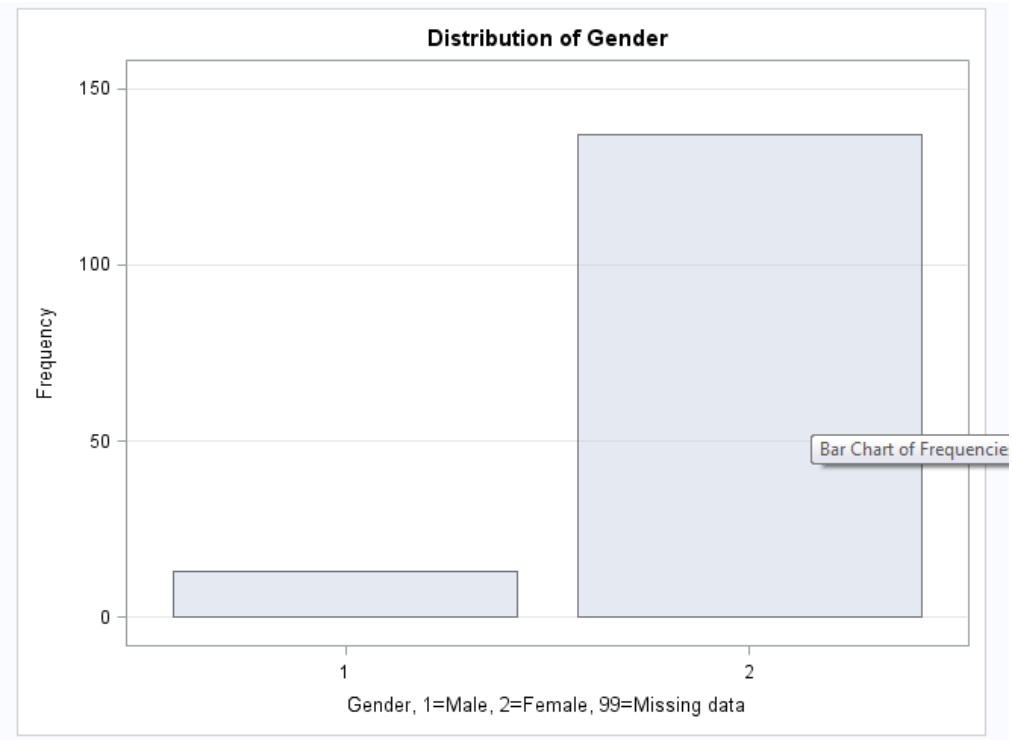
DESCRIPTIVE ANALYSIS

GENDER

GENDER

The FREQ Procedure

Gender, 1=Male, 2=Female, 99=Missing data				
Gender	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	13	8.67	13	8.67
2	137	91.33	150	100.00



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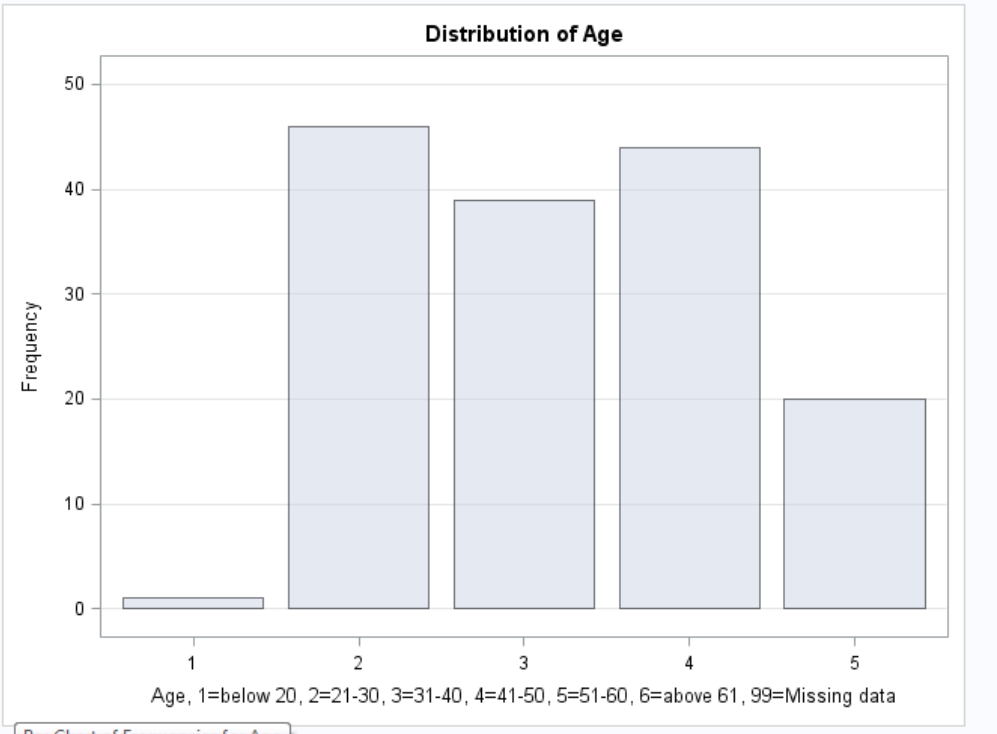
AGE

AGE

The FREQ Procedure

Age, 1=below 20, 2=21-30, 3=31-40, 4=41-50, 5=51-60, 6=above 61, 99=Missing data				
Age	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	1	0.67	1	0.67
2	46	30.67	47	31.33
3	39	26.00	86	57.33
4	44	29.33	130	86.67
5	20	13.33	150	100.00



Bar Chart of Frequencies for Age

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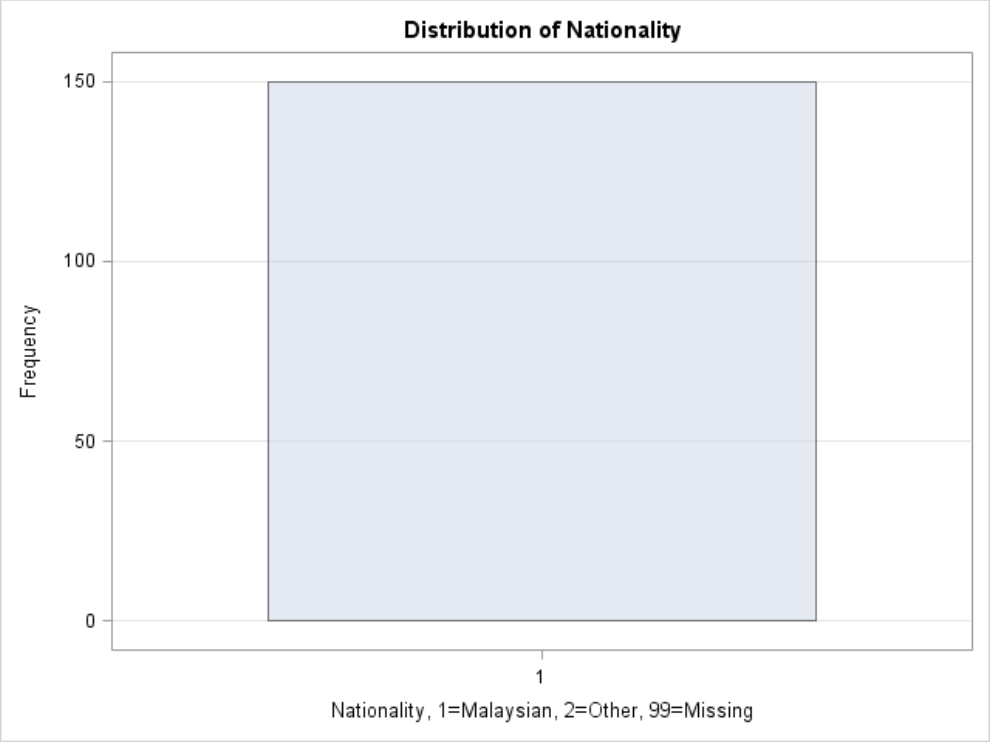
NATIONALITY

NATIONALITY

The FREQ Procedure

Nationality, 1=Malaysian, 2=Other, 99=Missing				
Nationality	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	150	100.00	150	100.00



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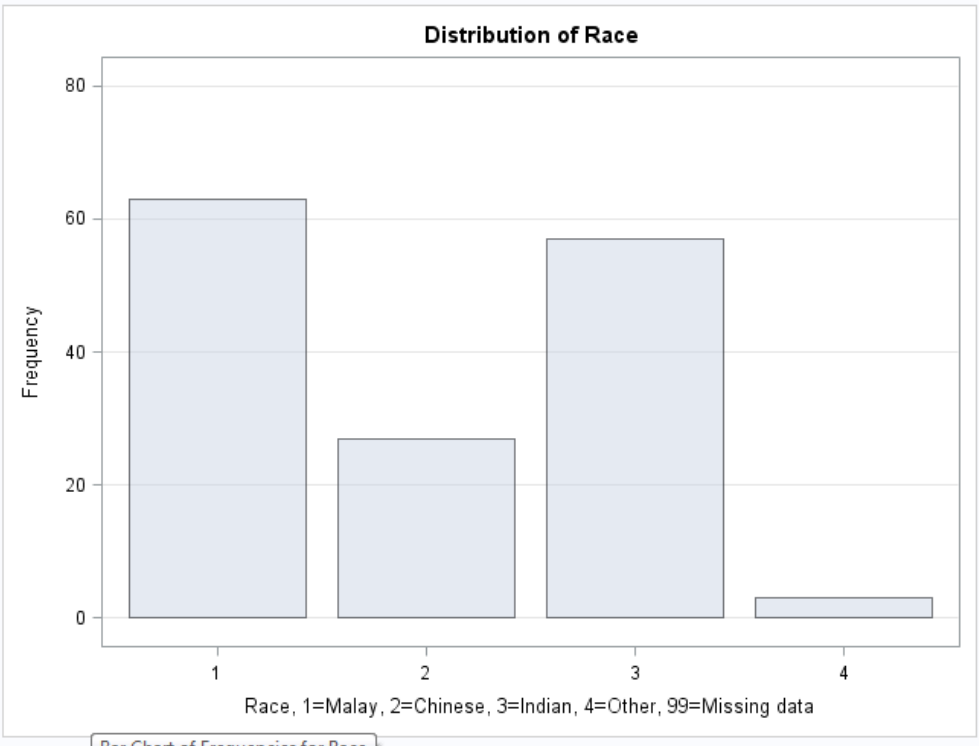
RACE

RACE

The FREQ Procedure

Race, 1=Malay, 2=Chinese, 3=Indian, 4=Other, 99=Missing data				
Race	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	63	42.00	63	42.00
2	27	18.00	90	60.00
3	57	38.00	147	98.00
4	3	2.00	150	100.00



Bar Chart of Frequencies for Race

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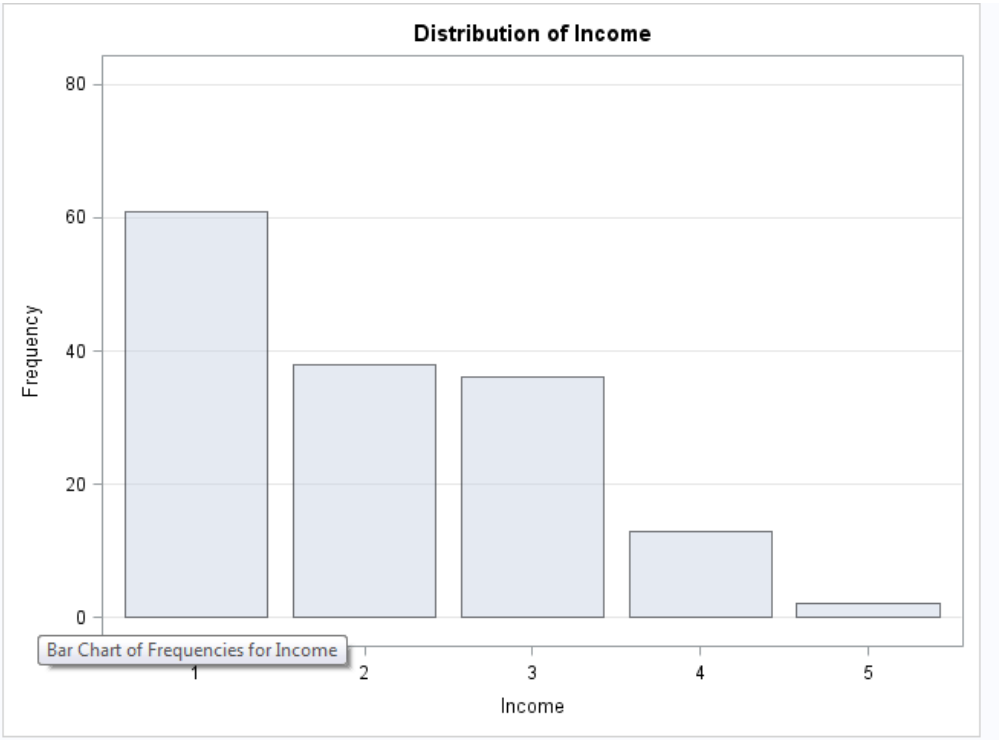
INCOME LEVEL

INCOME LEVEL

The FREQ Procedure

Income, 1=below RM1500, 2=RM1501-2500, 3=RM2501-3500, 4=RM3501-4500, 5=above RM4501, 99=Missing data				
Income	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	61	40.67	61	40.67
2	38	25.33	99	66.00
3	36	24.00	135	90.00
4	13	8.67	148	98.67
5	2	1.33	150	100.00



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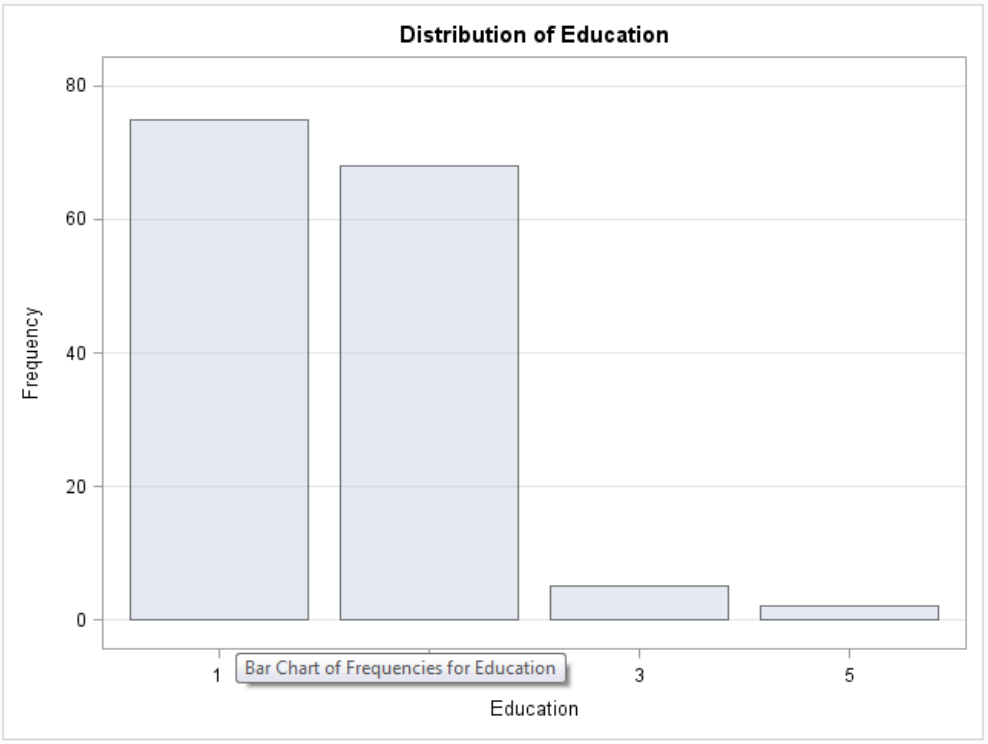
EDUCATION LEVEL

EDUCATION LEVEL

The FREQ Procedure

Education, 1=Advance diploma, 2=Diploma, 3=Bachelor degree, 4=Master degree, 5=Doctorate degree, 6=Other, 99=Missing data				
Education	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	75	50.00	75	50.00
2	68	45.33	143	95.33
3	5	3.33	148	98.67
5	2	1.33	150	100.00



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EXPERIENCE

EXPERIENCE

The FREQ Procedure

Experience, 1=1-5 years, 2=6-10 years, 3=11-15 years, 4=16 years and above, 99=Missing data				
Experience	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	49	32.67	49	32.67
2	21	14.00	70	46.67
3	22	14.67	92	61.33
4	58	38.67	150	100.00

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APPENDIX 4.2

FULL STUDY RELIABILITY TEST

PSS

PSS 150

The CORR Procedure

8 Variables:	PSS 1	PSS 2	PSS 3	PSS 4	PSS 5	PSS 6	PSS 7(R)	PSS 8(R)

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
PSS 1	150	3.90000	0.88803	585.00000	1.00000	5.00000	PSS 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 2	150	3.86000	0.86723	579.00000	2.00000	5.00000	PSS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 3	150	3.81333	0.71781	572.00000	2.00000	5.00000	PSS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 4	150	3.79333	0.79678	569.00000	2.00000	5.00000	PSS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 5	150	3.81333	0.76313	572.00000	2.00000	5.00000	PSS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 6	150	3.81333	0.76313	572.00000	2.00000	5.00000	PSS 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 7(R)	150	3.40667	0.99729	511.00000	1.00000	5.00000	
PSS 8(R)	150	3.53333	0.87980	530.00000	1.00000	5.00000	

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.847570
Standardized	0.860799

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
PSS 1	0.710844	0.812712	0.722511	0.830488	PSS 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 2	0.606793	0.826561	0.625531	0.841842	PSS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 3	0.742887	0.813383	0.757480	0.826304	PSS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 4	0.805120	0.802872	0.822915	0.818343	PSS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 5	0.741690	0.811813	0.757711	0.826276	PSS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 6	0.722074	0.814097	0.734909	0.829010	PSS 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PSS 7(R)	0.280842	0.872674	0.271961	0.880223	
PSS 8(R)	0.249774	0.870005	0.231377	0.884337	

Pearson Correlation Coefficients, N = 150

Pearson Correlation Coefficients, N = 150
Prob > |r| under H0: Rho=0

	PSS 1	PSS 2	PSS 3	PSS 4	PSS 5	PSS 6	PSS 7(R)	PSS 8(R)
PSS 1	1.00000	0.61788	0.68647	0.72942	0.57638	0.60609	0.19021	0.15462
PSS 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		<.0001	<.0001	<.0001	<.0001	<.0001	0.0197	0.0589
PSS 2	0.61788	1.00000	0.70164	0.64746	0.54843	0.54843	0.09731	-0.02463
PSS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001		<.0001	<.0001	<.0001	<.0001	0.2362	0.7648
PSS 3	0.68647	0.70164	1.00000	0.78871	0.70783	0.64657	0.11613	0.06305
PSS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001		<.0001	<.0001	<.0001	0.1570	0.4433
PSS 4	0.72942	0.64746	0.78871	1.00000	0.76395	0.74188	0.17405	0.13914
PSS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001		<.0001	<.0001	0.0332	0.0895
PSS 5	0.57638	0.54843	0.70783	0.76395	1.00000	0.72342	0.16214	0.22924
PSS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001	<.0001		<.0001	0.0474	0.0048
PSS 6	0.60609	0.54843	0.64657	0.74188	0.72342	1.00000	0.18860	0.15927
PSS 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001	<.0001	<.0001		0.0208	0.0516
PSS 7(R)	0.19021	0.09731	0.11613	0.17405	0.16214	0.18860	1.00000	0.52371
	0.0197	0.2362	0.1570	0.0332	0.0474	0.0208		<.0001
PSS 8(R)	0.15462	-0.02463	0.06305	0.13914	0.22924	0.15927	0.52371	1.00000
	0.0589	0.7648	0.4433	0.0895	0.0048	0.0516	<.0001	

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POS

POS 150

The CORR Procedure

7 Variables: POS 1(R) POS 2 POS 3 POS 4 POS 5 POS 6(R) POS 7

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
POS 1(R)	150	3.08000	0.96600	462.00000	1.00000	5.00000	
POS 2	150	3.62667	0.67104	544.00000	2.00000	5.00000	POS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 3	150	3.53333	0.73882	530.00000	2.00000	5.00000	POS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 4	150	3.29333	0.83181	494.00000	1.00000	5.00000	POS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 5	150	3.75333	0.74127	563.00000	2.00000	5.00000	POS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 6(R)	150	4.08667	0.28229	613.00000	4.00000	5.00000	
POS 7	150	3.51333	0.80882	527.00000	1.00000	5.00000	POS 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.808505
Standardized	0.807088

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
POS 1(R)	0.236449	0.854423	0.251057	0.830670	
POS 2	0.715466	0.755941	0.704855	0.751737	POS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 3	0.782109	0.739563	0.772195	0.738756	POS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 4	0.629852	0.766863	0.638119	0.764267	POS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 5	0.726190	0.750084	0.707388	0.751255	POS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
POS 6(R)	0.152985	0.827917	0.146106	0.846923	
POS 7	0.654097	0.762075	0.651348	0.761810	POS 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Pearson Correlation Coefficients, N = 150
Prob > |r| under H0: Rho=0

	POS 1(R)	POS 2	POS 3	POS 4	POS 5	POS 6(R)	POS 7
POS 1(R)	1.00000	0.25346	0.23133	0.17106	0.18708	0.14669	0.11888
		0.0018	0.0044	0.0364	0.0219	0.0733	0.1473
POS 2	0.25346	1.00000	0.75627	0.53418	0.66365	0.10109	0.51623
POS 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0018		<.0001	<.0001	<.0001	0.2183	<.0001
POS 3	0.23133	0.75627	1.00000	0.60646	0.70749	0.09868	0.65066
POS 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0044	<.0001		<.0001	<.0001	0.2296	<.0001
POS 4	0.17106	0.53418	0.60646	1.00000	0.54263	0.17683	0.56276
POS 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0364	<.0001	<.0001		<.0001	0.0304	<.0001
POS 5	0.18708	0.66365	0.70749	0.54263	1.00000	0.03870	0.69395
POS 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.0219	<.0001	<.0001	<.0001		0.6382	<.0001
POS 6(R)	0.14669	0.10109	0.09868	0.17683	0.03870	1.00000	0.09779
	0.0733	0.2183	0.2296	0.0304	0.6382		0.2339
POS 7	0.11888	0.51623	0.65066	0.56276	0.69395	0.09779	1.00000
POS 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	0.1473	<.0001	<.0001	<.0001	<.0001	0.2339	

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PJ

PJ 150

The CORR Procedure

8 Variables: PJ 1 PJ 2 PJ 3 PJ 4 PJ 5 PJ 6(R) PJ 7 PJ 8

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
PJ 1	150	3.38667	0.81748	508.00000	1.00000	5.00000	PJ 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 2	150	3.27333	0.94760	491.00000	1.00000	5.00000	PJ 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 3	150	3.29333	0.81551	494.00000	1.00000	5.00000	PJ 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 4	150	3.21333	0.95247	482.00000	1.00000	5.00000	PJ 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 5	150	3.48000	0.81693	522.00000	1.00000	5.00000	PJ 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 6(R)	150	3.14667	1.06429	472.00000	1.00000	5.00000	
PJ 7	150	3.55333	0.85559	533.00000	1.00000	5.00000	PJ 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 8	149	3.55034	0.74830	529.00000	2.00000	5.00000	PJ 8, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.854246
Standardized	0.864401

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
PJ 1	0.753709	0.819236	0.760036	0.831079	PJ 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 2	0.738696	0.818286	0.739461	0.833496	PJ 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 3	0.707864	0.824520	0.710232	0.836902	PJ 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 4	0.667263	0.827731	0.658743	0.842823	PJ 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 5	0.652976	0.830653	0.666269	0.841964	PJ 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 6(R)	0.223309	0.888009	0.220647	0.889263	
PJ 7	0.540770	0.843012	0.556315	0.854305	PJ 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
PJ 8	0.623279	0.834988	0.634079	0.845624	PJ 8, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Pearson Correlation Coefficients

Pearson Correlation Coefficients
Prob > \|r\| under H0: Rho=0
Number of Observations

	PJ 1	PJ 2	PJ 3	PJ 4	PJ 5	PJ 6(R)	PJ 7	PJ 8
PJ 1	1.00000	0.66839	0.70457	0.48809	0.57443	0.25837	0.45969	0.59579
		<.0001	<.0001	<.0001	<.0001	0.0014	<.0001	<.0001
PJ 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	150	150	150	150	150	150	150	149
PJ 2	0.66839	1.00000	0.64244	0.74548	0.56630	0.17959	0.40821	0.45062
	<.0001		<.0001	<.0001	<.0001	0.0279	<.0001	<.0001
PJ 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	150	150	150	150	150	150	150	149
PJ 3	0.70457	0.64244	1.00000	0.54964	0.61330	0.20527	0.39103	0.42818
	<.0001	<.0001		<.0001	<.0001	0.0117	<.0001	<.0001
PJ 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	150	150	150	150	150	150	150	149
PJ 4	0.48809	0.74548	0.54964	1.00000	0.54891	0.26024	0.38125	0.33442
	<.0001	<.0001	<.0001		<.0001	0.0013	<.0001	<.0001
PJ 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	150	150	150	150	150	150	150	149
PJ 5	0.57443	0.56630	0.61330	0.54891	1.00000	0.05743	0.41442	0.56660
	<.0001	<.0001	<.0001	<.0001		0.4851	<.0001	<.0001
PJ 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	150	150	150	150	150	150	150	149
PJ 6(R)	0.25837	0.17959	0.20527	0.26024	0.05743	1.00000	0.10191	0.13439
	0.0014	0.0279	0.0117	0.0013	0.4851		0.2146	0.1023
	150	150	150	150	150	150	150	149
PJ 7	0.45969	0.40821	0.39103	0.38125	0.41442	0.10191	1.00000	0.68803
	<.0001	<.0001	<.0001	<.0001	<.0001	0.2146		<.0001
PJ 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	150	150	150	150	150	150	150	149
PJ 8	0.59579	0.45062	0.42818	0.33442	0.56660	0.13439	0.68803	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	0.1023	<.0001	
PJ 8, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	149	149	149	149	149	149	149	149

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RR

RR 150

The CORR Procedure

7 Variables:	RR 1	RR 2	RR 3	RR 4	RR 5	RR 6	RR 7

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
RR 1	150	3.21333	1.04648	482.00000	1.00000	5.00000	RR 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 2	150	3.71333	0.78009	557.00000	1.00000	5.00000	RR 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 3	150	3.43333	0.82264	515.00000	2.00000	5.00000	RR 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 4	150	3.66000	0.83409	549.00000	1.00000	5.00000	RR 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 5	150	3.22000	1.04187	483.00000	1.00000	5.00000	RR 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 6	150	3.40000	0.93407	510.00000	1.00000	5.00000	RR 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 7	150	3.30000	0.99495	495.00000	1.00000	5.00000	RR 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.931265
Standardized	0.932101

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
RR 1	0.830100	0.916061	0.828271	0.917180	RR 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 2	0.635917	0.933129	0.639186	0.934850	RR 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 3	0.819458	0.917924	0.822030	0.917780	RR 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 4	0.795498	0.919813	0.797299	0.920148	RR 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 5	0.804352	0.918809	0.798627	0.920021	RR 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 6	0.748321	0.923665	0.744170	0.925171	RR 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
RR 7	0.848989	0.913761	0.844941	0.915570	RR 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Pearson Correlation Coefficients, N = 150
Prob > |r| under H0: Rho=0

	RR 1	RR 2	RR 3	RR 4	RR 5	RR 6	RR 7
RR 1	1.00000	0.60979	0.70268	0.69878	0.74458	0.65364	0.76963
RR 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001
RR 2	0.60979	1.00000	0.63412	0.58154	0.49099	0.45316	0.56119
RR 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001		<.0001	<.0001	<.0001	<.0001	<.0001
RR 3	0.70268	0.63412	1.00000	0.72479	0.71023	0.64634	0.73388
RR 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001
RR 4	0.69878	0.58154	0.72479	1.00000	0.65815	0.66675	0.71410
RR 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001
RR 5	0.74458	0.49099	0.71023	0.65815	1.00000	0.68136	0.76462
RR 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001	<.0001		<.0001	<.0001
RR 6	0.65364	0.45316	0.64634	0.66675	0.68136	1.00000	0.70771
RR 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001	<.0001	<.0001		<.0001
RR 7	0.76963	0.56119	0.73388	0.71410	0.76462	0.70771	1.00000
RR 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	

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SE

SE 150

The CORR Procedure

8 Variables:	SE 1	SE 2	SE 3	SE 4	SE 5	SE 6	SE 7	SE 8(R)

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
SE 1	150	3.60000	0.79427	540.00000	1.00000	5.00000	SE 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 2	150	3.62667	0.83984	544.00000	1.00000	5.00000	SE 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 3	150	3.77333	0.80391	566.00000	2.00000	5.00000	SE 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 4	150	3.83333	0.63897	575.00000	3.00000	5.00000	SE 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 5	150	3.79333	0.73546	569.00000	2.00000	5.00000	SE 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 6	150	3.83333	0.72738	575.00000	1.00000	5.00000	SE 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 7	150	3.83333	0.71809	575.00000	2.00000	5.00000	SE 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 8(R)	150	2.97333	1.01629	446.00000	1.00000	5.00000	

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.781927
Standardized	0.802851

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
SE 1	0.678288	0.725021	0.672765	0.756064	SE 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 2	0.626793	0.732840	0.620362	0.764369	SE 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 3	0.465882	0.761415	0.465349	0.788018	SE 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 4	0.600370	0.744573	0.628213	0.763135	SE 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 5	0.461912	0.761985	0.485956	0.784952	SE 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 6	0.553077	0.748146	0.579913	0.770672	SE 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 7	0.583586	0.743710	0.602500	0.767164	SE 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
SE 8(R)	0.109757	0.835158	0.100657	0.838503	

Pearson Correlation Coefficients, N = 150
Prob > |r| under H0: Rho=0

	SE 1	SE 2	SE 3	SE 4	SE 5	SE 6	SE 7	SE 8(R)
SE 1	1.00000	0.68014	0.50873	0.40995	0.34008	0.45305	0.44714	0.16130
SE 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.0486
SE 2	0.68014	1.00000	0.49014	0.45858	0.23282	0.41382	0.31902	0.20057
SE 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001		<.0001	<.0001	0.0041	<.0001	<.0001	0.0139
SE 3	0.50873	0.49014	1.00000	0.39632	0.35159	0.14156	0.18989	0.08291
SE 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001		<.0001	<.0001	0.0840	0.0199	0.3131
SE 4	0.40995	0.45858	0.39632	1.00000	0.49748	0.58964	0.55339	-0.07924
SE 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	0.3351
SE 5	0.34008	0.23282	0.35159	0.49748	1.00000	0.38683	0.45537	-0.01640
SE 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	0.0041	<.0001	<.0001		<.0001	<.0001	0.8421
SE 6	0.45305	0.41382	0.14156	0.58964	0.38683	1.00000	0.62746	0.02118
SE 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	0.0840	<.0001	<.0001		<.0001	0.7969
SE 7	0.44714	0.31902	0.18989	0.55339	0.45537	0.62746	1.00000	0.13181
SE 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data	<.0001	<.0001	0.0199	<.0001	<.0001	<.0001		0.1079
SE 8(R)	0.16130	0.20057	0.08291	-0.07924	-0.01640	0.02118	0.13181	1.00000
	0.0486	0.0139	0.3131	0.3351	0.8421	0.7969	0.1079	

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EE

Employees Engagement

The CORR Procedure

18 Variables:	Vigor 1 Vigor 2 Vigor 3 Vigor 4 Vigor 5 Vigor 6 Dedication 1 Dedication 2 Dedication 3 Dedication 4 Dedication 5 Absorption 1 Absorption 2 Absorption 3 Absorption 4 Absorption 5 Absorption 6 Absorption 7

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Vigor 1	150	3.62000	0.89495	543.00000	1.00000	5.00000	Vigor 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 2	150	3.65333	0.84334	548.00000	1.00000	5.00000	Vigor 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 3	150	3.56000	0.91578	534.00000	1.00000	5.00000	Vigor 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 4	150	3.46667	1.02103	520.00000	1.00000	5.00000	Vigor 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 5	150	3.43333	0.83880	515.00000	1.00000	5.00000	Vigor 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 6	150	3.46000	0.85632	519.00000	1.00000	5.00000	Vigor 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 1	150	3.98667	0.70460	598.00000	2.00000	5.00000	Dedication 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 2	150	3.75333	0.77664	563.00000	2.00000	5.00000	Dedication 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 3	150	3.94667	0.68333	592.00000	2.00000	5.00000	Dedication 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 4	150	4.17333	0.69269	626.00000	2.00000	5.00000	Dedication 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 5	150	3.92000	0.97980	588.00000	1.00000	5.00000	Dedication 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 1	150	4.05333	0.69308	608.00000	2.00000	5.00000	Absorption 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 2	150	3.67333	0.95184	551.00000	1.00000	5.00000	Absorption 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 3	150	3.80667	0.65227	571.00000	2.00000	5.00000	Absorption 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 4	150	3.76000	0.62046	564.00000	2.00000	5.00000	Absorption 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 5	150	3.66000	0.69350	549.00000	2.00000	5.00000	Absorption 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 6	150	3.58000	0.79655	537.00000	1.00000	5.00000	Absorption 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 7	150	3.70667	0.93081	556.00000	1.00000	5.00000	Absorption 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.913023
Standardized	0.920690

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Vigor 1	0.674546	0.905586	0.676474	0.914481	Vigor 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 2	0.656491	0.906192	0.651183	0.915118	Vigor 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 3	0.532645	0.909887	0.537221	0.917957	Vigor 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 4	0.643325	0.906738	0.646128	0.915245	Vigor 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 5	0.586941	0.908146	0.587716	0.916706	Vigor 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Vigor 6	0.604873	0.907646	0.594916	0.916526	Vigor 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 1	0.680924	0.906136	0.684177	0.914286	Dedication 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 2	0.719603	0.904730	0.728152	0.913170	Dedication 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 3	0.702789	0.905776	0.711669	0.913589	Dedication 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 4	0.664346	0.906598	0.665837	0.914749	Dedication 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Dedication 5	-.058247	0.928048	-.051008	0.931776	Dedication 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 1	0.632757	0.907326	0.631383	0.915615	Absorption 1, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 2	0.506230	0.910876	0.508959	0.918652	Absorption 2, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 3	0.657640	0.907011	0.665455	0.914759	Absorption 3, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 4	0.693130	0.906507	0.703714	0.913791	Absorption 4, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 5	0.619249	0.907635	0.623730	0.915807	Absorption 5, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 6	0.574230	0.908492	0.582415	0.916837	Absorption 6, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data
Absorption 7	0.698199	0.904819	0.687216	0.914209	Absorption 7, 1=SD, 2=D, 3=N, 4=A, 5=SA, 99=Missing data

APPENDIX 4.3

PEARSON CORRELATION ANALYSIS

Correlation Analysis

The CORR Procedure

6 Variables:	PSS	POS	PJ	RR	SE	ENGAGEMENT

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
PSS	150	26.84167	4.39612	4026	16.37500	35.62500
POS	150	21.25524	3.50086	3188	13.14286	30.71429
PJ	149	23.80621	4.53574	3547	12.25000	35.62500
RR	150	21.11143	4.71523	3167	9.14286	30.71429
SE	150	26.66500	3.75691	4000	17.37500	35.62500
ENGAGEMENT	150	63.71259	8.70360	9557	40.11111	82.27778

Pearson Correlation Coefficients
Prob > |r| under H0: Rho=0
Number of Observations

	PSS	POS	PJ	RR	SE	ENGAGEMENT
	1.00000	0.54688	0.38301	0.31778	0.44874	0.60045
		<.0001	<.0001	<.0001	<.0001	<.0001
PSS	150	150	149	150	150	150
	0.54688	1.00000	0.72232	0.58563	0.59144	0.56632
	<.0001		<.0001	<.0001	<.0001	<.0001
POS	150	150	149	150	150	150
	0.38301	0.72232	1.00000	0.74440	0.66230	0.53951
	<.0001	<.0001		<.0001	<.0001	<.0001
PJ	149	149	149	149	149	149
	0.31778	0.58563	0.74440	1.00000	0.50762	0.39214
	<.0001	<.0001	<.0001		<.0001	<.0001
RR	150	150	149	150	150	150
	0.44874	0.59144	0.66230	0.50762	1.00000	0.73157
	<.0001	<.0001	<.0001	<.0001		<.0001
SE	150	150	149	150	150	150
	0.60045	0.56632	0.53951	0.39214	0.73157	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	
ENGAGEMENT	150	150	149	150	150	150

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APPENDIX 4.4

MULTIPLE REGRESSION ANALYSIS

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: ENGAGEMENT

Number of Observations Read	150
Number of Observations Used	149
Number of Observations with Missing Values	1

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	7144.99778	1428.99956	49.34	<.0001
Error	143	4141.84877	28.96398		
Corrected Total	148	11287			

Root MSE	5.38182	R-Square	0.6330
Dependent Mean	63.71626	Adj R-Sq	0.6202
Coeff Var	8.44654		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	9.50212	3.52144	2.70	0.0078
PSS	1	0.63075	0.12268	5.14	<.0001
POS	1	0.17393	0.20342	0.86	0.3940
PJ	1	0.11389	0.18474	0.62	0.5385
RR	1	-0.12894	0.14083	-0.92	0.3614
SE	1	1.25940	0.16438	7.66	<.0001

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