**Study Design**

**Overview**

The investigation will employ a prospective audit. It will involve a population of nurses and their leaders so as to elicit their opinions on how the satisfaction and commitment levels of nurses depend on the kind of styles that are adopted by the leaders. Nurse leaders will be vital in this investigation as they are the core people who use the methods in their daily management and leadership roles. Additionally, they will be able to provide an overview on how they perceive their preferred styles effect on the nurses. The nurses are the respondents and their leaders will not only get involved in the data collection process but also in other several ways. For instance, the research will involve them in designing the appropriate data collection plans, implementing the process and in disseminating the results of the study that may be vital for them in making further decisions and adjustments in their routine practices. Therefore, the following section carries an in-depth discussion of the design that this study will use.

**Sample**

**Reason for Sampling**

In Saudi Arabia, there is a large number of hospitals, which have many nurses, and this study will not have access to each. Therefore, the samples chosen will be a subset of the nurses working in the selected health facility. Hence, this study will find sampling essential and will save time and resources in the collection of the data. It will also make the research practical due to the high number of qualified and expert nurses and their leaders (Cochran, 2007).

**People Involved In the Sample**

The study will make use of human subjects. As a measure of ensuring that an investigation remains reliable and accurate, it is vital to use respondents with experience in the relevant field under study to improve the accuracy of the results obtained (Curtis et al., 2000). The recognition of management and governance calls for the recruitment of participants who have the best knowledge of the situation under study. Therefore, the sample in this study will be made up of nurses in King Fahd Hospital as well as their supervisors and other nurse leaders. It is a typical large Saudi hospital, and the nurses here may be seen as being similar to nurses in other parts of Saudi Arabia. It accommodates nurses of various nationalities, religions and cultures, which could provide the study with the generalizability required for the results. A careful selection of the sample used will ensure that there is ease in analysis through the identification of similar trends in the data.

**Sample Size**

In King Fahd Hospital, there are several departments in which the nurses operate. The study will sample 25 nurses from five departments. A departmental head from each sector will be included, making a total sample size of 125 nurses from the whole hospital.

**Sample Recruitment and Sampling Technique**

In this study, I will first establish a clear distinction between the nurses in various departments. After the grouping of the nurses into their respective sections, I will then randomly select a part of the group to be involved in the study since not all of them will be eligible to participate. The implication of randomly selecting the nurses from these departments is that they will have equal chances of participating in the study. After the random selection of the departments, I will then again randomly select 25 nurses from each group to be part of the selected sample. This type of sampling is called cluster sampling. A precise definition of cluster sampling is a selection procedure where the investigator divided the population into various sections/clusters, after which they use simple random sampling to select those involved in the study (Levy and Lemeshow, 2013).

**Strengths and Weaknesses of Cluster Sampling**

Among the advantages of using the cluster sampling is that it is inexpensive compared to other types (Acharya et al., 2013). Using this kind of sampling in this investigation will ensure that resources and time are focused on seeking information from the nurses within the selected medical or surgical ward, Orthopedic, physiotherapy and the critical care unit. Including all the departments would be expensive and time-consuming. Secondly, this type of sampling is feasible (Putnick, 2013). For this study, selecting five large departments will ensure that the study has enough respondents to provide valid results. Furthermore, this technique reduces the variability of the results because sampling the nurses from several departments would result to voluminous data with varied variables (Fowler, 2013). Considering all the nurses in all the departments in King Fahad Hospital would create extensive and varied information that would be difficult to analyse. Therefore, this method reduces the variability, easing the analysis process.

The demerits of this approach include its probability of producing a large sampling error (Petrie, and Sabin, 2013), also referred to as the design effect. This would affect this study because, compared to other sampling methods like simple random design that would select respondents from all the departments, this type would result in more inaccuracies in sampling. Additionally, it creates some bias (Hines et al., 2010). Since the selection of these five departments will be based on the opinion of the researcher, the assumption will be that the selected sample will represent the overall perception of nurses from all the departments. However, this will not be the case because other sections will probably be under different leadership styles. Finally, this type of sampling is the least representative of the overall population being studies (Hines et al., 2010). The probability that those included may have similar features is high, which means that those with varying characteristics may have little representation in the study.

**Inclusion and Exclusion Criteria**

The investigation will strengthen the criteria for including participants in the study, which will assist in avoiding the chances of individuals who would not adhere or may provide information that will be unreliable. Therefore, the study will be open to all the nurses in the five departments in King Fahd Hospital, regardless of their age, qualifications, sex, and experience. This will be a measure to avoid any form of selection bias of the respondents included in the study. These five segments are as outlined above. The nurses surveyed will have to be under a direct supervision of a manager. Furthermore, they will also need to have a current licence for practice.

**Data Collection**

Questionnaires will be used in the data collection process from the nurses and their leaders. They refer to a set of printed questions that have an essential function of obtaining answers from respondents and may have pre-printed answers or not (Rowley, 2014). They will contain both closed and open-ended questions. Whereas closed-ended questions will majorly comprise those of ‘yes’ or ‘no’ choices, the open-ended questions will aim to provide the respondents a chance to express their views independently. The various types of questionnaires that this survey will use include the Bass Multifactor Leadership Questionnaire, a demographic questionnaire, and a job satisfaction tool.

Among the reasons for the selection of surveys for this study, include the fact that they collect data relatively quickly, which is advantageous because I would not wish to take more time from the nurses in the hospital (Artino at al., 2014). Secondly, their administration is easy and will not present the nurses any challenges of understanding because they will be straightforward. Besides, since this study will involve asking the nurses about the perceptions of their leaders, they may not be willing to share such information in discussions due to fear of victimization, the questionnaires will provide the sense of confidentiality. However, the limitation of use of this instrument in this survey is that there will be a possibility that the respondents will ignore some questions. Besides, questionnaires pose the problem of causing fatigue to the respondents (Matthews and Ross, 2014). They may, therefore, pose a challenge in stressing the participants which might result in blank or destroyed answers.

**Multifactor Leadership Questionnaire 5X Short**

This instrument provides various descriptive statements that nurses use to describe the techniques they use through judging how these descriptions will fit their situations. After the report, the questionnaire provides the nurses an opportunity to classify their transformational leadership scores. Finally, the questionnaire provides a score interpretation section for the nurses to gauge these techniques. I will deliver these questionnaires to the nurses and their leaders. Their principal use is to provide a chance to adequately describe the styles commonly used (Horwitz et al., 2008).

**Demographic Questionnaire**

These refer to the surveys that the respondents receive to fill in their personal details that indirectly relate to the topic of study (Vergnaud et al., 2011). Among the various questions will be the demographic profiles of the nurses including their primary language, the highest level of education, race and marital status. The inclusion of age is vital because the younger population may seem more dissatisfied in their jobs than the elderly. Due to the gender inequalities at the job environments, it is important to include their sexes also. Language differences and race will be vital in understanding whether particular races are more satisfied than others. Furthermore, the inclusion of the educational levels and marital status will assist the analysis in determining if the nurses understand their roles and their family responsibilities respectively, which may impact on their satisfaction.

**Job Satisfaction Tool**

I will also use a job satisfaction tool from the available literature. Abdelhafiz (2015) provides a robust job satisfaction tool that this study will adopt. Its main function includes gauging how much the nurses perceive satisfaction in their duties and daily roles (Mrayyan, 2006). It will be similar to the one adopted by Abdelhafiz (2015) and have seven questions in total that will have a 5-point Likert scale (Abdelhafiz, 2015).

**Language Used In the Questionnaires**

The surveys and tools that the study will utilize for the data collection will have interpretations in both English and Arabic languages. The King Fahad Hospital employs nurses and other staff personnel with diverse languages. Whereas the Saudi Nurses are capable of communicating in Arabic, there are sections of the nurses from India, Indonesia, Philippine and other countries unable to understand the Arabic questionnaires, but most do have English as their second language. However, I will use Back-translation to ensure complete comprehension (Brislin, R.W. 1986).

**Reliability Testing**

A reliable measure in statistics is that which produces results that are consistent even when performed under varied conditions (DeVon et al., 2007). For instance, weight and height of individuals may be similar in different conditions, meaning that the measurement is accurate. For this study, I will conduct a reliability test on these instruments to ensure the results are valid and reliable. The Chronbach’s alpha will be important as it measures internal consistencies on how closely some items relate in a group. Therefore, the Cronbach's alpha will measure a comparison of the views of the nurses from the five groups.

**The Process of Distribution of Questionnaires**

The first step will involve conducting a piloting test.  Piloting will assist in ensuring the questionnaires do not fail when respondents get bored, offended or dislike and cannot fill the surveys (Dörnyei and Taguchi, 2009). Therefore, the feedback from the pilot tests will enable the researcher to adjust the questions asked to prevent confusion and uncertainty. However, it is critical to note that this process will increase the costs involved as well as the time taken. A sample of ten surveys will be administered to the respondents to complete for this purpose

The next step will involve planning for the data collection. Here, I will observe the data collection legislation in Saudi Arabia. I will ensure that the study procedures follow the institution’s internal codes of practice. Also, this step will entail finding and completing the forms from the data protection officer. These forms will include the consent papers. Furthermore, in the planning phase, I will ensure a proper strategy in redesigning the topics of study. This will entail the exclusion of names and addresses of participants in the surveys as a measure to protect the confidentiality of the data provided.

Thirdly, I will administer the questionnaires.  In this step, I will have to consider the resources available and the objectives of the research. This will take place in two phases. First an assessment of the management style of the nurse leaders in the hospital, and will make use of the Multifactor Leadership Questionnaire (MLQ) (Form 5X). Next will be the evaluation of the nurses in their various departments. Here, the nurses will provide their perceptions on the leadership styles that their leaders use, their demographic data and their job satisfaction and commitment levels.

Lastly will be a step accounting for lost participants. Since some participants even after selection as respondents will decline, I will try to expand the sample size to reach the expected number before and even after the data collection. Other methods that might improve participation include tightening the exclusion criteria, making the questionnaire appealing, conducting a thorough pilot test and notifying the participants about the date and time of study in advance (Boynton, 2004).

**Data Analysis**

The analysis of the data will utilize version 8.0 of IBM SPSS and will follow these subsequent steps.

First, I will calculate the mean as well as standard deviations of all items, scales and subscales that will indicate how the data is distributed. This is an essential step to ensuring that the assumptions of the use of the selected statistical tests are met. Under this, I will group the data into the various departments, levels of gender and other factors.

The second phase of the analysis will involve the identification of the existing associations amid the leadership variables. This stage will utilize the Pearson’s moment correlation coefficient. This will show the trends of leadership styles that the leaders perceive to use and those that the nurses under them perceive to be dominant.

The third step is multiple linear regression analyses which will determine the leadership styles that are dominant in each of the five departments and the respective impacts on the nurses’ job satisfaction and commitment levels in their duties.

The Pearson’s moment correlation coefficient will assist in establishing the relationship in the leadership styles that relate to the transformational leadership such as the ability of the leader to encourage motivation, challenge processes, inspire shared visions, enabling employees to act and modeling their ways. Similarly, it will help in defining the association between transactional leadership styles of the nurses like the use of unexpected rewarding and managing by exception plus the effect on employee contentment and commitment. The significance level that the analysis will use is P<0.05. From Burns and Grove (2005), this study will equally use an *r* value of *r*> 0.10 to 0.30 to signify a weak association, while the *r* significance of 0.30-0.50 to imply a reasonable relationship. At a significance of *r*> 0.50, it will suggest a strong correlation. The analysis of the demographic features will use the means and standard deviations that will determine the averages in gender, age, marital status, educational levels, experience length, income and other factors.

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