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## Transformational Nurse Leadership and Job Satisfaction: A systematic literature review

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<p>Job dissatisfaction among nurses is a serious problem that has been persisting for a long time and it needs to be addressed with effective measures. Four contributors have been identified to the situation which are staffing problems, organizational support, risk to others self and personal impacts.</p> <p>This study explores the role of nurse leaders in improving job satisfaction among nurses through the Transformational Leadership style and how can health care organization help to promote Transformational Leadership to nurse leaders in the workplace. The systematic literature review method is selected to explore the topic in greater depth. The review has identified and selected 13 articles. They are summarized in a table to provide the reader with a detailed overview of the contents. From the selected articles, 11 articles are identified as observational studies while 2 articles applied the systematic literature review method. For quality assessment, STROBE is used on all observational studies while CASP is applied only to systematic literature review studies.</p> <p>The systematic literature review has revealed that the Transformational Leadership style promotes empowerment, active communication, supervisor support, and autonomy, and as a result, these components contribute to improving self-efficacy and self-determination as well as strengthening the social identity among the nurses. Moreover, Transformational Leadership has great potential to reduce burnout. The Transformational Leadership style enables the nurse leader to empower the nurses through the accessibility of information, support and guidance, responding to their concerns, and helping them to advance in their careers. These actions have positive impacts on improving autonomy, self-efficacy, and self-determination. She could help to improve teamwork by strengthening the social identity of the team members by sharing and reinforcing common goals and visions. Transformational Leadership style contributes to establishing and nurturing good relationships with others through active communication. As a result of active communication, nurses would receive adequate supervisor support. The nurses who are supported psychologically and emotionally by their nurse leader would experience less burnout, therefore, improving their job satisfaction.</p> <p>Present and future nurse leaders need motivational support from their employers to apply the Transformational Leadership style in their profession at their workplace. Therefore, the healthcare organization plays a vital role in establishing organizational strategies that support and encourage nurse leaders to apply the Transformational Leadership style and these strategies could include policy, training, and education.</p> <p>The results of this study could help to convince and motivate current and future nurse leaders to utilize the Transformational Leadership style in their careers as well as to persuade healthcare organizations to set aside more resources for Transformational Leadership skills building.</p>	
Keywords	Transformational Leadership style, job satisfaction, nurses, empowerment, autonomy, self-efficacy, social identity, burnout

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# 1 Introduction

Job satisfaction is an important factor that determines nurses' intention to stay in the profession. However, many nurses are dissatisfied with their profession due to various reasons and as a result, they have considered changing their careers. The impact of such an unfortunate event has aggravated the understaffing problem which has been persisting within the healthcare sector. As a consequence, nursing workload and work-related stress have increased, and they are negatively affecting the job performance and wellbeing of other nurses. This situation is putting health care organizations under tremendous pressure especially in recruiting new nurses.

In a study carried out by Senek, Robertson, Ryan, King, Wood, Taylor & Tod (2020: 5-7) in the United Kingdom, the researchers have identified four main determinants that contribute to job dissatisfaction among the nurses such as staffing problem, lack of leadership and organizational support, risk to others and self and personal impacts.

## 1.1 Staffing problems

The lack of adequate staff is one of the biggest challenges that has been ongoing in the healthcare industry. As a result of understaffing issues, nurses must care for more patients than they could manage. Besides monitoring patients who are in critical condition, nurses are now required to pay additional attention to those who are confused and are prone to accident such as falls. Therefore, nurses feel overwhelmed by the increased workload, and they would often report sick due to exhaustion and stress. Such has taken a huge toll on their wellbeing, especially mental health. (Senek et al., 2020: 5.) In Finland, graduate nurses have expressed that they do not have adequate time to perform clinical tasks due to insufficient of nurses, therefore, they were unable to provide good quality care which is crucial for every nurse. (Flinkman, Laine, Leino-Kilpi, Hasselhorn & Selanterä, 2008: 736.)

In addition to the staffing problem, the workload in nursing is increasing and it is getting more demanding than before. For instance, nurses also perform certain procedures in places where there is a lack of doctors in addition to performing extensive roles that comprise of a wide range of nursing tasks from "assessment the need for care, provision of care and referring to care in case of acute health problems [...] telephone

advice and monitoring long-term patients.” (Ensio, Lammintakanen, Härkönen & Kinnunen, 2019: 35 & 38.) As a result, young nurses feel that nursing work is becoming more physically and mentally demanding (Flinkman et al. 2008: 736).

Moreover, some hospitals are adopting a rota gaps policy where some nurses from a department which has a complete required employee, are temporarily transferred to other departments that are understaffed in the hospital. Such a situation has caused the temporary nurse to feel unsure because of the unfamiliarity with the ward and patients and at the same time, ordinary nurses feel frustrated and despair because they must work with different nurses on every shift. (Senek et al. 2020: 5.)

The increase workload in the healthcare sector while the number of nurses is dwindling has caused an imbalance workload-nurses ratio in the environment. As a consequence, many nurses who are still remaining in the profession are stressed out and they are dissatisfied with their jobs because they are being pressured to deliver and maintain a good standard of care under such circumstances. The feeling of exhaustion as a result of prolonged stressful environment is slowly diminishing the joy of nursing, thus, increasing nurses' job dissatisfaction.

## 1.2 Organizational support

Nursing is a multi-faceted and challenging profession that needs engaging, inspiring and supportive leaders, but the lack of leadership and organizational support has exacerbated job dissatisfaction among nurses. The action of an organization that fails to demonstrate any supportive actions to its employees is a form of betrayal. (Brewer, Oh, Kitsantas, & Zhao, 2019: 149.) Nurses who experience organizational betrayal are less likely to feel satisfied with their jobs and they are more likely to have burnout (Brewer et al. 2019: 153). An organization that does not practice a positive work culture could also contribute to burnout. For instance, Senek et al. (2020: 6) explained inadequate support and lack of engagement by hospital management and managers expressing disregard for the nurses' feelings and blaming them for the poor quality of patient care and their incompetence. In addition to the blaming culture, the absence of the management team from participating the real clinical work, will only increase stress, and exhaustion and deprive nurses of their motivation and job enthusiasm.

Adriaenssens, De Gucht & Maes (2014: 658) wrote that emotional exhaustion could be reduced with the help of communication such as listening and responding between

hospital management and hospital employees whereas poor communication would result in higher emotional exhaustion.

Instead of feeling demoralised and intimidated, nurses are in desperate need of emotional support by the management and healthcare organization especially during critical times. Organization support is crucial and very much needed in helping and supporting nurses to cope with the daily stress so that they would continue to stay in the nursing profession.

### 1.3 Risk to others and self

The pressure of caring for an exceeded number of patients in a situation that is understaffed and under time constraints would make nurses more vulnerable to committing mistakes that are harmful to themselves and their patients. Nurses who are under pressure to perform their jobs as well as they hope while struggling to complete all clinical tasks will attempt to opt for a timesaving method through cutting corners which will only compromise the patients and their safety. (Senek et al. 2020: 6.) For example, Nantsupawat, Nantsupawat & Kulnaviktikul (2015) reported that, nurses who are the main healthcare providers, are obligated to offer a high standard of clinical care through early detection and intervention but they are struggling to do so due to high workload and time constraints. Such a situation has caused them to work at a faster pace, incautiously, and disregard the nursing process and standard precautions. As a result, many nurses almost had an accident with sharp tools, "Approximately 60% of the study nurses experienced a near miss with a used needle or shape instrument in the past year, with an average of 1.67 times/nurse/year." (Nantsupawat et al. 2015: 116.)

Nurses who are working under time constraints are more likely of putting the patient's health and safety in danger, for instance, in a study carried out by White, Aiken & McHugh (2019: 2069), the authors reported that medications are often being administered in a rush and not on time and nurses fail to provide sufficient attention to the adverse effects experienced by the patients. Therefore, nurses experience greater job dissatisfaction because they could not provide the necessary care and only deliver poor-quality of care.

Similar report also presented by Teng, Shyu, Chiou, Fan & Lam (2010) which indicates that the situation of working under extreme time pressure in addition to feeling burnout

may consume much of the nurses' working memory which hinders them from making accurate and optimal decisions for the patients. (Teng et al. 2010: 1448.)

One of the many goals in nursing is to help the patient to heal and recover from sickness by providing the safest and best possible care. The journey of recovery serves a great purpose to the nursing profession because the process is rewarding, and it brings job satisfaction. When nurses fail to perform their job as best as they could and knowing that theirs and the patient's safety are at risk, they become stressed and frustrated. As the negative feelings continue to persist due to safety issues, nurses become more dissatisfied with their jobs.

#### 1.4 Personal impacts

The constant emotional exhaustion, stress, worry, and feeling of despair due to high workload in a time constraint working environment with unsupportive and disengage management in addition to the risk that the nurses are exposing themselves to as well as threatening patient safety, are some of the contributors to nurses' job dissatisfaction and intention to leave. Respondents in the study by Senek et al. (2020: 7) described the feelings of despair, demoralized, hopelessness as a result of being emotionally drained from work as a result of inability to have proper break or rest during work hours, additional working hours, and constant worry about mistakes.

The process of prolonged emotional exhaustion would give rise to burnout. A report by Wei, King, Jiang, Sewell & Lake (2020) described nurse burnout as "a work-related stress syndrome characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment" (Wei et al. 2020: 439) and burnout "signifies diminished capacity to proficiently manage interactions with clients and is associated with nursing work." (Cheng, Bartram, Karimi & Leggat, 2016: 1204.) The feeling of extreme physical and emotional exhaustion can be overwhelming, and they have the potential to incapacitate the nurse's ability of making sound decisions, negatively affect their reaction time and decrease their ability to think critically. As a consequence, the situation contributes to increase absenteeism, turnover, and reduced productivity. (Wei et al. 2020:439.)

When nurses are incapable of making sound decision regarding patient's health interventions and medications administration, they are endangering the patient and medication safety. For example, White et al. (2019: 2068) reported that nurses who are

feeling burnout due to inadequate time and resources were five times more likely to dismiss the essential clinical task and left it undone.

Furthermore, burnout has a negative impact on nurses' wellbeing and productivity at work due to lack of engagement and motivation. Frequent absenteeism as a result of burnout would only add more cost and pressure to the organisation that already has limited resources and persisting staffing problems.

Sadly, many nurses are considering leaving the nursing profession for good (Senek et al. 2020: 6). In Finland, YLE has reported that more than half of the 2300 nursing professionals who participated in a survey have thought of changing their jobs during the pandemic due to extreme exhaustion and job safety issue (YLE, 2020).

The intention of nurses leaving their professions permanently due to job dissatisfaction is an ongoing global concern that poses major threats to the healthcare sector and the crisis needs to be addressed and tackled effectively by health care management. Nurses who plan to discontinue their profession will further deepen the health care crisis in the nation and consequently, such situation will be a catastrophe for the society. Nurses who are overworked will be overwhelmed by even more work, wards will have to be closed due to lack of staff, and the waiting list for various treatments increased daily. Such situation can be a precarious for those who need treatment for instance in mental healthcare. Moreover, the mental wellbeing of nurses is often and will continuously be overlooked and ignored. Is there something else that could be done to retain these nurses and to make nursing profession more attractive to younger generations? There is a desperate calling and a need for mitigating such predicament. Can Transformational Leadership answer to that calling?

## **2 Goals, Objectives and Research questions**

The goal of this study is to explore in how a nurse leader help to improve the job satisfaction among the nurses through Transformational Leadership style, and to explore how can health care organization promote the use of Transformational Leadership among nurse leaders at the workplace.

This thesis will focus and explore how nurse leaders could help to improve job satisfaction among nurses through Transformational Leadership style and how can healthcare organizations encourage the use of such leadership style among the nurse leaders. The author will introduce the four components of Transformational Leadership style such as Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individual Consideration. With the help of systematic reviews, the author will outline the various mechanisms that Transformational Leadership contributes to job satisfaction and to provide recommendations to the healthcare sector on how they promote such leadership style to the current and future nurse leaders.

## 2.1 Research questions formulation

The use of PICO (Population, Intervention, Comparison, Outcome) is strongly recommended by The Cochrane Handbook regarding formulating research questions. PICO serves only as guidelines for review questions formation and, therefore, defining each PICO component is not necessary (Thomas, Kneale, McKenzie, Brennan & Bhaumik, 2022: 2.3). Glasziou, Irwig, Bain, and Colditz (2001) gave a few examples on PICO such as “the population (or patient group), the intervention (e.g. the treatment, test or exposure, the comparison intervention (optional, and defaults to no treatment, no test or no exposure if no comparison given); and the outcomes. Since we will often be interested in all outcomes, the first two parts of the question may be sufficient.” (Glasziou et al. 2001: 14.)

	Population	Intervention	Comparison	Outcome
Research question 1	Nurses	Nurse leader who uses Transformational Leadership	(none)	Transformational Leadership impact on nurses' job satisfaction
Research question 2	Nurse leader	Healthcare sector on promoting Transformational Leadership	(none)	Methods that health care sector could use to promote Transformational Leadership to nurse leaders

Table 1: Research questions formulation with the help of PICO

Research questions are formulated as below:

1. How can a nurse leader help to improve job satisfaction among the nurses through Transformational Leadership?
2. How can the healthcare organizations help to promote Transformational Leadership among nurse leaders at the workplace?

### **3 The impact of leadership on job satisfaction**

Leadership styles have serious implications on nurses' work performance, job satisfaction and well-being. Destructive leadership could negatively impact employees' experience at work both psychologically and physically resulting in poor job performance, frustration, burnout, decreased motivation, absenteeism and staff turnover. (Trépanier, Boudrias & Peterson, 2019: 810.) Moreover, such leadership could also endanger employees' health and safety (Mullen, Fiset & Rhéaume, 2018: 946-961). Cummings, Tate, Lee, Wong, Paananen, Micaroni & Chatterjee (2018: 50-51) suggested that leadership styles that are relationally focused will lead to a more positive and favourable outcomes than a task focused leadership style. They explained that leaders who are task-focused oriented are less motivated on interpersonal relationships compare to relationship focused leaders who have stronger desire to build, maintain and improve meaningful relationships, which is seen as crucial, and can positively influence job satisfaction among the staffs.

Burke, Flanagan, Ditomassi & Hickey (2017) described that job satisfaction among nurses are derived from a supportive practice environment, strong nurse manager support, and an emphasis on quality as well as good communication, respect, and feeling cared for. (Burke, et al. 2017: 219.) The authors also highlighted that nurses regard empowerment in decision making; visibility and accessibility of nurse managers for promoting interpersonal relationships; common goals and visions that inspire, motivate that foster team cohesion; and professional and authentic behaviour as role models by nurse managers as traits that are essential in promoting job satisfaction. (Burke et al, 2017: 221.)

Transformational Leadership style has been adopted in various sectors and has shown positive impacts on several areas for example, on employees' job satisfaction within the banking sectors (Puni, Mohammed & Asamoah, 2018: 533-537), on promoting change within an organization (Busari, Khan, Abdullah & Mughal, 2020: 181-209), on organization effectiveness in particularly subordinate satisfaction, commitment and performance (Erkutlu, 2008: 708-726), on improving job performance in manufacturing industry (K & Ranjit, 2020: 605-625), and on mediating depressive symptoms through self-efficacy and meaningfulness in work among Finnish employees in several municipalities (Perko, Kinnunen & Feldt, 2014: 286-304). Transformational Leadership style has shown to be very effective on job performance and job motivation in high service performance and customer-oriented organizations that constantly undergo various organizational changes similar to the healthcare industry.

#### **4 Transformational Leadership style**

The idea of leadership was not scientifically researched until the twentieth century. The subject of leadership effectiveness has mostly occupied the attention of researchers because identifying the determinants such as traits, behaviours and abilities provide a better understanding and explanation on how some people became influential leaders. Since leadership can be defined from various aspects such as traits, behaviours, influence, interaction patterns, role relationships, and occupation of an administrative position, therefore, the term leadership occupies a plethora of definition among much research. (Yukl & Garder, 2020: 22.)

According to Bernard M. Bass, who was a scholar in leadership studies and organizational behaviour, leadership is simply defined as the "ability to influence, motivate, and enable others to contribute to the effectiveness and success of the organizations of which they are members." (Bass & Bass, 2008: 23.) Moreover, leadership is not only about influencing and motivating but it also contributes to transformation, "Leadership is observed effect of one another to change other members' behaviour by altering the motivation of the other members or by changing their habits" (Bass cited in Matey 1991: 600).

The concept of Transformational Leadership was first coined by James MacGregor Burns in 1978. Since then, many leadership scholars have continued to expand and enrich on the concept for instance Bernard M. Bass who has written extensively on

transactional and Transformational leaderships. According to Bass, leaders who possess Transformational Leadership qualities always strive to encourage their subordinates to stretch their potentials so that they could go beyond their expectation and to go an extra mile, guide them to work cohesively, and transforming them into leaders. To accomplish all that, leaders should inspire their subordinates to emulate them through exemplary behaviours and actions, create and impart their subordinates meaning and understanding through challenge and persuasion, empower and motivate them to expand their abilities and become a mentor who guide and support them throughout their journey. (Marshall, 2010: 3.)

The four fundamental components of Transformational Leadership and its characteristics were first developed by Bass (Bass, 1999:11) and they are introduced here by Marshall (2010: 4-6):

#### 4.1 Idealized Influence

Charismatic leader has the ability to envision the future and bold enough to inspire and influence others to embark on the same journey with the expectation of success and to persuade them to believe that their action will lead to something meaningful as a team. The leader possesses positive values, quality of authenticity, transparency, and trust that engage the employees to work towards the goal. It is not only sufficient to have a vision or a goal but knowing how to achieve it, is extremely essential. Such knowledge and risk assessment skill are highly useful particularly in times of crisis. Moreover, for a leader to accomplish and reinforce these charismatic attributes, it is important for him or her to become a role model who leads by example. (Marshall, 2010: 4-5.)

#### 4.2 Inspirational Motivation

A Transformational leader must be goal oriented and establish strong ethical values and collective ethical values. Only then, can he or she influence and guide others with high expectations towards the desired future. The leader instils optimism, reinforce purposeful meaning to strengthen the commitment so that others are motivated to work towards the shared dream, goal or cause. (Marshall, 2010: 5.)

#### 4.3 Intellectual Stimulation

The leader enjoys acquiring new knowledge from various fields and is broadly educated in order to examine and solve old problems in new ways through different

ideas and approaches. He or she is a risk taker, challenges boundaries, promote creativity, encourage independent, and critical thinking. The leader creates a safe environment without prejudice for continuous learning and testing of new ideas.

(Marshall, 2010: 5.)

#### 4.4 Individual Consideration

The leader possesses humility that looks beyond self and therefore, sees him or herself at par with the employees. He or she pays attention and listens patiently to the employees, provides support and willing to offer professional coaching when is needed as well as acknowledges the contributions of the employees. Moreover, the leader also embraces a culture of sharing, celebration, and unity within the entire team. (Marshall, 2010: 5.)

Leadership plays a significant role in all of us, and it has a tremendous impact on how well we are engaged in our job. Not only could strong leadership skill ensure successful change within the management and policy reform, but it could also foster positive relationship with employees in an organization. Transformational Leadership is considered as one of the most suitable and highly acceptable leadership styles among nurse managers on promoting a positive working environment to the employees according to many literatures.

## 5 Methodology and Data Collection

### 5.1 Literature review

Literature review is one of the most common selected methodologies in many research studies, and it is used to identify and locate how much has been done in the previous research and to decide what to focus on.

Literature review can be distinguished into two groups: First-generation, also known as traditional reviews and second-generation reviews. The first-generation reviews focus specifically on particular evidence that could be used to answer and justify the authors' arguments. Such method is criticized for lack of transparency, it also pays very little attention to the methodological quality of the studies while leaving the authors adopting

an approach which is subjective and biased towards the literature selection and interpretation of the results. (Pope, Mays & Popay 2007: 4-5.) The second-generation reviews which will be used in this thesis, applies a formal review process that clearly identify and defined all the approaches that are used for selecting the evidence while paying attention to the quality of the studies included. (Pope et al. 2007: 7.)

Furthermore, according to Pope et al. (2007), literature reviews could provide the author a certain level of flexibility regarding both research and non-research qualitative and quantitative types of evidence. The freedom of accessing a wide range of evidence could remain an important tool for policy- and management- relevant reviews. (Pope et al. 2007: 8.) However, the access to a large amount of relevant evidence could become challenging as they are difficult to select and manage and the extensive amount of information that could potentially be extracted from them could become too overwhelming. In addition, the appraisal of study quality can be challenging due to the diversity of the type of research, extraction of data in a common format could also be problematic and the difficulty to weigh different types of evidence. (Pope et al. 2007: 9.)

## 5.2 Conducting a Systematic Review

The Institute of Medicine, Board on Health Care Services, Committee on Standards for Systematic literature review of Comparative Effectiveness Research proposed a comprehensive guideline on conducting a systematic literature review in six steps (Morton, Berg, Levit & Eden 2011: 26).

Step 1: Organize the review team, framing the review questions and implement the procedures for reducing bias and conflict of interest

It is important for the research team to receive valuable input and feedback from relevant stakeholders such as representatives from professional societies, and consumers on the research topic. This is to ensure that the proposed practical guidelines or suggestions of the study are relevant and they would benefit the healthcare community. (Morton et al. 2011: 46.) Moreover, the action of engaging and involving stakeholders would also help to “increase relevance, promote mutual learning, improved uptake and decreases research waste.” (Lasserson et al. 2022: 1.3.1). The selected research team should include researchers from a multidiscipline background who are trustworthy and who possess necessary skills and expertise that are essential for producing high-quality systematic literature review. (Morton et al. 2011: 46.) Working as a team is vital because

it helps to reduce the possibility of errors when more than one researcher is selecting and extracting as well as rating the certainty of the data. (Lasserson et al. 2022: 1.3.)

Glasziou et al. (2001:3) recommend that it is vital to determine the type of question that can help with the question formulation when going through the question formulation process. This can be done by constantly questioning the importance of the subject and why the subject matters. Although, formulating the research questions is a time-consuming process, but it is a critical stage, because well-formulated questions have the potential to influence other parts of the review such as data search, extraction and synthesis as well as presentation of the results. (Morton et al. 2011: 67.) To help researchers in question formulation, The Cochrane Handbook proposed PICO, an acronym for Population, Intervention, Comparison, and Outcome as a strategy for developing important and relevant key terms to the study. (Thomas et al. 2022: 2.3.)

Bias is described as “systematic error, or deviation from the truth, in results” (Boutron, Page, Higgins, Altman, Lundh & Hróbjartsson, 2022: 7.1). Bias has the potential to distort the results from the study, thus providing a false conclusion. Therefore, to ensure, maintain and produce a systematic literature review with high credibility, acceptability with scientific rigor, the research team must prioritize to significantly reduce bias and conflicts of interest through disclosure of financial conflicts. (Morton et al, 2011: 51.)

#### Step 2: Develop the review protocol

In general, a systematic literature review protocol is a research plan that contains comprehensive explanations on how the study would be carried out and that includes the motivation behind the study, search strategy, inclusion or exclusion criteria, data synthesis strategy et cetera. However, taking all that into consideration before the study begins can be a challenging process. When developing a review protocol, researchers should consider the opinions from stakeholders and the general public to gain a different perspective because it is common for researchers to select the research topic based on their prior knowledge of results of available studies. Therefore, the input from stakeholders and public could help to minimize biased judgement. (Morton et al, 2011: 73.)

#### Step 3: Locate, screen, and select the studies for review using systematic strategies

The quality of data through appraisal and how they are obtained serve as the foundation of a systematic review. It is a process that requires meticulous execution and documentation to minimize the risk of biased synthesis of evidence. Without the rigorous work, the evidence gathered would be subject to bias and errors and consequently, they would negatively impact the results of the study. Not only that, but a study with unreliable evidence would also have the potential to mislead patients and clinicians and such action could have serious implications. (Morton et al. 2011: 82.) Searching for the relevant studies could be a time-consuming and laborious process if one does not develop concise strategies. Researchers should outline all possible strategies explicitly before conducting a comprehensive search of the data. A detailed of recommendation standards for finding and assessing individual studies are outlined in box 3-1. (Morton et al. 2011: 82.) Additionally, Glasziou et al. (2001: 17) suggest the application of Venn diagram to break down the study question into components to ease the search process. Moreover, The Cochrane Handbook strongly recommend that the search strategy should be peer-reviewed because it is an important step to ensure that only high-quality of studies are identified. (Lefebvre, Glanville, Briscoe, Featherstone, Littlewood, Marshall, Metzendorf, Noel-Storr, Paynter, Rader, Thomas & Wieland, 2022: 4.4.8.)

Another laborious process that requires careful, subjective, and meticulous documentation is when screening and selecting the relevant studies. In order to minimize bias, the committee suggest of using two or more research members to screen the studies and extract data from each study independently, train screeners, apply standard data extraction forms, and pilot test the data extraction forms and process. (Morton et al, 2011: 109.) The suggestion of using two or more researchers working independently on selecting the most relevant and eligible studies are also expressed by Lefebvre et al. (2022: 4.6.4) and Glasziou et al. (2001: 29). When describing the process of screening and selecting potential studies, the use of a flow chart that indicates the number of records identified through electronic databases is highly recommended. (Morton et al. 2011: 116.).

Step 4: Appraise the risk of bias in the individual studies and extract the data for analysis

The Cochrane Handbook listed two sources where special attention is needed for assessing the risk of bias. First, is the result of individual studies included in a systematic literature review and second, is the result of the meta-analysis (or other synthesis) of findings from the included studies. In addition to that, bias could also be affected by the absence of results from studies that should have been included. As mentioned earlier,

the risk of bias may also be influenced by conflicts of interest of study investigators or funders. Moreover, the risk of bias is correlated to a particular feature of a study design, thus, it is of great importance that researchers are aware of it. (Boutron et al, 2022: 7.1.1.) For instance, Morton et al. (2011: 133 & 135) explained that randomized trials have more protection against risk of bias and are less likely to produce misleading results than observational studies which is lack of randomization, and concealment of allocation. Interestingly, The Cochrane Handbook released the Cochrane risk-of-bias (RoB) tool which is widely implemented in Cochrane Reviews and non-Cochrane reviews (Boutron et al. 2022: 7.1.2).

Furthermore, the The Cochrane Handbook outlined and defined seven types of potential biases which are “publication bias, time-lag bias, language bias, citation bias, multiple (duplicate) publication bias, location bias, and selective (non-) reporting bias” (Boutron et al. 2022: 7.2.3). The risk of bias should be assessed and performed by two researchers independently to avoid errors, and to ensure that one’s judgement is not influenced by his or her presumption. (Boutron et al. 2022: 7.3.2.)

Glasziou et al. (2001: 127) proposed that the selected studies should be identified with an explicit and standardized appraisal tool so that only relevant and high-quality studies are selected and to present to the reader the quality of the studies and their strength when making a recommendation. The authors also recommend using a standardized checklist when conducting appraisal because of the tendency to pay more attention to the studies whose conclusions that the reader dislikes will be more apparent in unstructured checklist.

#### Step 5: Synthesize the findings and assess the quality of the evidence

The purpose of evidence synthesis and assessment are to “set performance expectations and to promote accountability for meeting those expectations without stifling innovation in method” and to act as “building blocks that help ensure objectivity, transparency, and scientific rigor.” (Morton et al. 2011: 156.) The Cochrane Handbook recommends a few acceptable methods for synthesizing the findings such as meta-analysis, summarizing effects estimates, combining P values and vote counting based on the direction of effect. The Handbook also warned to avoid using unacceptable methods such as vote counting based on statistical significance and vote counting based on subjective rules. (Mckenzie & Brennan, 2022: 12.1-12.2.2.) Meta-analysis is one of the widely used method that has been applied in many fields. The analysis consist of a

combination of results from multiple studies and the results are then statistically analyzed. (Morton et al. 2011: 178.) Meta-analysis is one of the highly recommended methods due to its many advantageous such as for improving precision, for answering question not posed by the individual studies and for minimizing potential controversies that may arise from conflicting studies or to generate new hypothesis. (Deeks, Higgins & Altman, 2022: 10.2.) However, it also has the potential to mislead if individual studies are not similar, or studies have large reporting biases. (Morton et al. 2011: 179.) When meta-analysis is not applied as the synthesizing method, researchers should consider using a visual display and presentation of data with the help of tables and plot's structure to present the findings for the purpose of transparency. (McKenzie et al. 2022: 12.3.)

#### Step 6: Prepare final report and peer review

A high-quality systematic report should contain sufficient and concise information and descriptions of the process that include all the steps and judgements of the study in clear language so that the review can be reproduced. And such a report is essential for patients and clinicians. (Morton et al. 2011: 195.) Although, The Cochrane Handbook has its own reporting guidelines, however, they also recommend a comprehensive reporting guideline known as the Preferred Report Items for Systematic reviews and Meta-Analyses (PRISMA) (Cumpston, Lasserson, Chandler & Page, 2022: III.1). PRISMA checklist comprises of 27-items addressing the introduction, methods, results, and discussion section of a systematic literature review report. (Morton et al. 2011: 304.) For the systematic literature review to be peer-reviewed, the committee recommend that the peer-review process is overseen by a third party, to allow the public to comment on the report and to make the comments publicly available for everyone. (Morton et al. 2011: 198.)

### 5.3 The process of conducting a systematic literature review for this thesis

The 6 -step recommendations of conducting a systematic review proposed by Morton et al. (2011: 26) in subchapter 5.2 would be used throughout the systematic literature review process in this thesis.

Step 1: According to the recommendations, a team of reviewers is usually established prior to a systematic literature review undertaking. However, this systematic literature review which is conducted as part of the master thesis program on a tertiary education

level, therefore, has only one reviewer which is the author. Although, no stakeholder nor the general public were involved, the research topic was discussed with several nurse leaders at the author's workplace. As a result, many thought that the topic was interesting and worth pursuing. To help with the research questions formulation, the author used PICO (Population, Intervention, Comparison, Outcome) as described in Table 1 in 2.1.

Step 2: The reason for undertaking this topic is mainly due to the lack of awareness and knowledge of Transformational Leadership among nurse leaders who are working in the nursing homes. The search strategy will be conducted independently through MetCat FINNA website. The author will use the library's chat system to ask for advice from the librarians when necessary. The data search will be conducted through the international e-resources advanced search and on reliable databases.

Inclusions such as full-text, English language, peer-reviewed articles and academic journals or research articles or journal articles will be included. Date of publications are from 1995-2020. Geographic subset is unspecified because the location is not relevant to the research questions, therefore, it will be excluded from the criteria. Other types of non-academic publications such as working papers, government and non-government documents, evaluations, annual-, research-, technical-, project reports will be excluded from the search.

The author will look for relevant information mainly from the findings and discussions parts of the studies that are closely related to the research questions before selecting the articles. As for the purpose of quality assessment, the author will search for several appraisal tools online that could be used to assess the quality of the selected articles according to their study design. A list of a summary of all the selected articles will also be provided to the reader so he or she can have a comprehensive overview of the articles.

The information from the selected articles will be then extracted to the Word application according to the author(s) and page number(s) whereby a theme will be created. The themes that share certain similarities will be grouped together under a subheading before they are presented in the results.

Step 3: The data search was conducted on four databases which are Cinahl, Emerald Insight, ScienceDirect and PubMed because they are reliable, and they cover an

extensive number of resources ranging from health-related field such as nursing and medicine to management and leadership according to the librarian at Metropolia.

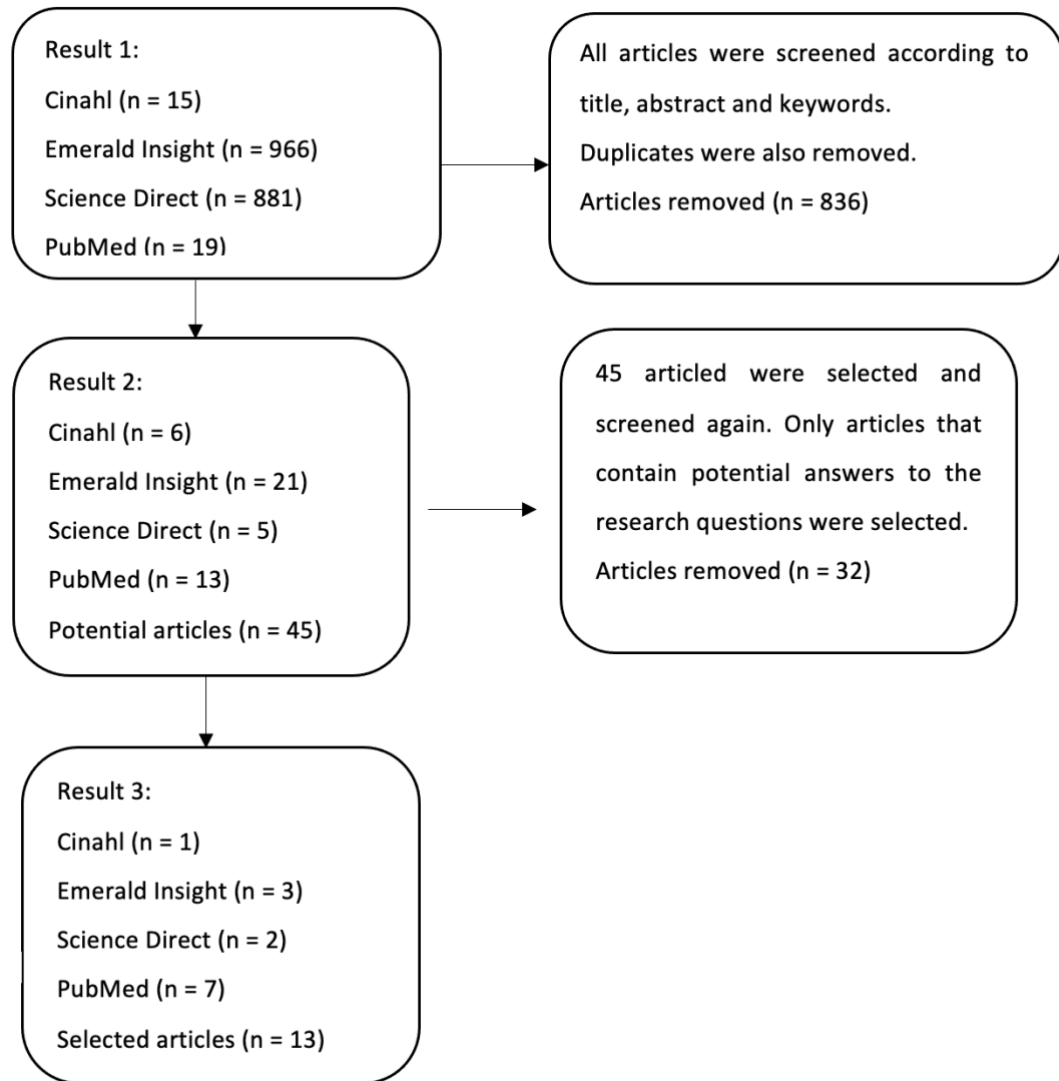
Databases and the keywords that were used to conduct the search are presented in Table 2.

Cinahl	Emerald Insight	ScienceDirect	Pubmed
“Transformational Leadership AND work satisfaction or job satisfaction AND nurses”	“Transformational Leadership AND work satisfaction or job satisfaction AND staff nurses AND nursing management”	“Transformational Leadership, work satisfaction or job satisfaction, nurses”	“Transformational Leadership AND work satisfaction AND nurses”

Table 2: Databases and keywords from data search

The selection of potential articles was done meticulously by reading through and paying careful attention to the title, keywords and abstract on every piece of article multiple times. Although it was time consuming, it was deemed necessary since literature search is a critical stage that should be conducted as rigorously as possible. Many articles from Emerald Insight were not related to health care nor had the research conducted in a health care setting despite the keywords. Since, most of the articles found on Science Direct database only contained keywords such as “Leadership” and “Nurses”, they were, therefore omitted because they did not contain all relevant keywords.

The initial search generated 1881 articles as presented in the flow chart below. After removing duplicates and paying special attention to abstract, only 45 potential articles were selected from Cinahl, Emerald Insight, Science Direct and PubMed. The articles were read through several times and only articles that contain information that are closely related to the research questions are selected. Finally, 13 articles were selected because their studies contained substantial results that could be used for further analyses in this thesis. All potential and selected articles were saved in RefWorks. The process of the data search is presented in Flow chart 1.



Flow chart 1: The articles selection process

The selected articles are dated from 1995 to 2014 and cover a wide geographical area. The studies are originated from Pakistan, Canada, Australia, Malaysia, Lebanon, Slovakia, Taiwan, Indonesia, Ethiopia, Denmark, Italy, and two studies are from USA. 11 articles used a cross-sectional study method, while 2 articles adopted a systematic literature review method. As for measuring Transformational Leadership style, seven articles in cross-sectional studies opted for Multifactor Leadership Questionnaire, one used 7-item scale survey questionnaires, one used close-ended questions, one used Global Transformational Leadership Scale and one used Healthcare Environment Survey. The sample size was from 132 to 935 participants for cross-sectional studies while the sample size of systematic literature review was 12 and 18 articles.

The author has also provided a summary of all the selected articles. The summary is divided into several categories such as Primary author, Year of publication and Title, Country, Purpose and Aim of the study, Design sample size and setting, Methods and Instruments, Techniques used for data analyzing, Results and Conclusions, Limitations and Quality Assessment. The table is presented in Appendix 1.

Step 4: Since the systematic literature review process is conducted independently by the author, the only method that could help to reduce the risk of bias is through critical assessment. Since, cross-sectional study has been identified in 11 articles and systematic literature review method was used in 2 articles, the author has decided to apply Strengthening the Reporting of Observational studies in Epidemiology (STROBE) for cross-sectional method and Critical Assessment Skills Programme (CASP) for systematic literature review method. The decision was then presented to the thesis advisor and was considered appropriate. The STROBE and CASP checklists are accompanied with short recommendations to guide the reviewer when answering the questions during the assessment. These recommendations are important for guiding an inexperienced reviewer who is conducting the assessment independently. Initially, the author had planned to set a score for every article after it has been assessed but the intention was cast aside due to several valid reasons that are presented in chapter 8.

As described in step 2, the data extraction consists of reading through the articles several times while paying attention to the findings and discussions parts. Questions such as how Transformational Leadership style help on improving job satisfaction among nurses according to the results and what are the recommendations by the author(s) to the health care organization on promoting Transformational Leadership style in the organization helped the author to focus on extracting the relevant data that are important to the research questions in this thesis.

Step 5: The synthesizing of the findings from the selected articles was carried out on a table in Word application. The table was divided according to Primary author and date, Research question 1, Theme 1, Research question 2 and Theme 2. Information from the articles' findings that are related to Research 1 and 2 were written under the columns respectively, as well as the author(s) and date. The page(s) number where the article is extracted from were also written. Then, a theme was assigned to each piece of information. Information with similar themes was gathered and extracted to a table according to their themes. The author was able to present the results in a more comprehensive manner by creating subheadings with the help of different themes

through this method. The assignment of theme to each piece of information has helped the author to focus and carefully summarize and interpret what the author(s) have presented and discussed in their studies. As a result, six subheadings were created, and they are presented in chapter 6 in this thesis.

Step 6: Although a separate systematic report was not prepared by the author, the steps and judgement that were taken were clearly defined in all the steps. The work of this thesis will not be peer-reviewed but it will be assessed for quality as a thesis report by the instructors of Metropolia.

## 5.4 Critical Appraisal

Tod, Booth and Smith (2022) described critical appraisal as “an explicit systematic, rather than an implicit haphazard process, involve judging a study on its methodological, ethical, and theoretical quality and is enhanced by a review’s practical wisdom, gained through having undertaken and read research.” (Tod et al. 2022: 54.) The authors further explained that critical appraisal is a useful tool to guide reviewers to evaluate the strength and weaknesses of the study, to determine the quality of the findings and to recommend different methods for improving future research in addition to safeguard the transparency of the primary research. (Tod et al. 2022: 4.) Although the main purpose of research is to provide evidence-based recommendations, the quality, type and applicability can differ from one another. Therefore, practitioners and policymakers would be able to decide with confidence how reliable and trustworthy the research paper is with the guidance of critical appraisal. Thus, it is beneficial to carry out critical appraisal with the help of checklists. In this thesis, the author has decided to use STROBE (Strengthening the Reporting of Observational studies in Epidemiology) for all cross-sectional studies and CASP (Critical Assessment Skills Programme) for systematic literature review because both are concise, and they are widely used.

## 5.5 Strengthening the Reporting of Observation studies (STROBE)

STROBE is commonly used to assess the quality of observational study design. An observational study takes place when “researchers observe a particular environmental behaviour without artificially controlling the environment under study” (Cuschieri, 2019: 31). Observational study which is also known as non-experimental study comprises of a cohort, a case-control, or a cross-sectional study. Observational studies are not only important for discovering and revealing new findings, but they also have a significant role

in confirming and refuting previous findings. Through observational studies, some exploratory studies could raise new hypotheses while some apply hypotheses in available data as well as gathering new data from an existing hypothesis. Therefore, according to von Elm, Altman, Egger, Pocock, Gøtzsche and Vandenbroucke (2017: 1455) the current STROBE checklist is useful and serves an important purpose to the readers who are interested to know what was planned, how the study was executed, and what the results represent in a study.

STROBE was developed by a multi-professional group of experts with a goal “to aid in the presentation of the conducted observational study to ensure adequate reporting (what was planned, done, found, concluded) as well as assessment of the strengths and weaknesses of the study.” (Cuschieri, 2019: 31.) The STROBE checklist includes 22 items or questions. While 18 common questions are designed for cohort, cross-sectional and case-control studies, 4 specific questions are aimed for either cohort, cross-sectional or case studies. According to a review article published by Cuschieri (2019: S32), the author presented and described the 22 items in detail. The items in the checklist are Title and Abstract, Introduction – Background, Methods – Study Design, Setting, Participants, Variables, Data sources/Measurement, Bias, Study Size, Quantitative data, Statistical methods, Results – Descriptive data, Outcomes data, Main results, Other analyses, Discussion – Key results, Limitations, Interpretation, Generalizability, Other information and Funding. The answer options are either yes or no.

STROBE is useful in many ways. For example, it can help early-career researchers to ensure the quality of the study. Many also apply STROBE’s structure as an educational tool to preserve good practice in writing manuscripts. (Sharp, Glonti & Hren, 2020: 103.) With the help of STROBE, “confounding, bias, and generalizability could become more transparent which might help temper the over-enthusiastic reporting of new findings in the scientific community and popular media.” (von Elm et al. 2017: 1456.)

Nevertheless, STROBE also poses a few challenges. An article published by Sharp et al. (2020: 103) revealed that some researchers feel that the checklist is very comprehensive and rigid as well as time consuming. While others pointed out the importance of recognizing that each study is unique and therefore, it does not always fit with the recommendations. STROBE was initially limited to cohort, case-control and cross-sectional studies; however, it has extended to other studies according to von Elm et al. (2017). As a consequence, many extended versions of STROBE were created to

satisfy the various fields and methods of the studies. Such a situation has created unnecessary complexity according to some researchers. (Sharp et al. 2020: 103.)

STROBE checklist was used on 11 articles for quality assessment, and they are presented in Appendix 2.

## 5.6 Critical Assessment Skills Programme (CASP)

CASP was developed in the 1980s as a workshop to address the lack and contradictory evidence of the interventions that were used by clinicians. This was because managers and policy makers often ignored the fundamental role of evidence-based research when making decisions and designing policies. The initiative began as workshops which then gradually progressed into CASP. CASP aims “to help people develop the skills they need to make sense of scientific evidence...it is not meant to replace considered thought and judgement when reading a paper but for use as guide and aide memoire.” (History. CASP, 2023.)

According to Buccheri and Sharifi (2017: 465), CASP offers checklist is used not only in systematic literature reviews, but it also extends to randomized controlled trials, diagnostic studies, economic evaluation, qualitative research, case control studies, cohort studies, and clinical prediction rules. Systematic literature review was initially “developed to identify, appraise and synthesize quantitative evidence from randomized controlled trials in order to answer questions of effectiveness.” (Long, French & Brooks, 2020: 31.) According to Lasserson et al. (2022: 1.1), systematic literature review enables healthcare policy and decision makers to access high quality, relevant, and latest information about a health-related intervention. In another word, systematic literature review is an important and efficient method that compiles all significant and meaningful evidence from primary studies for researchers to understand not just what works but also why and how a phenomenon took place. Such a knowledge could help and guide healthcare professionals in decision making.

While systematic literature review plays an important role, the risk of bias must not be overlooked. Bias occurs because of “methodological flaws, authors overestimate or underestimate the effect of interventions. Bias can affect the validity of study findings.” (Buccheri & Sharifi, 2017: 465.) Because of that, researchers must always be mindful of

the validity and reliability of the result and must attempt to make every effort to identify the possible bias and ways to minimize them as they affect the quality of the study.

CASP checklist is one of the many quality assessment tools for appraising strengths and limitations for qualitative research study (Long et al. 2020: 33). CASP is commonly used and is recommended for inexperienced qualitative researchers who are not familiar with using appraisal tools and it is also a common tool to appraise the quality on health and social care related qualitative studies. (Long Ha et al. 2020: 32.) This is because CASP is considered uncomplicated and practical to apply for new researchers. However, Buccheri and Sharifi (2017: 465) cautioned in their paper that the checklist may be challenging for beginners who work independently.

CASP checklist consists of ten questions. Nine questions are close ended while the last question is open-ended. Each question is accompanied by a comment box and practical information to guide the researcher in answering the question. The answer options are yes, no or can't tell.

CASP checklist was used on 2 articles for quality assessment, and they are presented in Appendix 3.

## **6 Results**

According to the selected articles, leadership is crucial in the field of nursing and nurse leaders who adopt Transformational Leadership plays a vital role in improving job satisfaction among the nurses. The positive impacts of Transformational Leadership on nurses' job satisfaction have been identified and they are presented as below:

### **6.1 Transformational Leadership promotes empowerment and self-efficacy**

Empowerment is a process in which leaders can exert their influences on the employees to effectively accomplish their work by providing them access to information, support, resources, and opportunity. Access to information such as organizational goals, values, policies, and technical knowledge and expertise. Supervisor and peer support which include guidance, feedback, emotional and social support are vital to maintain a healthy

and productive work environment. Employees could work more efficiently when they have adequate access to resources such as materials, supplies, money, time and equipment. Furthermore, employees have access to opportunities for professional development and to gain recognition. (Boamah, Laschinger, Wong & Clarke, 2017: 182.)

Empowerment is one of the core characteristics of Transformational Leadership. For instance, nurse leaders who adopt Transformational Leadership style often take genuine interest in nursing development and empowering nurses to utilize their potential through mentoring, coaching, paying attention to their needs and listening to their concerns and most importantly through creating a supportive working environment that foster individual growth. (Asif, Jameel, Hussain, Hwang & Sahito, 2019: 10; Boamah et al. 2018: 186.) Similarly, Specchia, Cozzolino, Carini, Di Pilla, Galletti, Ricciardi and Damiani (2021: 11) have also presented the same conclusion and added that because of the encouraging and optimistic qualities of Transformational Leadership, nurses become more efficient and tend to exert themselves into achieving goals and such behavior has a great impact on healthcare system performance metrics.

As mentioned earlier, empowerment is not a single task, but a continuous process that encompasses many components such as emotional and physical support as well as professional advancement and these components can occur simultaneously. Transformational nurse leaders could help to unburden nurses both psychologically and physically when they are under tremendous job stress due to high job demands and constant staffing problems by allowing nurses to speak about their struggles, acknowledge that their struggles are authentic and showing compassion and acceptance of their experience. Nurse leaders could offer to share the weight by being involved in the clinical work. Such action will not only help to improve nurses' self-confidence and patient's quality of care, but it will also strengthen teamwork through solidarity and respect.

Furthermore, Sabbah, Ibrahim, Khamis, Bakhour, Sabbah, Droubi and Sabbah (2020) explained that nurse leaders with Transformational Leadership style could increase work motivation and strengthen work commitment through empowerment strategies and shared decision making. (Sabbah et al, 2020: 6.) According to Negussie and Demissie (2013: 56), work motivation is part of the intrinsic job satisfaction's components which is positively correlated to all the components of Transformational Leadership and intrinsic satisfaction can be enhanced by self-efficacy which in turn is strengthened by empowerment. Self-efficacy can be defined as "people's beliefs about their capabilities

to exercise control over events that affect their lives' and 'beliefs in their capabilities to mobilize the motivation, cognitive resources, and courses of actions needed to exercise control over task demands.'" (Maddux, 1995: 7.) To put it simply, self-efficacy is about knowing and believing in one's competencies when making a conscious decision by using all possible resources that are available to them. According to some authors, self-efficacy has a significant positive impact on the feeling of gratification at the workplace. For example, Specchia et al. (2021: 11) found that empowerment as a result of Transformational Leadership could help to promote self-efficacy which consequently increases job satisfaction.

Intangible job motivation enhancer such as self-efficacy is important particularly in the nursing profession where tangible benefits such as rewards and recognition are seldom practiced. Nurses who are believed to be strong advocates for patients, often have the desire to influence and improve their work conditions so that they can bring positive impacts to the work environment. Therefore, it is important to have nurses participate in any decision making that is related to their work because such a form of empowerment could strengthen their role and help them to believe in their own capabilities. Thus, a workplace that continuously strives to promote empowerment would help to enhance nurses' self-efficacy which consequently results in job gratification and improves job satisfaction.

Moreover, Nielsen, Yarker, Randall and Munir (2009: 1242) reported that, Transformational Leadership fosters team and self-efficacy within healthcare but team efficacy has a larger impact on job satisfaction, yet both contribute greatly to the improvement of one's well-being. They further explained that team efficacy plays an essential role when it comes to handling and solving new challenges in a multi-professional team. Employees who have low self-efficacy will feel reassured and satisfied in a high efficacy team because they have faith in their colleagues' competencies and capabilities.

Nursing profession often involves working and collaborating with people from multi-professional backgrounds such as physician, physiotherapist, assistant nurse, podiatrist et cetera. Therefore, it is crucial for nurses to be able to work and function in a team. When nurses work in a team with high efficacy, they would become more engaged, help and motivate each other to overcome challenges, thus creating a rewarding and positive experience that would eventually improve job satisfaction.

Transformational Leadership brings a sense of meaningfulness, purpose and joy to the work that nurses perform regardless of any tangible rewards and to help them believe in their own capabilities. As a result, such positive feelings could act as a driving force that continuously inspires and motivates them to contribute to their profession. It is essential for the nurses to be able to make a positive impact and contribution, to have their voices heard and to have their opinions taken seriously in an organization. To be able to do that, they need an environment and a leader that empower them.

## 6.2 Transformational Leadership strengthens self-determination and reduce burnout

Choi, Goh, Adam and Tan (2016: 10) reported in their studies that the qualities of a Transformational leader like charisma, and the ability to inspire and stimulate the employees intellectually would help the nurses to develop and improve a stronger sense of self-determination and competency which as a result, will positively impact their work performance and job satisfaction. The authors also added that when staff nurses feel empowered, the sense of powerlessness and burnout will also be alleviated which contributes to higher job satisfaction.

Cheng et al. (2016: 1208) also found similar conclusions to their studies. One of the results from their findings revealed that nurse managers who adopt Transformational Leadership style will strengthen teamwork and reduce burnout. Similar results have also been reported by Wei et al. (2020: 447), that a workplace that provides continuous support as well as opportunities to learn and grow will help to reduce burnout while Transformational Leadership could relieve the symptoms of burnout.

The experience of working under constant stress and challenges that persist for a long time would eventually exhaust all the nurses' capacity and prevent them from working efficiently and productively. Burnout "is a work-related stress syndrome characterized by emotional exhaustion, depersonalization, and reduced personal achievement. Burnout makes nurses lose interest and compassion in what they are doing, which is traumatic in health care." (Wei et al. 2020: 439.) Burnout also "signifies diminished capacity to proficiently manage interactions with clients and is associated with nursing work" (Cheng et al. 2016: 1204). Nurses who are feeling burnout desperately need a leader who is compassionate and is willing to listen to their concerns and needs. They need a leader who can inspire them with new goals and purposes and at the same time support them

throughout their struggles. Such action can improve the nurses' self-perseverance and restore their self-confidence so that they can overcome the challenges. In addition to that, Transformational leader would make certain that the nurses would receive adequate help and support so that they are fit to return to work. As an effort to reduce burnout through self-care, nurse leaders could offer opportunities for the nurses to improve their clinical knowledge, improve personal and spiritual growth through online seminars, workshops, or professional speaker so that they could gain useful information that could benefits and improve their well-being and job satisfaction.

### 6.3 Transformational Leadership nurtures healthy relationship through active communication and supervisor support

It is fundamental to establish and build good relationships with other co-workers at a workplace especially when the work requires and demands teamwork. It is through strong relationship that Transformational nurse leader becomes more attentive and truly understands the challenges that the nurses encounter daily, and they are willing to make great effort to acquire all possible resources to help them. When nurses feel supported, valued, and cared for, they will become more innovative and engaged in their work, thus increasing their job satisfaction. Such a strategic approach could also be one of the most important retention solutions. (Boamah et al. 2018: 187.)

Communication is a vital process and an essential interpersonal skill among others. In their studies, Jankelová and Joniaková (2021) concluded that Transformational Leadership helps to promote and further improved one's communication skill. Communication skill consists of "information sharing, effective expression of ideas, openness and transparency of communication or the use of its various methods cannot be underestimated, because they bring equally positive effects in the work environment." Jankelová and Joniaková (2021: 14.) The authors advised that when communication and Transformational Leadership are applied simultaneously, they will significantly increase nurses' job satisfaction. Through communication, nurses can express themselves, inform and share about obstacles and experiences. When nursing leaders adopted Transformational leadership, they would have a genuine desire to listen, open and exchange new ideas as well as to validate the nurses' feelings. Such supervisor support through reciprocal interaction would contribute to a supportive and a conducive working atmosphere.

Communication is not only essential for improving one's interpersonal relationship and wellbeing, but it can also help to reduce work related stress. According to Manoppo (2020), "Transformational Leadership is one of the strategies to encourage open communication with followers, which in turn will reduce work stress" (Manoppo et al. 2020: 1401). As a consequence, employees will experience greater work satisfaction, happiness in interacting with patients, colleagues and leaders, as well as becoming more creative and innovative. (Manoppo, 2020: 1403.)

In short, communication is a stepping-stone for employees to learn and to gain a better understanding of each other, to establish a positive relationship at work, to exchange ideas and even to share some laughter. The benefits of communication cannot be overlooked and how it plays a central role in Transformational Leadership can only mean that such leadership style is indispensable and is encouraged to be embraced by every leader.

Moreover, Lin, MacLennan, Hunt and Cox (2015: 6-8) pointed out that supervisor support is part of a Transformational behavior, and it can contribute to job satisfaction of nurses. They explained that nurses will achieve a better quality of working life and their wellbeing will also improved when they are satisfied with their work. Sabbah et al. (2020: 6) have also discovered that Transformational Leadership contributes to an increased quality of life thus increasing job satisfaction and motivates employees to accomplish change as well as improving employee's performance. According to the authors, Quality of Life (QOL) is a measurement of well-being in various healthy populations, including workers. (Sabbah et al. 2020: 3.)

Supervisor support is especially important to newly employed nurses. The feeling of uncertainty and unfamiliarity with new procedures and routines can be intimidating. When there is adequate support available and knowing that the leader is always there for them, would help them to adjust sooner in a new work environment. Supervisor support is also vital to promote a positive work climate because help and support are always available to those who need them. A work atmosphere which nurtures open discussion, encourages communication, empathetic toward one another would help to improve nurses' wellbeing.

#### 6.4 Transformational Leadership promotes autonomy

Boamah et al. (2018) found that, employers could ultimately improve nurses' job satisfaction by providing them access to clinical and financial information as well as allowing them to play a greater role in supporting the nursing practice through organizational decision-making. (Boamah et al. 2018:186.) Choi et al. (2016) also share the same sentiment and concluded that the feeling of powerlessness which is commonly experienced in an overwhelming work environment such as the nursing profession, could be alleviated when nurses are allowed to participate in decision-making. Such a situation would also lead to strengthening their autonomy. (Choi et al. 2016: 10.) Roberts-Turner, Hinds, Nelson, Pryor, Robinson and Wang (2014: 239) emphasized that autonomy is one of the attributes of Transformational Leadership style and it can significantly affect job satisfaction. (Roberts-Turner et al. 2014: 239.)

Transformational leaders help to empower the nurse's autonomous role through shared decision making and providing them access to information. The ability to make decision is crucial in the nursing profession, for example, nurses frequently help their patients to make sound decision that is best suited for their health and wellbeing. Through the practice of shared decision making, nurses can influence and give their opinions and suggestions, for example, on what improvement can be made or how a crisis should be tackled. Furthermore, when nurses learn more about the organization through their goals, become aware of the economic situation through financial reports and budget, learn about a new clinical intervention and approaches to care, they could utilize such knowledge to improve their work environment and nursing practice as well as to empower their peers.

It is important to allow nurses to take up active roles and enhance their autonomy because it could help to boost their morale and improve job satisfaction. When nurses could make a positive impact and experience a desirable outcome or improvement, they would feel even more motivated and engaged in their work. And when they gain access to the information they need, they would have the knowledge and ability to make a sound decision or assessment. Therefore, Transformational Leadership is recommended as an ideal leadership style because it encourages mutual decision-making while empowering the nurses by making all necessary resources available to them.

## 6.5 Transformational Leadership strengthens social identity

When an individual is detached and fails to identify him-/herself to a social group, his/her social identity becomes weak and diffuse. However, when his/her social identity is strengthened, the sense of attachment and inclusion will also become more apparent and deeper, thus, making him/her more incline to share similar characteristics as the rest of the members and adopting the group's goals, interests and perspectives as his/her own. (Cheng et al. 2016: 1203.) The authors found that "When nursing leaders assume a Transformational Leadership style, they have the potential to ameliorate nurses' team climate, and perceptions of quality of care, while reducing burnout and turnover intention by strengthening social identification." (Cheng et al. 2016: 1208-1209.)

Professionals who work in the healthcare sector such as nurses and physicians possess a strong social identity due to the similar attributes and responsibilities that they share. Identifying and sharing a common social identity is essential in a team-based organization which is commonly practiced in healthcare. A person must be able to identify and share the same values of the group and have a common goal when working in a team, if not, the entire team would be easily in disagreement and eventually disintegrate.

Transformational nurse leaders have the ability to unite team members through sharing the same social identity with the rest of the team. The nurse leaders could influence the team climate and behavior through reinforcing their shared vision and goals and by presenting them with clarity. A team led by such a leader also encourages a team climate that embraces openness, fosters collaboration and diversity so that nurses would feel more engaging and rewarding toward their work and do not have the intention to leave. Consequently, when nurses are satisfied with their jobs, their wellbeing and the quality of patient care will also improve.

Research question 2: How can health care sector promote Transformational Leadership style among nurse leaders at the workplace

## 6.6 Promoting Transformational Leadership style through policy, training and education

According to the articles, Human Resource management and administration in the healthcare sector have a significant and important role for promoting and shaping a

desirable leadership style and improving one's leadership skills within the healthcare community. Asif et al. (2019: 11) and Boamah et al. (2017: 187) suggest that top management must make every effort to assist nurse managers and leaders to emulate, develop and engage Transformational Leadership behaviors professionally and they have also indicated that a working environment that advocates empowerment and autonomy is as important as the leadership style itself because it is a place that nurtures and supports professional practice.

Choi et al. (2016: 11) suggest that reorganization of the human resources' policies for healthcare workers so that the policy will focus on Transformational Leadership and empowerment to enhance job satisfaction because according to them, an empowering working atmosphere would allow the employees to practice a certain degree of autonomy and acts as a mechanism to promote employees development.

Organizations have a duty and responsibility to provide and offer various training courses for their employees to improve their skills, performance as well as their wellbeing. For example, Lin et al. (2015: 7) reported that training nurses to apply Transformational Leadership style might have a positive impact on their mental health. Both Manoppo (2020: 1408) and Negussie et al. (2013: 57) agreed that training programs are essential for both hospital leaders, nurse managers and management to improve their leadership skills and to understand the positive impacts of leadership in nursing. Jankelová and Joniaková (2021: 14) further emphasized that although nursing leaders are the experts in the nursing field, it would be challenging to gain managerial skills through trial and error. Therefore, they recommended nurse leaders to deepen their knowledge on theoretical training on strategic topics such as leadership, change management and satisfaction in collaboration with local universities and healthcare organizations.

Furthermore, several authors have stressed the importance of formal education as an approach to acquire and develop Transformational Leadership skills. Cheng et al. (2016: 1209) proposed that Human Resource must be prepared to set aside resources and invest on leadership development through educational activities, modelling, experience mentoring and personal development. The authors also cautioned that nurse managers should be carefully and appropriately selected and have relevant education and experience. Wei et al. (2020: 448) explained that self-awareness is an important ability to help nursing leaders to build trust between the leader and employees and it is considered a fundamental characteristic in leadership which can be achieved through education, competencies and mentorship. Both Sabbah et al. (2020: 7) and Lin et al.

(2015: 7) suggested that education is a useful tool for nurse managers to gain additional knowledge and skills so that they can advance professionally, and education programs are considered a useful intervention to coach nurses on how to apply Transformational Leadership in hospital setting.

Firstly, healthcare organizations must develop a work culture that promotes the use of Transformational Leadership style among their nurse leaders. Such initiative could be achieved by encouraging and engaging nurse leaders to adopt Transformational Leadership in their career through workshops and open discussion, leadership seminars, leadership training programs that focus on Transformational Leadership style and its benefits. Secondly, organizations must encourage autonomous working styles through the practice of empowerment at the workplace by implementing policies that focus on Transformational leadership. An empowering working style can only exist and become the norm of the organization, unless such a policy is established. Thirdly, nurse managers are encouraged to seek new knowledge through formal education. Such initiative should be also motivated by the organization. The significant of gaining a new mastery through education cannot be underestimated. Through education, nurse leaders are exposed to the latest evidence-based materials on various leadership styles in particularly Transformational Leadership and the opportunity of learning from other leadership experts.

## **7 Limitations**

The search criteria could have been more specified for example hospital setting and nurse leader could have been added. The reasons for the articles' exemption could have been explained in more detail on the flow chart. The dates of inclusion were specified as 1995-2020 but the dates from the selected articles are from 1995-2014. The inconsistency of the inclusion criteria was due to the un-mindfulness of the author for failing to check the dates before conducting the data search. The action is mainly due to the prolonged halt from the writing process of this thesis as a result of work and covid-19 outbreak that interrupted the data search process which as a result, was carried out on many occasions.

It was challenging when selecting which appraisal tools to be used for cross-sectional studies and systematic reviews because the author does not have any prior knowledge of appraising scientific studies. However, after going through several appraisal tools,

STROBE and CASP were selected because they are commonly used and comprehensible with the help of the instructions. But, appraising all the selected articles independently for the first time has proved to be very difficult because there were many uncertainties such as, Have I understood the question correctly? Have I interpreted the question as it should? Is this how it should be done?

Since both STROBE and CASP do not have a scoring system, the author initially decided to generate a total quality score on every article but after many contemplations that are supported by valid reasons, the intention was dismissed. According to Tod et al. (2022), “reliance on quality scores impedes science” (Tod et al. 2022: 6). That is because most checklists, if not all, have very limited support from research and only a handful that are up to date. Furthermore, a label of weak, moderate and strong are often assigned to a specific score but two separate papers might differ by a single point and yet one is labelled as weak, and the other is moderate. Also, although some studies can have the same score but their scores across the items on the checklist could be completely different, it is difficult to justify how each item on the checklist obtains its score and lastly, a total score does not reflect the strengths and weakness of the studies. Morton et al. (2011) and Glasziou et al. (2001) have expressed similar view, “Systematic literature review teams have moved away from scoring system to assess the quality of individual studies toward a focus on components of quality and risk of bias. Quality scoring system have not been validated.” (Morton et al. 2011: 139.) “Some analysts have suggested using quality score to weight the contribution of particular studies to the overall estimate. This is inappropriate – it neither adjusts for nor removes the bias of poor studies, but merely reduces it slightly.” (Glasziou et al. 2001: 31.)

The authors have presented strong and valid reasons why a scoring system is not appropriate and therefore is not recommended. The motivations are mainly due to the standard and quality of most checklists that are unsupported by evidence-based studies therefore making them less reliable and more prone to bias. As the saying Do not judge a book by its cover goes, the scoring system would only negatively impact the reader’s preconceive judgement of the quality of the selected studies. Therefore, instead of relying on a single score, the reader is encouraged to read and explore the contents of the articles.

## 8 Discussions

As healthcare is expanding so does its challenges. As a result, the role and responsibilities of nurse leaders are continuously evolving and becoming even more demanding than before. Through becoming an intermediary and a role model between management and policymakers and employees, it is not only imperative for nurse leaders to have the appropriate education background but also leadership skills. How a nurse leader chooses to lead depends on his or her leadership style. According to the results, studies have revealed and agreed that Transformational Leadership style has many advantageous and has great potential on improving job satisfaction.

There are many factors that contribute to one's job satisfaction, thus, improving job satisfaction is a complex undertaking. However, the role of leadership has the ability to impact job satisfaction. The elements of a Transformational leader such as Idealized Influence, Inspirational Motivation, Intellectual Stimulation, and Individual Consideration can help to promote job satisfaction. Transformational Leadership style helps to foster empowerment at the workplace. Empowerment is necessary because it can reduce restrictions that are redundant, thus, enabling and providing greater freedom and flexibility to nurses. For example, when information is made accessible to nurses, they could use the knowledge to benefit their clinical work and assist their patients as well as to guide their peers, therefore increasing their autonomy and job satisfaction. Transformational nurse leader also encourages and supports nurses in their work through helping them to utilize their full potential, therefore, generating a deeper sense of job satisfaction. By expressing appreciation for the nurses' work and acknowledging their competencies, nurse leader could help nurses to believe in themselves and their capabilities, therefore boosting their self-efficacy. Such action could improve nurses' self-confidence and job experience. One of the strengths of Transformational Leadership is to encourage and foster active communication among the employees. Through communication, nurses have the opportunity to express their opinions and provide suggestions that could improve the patient care and work condition. Communication also promotes feedback between nurse leader and nurses which is important because it has the potential to improve personal and professional growth. The attributes of a Transformational leader can be demonstrated through supervisor support and such support does not only promote job satisfaction, but it also improved the wellbeing of nurses. Teamwork or team collaboration is an essential part in healthcare. Transformational nurse leader could help to integrate members in the team and ensure team cohesion by strengthening their social identity through sharing a

common vision and a sense of purpose. Consequently, nurses' job satisfaction will also improve when they share the same interest and goals with the rest of the team. Nevertheless, when embracing Transformational Leadership style, nurse leaders could ultimately assist nurses on reducing the symptoms that could contribute to burnout through empowerment, autonomy, self-efficacy, active communication, supervisor support and social identity.

Furthermore, the role of healthcare organization is not only to provide health care services to the population, but it has a responsibility to ensure the wellbeing of its employees particularly nurses. Healthcare organization can help to mitigate nurses' job dissatisfaction as a result of inefficient leadership by setting up a policy mainly focusing on Transformational Leadership style. A strong policy that is dedicated to improving one's leadership skills is not only vital for ensuring the effectiveness of management but also to boost job satisfaction and to safeguard the wellbeing of nurses. The healthcare organization needs to understand that the wellbeing of nurses is equality as important as the services, therefore, it is their duty to encourage and to provide the nurse leaders with appropriate and sufficient infrastructure and support to pursue Transformational Leadership style. Besides policy, the healthcare organization could set aside resources for regular leadership trainings as well as encouraging their nurse leaders to pursue a formal education so that they have adequate theoretical knowledge and information on leadership skills.

Although, contingent reward is not included in Transformational Leadership style, it was however, discussed in two articles and has important implications on promoting job motivation and satisfaction. Contingent reward is described as the "opportunity to receive promotion and career advancement in recognition of good performance or achieved goals" (Specchia et al. 2021: 12). In other words, contingent rewards are mostly tangible benefits including monetary reward such as bonuses. Even though contingent reward belongs to Transactional leadership style, however, according to Negussie and Demissie (2013: 56), nurses considered contingent reward as part of Transformational leadership, and it has positive effects on intrinsic and extrinsic job motivation that could promote job satisfaction. Specchia et al. (2021: 12) also presented a similar view on contingent reward. The authors found that contingent reward had characteristics common to the Transformational Leadership style and it is related to profession motivation. They meant that it is necessary to recognised personal skills and qualities of the employees and such action has a direct impact on commitment and intention to stay.

Sadly, unlike industrial leaders, the provision of rewards is not a common practice in the nursing sector as pointed out by Medley and Larochelle (1995), “in nursing it is unusual for an individual to receive special recognition or to be awarded tangibly (financially) for outstanding performance” (Medley and Larochelle 1995: 64NN). The lack of such rewards and recognition may be one of the reasons that contribute to job dissatisfaction for nurses. The healthcare sector is equally as demanding and challenging as the industrial sector if not more, with the complexities of diseases and their treatments, increasing aging population, staff shortage, limited resources, and health care reforms. Moreover, healthcare is also a fast-evolving sector due to technological advancements (Walker, Kim, Campbell, Steven, Duff, Jed & Cummings 2016: 61). Perhaps with the help of tangible rewards and benefits, the healthcare sector could become an exciting and attractive workplace for future nurses and more importantly, for retaining current nurses so that they would advance in their careers to become leaders in their field.

## **9 Recommendations**

The process of conducting a systematic literature review has proven to be a time-consuming and laborious process that demands detailed documentations and explanations of every single step that have been meticulously thought and undertaken. Since the process often requires a multi-disciplinary team of researchers to have prior knowledge on conducting systematic research, it is extremely challenging for inexperienced students to conduct the research independently for the first time.

Therefore, it would be appropriate to have two students for the process of writing a thesis so that both can gain a better understanding through discussions about challenging issues, and they could also lend each other support throughout the writing process. The constant exchange of ideas and debates would also help to reduce bias and misinterpretations. Glasziou et al. (2001) has expressed similar idea and stated that “Using more than one reviewer is rather like getting a second medical diagnosis. Because of the importance of appropriately selecting studies, at least two reviewers should be used. Each reviewer should independently read and score each of the studies that can potentially include in the review. They should then meet to resolve any discrepancies between the scoring of the paper by open discussion about their justification for each of the scores. This discussion is a useful educational procedure in itself, which probably increases the consistency and accuracy of the appraisal of the paper.” (Glasziou et al. 2001: 29.)

The duties of a nurse leader are multi-faceted, challenging and perhaps exhausting. Besides administrative responsibilities, they are often seen as the leader whom the nurses turn to for advice and support. Therefore, it would be interesting to explore the relationship between Transformational Leadership style and burnout among nurse leaders and how does Transformational Leadership style help to elevate burnout symptoms among nurse leaders.

## **10 Conclusions**

Transformational Leadership is an effective leadership style particularly in the health care sector because the qualities of such leader are desperately needed among nurses who are looking for a charismatic role model that can help them to envision the future, inspire them so that they are enthusiastic and motivated about their work despite their struggles, and empower them through continuous support, acknowledgement, and communication. Job satisfaction is a complex phenomenon that involves a variety of factors that can influence the person's contentedness toward his/her job. Yet, with the rising of work-related stress and burnout problems among nurses in response to the increasing amount of workload as well as nurses leaving their profession, job satisfaction has become one of the main issues that requires immediate attention and action.

There is strong evidence that support the benefits of Transformational Leadership style in the nursing profession and how such leadership style could improve job satisfaction among the nurses. Transformational Leadership can improve working environment for nurses through empowering factors such as accessibility of information, shared decision-making, acknowledgement, supervisor support and open communication. These factors have powerful impacts on nurses' psychological attributes such as self-confidence, self-efficacy and social identity. As a result, these positive elements could help to reduce burnout symptoms among nurses, thus, improving job satisfaction.

Moreover, healthcare organizations have an obligation to advocate and encourage the use of Transformational Leadership style to its nurse leaders through adequate infrastructure and policy that nurtures an empowering work environment, promotes leadership trainings and education to their nurse leaders.

The nursing profession is desperately calling for a leadership that could bring positive impacts not just to the work environment but beneficial to the wellbeing of nurses and

other healthcare professionals. Therefore, the author hopes this thesis has helped to illuminate the advantageous of Transformational Leadership style on improving job satisfaction among the nurses and perhaps to convince the present and future nurse leaders to embrace Transformational Leadership throughout their career.

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## Appendices

### Appendix 1: Summary of selected articles

Primary author, year of publication and title	Country	Purpose and aim of the study	Design, sample size and setting	Methods and instruments	Techniques used for data analyzing	Results and Conclusion	Limitations	Quality Assessment
Asif et.al (2019)  Linking Transformational Leadership with Nurse-Assessed Adverse Patient Outcomes and the Quality of Care: Assessing the Role of Job Satisfaction and Structural Empowerment	Pakistan	To examine the relationships between Transformational Leadership structural empowerment, job satisfaction, nurse-assessed adverse patient outcomes and the quality of care .	Cross-sectional study n = 386 nurses working at 17 government hospitals in Pakistan	Survey questionnaire  7-item scale to measure Transformational Leadership  12-items scale to measure structural empowerment  3-item scale to measure job satisfaction	SPSS and AMOS version 25.9  Structural Equation Modeling (SEM)  Chi-square Comparative fit index (CFI)  Incremental fit index (IFI)	Results:  Transformational Leadership is positively related to nurses' job satisfaction ( $\beta = 0.37$ ; $p < 0.01$ )  Transformational Leadership is positively related to structural empowerment ( $\beta = 0.41$ ; $p < 0.01$ )	Cross-sectional study that restricts the interpretation of evidence-based causal relationships and theoretical foundations  Study only focused on 2 mediators  Only female nurses working in government	STROBE

				<p>5-item scale to measure adverse patient outcomes</p> <p>4-item scale to measure quality of care</p>	<p>Tucker-Lewis index (TLI)</p> <p>Standardized root mean square residual (SRMR)</p> <p>Root mean square error of approximation (RMSEA)</p>	<p>Structural empowerment has a positive impact on nursed-assessed quality of care (<math>\beta = 0.43</math>; <math>p &lt; 0.01</math>)</p> <p>Nurses' job satisfaction is positively related to nurses-assessed quality of care (<math>\beta = 0.31</math>; <math>p &lt; 0.01</math>)</p> <p>Negative association between structural empowerment and adverse patient outcomes (<math>\beta = -0.32</math>; <math>p &lt; 0.01</math>)</p> <p>Nurses' job satisfaction is negatively related to adverse patient outcomes (<math>\beta = -0.29</math>; <math>p &lt; 0.01</math>)</p> <p>Conclusions:</p> <p>The qualities of a Transformational leader contribute to a positive patient's outcomes through minimizing adverse patient outcomes and increasing quality of care with the help</p>	<p>hospitals were recruited</p> <p>Used of self-reported instruments which may be bias</p>
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						of structural empowerment. Transformational Leadership also increased job satisfaction		
Boamah et.al (2017)	Canada	To investigate the effects of nurse managers' transformational leadership behaviors on job satisfaction and patient safety outcomes	Cross-sectional study n = 378 acute care nurses in Ontario	Survey questionnaire Multifactor Leadership Questionnaire (5X-short form) Conditions of Work Effectiveness- II Instrument developed by Sochalski (2001) to measure adverse patient outcomes Global Job Satisfaction (GJS) questionnaire	Statistical Package for the Social Science version 22.0 software Structural Equation Modelling (SEM) analysis in AMOS Bias-corrected bootstrapping method Chi-square Incremental fit index (IFI) Comparative fit index (CFI) Tucker-Lewis index (TLI)	Results: Transformational Leadership had a strong and significant positive effect on structural empowerment ( $\beta = 0.77$ ; $p < .001$ ) which in turn had positive effect on job satisfaction ( $\beta = 0.86$ ; $p < .001$ ) and a negative direct effect on on adverse events ( $\beta = -0.63$ ; $p < .05$ ) Nurses' job satisfaction decreased the occurrence of adverse events ( $\beta = -0.63$ ; $p < .05$ ) Conclusions: Transformational nurse managers improve patient care quality through establishing a work	Cross-sectional study that restricts the interpretation of evidence-based causal relationships and theoretical foundations Use of self-report that could contribute to response bias Low response sample, only 38%	STROBE

					Root mean square error of approximation (RMSEA)	environment that empowers nurses so that they could provide optimal care		
Cheng et. al (2016)	Australia	To examine the role of Transformational Leadership in developing social identity and its subsequent impact on team climate, intention to leave, burnout and quality of patient care among nurses	Cross-sectional study n = 201 registered nurses at a large metropolitan public health service in Victoria, Australia	Survey questionnaire Multifactor Leadership questionnaire (5X-short form) Hinkle et.al (1989) to measure social identity 38-item scale to measure team climate inventory Oldenburg burnout inventory Patient satisfaction scale adapted from Bartram et.al (2012) Michigan organizational assessment	Computer software package SPSS and AMOS version 19 Structural equation modelling (SEM) Adjusted goodness-of-fit index (AGFI) Tucker-Lewis index (TLI) Comparative fit index (CFI) Root-mean square error of approximation (RMSEA)	Results: Transformational Leadership is negatively correlated with burnout ( $r = -0.311$ ; $p < 0.01$ ) and turnover intention ( $r = -0.276$ ; $p < 0.01$ ) and positively correlated with perceived quality of care ( $r = 0.209$ ; $p < 0.01$ ), social identity ( $r = 0.341$ ; $p < 0.01$ ) and team climate ( $r = 0.486$ ; $p < 0.01$ ) Conclusions: Transformational nursing leaders have the potential to reduce burnout and turnover intention. Transformational Leadership could improve team climate, and quality of care, by strengthening the nurses' social identification	Cross-sectional study does not allow causal interferences among variables of interest to be drawn Self-report questionnaire that could contribute to response bias Majority of respondents were female	STROBE

				questionnaire to measure turnover intention				
Choi et.al (2016)	Malaysia	To investigate the causal relationships among perceived transformational leadership, empowerment, and job satisfaction among nurses and medical assistants in two selected large private and public hospitals in Malaysia.  To explore the mediating effect of empowerment between Transformational Leadership and job satisfaction	Cross-sectional study  n = 200 nursing staff from public and private hospitals in Malaysia	Survey questionnaire  Multifactor Leadership questionnaire  5-item scale to measure empowerment  4-item scale to measure job satisfaction	PASW Statistics 18.0 and SmartPLS 3.0  Partial least square-structural equation modelling (PLS-SEM)  Average variance extracted (AVE)  Fornell-Lacker criterion  Harman's single-factor test	Results:  Transformational Leadership is positively related to job satisfaction ( $p < 0.01$ )  Transformational Leadership exhibits a positive effect on empowerment ( $p < 0.01$ ), and empowerment, in turn, positively affects job satisfaction ( $p < 0.01$ )  Relationship between Transformational Leadership and job satisfaction is significant but with a difference of 0.185  Conclusions:  The attributes of a Transformational nursing	Difficult to determine temporal relationships due to cross-sectional design  Insufficient sample size for disaggregating the analysis in order to identify the discrepancies between male and female nursing staff  Sampling bias	STROBE

						<p>leaders enhance job satisfaction among medical assistants and nurses</p> <p>Transformational Leadership promotes a stronger sense of self-determination and competency, which significantly impact their work and job satisfaction</p>		
Sabbah et.al (2020)	Lebanon	<p>To assess the leadership styles of nurse leaders as perceived by employees</p> <p>To examine the degree to which the leadership characteristics correlate with specific outcomes of leadership behavior</p> <p>To explore the relationship</p>	<p>Cross-sectional study</p> <p>n = 250 nurses in eight hospitals in North and South Lebanon</p>	<p>Survey questionnaire</p> <p>Multifactor Leadership Questionnaire (5-X short form)</p> <p>Short Form Health Survey-12 V2 (SF-12v2)</p>	<p>Descriptive statistical analysis</p> <p>One way analysis of variance (ANOVA)</p> <p>Spearman's correlation</p> <p>SF Scoring Software V5 Setup</p> <p>IBM SPSS Statistics 22.0 USA</p>	<p>Results:</p> <p>Male were found to prefer using Transformational Leadership style (<math>p &lt; 0.05</math>)</p> <p>Nurse managers with high level of education as master degree and above (mean score, 1.16, <math>p &lt; 0.05</math>) prefer Transformational Leadership style than Laissez-faire leadership style</p> <p>General Manager (<math>p &lt; 0.01</math>) chooses Transformational</p>	<p>Research was carried out only at 2 places in Lebanon due to resource constraint</p> <p>Cross-sectional study cannot establish temporal relationship between variables and outcomes</p> <p>Sample size was inadequate to allowed for a more detailed analysis</p>	STROBE

		between perceived leadership styles and the quality of life of nurses at work			<p>style while Nursing Director (<math>p &lt; 0.01</math>) preferred transactional leadership</p> <p>Managers who use transformational (<math>p &lt; 0.001</math>) and transactional (<math>p = 0.02</math>) leadership style could impact the nurses' intention to leave within next 6 months</p> <p>Positive and highly significant correlation between outcome factors (extra effort, effectiveness, and satisfaction) and both transformational and transactional leadership styles (<math>p &lt; 0.001</math>)</p> <p>Passive/avoidant leadership correlated negatively with extra effort and moderately with effectiveness and satisfaction (<math>p &lt; 0.001</math>)</p> <p>Conclusions: This study highlights the existence positive effect of leadership nursing styles in</p>	Some SF-12v2 subdomains were skewed	
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						response to the wellbeing of nurses		
Jankelová and Joniaková (2021)  Communication Skills and Transformational Leadership Style of First-Line Nurse Managers in Relation to Job Satisfaction of Nurses and Moderators of This Relationship	Slovakia	To examine the connection between communication skills and the transformation style of First-line nurse managers (FLNM) management with the job satisfaction of nurses and to verify the influence of three moderators such as practice of FLNMs, the degree of control (span of control and psychosocial work on managing on the strength of this relationship.	Cross-sectional study  n = 132 front-line nurse managers from five university hospitals in Slovakia	Multifactor Leadership Questionnaire  8-item scale to measure Communication Skills  14-item scale to measure Psychosocial Work Force  Global Job Satisfaction to Job Satisfaction	Descriptive statistical analysis  Hierarchical regression analyses  IBM SPSS 24.0 software  Cronbach's Alpha coefficient  One way analysis of variance (ANOVA)	Results:  Communication skills has strong direct effects to Transformational Leadership style of FLNMs on nurses' job satisfaction  The lower values of both variables reinforce the positive relationships among the two predictors and the job satisfaction of nurses  The third moderator, psychosocial work factors, also have significant moderating effect, which is negative, and the higher value of this moderator mitigates both positive and direct effects  Conclusions:  Recognition that communication skills and	Geographical limitation to the territory of Slovak Republic  Small sample size and only applied in the public sector  To confirm the causality, the authors only had the condition partially fulfilled due to the non-experimental data they have acquired FLNM's view of their communication skills and leadership style which could differ from reality	STROBE

						<p>Transformational Leadership style are a significant and strong predictor of job satisfaction</p> <p>Idealized influence and inspiring motivation have positive impact on job satisfaction</p> <p>FLNMs cannot solely rely on their experience when it comes to performing managerial activities because such experience is insufficient. They are encouraged to further their studies in the field of management</p> <p>Management margin will decrease nurses' job satisfaction</p>		
Lin et.al (2015)	Taiwan	To understand the influences of nursing Transformational Leadership style on the quality of	Cross-sectional study n = 651 nurses from private, public and	Multifactor Leadership Questionnaire	One way analysis of variance (ANOVA)  Scheffe's post hoc tests	Results:  Transformational Leadership contributes significantly to supervisor support	Self-administered questionnaires may lead to bias. However, the biases are minimized with the	STROBE

<p>the quality of nurses' working lives in Taiwan: a cross-sectional quantitative study</p>		<p>nurses' working lives in Taiwan.</p>	<p>religious hospitals in Taiwan</p>	<p>Karasek's Job Content Questionnaire  Occupational Stress Indicator to measure job satisfaction  Organisational Commitment Questionnaire  General Health Questionnaire</p>	<p>Structural Equation Modelling (SEM)  Goodness-of-fit, comparative fit index (CFI), non-normed fit index (NNFI/TLI) and root mean square error of approximation (RMSEA)  SPSS v.16.0  Analysis of Moment Structure (AMOS)  Confirmatory factor analysis (CFA)  Exploratory factor analysis (EFA)</p>	<p>The support that nurses receive at their workplace especially in the form of supervisor support, is an important mediator that explains the relationship between Transformational Leadership and job satisfaction  Organizational commitment was the strongest factor relevant to the general health well-being in Taiwanese nurses than job satisfaction  Conclusions:  The results provided valuable informational about the subordinates' perceptions of transformational nursing leadership styles in regard to mental health outcomes as well as identified organizational factors that</p>	<p>substantial sample size and high response rate  Other moderating factors that may influence the general health status of nurses, job satisfaction and organizational commitment</p>	
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						could improve the quality of nurses' working lives		
Manoppo (2020)	Indonesia	To examining the effect of Transformational Leadership on work stress, organizational citizenship behavior (OCB) and turnover intention, examining the effect of work stress on OCB and turnover intention and examining the effect of OCB on turnover intention	Cross-sectional study n = 227 nurses from four private hospitals in Manado City	Survey method using close-ended questions	Conformity test  WarpPLS with inner model for hypothesis testing on relationship between variables and outer model to measure variables from each measuring indicator	Results:  Transformational leadership could reduce the turnover intention among the nurses  Organizational citizenship behavior is affected by the amount of stress according to findings.  Conclusions:  Transformational Leadership has a significant negative effect on work stress and turnover intention, but it has a positive impact on organizational citizenship behavior  Work stress has a positive effect on turnover intention but does not negatively impact organizational citizenship behavior	Research only carried out in four private hospitals therefore, results cannot be generalized to public hospitals	STROBE

						Organizational citizenship behavior has a negative effect on turnover intention		
Negussie et.al (2013)  Relationship between leadership styles of nurse managers and nurses' job satisfaction in Jimma University Specialized Hospital	Ethiopia	To investigate the relationship between leadership style of nurse managers and nurses' job satisfaction in Jimma University Specialized Hospital	Cross-sectional  n = 175 nurses at Jimma University Specialized Hospital	Multifactor Leadership Questionnaire  Minnesota Satisfaction Questionnaire	SPSS v.16.0 statistical software  Descriptive statistics  Application of inferential statistics on variables	Results:  Nurses prefer Transformational Leadership style over transactional leadership style and had moderate-level intrinsic (M= 2.72, SD = 0.71) but low level of extrinsic job satisfaction (M = 1.83, SD = 0.68)  Contingent reward was found to be statistically significant and correlated with extrinsic (B = 0.45, p < 0.01) and intrinsic job satisfaction (B = 0.32, p < 0.05) in transactional leadership  All five dimension of Transformational Leadership style were	(Not specified)	STROBE

						<p>statistically significant and correlated with both extrinsic and intrinsic job satisfaction</p> <p>Conclusions:</p> <p>Nurses tended to be more satisfied with the Transformational Leadership than transactional leadership style. Therefore, nurses' managers should use Transformational Leadership style in order to increase nurses' job satisfaction</p>		
<p>Nielsen et.al (2008)</p> <p>The mediating effects of team and self-efficacy on the relationship between transformational leadership, and job satisfaction and</p>	Denmark	<p>To examine two possible psychological mechanisms that link Transformational Leadership behaviors to employee job satisfaction and well-being</p>	<p>Cross-sectional study</p> <p>n = 274</p> <p>healthcare and non-healthcare related employees in elderly centers</p>	<p>Global Transformational Leadership Scale</p> <p>Seven item-scale of self-efficacy</p> <p>Four item-scale of team efficacy</p>	<p>Structural Equation Modelling (SEM) with pairwise deletion</p> <p>Sobel's test</p>	<p>Results:</p> <p>Both team and self-efficacy were found to act as mediators. Self-efficacy was found to fully mediate the relationship between Transformational Leadership and well-being and team-efficacy was found to partially mediate</p>	<p>The study only draws from the Transformational Leadership paradigm</p> <p>Unable to comment on causality due to cross-sectional data</p>	STROBE

<p>psychological well-being in healthcare professionals: A cross-sectional questionnaire survey</p>				<p>Five item-scale of well-being Five item-scale of job satisfaction</p>		<p>relationship between transformational and job satisfaction and fully mediate the relationship between Transformational Leadership and well-being</p> <p>Conclusions:</p> <p>Transformational Leadership may help ensure employees' job satisfaction and psychological well-being through being a part of a competent group</p>		
<p>Specchia et.al (2021)</p> <p>Leadership Styles and Nurses' Job Satisfaction. Results of a Systematic Review</p>	<p>Italy</p>	<p>To identify and analyse the knowledge present to date concerning the correlation between leadership styles and nurses' job satisfaction</p>	<p>Systematic literature review</p> <p>n = 12 studies from PubMed, CINAHL, Embase</p>	<p>Studies only published in English and Italian</p> <p>Related to hospital settings and nursing focused</p> <p>Primary studies that have investigated a correlation between leadership styles and nurses' job satisfaction</p>	<p>Microsoft Excel</p> <p>Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies</p>	<p>Results:</p> <p>Transformational style had the highest number of positive correlations followed by authentic, resonant, and servant styles. Passive-avoidant and laissez-faire showed a negative correlation with job satisfaction. Only transactional style showed both positive and negative correlation</p>	<p>Systematic literature review relied on limited number of studies</p> <p>None of the studies were of good quality</p> <p>Potential publication bias</p>	<p>CASP</p>

				Full text		Conclusions:  Leaders need to promote technical and professional competencies, but also act to improve staff satisfaction and morale		
Roberts-Turner et.al (2014)  Effects of Leadership Characteristics on Pediatric Registered Nurses' Job Satisfaction	USA	To assess the relationship of transformational and transactional nursing leadership characteristics and RN job satisfaction reported by pediatric RNs	Cross-sectional study  n = 935 nurses at Children's National pediatric hospital	Healthcare Environment Survey (HES)  Index of Work Satisfaction Survey	Structural Equation Model (SEM)  Root mean square of approximation (RMSEA)  Comparative fit index (CFI)  Tucker-Lewis index (TLI)	Results:  Autonomy (0.503; $p < 0.001$ ) has stronger impact on job satisfaction than distributive justice (0.272; $p < 0.001$ )  Professional years have significant and direct effect on job satisfaction (0.107; $p = 0.002$ )  Management/leadership did not directly affect job satisfaction (-0.021; $p = 0.473$ ) but affects autonomy (0.137; $p = 0.002$ ) and distributive justice (0.172; $p < 0.001$ )	Samples that were taken years ago may not represent the current trend  Limited variables that only included in the original study	STROBE

						<p>Management/leadership indirectly affects job satisfaction via autonomy (0.069; <math>p = 0.002</math>) and distributive justice (0.047; <math>p &lt; 0.001</math>) and its total effect on job satisfaction is positive (0.095; <math>p = 0.022</math>)</p> <p>Educator in advanced practice did not show to have any direct impact on job satisfaction via autonomy (0.020; <math>p = 0.366</math>) or distributive justice (0.024; <math>p &lt; 0.060</math>) and its total effect on job satisfaction is only marginal (0.068; <math>p = 0.094</math>)</p> <p>Conclusions:</p> <p>Autonomy has a more significant influence on the registered nurses' job satisfaction than distributive justice</p>		
Wei et.al (2020)	USA	To assess the impact of nurse	Systematic literature review	Primary databased to have reported the relationships	Appraisal tool for	Results:	(Not specified)	CASP

<p>The Impact of Nurse Leadership Styles on Nurse Burnout</p>		<p>leadership styles on nurse burnout</p>	<p>n = 18 articles from CINAHL, PubMed, PsycINFO, Google Scholar</p>	<p>between nurse leadership and burnout</p> <p>Studies conducted between 2010-2019 English language</p>	<p>descriptive quantitative studies</p>	<p>An empowering work environment improves nurses' access to information, support, and opportunities to learn and grow, which could reduce nurse burnout</p> <p>Nurses' perception of authentic leadership has a direct relationship with employee empowerment at work, which in turn improves staffing and work-life balance and reduces nurse burnout</p> <p>Transformational Leadership is negatively correlated with nurse burnout and intent-to-leave and positively related to nurses' perceived quality of care</p> <p>Conclusions:</p> <p>Transformational and authentic leaders can foster nurse engagement, improve</p>		
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		<p><i>Case-control study</i>—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls</p> <p><i>Cross-sectional study</i>—Give the eligibility criteria, and the sources and methods of selection of participants</p>	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		<p>(b) <i>Cohort study</i>—For matched studies, give matching criteria and number of exposed and unexposed</p> <p><i>Case-control study</i>—For matched studies, give matching criteria and the number of controls per case</p>	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Data sources/measurement	8	For each variable of interest, give sources of	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y







		(b) Report category boundaries when continuous variables were categorized	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N	N	N	N	N	N	N	N	N	N	N
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	N	N	N	N	N	N	N	N	N	N	N
Discussion													
Key results	18	Summaries key results with reference to study objectives	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from	N	Y	Y	N	N	Y	N	N	N	Y	N

		similar studies, and other relevant evidence											
Generalizability	21	Discuss the generalisability (external validity) of the study results	N	N	Y	Y	N	Y	Y	Y	Y	N	Y
Other information													
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Y	Y	Y	Y	N	Y	N	N	Y	Y	N

Abbreviations:

Y: Yes

N: No

NA: Not Applicable

### Appendix 3: CASP Quality assessment on Systematic Literature Review method

Criteria	Specchia et.al (2021)	Wei et.al (2020)
1. Did the review address a clearly focused question?	Yes	Yes
Comments:		

	The aim of the review is clearly defined and presented by the authors. Authors used PICO model to identify the problem and structure the research question.	The aim of the review is clearly defined and presented by the authors. Authors used PRISMA model to carry out the research synthesis.
2. Did the authors look for the right type of papers?  Comments:	Yes  Authors used specific strings, inclusion and exclusion criteria that were related to the objective. The main findings of all selected articles are related to the objective.	Yes  Authors used specific strings, inclusion and exclusion criteria that were related to the objective. The main findings of all selected articles are related to the objective.
3. Do you think all the important, relevant studies were included?  Comments:	Can't tell  The search generated about 11,813 articles after removing duplicates. However, only 12 articles were selected due to primary studies.	Can't tell  The initial search generated 490 articles and only 320 articles remained after removing duplicates. However, only 18 articles were selected.
4. Did the review's authors do enough to assess the quality of the studies included?  Comments:	Yes	Yes

	Authors used Quality Assessment Tool for Observational Cohort and Cross-Sectional appraisal tool. Furthermore, the quality of the studies was evaluated by 2 researchers.	Authors used appraisal tool for descriptive quantitative studies to assess the quality of the selected articles.
5. If the results of the review have been combined, was it reasonable to do so?  Comments:	Yes  The objective is to identify and analyze the current knowledge of the correlation between leadership styles and nurses' job satisfaction through systematic review. It is, therefore, reasonable to combine the results.	Yes  The purpose of the review is to evaluate the current literature and identify the impact of nurse leadership styles on nurse burnout. It is, therefore, reasonable to combine the results.
6. What are the overall results of the review?  Comments:	Transformational Leadership has a significant positive correlation with levels of nursing job satisfaction.	The major influencing leadership styles include authentic and transformational leadership. Competent leaders can reduce nurse burnout through empowering and promoting nurse engagement, applying authentic and transformational leadership, and creating a healthy work environment.
7. How precise are the results?	Can't tell	Can't tell

Comments:	Authors did not include Confidence Interval value.	Authors did not include Confidence Interval value.
8. Can the results be applied to the local population?  Comments:	Yes  According to the authors, the result of the study can be used as a starting point for researchers, professionals, and leaders in healthcare setting.	Yes  Both authentic and Transformational Leadership styles could help nurse leaders to provide a healthy working environment to all nurses.
9. Were all important outcomes considered?  Comments:	Yes  The authors gave a conclusive examples and explanations of the leadership styles and their impact on nurses' job satisfaction. They have also confirmed their findings with previous literatures.	Yes  The authors introduced and discussed extensively about the benefits of authentic and Transformational Leadership styles and explained how these leadership styles could help and reduce burnout among nurses.
10. Are the benefits worth the harms and costs?  Comments:	Yes  Leaders in the healthcare industry can gain a better understanding about the impact of Transformational Leadership style on job satisfaction.	Yes  The result of the review could be a useful guide to nurse leaders who want to make a positive impact in the nurses' wellbeing.

