

Exploring the Relationship between Self Reported Level of Clinical Expertise and Job  
Satisfaction in Critical Care Nurses

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## ABSTRACT

There is a recognized nursing shortage in Canada, including specialty areas such as critical care (CC). Nursing shortages impact health care delivery, including economic, patient, and nursing outcomes. Job satisfaction is one of the most significant outcomes affected by the nursing shortage. Recruitment of inexperienced nurses in CC is a relatively new hiring practice and has resulted in a more diverse level of clinical expertise among CC nurses. Little is known about how differences in level of clinical expertise affect job satisfaction. The purpose of this study was to explore the relationship between CC nurses' self-reported level of clinical expertise and job satisfaction. Interrelationships between additional influencing factors, such as organizational climate and personal factors were also explored. Utilizing a web based online survey, a cross-sectional survey was sent to all 788 Manitoba hospital based CC nurses, via the College of Registered Nurses of Manitoba. Respondents ( $N = 188$ ) completed the Critical Care Nurse Retention Survey, which operationalized the key study variables. Sixty-five percent of the sample reported overall job satisfaction. Based on multivariate analysis, the most influential factors affecting CC nurses' job satisfaction were nursing management, control over practice, and level of clinical expertise. Nursing management plays a vital role in facilitating optimal nursing practice. Control and autonomy may reflect a sense of satisfaction in the achievement of the knowledge and skills necessary for effective decision-making in CC. Finally, this study provides pioneering data on the importance of advancing clinical expertise to improve job satisfaction in CC nurses.

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## CHAPTER ONE: STATEMENT OF PROBLEM

The increasing shortage of healthcare professionals, including nurses, is becoming a global crisis. This crisis is particularly evident in specialty areas, such as critical care (CC) (Andrews & Dziegielewski, 2005; Buerhaus, Staiger, & Auerhach, 2000; Chan & Lai, 2010; Davis, Ward, Woodall, Shultz, & Davis, 2007; O'Brien-Pallas, Murphy, & Shamian, 2008; Odom, 2000). Nursing shortages affect many aspects of health care delivery, including economic, patient, and nursing outcomes. Recruitment and retention strategies are used by organizations, unions, and governments to improve shortages. However, current recruitment and retention strategies have failed to alleviate the shortage of CC nurses.

Within the last decade, there has been a dramatic change to hiring practices in CC units. Prior to the mid 1990s, clinical nursing experience was a prerequisite to working in a CC setting. However, with the recent trend towards a decrease of experienced applicants, CC areas have begun to hire new graduates to fill their vacant positions (Elmers, 2010; Ihlenfeld, 2005; Proulx & Bourcier, 2008). This practice change has led to a more varied level of knowledge and skill among CC nurses. There is a wide body of literature regarding knowledge and skill level in nursing; this literature encompasses terms such as *level of expertise*, *expert practice*, *clinical expertise*, *clinical competency*, *competent nursing practice*, and *competency* (Alspach, 2008; Christensen & Hewitt-Taylor, 2006a, 2006b; Edwards & Davis, 2006; Garland, 1996; King & Clark, 2002; Meretoja, Eriksson, & Leino-Kilpi, 2002). For the purpose of this project, this level of knowledge and skill will be referred to as *clinical expertise*. A limited amount of literature has explored the implications of the CC hiring practice change. Hence, further research is needed to delve into what effects, if any, variations in clinical expertise have in the CC environment.

Job satisfaction is a reliable predictor of a nurses' intention to remain in a position (Lu, While, & Barriball, 2005; Park & Kim, 2009; Tourangeau & Cranley, 2006). Low job satisfaction is widespread among nurses. For example, 42% of 43,000 nurses from Canada, United States, Scotland, England, and Germany report job dissatisfaction (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Further, job satisfaction of CC nurses ranks among the lowest of all nursing specialties (Andrews & Dziegielewski, 2005; Boyle, Miller, Gajewski, Hart, & Dunton, 2006). Therefore, it is important for healthcare organizations to identify key factors that influence job satisfaction in the CC nursing workplace.

Numerous factors influence job satisfaction; however, two key factors include nurses' perception of the ability to provide quality patient care and their work experience (Aiken, et al., 2001; Alspach, 2008; Alspach, 2009; Utriainen & Kyngas, 2009). Nurses who perceive quality care is delivered to patients are more satisfied with their work (Andrews & Dziegielewski, 2005). CC nurses with more experience report higher levels of satisfaction than nurses with less experience (Davis, et al., 2007; Richardson, Turnock, Harris, Finley, & Carson, 2007). However, there is a recognized gap in the literature in regards to the role clinical expertise, as opposed to experience, plays in job satisfaction. Thus, exploring the relationship between job satisfaction and clinical expertise in CC nurses may provide insight into the unique predictors of job satisfaction for all levels of clinical expertise. These insights may facilitate the development of retention strategies for CC nurses and ultimately have a favourable impact on the CC nursing shortage.

The purpose of this introductory chapter is to outline the statement of the problem related to the study. The purpose of the study will be outlined and finally, the significance of the study will be highlighted. As a result, this chapter provides the foundation for the thesis research.

## Statement of the Problem

The shortage of healthcare professionals is becoming a global crisis. In Canada, there will be an estimated shortage of 113,000 nurses by 2016 (Canadian Nurses Association [CNA], 2008). The Winnipeg Regional Health Authority (WRHA) CC program reports some CC units are experiencing up to a 20% nursing vacancy (personal communication, B. Rock, January 21, 2011). The nursing shortage has negative repercussions for economic, patient, and nursing outcomes of health care delivery. Many factors contribute to the shortage. Past solutions have not been sufficient to rectify the problem; therefore, new and innovative strategies to address the issue of the CC nursing shortage are desperately needed.

**Health care delivery outcomes.** Economic outcomes of the nursing shortage encompass direct and indirect costs. Direct costs include advertising, salaries for temporary replacement staff, recruitment, and hiring. Reported direct cost estimates range from \$42,000 to \$64,000 per nurse, with the latter representing CC areas (Strachota, Normandin, O'Brien, Clary, & Krukow, 2003). Indirect costs include training and orientation, initial decreased productivity of new staff, and the impact on staff morale and group productivity (Laporta, Burns, & Doig, 2005; O'Brien-Pallas et al., 2006). Estimates of indirect costs are challenging since the duration of decreased productivity will vary between individuals and nursing units (Reddish & Kaplan, 2007).

Patient outcomes affected by the nursing shortage include hospital length of stay (LOS) and failure to rescue rates ([FTR] i.e., increased deaths within 30 days of admission among patients who experienced complications) (Aiken et al., 2001; Aiken et al., 2002; Clarke & Aiken, 2003). Patients have longer LOS and increased FTR when nursing workloads are unmanageable (Aiken et al., 2002). Nursing workloads become unmanageable when there are not enough

nurses or when patient acuity levels are high. Thus, patient outcomes of LOS and FTR are impacted by nursing shortages. FTR rates also increase when nursing experience level is low (Clarke & Aiken, 2003). However, further research is needed to clarify if clinical expertise affects FTR in the same manner.

Finally, and most relevant to this thesis research, nursing outcomes are affected by the nursing shortage. The most commonly measured nursing outcomes include intent to leave (ITL) and job satisfaction (Aiken et al., 2001; Aiken et al., 2002; O'Brien-Pallas et al., 2006). The nursing shortage in itself leads to lower nursing job satisfaction and increased ITL (Aiken et al., 2002; Baernholdt & Mark, 2009; Stone et al., 2006). On the other hand, low job satisfaction and high ITL also worsen the nursing shortage. In turn, the subsequent hiring of new staff leads to more varied clinical expertise among nursing staff. Further research is needed to determine how clinical expertise affects this circuitous relationship.

**Factors affecting the nursing shortage.** Many factors are contributing to the current and projected nursing shortages; however, the aging nursing population is cited as the primary reason (Villeneuve & MacDonald, 2006). In Canada, twice as many nurses are older than 50 years than are younger than 35 years (CNA, 2008), which means that a large proportion of current working nurses are approaching, or have passed, the age of retirement. As a result, a large portion of the current nursing population may potentially leave nursing in the near future, thus worsening the shortage. As well, the Canadian nursing workforce has historically been, and continues to be, a white, female dominated profession (Villeneuve & MacDonald, 2006). The lack of under-represented (e.g., male, non-white) populations who choose nursing as a profession is limiting the pool of future nurses. In addition, the wide range of other available educational opportunities has implications for both enrolment into nursing, and retention of existing nurses.

Today's youth, particularly young women, are no longer limited regarding the type of profession they may want to pursue, which affects nursing recruitment. Practicing nurses, who are dissatisfied with the profession, now have more opportunities to leave nursing and pursue another profession which in turn influences retention. Finally, the current and projected nursing shortage will continue to escalate, as a result of Canada's aging population and consequent increasing demand for nursing care (Andrews & Dziegielewski, 2005; Villeneuve & MacDonald, 2006).

Nursing shortages are particularly evident in specialty areas, such as CC, as a result of several unique demographic and environmental factors. The key demographic factor is related to the age of the CC nursing workforce. The average age of CC RNs tends to be younger than other nursing work settings (Buerhaus et al., 2000); this is largely because of the "challenge and excitement" of the CC work environment (p. 114). Unfortunately, with the lower numbers of young people entering nursing, the pool of younger RNs is smaller. Although CC areas have started hiring new graduates, there is still a preference to hire nurses who have specialized knowledge, skills, and clinical experience (Choi, Bakken, Larson, Du, & Stone, 2004), again limiting the desired pool from which to draw new hires or staff.

Several environmental factors in CC areas also contribute to the nursing shortage. Researchers cite the stress associated with working in CC units as a key factor in ITL (Aiken et al., 2002; Cartledge, 2001; Stechmiller, 2002; Stone et al., 2006). This stress is reportedly derived from issues such as increasing workloads secondary to increasing patient acuity (Hooper et al., 2010), lower levels of clinical expertise among CC nursing staff (Alspach, 2008; Schmalenberg et al., 2008), and the increasing technical knowledge required to nurse in these specialty areas (Lai et al., 2008). All of these factors contribute to low job satisfaction, which in

turn impact on ITL and ultimately, on the worsening nursing shortage (Cowin, Johnson, Craven, & Marsh, 2008; Park & Kim, 2009; Utriainen & Kyngas, 2009), thus, illustrating the vicious circle of these interrelated concepts.

**Past solutions.** In 2007, the Manitoba government identified the nursing shortage as a main area for strategy development (Government of Manitoba, 2007). For example, relocation bonuses were offered to experienced nurses, which motivated some nurses to return to Manitoba to work. The need for strategies that focus on the unique challenges with CC nurse staffing has also been identified as a priority (Canadian Association of Critical Care Nurses, 2010; Fitzpatrick, Campo, Graham, & Lavandero, 2010). Accordingly, the WRHA and Province of Manitoba have instituted other initiatives to alleviate CC nursing shortages. Examples of these initiatives include increased funding for CC education; development of regionalized standards of care; use of respiratory therapists for interfacility transport of CC patients; building and renovating CC units, and changes in hiring practices (personal communication, B. Rock, January 21, 2011). Many of these initiatives are echoed in the research literature as important strategies to improve job satisfaction and retention (Robinson, 2001).

Of particular relevance to this thesis study, the changes in hiring practices that have occurred over the past decade have changed the face of the CC nursing workforce. The hiring of new graduate nurses, in particular, has resulted in a much more varied spectrum of knowledge and skill, or clinical expertise, among CC nurses. This broader range of clinical expertise may also have differing effects on the job satisfaction of CC nurses. For example, a new graduate nurse working in the CC environment may feel overwhelmed by the amount of knowledge, skill and critical thinking required, which can lead to low self-esteem and low job satisfaction. On the other hand, the experienced CC nurse may find the added responsibility of overseeing and

preceptoring the new graduate nurse adds to already high workload demands and may also result in low satisfaction. Thus, low job satisfaction of CC nurses may be a consequence of different influencing factors, including level of clinical expertise. However, to date, no research has explored the relationship between job satisfaction and clinical expertise.

### **Purpose of the Study**

The primary objective of this study was to explore the relationship between self-reported clinical expertise and job satisfaction in CC nurses. Interrelationships between the two key study variables and other influencing factors, such as organizational climate and personal factors, were also examined. Critical Care can encompass intensive care units, coronary care units, step down units, emergency departments, post anaesthesia care units, or areas which provide cardiac monitoring. For the purpose of this study, CC included intensive care units and coronary care units.

### **Research Questions**

1. What is the job satisfaction of Manitoba CC nurses?
2. What is the relationship between each of the influencing factors and job satisfaction in Manitoba CC nurses?
3. What is the relationship between the level of self-reported clinical expertise and each of the other influencing factors in Manitoba CC nurses?
4. What is the relationship between level of self-reported clinical expertise and job satisfaction after controlling for other influencing factors in Manitoba CC Nurses?



## **Significance**

The overall goal of this study was to establish a foundation of research-based evidence for strategies to improve job satisfaction for CC nurses of all clinical expertise levels, which in turn could contribute to a reduction in the CC nursing shortage. This goal can be achieved through the identification of factors that influence job satisfaction in the unique CC workplace. Specifically, the varied clinical expertise among current CC nurses may be reflected in differences in job satisfaction. Developing strategies that retain CC nurses may reduce the negative repercussions the shortage has made to economic, patient, and nursing outcomes of health care delivery. Therefore, exploring the relationship between these two concepts may lead to the accomplishment of the study's overall goal. Although a plethora of research has been done in the area of nursing job satisfaction, to date, no published research has explored the relationship between clinical expertise and job satisfaction.

## **Summary**

The growing nursing shortage crisis has far reaching negative implications for all facets of the health care system, including CC nurses. Recent changes in CC nursing recruitment strategies have led to a wide range of clinical expertise among the existing CC nursing population. Job satisfaction is acknowledged as a reliable indicator of staff retention. Although there has been a plethora of research published regarding many factors that influence nursing job satisfaction, to date, no one has explored the relationship between job satisfaction and clinical expertise. A more comprehensive understanding of this relationship may facilitate retention strategies for this population, thus ameliorating many of the negative repercussions of the nursing shortage in CC.

## CHAPTER TWO: CONCEPTUAL FRAMEWORK

This chapter explores the two primary concepts of interest in this study: clinical expertise and job satisfaction. A brief overview and the most common theories regarding these concepts are included herein. The rationale for selecting Benner's Model of Skill Acquisition in Nursing (Benner, 1984) and the Organizational Framework for Predicting Nurse Retention (OFPNR) as the guiding frameworks for this study will be established. This discussion will also establish the definitions for clinical expertise and job satisfaction that were used in this study.

### Clinical Expertise

This section will provide a comprehensive overview of the first key concept of the study: *clinical expertise*. First, clinical competency and clinical expertise will be defined. A review of Benner's Model will follow, including descriptions of each level of clinical expertise. Thus, this section will serve two purposes: first, to provide further clarity of the terms of clinical expertise within Benner's model and second, to impart rationale for choosing Benner's model as a framework for clinical expertise in this study.

**Defining Clinical Competency.** *Competency* is a frequently used term in nursing literature. In its simplest form, this term refers to an individual's ability to do something well (Merriam Webster Online, 2010a) or to "...do something successfully or efficiently" (Oxford Online Dictionary, 2010a). The CNA (2004) defines competence as "the ability of a nurse to integrate and apply the knowledge, skills, judgment, and personal attributes required to practise safely and ethically in a designated role and setting" (p. x). Competency has been an integral component of nursing evaluations since the mid 1990s, for both entry to practice and continued nursing practice (Axley, 2008; Bourgault, 2004; Garland, 1996; Hartigan, Murphy, Flynn, & Walshe, 2010); competency also ensures safe environments for patients (Scott Tilley, 2008).

However, the lack of a clear, accepted definition of this concept remains the main challenge in using it for evaluation purposes. Nonetheless, a review of the nursing literature on competency reveals a number of defining features.

***Knowledge and skill.*** Knowledge and skill are two frequently cited terms in the competency literature (Alspach, 2009; Axley, 2008; Garland, 1996; Gillespie & Hamlin, 2009); these terms are often presented as one point. That is, in order to be competent, one must have both knowledge and skill. Knowledge is generally described as either theoretical or practical. Theoretical knowledge is acquired through two types of academic study: *general academic* study, which is similar to that found in an undergraduate nursing program; *specific academic* study, which provides knowledge related to the real needs of a practicing nurse, often referred to as *continuing in-service education* (Tabari Khomeiran, Yekta, Kiger, & Ahmadi, 2006). Although earlier researchers described specific academic study as theoretical knowledge, more recently many refer to this as practical knowledge (Gillespie & Hamlin, 2009). Practical knowledge enables nurses to anticipate patient needs because they have acquired clinical experience through prolonged exposure in a specialty area. Thus, theoretical and practical knowledge may be related to level of education (e.g., general academic study), specialty certification, and/or years of specialty experience (e.g., specialty academic study).

The skill(s) associated with competency mainly refers to a nurse's ability to perform nursing actions. According to Garland (1996), a nurse must be able to perform effectively in a work setting in order to be considered competent. Other terms associated with skill include *actions* and *technical performance* (Axley, 2008). From an historical perspective, the concept of clinical competency in nursing has often been related to a high degree of technical skill (Axley,

2008). Critical care nursing is a highly technical specialty, which makes this component of competency especially relevant in this clinical area.

**Communication.** Communication is the second most frequently described component of competency. Knowledge interacts with communication such that a nurse must have the knowledge to understand the language. The language can be basic or specific (Edwards & Davis, 2006; Elmers, 2010). For example, a nurse from a non-English speaking country needs to have a basic working knowledge of English in order to practice in Canada. An example of specific language would be an understanding of terms relevant to a specialty practice, such as the hemodynamic parameters commonly referred to in the CC setting.

The ability to interact effectively with patients, nurses, physicians, and other team members is paramount to competency. Therefore, interpersonal skills are another important aspect of communication in relation to competency (Hartigan et al., 2010; Schmalenberg et al., 2008). Effectively relaying one's knowledge to the appropriate listener is central to providing safe, quality care. In addition, the ability to enhance practical knowledge is more effective when a nurse can learn from feedback offered by others (Elmers, 2010). Thus, effective communication is an integral component of competency.

**Attitude.** Attitude is also an important feature of nursing competency. In the context of describing clinical competency, attitude refers to readiness to learn and personal accountability (Lindberg, 2006; Scott Tilley, 2008; Tabari Khomeiran et al., 2006). As well, attitude incorporates features of knowledge, skill, and communication. For instance, knowledge and skill are acquired when a nurse is accountable for his/her learning needs by taking an active part in a new clinical situation (e.g., observation, assisting with clinical skills). Knowledge is enhanced when critical reflection and feedback of the new clinical situation occur. Critical reflection and

feedback are most valuable when delivered through effective communication. Thus, attitude, including a nurse's readiness to learn and accountability, especially when incorporated with effective communication, can increase knowledge and skill and contributes to clinical competency.

***Time based.*** Competency is sometimes referred to as being *time based*. This component is related to the length of time it takes for a nurse to become competent. This premise is the basis for most CC orientation programs (Elmers, 2010). The goal of these programs is to assist a new hire to achieve the knowledge and skill needed to practice competently in the CC area. The WRHA CC nursing program is one example of this type of orientation. While some orientation programs provide definite time lines for competency to be achieved (Reddish & Kaplan, 2007), others acknowledge that the time required to achieve competency will be dependent upon factors such as the nurses' past experience, knowledge and skill, and personal maturity (Elmers, 2010; Lindberg, 2006). Many time based programs are focused on the new graduate nurse population (Bourgault, 2004; Reddish & Kaplan, 2006). A noticeable gap in the literature pertains to the importance of time and competency within the more experienced nurse population. The assumption that the level of clinical competency will always increase as years of specialty nursing experience increase has not been verified.

***Critical thinking and autonomous clinical decision making.*** Critical thinking and autonomous clinical decision making are central to clinical competency because they integrate all of the previously mentioned components (Elmers, 2010; Schmalenberg, et al., 2008; Urden, Stacy, & Lough, 2005). Critical thinking and autonomous decision making are routinely cited in CC literature, and are often used interchangeably; both terms incorporate the use of knowledge and skill to assess a situation, recognize abnormal findings, and reason what actions are needed

to effectively care for the patient (Elmers, 2010; Schmalenberg et al., 2008; Urden et al., 2005). To this end, a competent nurse must possess the ability to think critically and make autonomous clinical decisions, *as well as* all of the previously discussed components of competency: knowledge and skill, the ability to communicate effectively, a positive attitude, and experience.

Thus, based on the review of the literature, the CNA (2004) definition of clinical competency will be adopted for this study as it incorporates all of the most common features of this term. Clinical competency is the ability of a nurse to integrate and apply the knowledge, skills, judgment, and personal attributes required to practise safely and ethically in a designated role and setting.

**Defining Clinical Expertise.** An *expert*, as defined by the Oxford Online Dictionary (2010b) is one "...who is very knowledgeable about or skillful in a particular area." The expert achieves individual knowledge from training or experience (Merriam Webster Online, 2010b). Merriam Webster Online (2010c) describes expertise as "...the skill of an expert." It follows that nursing expertise is the action and/or skill of expert nurses. Although the definition of an expert nurse and how a nurse becomes an expert are not fully understood, a review of the literature establishes common characteristics of nursing expertise.

**Competency.** *Competency* is the most commonly cited characteristic of expertise. Prior to achieving expertise, a nurse must first achieve competency (Aari, Tarja, & Helena, 2008; Naumanen Tuomela, 2001). Thus, the previous discussion of the components of competency applies to expertise; that is, the interaction between knowledge and skill, communication, attitude, and critical thinking/autonomous decision making are also relevant in clinical expertise. The clinical application of these features is one distinguishing difference between clinical competency and clinical expertise (Naumanen Tuomela, 2001).

***Clinical experience.*** The amount of *clinical experience* appears to be relevant to clinical expertise because of its relationship to knowledge and skill. Researchers have found that as experience in a specialty area increases there is a corresponding increase in knowledge and skill (Christensen & Hewitt-Taylor, 2006a; King & Clark, 2002; Roche, Morsi, & Chandler, 2009). However, the amount of experience is not equivalent to expertise (Benner, 1984; Christensen & Hewitt-Taylor, 2006b; Roche et al., 2009). The rationale for why some nurses with extensive clinical experience do not achieve expertise may be related to attitude and intuition.

***Attitude.*** Attitude, as discussed in the clinical competency section, is comprised of readiness to learn and accountability. These features also apply to expertise. The reason some nurses with extensive clinical experience do not achieve clinical expertise may be related to lack of readiness to learn or lack of personal accountability (Benner, 1984).

***Intuition.*** Based on the literature in this area, *intuition* is the primary defining difference between competency and expertise (Christensen, Hewitt-Taylor, 2006a; 2006b; King & Clark, 2002; Lyneham, Parkinson, & Denholm, 2008). The Cambridge Dictionaries Online (2008) describes intuition as “An ability to understand or know something immediately without needing to think about it, learn it or discover it by using reason.” Intuition in nursing involves instinctively recognizing subtle patient differences and acting upon them to promote holistic patient care (Benner, 1984). Some researchers report that intuition is only present at the expert level (Lyneham et al., 2008; Orsolini-Hain & Malone, 2007; Roche et al., 2009). However, contrary findings support the presence of intuition at all levels of clinical expertise (King & Clark, 2002). In other words, the effective use of intuition delineates clinical competency from clinical expertise. Accordingly, the defining actions of an expert are competency, extensive clinical experience, effective use of knowledge, and effective use of intuition.

Based on the literature review, the definition of clinical expertise that was used in this study was the actions of an expert nurse related to patient care. The definition of *clinical competence* and *clinical expertise* provided for this study are not interchangeable with *levels of clinical expertise*. The latter term is used to describe the five levels of skill acquisition proposed in Benner's Model. This is an important distinction, although all the reviewed literature on expertise in clinical practice made reference to Benner's model when describing expert or expertise. The following section on Benner's model will provide further clarification of the concept of levels of clinical expertise and the progression through the levels of clinical expertise.

### **Benner's Model of Skill Acquisition in Nursing**

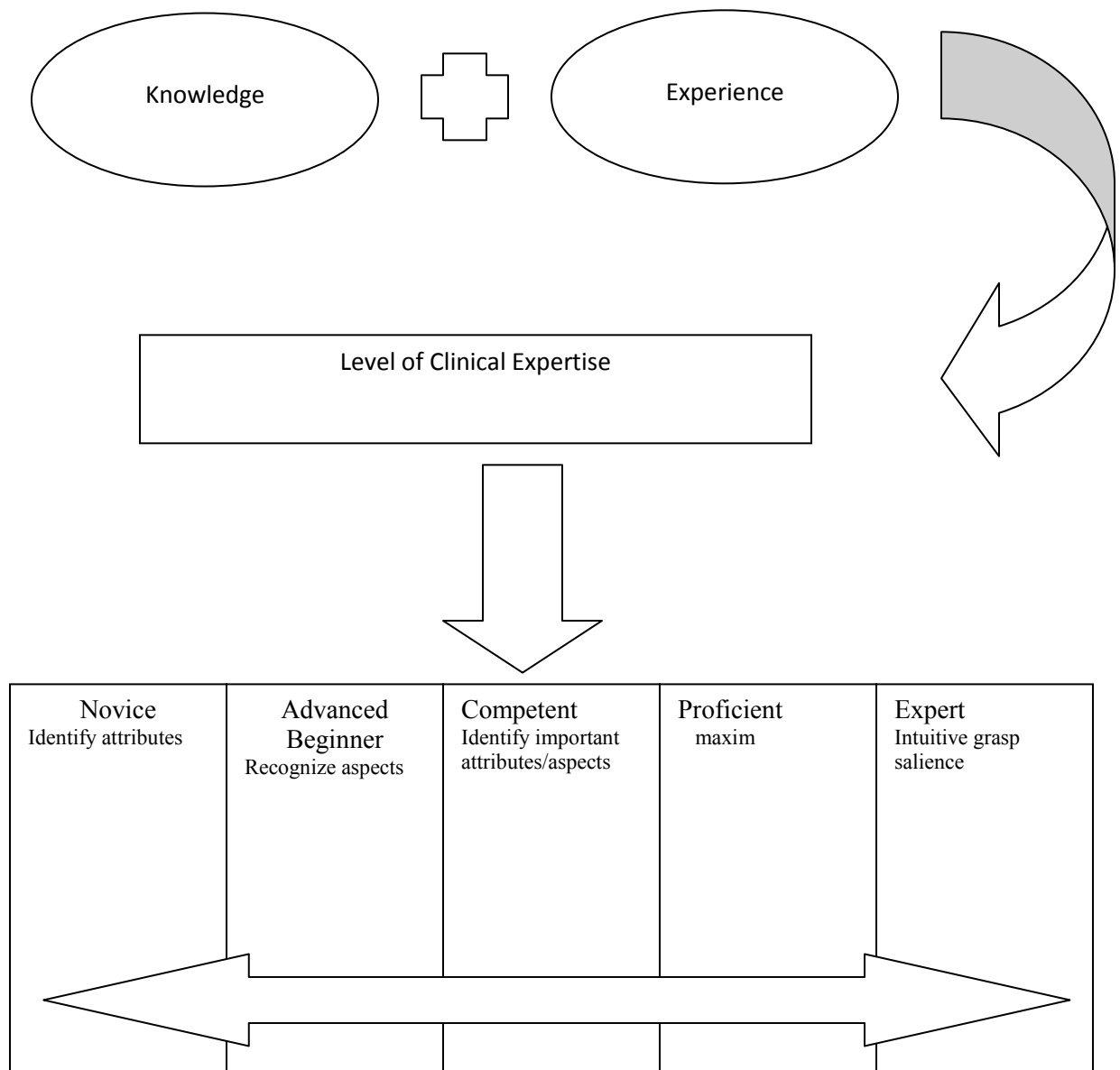
Benner's (1984) Model of Skill Acquisition in Nursing (hereafter referred to as Benner's Model) has been an influential nursing theory since its development in the early 1980s. The Model is based on the premise that nursing skill and knowledge level change as a result of experiential learning in clinical settings (Benner, 1984). Benner's Model was developed from clinical practice situations and applied to the existing Dreyfus and Dreyfus Model of Skill Acquisition (1974; hereafter referred to as the Dreyfus Model).

The Dreyfus Model is a situational, experience based model of skill acquisition, developed by Stuart and Hubert Dreyfus (1974) through their study of chess players and airline pilots. The Dreyfus Model describes how knowledge levels evolve as an individual passes through five levels of proficiency: novice, advanced beginner, competent, proficient, and expert. Dreyfus and Dreyfus identified three changes that occur with progression through the various levels. First, the individual is able to base knowledge on experience rather than abstract principles. Second, each situation is viewed as a complete whole with relevant parts, as opposed to a collection of relevant pieces. Third, the individual becomes part of the situation rather than



an observer. The original five skill acquisition levels remain unchanged in Benner's application of the Dreyfus Model (Benner, 2004).

Benner's Model was developed for one main, broad purpose: to identify, describe, and define skilled, clinical knowledge. Benner's use of the term *skill* refers to the ability to apply nursing practice to real clinical situations, not just psychomotor skills. The model includes three major and five minor abstract concepts; these concepts are closely related and represent varying degrees of skill acquisition. The major concepts are knowledge, experience, and levels of clinical expertise. The minor concepts coincide with the five levels of expertise, to include the attributes, aspects, maxims, intuitive grasp, and salience of a situation (see Figure 1).



*Figure 1: Major and Minor Concepts and Structure of Benner's Model*

Knowledge is the first major concept and includes four aspects: theoretical knowledge, practical knowledge, clinical knowledge, and personal knowledge. Theoretical knowledge is achieved through the study of situations that predict outcomes based on causal relationships (Benner, 1984). Practical knowledge is described as knowing how to react or act in situations.

Clinical knowledge is practical knowledge gained from clinical experience. Finally, personal knowledge involves an individual's history, intellect, and readiness to learn. All four of these knowledge aspects interact to facilitate progression through the levels of clinical expertise.

Experience is the second major concept and is based on the increased knowledge and skill that occurs with repeated exposure to clinical situations. As well, experience occurs when preconceived notions are challenged; therefore, experience is not simply related to the passage of time (Benner, 1984).

Movement through the levels of clinical expertise depends on changes to knowledge that occur with experience. Thus, movement through the levels is continuous because it is based on situations and clinical exposure; that is, based on context (Benner, 1984). Although some researchers have described the movement as linear (Hargreaves & Lane, 2001) or ascending (English, 1993), that is clearly not the intent of the model. Real life situations, especially in clinical settings, are not completely predictable or reproducible. As a result, every clinical situation may result in different knowledge and experience acquisition.

**Levels of clinical expertise.** The five levels of clinical expertise, as depicted in Benner's Model will be described.

**Novice.** According to Benner (1984), a *novice* is a nurse with no clinical experience in a given situation. In this respect, any nurse can be a novice if placed in a situation where the individual has *no* clinical experience. Novices rely on objective *attributes* and context free rules to guide their actions. Objective attributes are quantifiable features, such as normal vital signs or signs and symptoms of shock, which are taught through classroom principles and theory. Based on these objective attributes, a novice nurse has a procedural list of what actions to take; these are the context free rules. Objective attributes and context free rules result in behaviour that is

limited, inflexible, and task oriented because the attributes and rules do not allow for variability in situations or identification of priority actions (Benner, 1984).

***Advanced beginner.*** The *advanced beginner* is a novice nurse who has achieved limited clinical experience, and can identify *aspects* of a situation (Benner, 1984). These aspects are situational components, recognized and understood within a specific context. Benner (1984) uses the identification of a patient's readiness to learn as an example of this concept. To illustrate, consider a patient with diabetes who is asking questions about diet. The advanced beginner would recognize the components (i.e., question, dietary considerations for individuals with diabetes, disease process) and understand the context (i.e., current knowledge level, readiness to learn/discuss disease process), while the novice nurse would view the interaction as only a simple question about diet.

***Competent.*** The *competent* nurse uses conscious, deliberate planning to cope with and manage known patient care situations (Benner, 1984). In addition to aspects of a situation, the competent nurse can identify *attributes* of a situation. Attributes develop as a result of clinical experience and enable the nurse to identify particular components of the situation, anticipate progression, and recognize deviations from the norm. As a result, the nurse at this level has increased efficiency compared to the novice or advanced beginner.

***Proficient.*** *Proficient* nurses understand the situation as a whole, rather than just attributes and aspects, because they view the meaning of the situation in terms of the patient's long term goals (Benner, 1984). For example, consider a patient in an Emergency Department (ED) with shortness of breath related to an exacerbation of chronic obstructive pulmonary disease. The patient has refused admission to an inpatient bed because he wishes to die at home. Upon leaving the ED bed, the patient becomes increasingly short of breath. Although the

competent nurse would recognize that the increased activity has caused this particular patient to be more short of breath, the difference between a proficient and competent nurse is in the actions taken. This patient's long term goal is to die at home, so immediate relief of his shortness of breath does not take into consideration the whole situation. A proficient nurse would be more likely to ask the patient if he wants treatment to relieve the shortness of breath, thereby including the patient in action planning. The end result would then assist the patient in achievement of his goal. These actions are accomplished without conscious calculations and are guided by *maxims*, or nuances of the situation. Maxims can only be noted by a person with extensive experience in similar situations, that is, extensive clinical experience.

**Expert.** An *expert* nurse has a holistic understanding of a situation, without having to analyze every aspect or attribute of the situation; an expert does not need to use rules, guidelines or maxims to determine important aspects; an expert has an intuitive grasp of the situation. An expert also demonstrates *salience*, which is the perceptual ability to identify aspects in a situation as more or less important (Benner, 1984; Benner, Tanner, & Chesla, 1992).

**Summary.** Clinical expertise and clinical competency are terms with different meanings. Based on recurring themes in the literature, this study describes clinical expertise as the actions of an expert that require competency, extensive clinical experience, effective use of knowledge, and intuition. Benner's Model is a seminal work that adequately incorporates changes that occur in the progression to expertise. Hence, Benner's Model is an appropriate framework to structure a study involving clinical expertise.

## **Job Satisfaction**

This section will provide an overview of the concept of job satisfaction. First, the concept of job satisfaction will be defined. Next, two commonly cited job satisfaction theories, the Motivation-Hygiene theory (Herzberg, Mausner, & Snyderman, 1959) and Maslow's Theory of Human Motivation (Maslow, 1987), will be reviewed. Finally, the developmental background of the OFPNR and rationale for choosing this framework for the thesis research will be discussed.

**Defining job satisfaction.** Job satisfaction is a broad term that is commonly used in nursing literature. In general, it refers to the overall feelings and expectations of the individual's job. Job satisfaction is also an integral component of an employee's intent to remain in, or conversely, intent to leave a position

A review of the job satisfaction literature revealed that there are recurring descriptive themes, perspectives, and factors that influence this concept. The main descriptive theme is that there are affective and/or cognitive components of job satisfaction. Specific to nursing, the affective component encompasses how an individual nurse feels about the individual job, often described as likability or pleasure (Mueller & McCloskey, 1990; Park & Kim, 2009; Spector, 1985; Wang & Lee, 2009). In other words, nurses who find pleasure in or enjoy their work are more likely to report job satisfaction. The cognitive component explains the perception of fulfilled needs or expectations (Lu et al., 2005; Parish, Berry, & Lam, 2007; Sellgren, Ekvall, & Tomson, 2007).

Job satisfaction has also been described within the context of *global* versus *facet* perspectives. While the global perspective refers to satisfaction with the job as a whole, the facet perspective refers to satisfaction with specific tasks within the job (Coomber & Barriball, 2006; Wilson, Squires, Widger, Cranley, & Tourangeau, 2008). Global job satisfaction has been

described as the sum of facet job satisfaction or the single measure of overall satisfaction (Nagy, 2002). However, more recent research supports the need to measure facet and global satisfaction as separate entities (Lu et al., 2005; Wilson et al., 2008).

Factors that affect job satisfaction have been reported in various employment domains. These factors are generally the variables that are included in the quantitative evaluation of job satisfaction; they can be categorized as organizational climate and person factors (see Table 1). Each of these factors will be discussed in further detail in the next chapter.

Table 1

*Factors Influencing Job Satisfaction*

Organizational Climate Factors	Person Factors
Professional practice	Age
Staffing and resources	Level of education
Nursing management	Years of nursing experience
Nurse/physician collaboration	Years of specialty nursing experience
Nursing competence	
Positive scheduling climate	
Autonomy	
Control over practice	

Lastly, job satisfaction is unique and variable for each individual nurse (Davies, Laschinger, & Andrusyszyn, 2006). Individual perceptions, personalities, and demographics impact how nurses rate their job satisfaction. As well, how and to what degree each of these factors influence job satisfaction will depend on how important each factor is to the individual nurse at the time job satisfaction is measured. Accordingly, two nurses in the exact same job, with the exact same influencing factors may report different levels of job satisfaction.

Therefore, based on the literature, for this study, job satisfaction will be defined as a variable and unique response to a job at one point in time. The response is based on affective and cognitive perceptions to global and/or specific tasks within a job, with numerous factors contributing to the overall response.

**Theories of job satisfaction.** The following discussion includes an overview of two commonly cited job satisfaction theories: Motivation Hygiene Theory and Theory of Human Motivation. The developmental background and rationale for choosing the OFPNR to guide this study will also be established.

***Motivation Hygiene Theory.*** The most prevalent job satisfaction theory cited in the literature is the Motivation Hygiene theory, developed by Herzberg et al. (1959). Based on their qualitative research, Herzberg and associates identified key motivator factors that determine satisfaction, and key hygiene factors that promote dissatisfaction. Motivator factors describe an individual's relationship to the actual work (i.e., achievement, recognition, and advancement), while hygiene factors describe an individual's relationship to his work environment (i.e., organizational policy, salary, and working conditions) (Herzberg, 1973). In this theory, job satisfaction and dissatisfaction are two distinct concepts. As a result, the motivator factors only impact job satisfaction, and thus, have no influence on job dissatisfaction. Similarly, the absence of hygiene factors increases job dissatisfaction, but their presence has no bearing on job satisfaction.

Although motivator and hygiene factors continue to be cited in job satisfaction literature, more recent studies describe job satisfaction/dissatisfaction as a continuum, rather than two distinct concepts. For example, ineffective management leadership style (i.e., a hygiene factor) has been reported to decrease job satisfaction. Conversely, effective management leadership



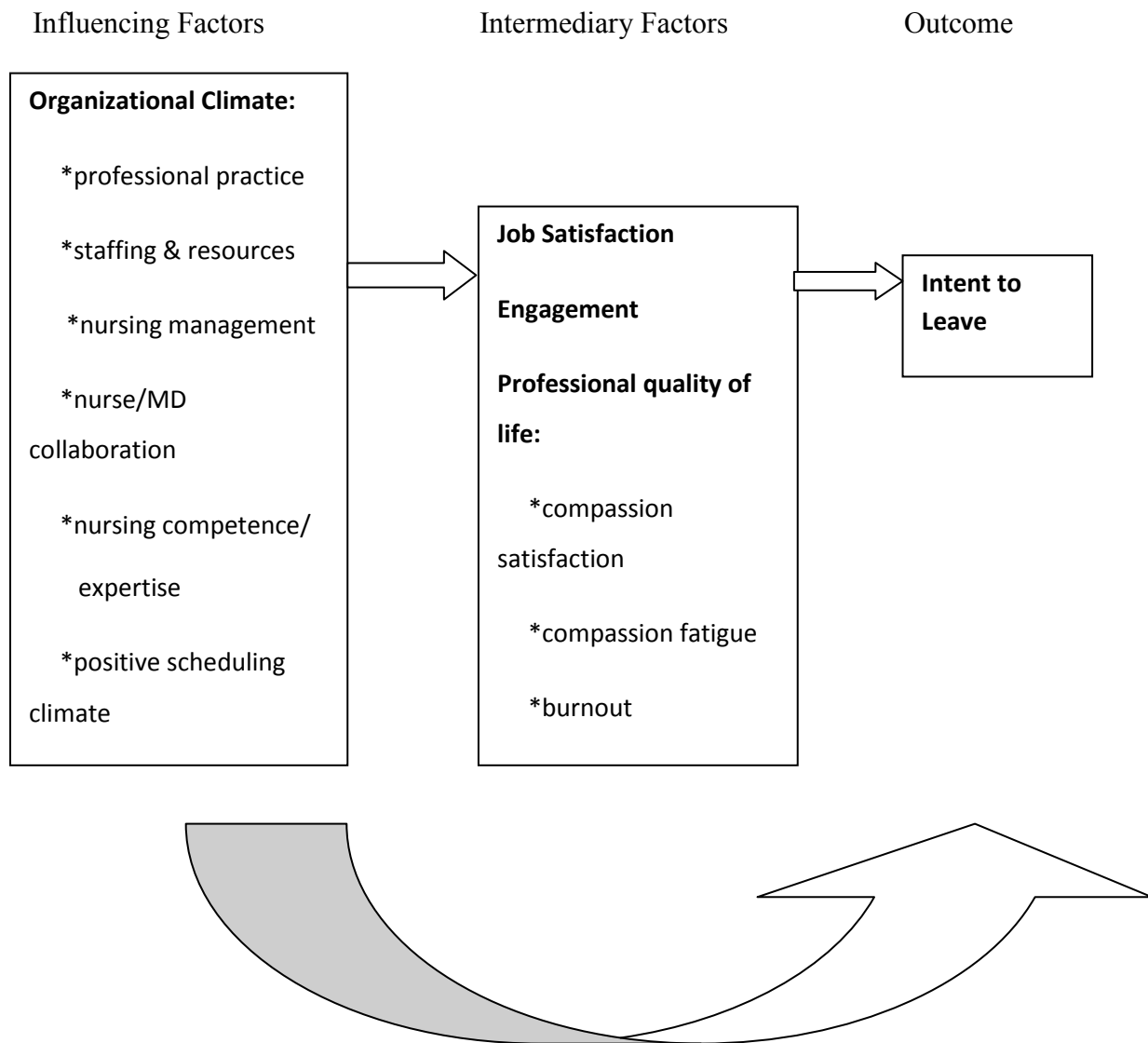
style is consistently reported to improve job satisfaction (Coomber & Barriball, 2006; Sellgren et al., 2007; Wilkins & Shields, 2009). These findings contradict the premise that hygiene factors (i.e., effective management leadership) do not influence job satisfaction. Similarly, researchers have also established positive relationships between the hygiene factor of organizational structure and job satisfaction (Ho, Chang, Shih, & Liang, 2009; Lee & Cummings, 2008; Park & Kim, 2009; Willem, Buelens, & DeJonghe, 2007; Wilson et al., 2008). Thus, this evidence discounts Herzberg's dichotomous theory and lends support for the concept of job satisfaction as a continuum.

***Maslow's Theory of Human Motivation.*** Maslow's Theory of Human Motivation (1987) is another prevalent theory in the job satisfaction literature (Coomber & Barriball, 2006; Lu et al., 2005; Murrells, Robinson, & Griffiths, 2008). Maslow's theory relates to employees' motivation to gratify needs through their work; when needs are gratified, satisfaction results. A major basis for this theory is that individuals have the innate tendency to move towards higher levels of health, creativity, and self-fulfillment (Maslow, 1987). The theory proposes a hierarchy of five levels of human needs, from physiological to safety, belongingness, esteem, and culminating in self-actualization. However, the theory is not a step by step process requiring full gratification at one level in order to move to the next level. While it is best if the needs at one level are partially gratified prior to addressing the needs in another level, human needs can be partially satisfied in more than one area at the same time (Maslow, 1987). For example, once physiological needs, such as food, clothing, and shelter are met, individuals can begin to focus on belongingness and esteem through interpersonal relationships.

Although Maslow's theory is a useful framework to explore expectations, need gratification, and job satisfaction from the perspective of the individual, it does not take the

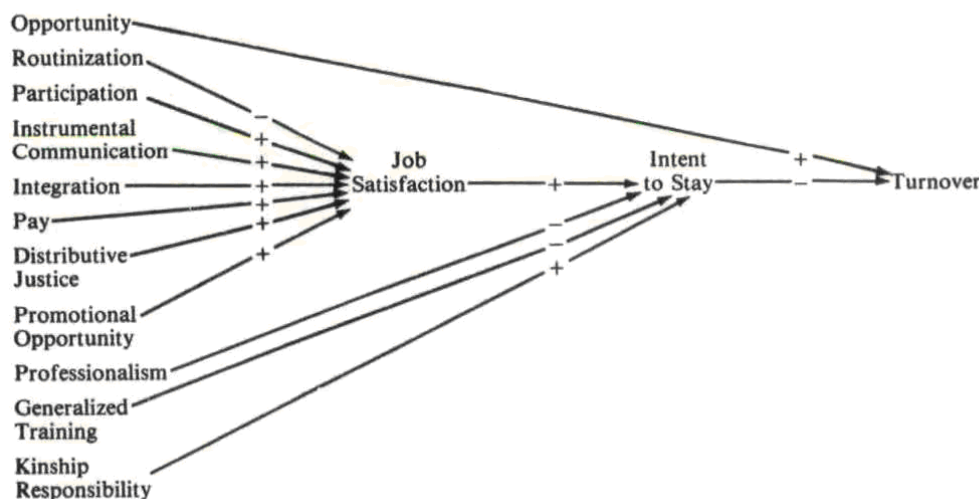
external work environment into account. For example, while the individual needs of two nurses working in a specialty environment may be met; external factors in the organization, such as management and collaboration with physicians, will undoubtedly influence their overall job satisfaction. Therefore, this model has limited application to job satisfaction in the nursing work environment.

***Organizational Framework for Predicting Nurse Retention.*** The Organizational Framework for Predicting Nurse Retention (OFPNR) was developed by nurse researchers from the University of Manitoba. This framework represents the researchers' interpretation of the theoretical link between influencing factors, intermediating factors, and nurses' intent to leave (see Figure 2). The development of the OFPNR is based on previously published research evidence and empirical models related to predictors of nurse retention. Although unpublished to date, the framework has been used in recent research related to retention of emergency nurses in Manitoba (personal communication, Dr. J. Sawatzky, January 24, 2011).



*Figure 2.* Visual depiction of the theoretical link between influencing factors, intermediary factors, and outcome. Adapted from J. Sawatzky and C. Enns (2010). Organizational Framework for Predicting Nurse Retention, Publication pending. With Permission.

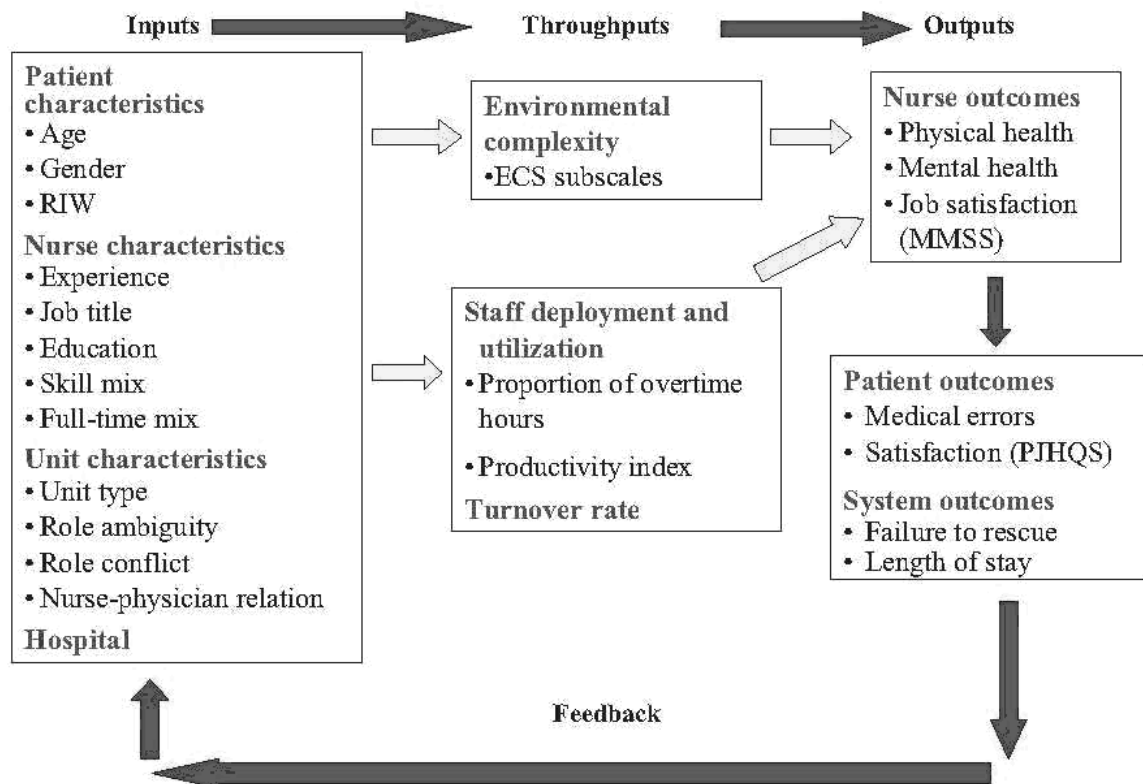
Prior to the 1980s, research on employee turnover focused on two areas of study: using turnover as the sole dependent variable with influencing factors or as one of several dependent variables (Price & Mueller, 1981). There was “lack of inclusiveness” (p.543) in these models, as each study often tended to ignore the findings of others. To alleviate this confusion, Price and Mueller (1981) developed a seminal model of nurse turnover. The Causal Model of Nurse Turnover (hereafter referred to as the Causal Model; see Figure 3) proposed that turnover, as the dependent variable, is affected by 11 determinants. In this model, job satisfaction and intent to stay are intervening factors between the determinants and the outcome of nursing turnover. Although there are similarities between this model and OFPNR, two major differences are evident. First, in Price and Mueller’s (1981) model, only one determinant (i.e., opportunity) directly affects ITL, whereas the OFPNR proposes that all influencing factors can directly affect ITL; this contention is supported in the more recent research literature (Baernholdt & Mark, 2009; Fitzpatrick et al., 2010; Stone et al., 2006). Second, while Price and Mueller’s Model only includes two intervening variables (i.e., job satisfaction and ITL), the intermediary factors in OFPNR include additional intermediary variables: engagement, factors related to professional quality of life, and caring. The inclusion of these variables is based on more recent research evidence that suggests these factors are affected by the influencing factors and also impact directly on ITL (Bogaert, Meulemans, Clarke, Vermeyen, & VandeHeyning, 2009; Burstn & Stichler, 2010; Forsyth & McKenzie, 2006; Najjir, Davis, Beck-Coon, & Doebbeling, 2009; Simpson, 2009).



*Figure 3.* Visual depiction of the theoretical link between 11 determinants, 2 intervening factors, and nurse turnover. Adapted from “A Causal Model of Turnover for Nurses,” by J. Price and C. Mueller, 1981, *Academy of Management Journal*, 24(3). With permission.

Other empirical research and corresponding frameworks have also contributed to the development of the OFPNR. One such model is the Patient Care System and Nurse Turnover (PCSNT) Model (see Figure 4), which has been used in a number of studies (O’Brien-Pallas et al., 2001; O’Brien-Pallas et al., 2004; O’Brien-Pallas, Murphy, & Shamian, 2010). Canadian based researcher O’Brien-Pallas and associates developed this model to explain nursing turnover. Accordingly, the system input factors (i.e., patient, nurse, unit, and hospital characteristics) interact with throughputs, (i.e., staff deployment, staff utilization, and the complexity of the care environment), which also include turnover rate. Inputs and throughputs are independent variables, which impact on the dependent variables or outputs. Outputs include nursing outcomes (i.e., job satisfaction and health), system outcomes (i.e., FTR, LOS) and patient

outcomes, (i.e., patient satisfaction and safety). These dependent variables feed back into the system and affect future input (O'Brien-Pallas et al., 2004). Although this framework is designed as a broader patient care systems and nursing turnover model, the OFPNR does utilize important nursing specific concepts found in the PCSNT Model. For example, the PCSNT Model's inputs (i.e., nurse characteristics, unit characteristics) are similar to the OFPNR influencing factors. As well, one throughput (i.e., overtime hours) in the PCSNT Model is a component of one influencing factor (i.e., positive scheduling climate) in the OFPNR. However, unlike the PCSNT Model, the OFPNR views burnout and job satisfaction as intermediary factors to the outcome of ITL rather than as outputs. Lastly, the PCSNT Model portrays inputs as having an indirect influence on nursing outcomes, whereas the OFPNR clearly illustrates that this is a direct relationship. Research evidence supports the direct relationship between influencing factors and ITL (Blythe et al., 2008; Davis et al., 2007; Kovner, Brewer, Qu, Cheng, & Suzuki, 2006). Thus, based on previously published empirical models of nurse retention, including those discussed herein, and the research literature on job satisfaction and nurses' retention, the OFPNR appears to be a suitable and comprehensive framework of the relationships between the many influencing factors, job satisfaction as an intermediary factor, and the outcome of intent to leave.



*Figure 4.* A visual depiction of the theoretical link between inputs, throughputs, and outputs for patient care and nurse turnover. Adapted from “The impact of nurse turnover on patient, nurse, and system outcomes: A pilot study and focus for a multicenter international study,” by L. O’Brien-Pallas, P. Griffin, J. Shamian, K.J. Buchan, C. Duffield, F. Hughes, 2006, *Policy, Politics & Nursing Practice*, 7(3). With permission.

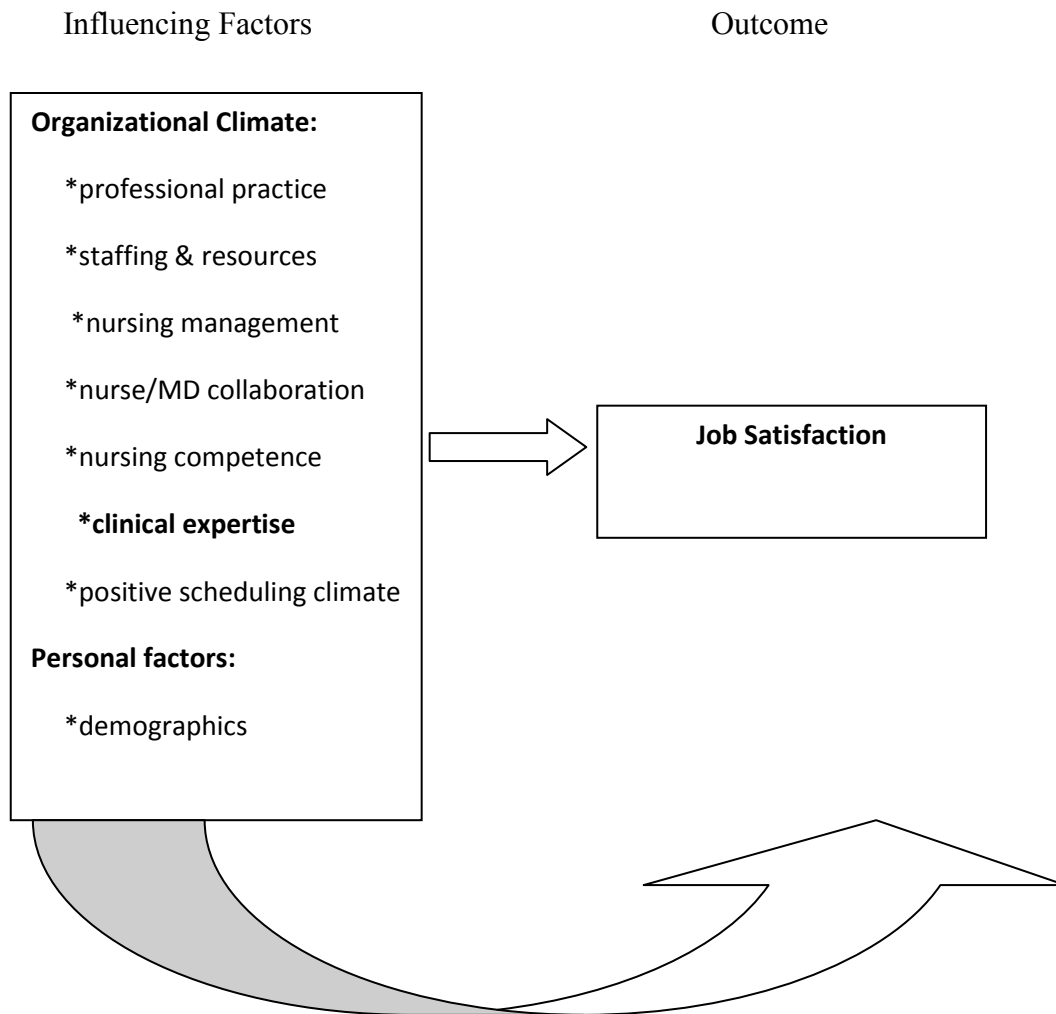
There is also additional research and clinical evidence to support the theoretical links found in OFPNR. In the midst of a national nursing shortage crisis in the 1980s, certain hospitals in the US were noted to have high retention rates. In a seminal study of these ‘magnet’ hospitals, Kramer and Schmalenberg (1991a, 1991b) identified a number of key organizational characteristics that promoted a positive work environment, and in turn resulted in increased job satisfaction, successful recruitment, and high nursing retention rates. The positive organizational characteristics found in these institutions included professional development and career

advancement, recognition of excellence in practice, adequate staffing levels, supportive nurse leadership and open management communication, good relationships with physicians, rich nursing skill mix, and flexible scheduling (Kramer & Schmalenberg, 1991a, 1991b). The OFPNR clearly encompasses these concepts within the context of organizational climate influencing factors and the relationship to intermediary factors and job satisfaction in particular, and ultimately to ITL.

In addition to organizational climate, personal factors also affect job satisfaction. These factors include age, level of education, years of nursing experience, and years of specialty experience. To date, there is no consensus on the effect these factors have on job satisfaction (Blythe et al., 2008; Caers et al., 2008; Li & Lambert, 2008). As a result, it is imperative to include person factors in future job satisfaction research. In the OFPNR, personal factors are recognized as significant, within the context of factors that influence the intermediary factors and intent to leave.

The purpose of this study was to explore the relationship between level of clinical expertise and job satisfaction; accordingly, the OFPNR was adapted to provide a visual representation of this possible relationship (see Figure 5). Removal of intermediary factors, adding clinical expertise as an influencing factor, and addressing job satisfaction as the outcome provided a framework to guide the study's research questions.





*Figure 5: Adapted Organizational Framework for Predicting Nurse Retention*

In summary, there are clearly many factors that affect job satisfaction. These factors have been conceptualized in various ways, such as hygiene and motivator factors, or based on needs gratification. The convincing link between job satisfaction and organizational characteristics in the research literature demonstrates the importance of these particular factors for the nursing population. As well, job satisfaction is unique to every individual and thus is impacted by personal characteristics. Therefore, the adapted OFPNR provides a comprehensive

framework to structure research that explores the factors, such as clinical expertise, that influence job satisfaction.

## **Summary**

The dynamic nature of CC nursing leads to a multitude of different contexts and clinical learning situations. There are wide variations of skill and knowledge in the current CC nursing workforce. As a result, Benner's Model is an appropriate framework to explore clinical expertise in CC nurses. The complex nature of job satisfaction is influenced by many factors, including a positive work environment and an individual's personal characteristics. As such, nurses' job satisfaction is influenced by organizational climate, as well as personal factors. The adapted OFPNR incorporates all of these concepts in a comprehensive framework. Thus, the adapted OFPNR and Benner's Model of Skill Acquisition in Nursing provided the frameworks for the exploration of the relationship between self-reported level of clinical expertise and job satisfaction.

## **Definition of Terms**

**Aspects of a situation.** Pieces of a situation that need to be recognized and understood in specific context

**Attributes of a situation.** Measurable features that are recognized and explained with only theoretical knowledge

**Clinical Competence.** The ability of a nurse to integrate and apply the knowledge, skills, judgment, and personal attributes required to practise safely and ethically in a designated role and setting

**Clinical Expertise.** The actions of an expert nurse in clinical patient care situations

**Job Satisfaction.** A variable and unique affective and cognitive response to global and/or specific tasks within a job

**Levels of Clinical Expertise.**

***Novice.*** A nurse with no clinical experience in an area who bases individual decisions on context free rules he/she have been taught

***Advanced beginner.*** A nurse with limited clinical experience who can identify, or have pointed out by a mentor, important aspects and attributes of a situation

***Competent.*** A nurse with moderate clinical experience who can determine the most relevant attributes or aspects in the current situation

***Proficient.*** A nurse with substantial clinical experience who can recognize the patient's clinical situation as a whole picture

***Expert.*** A nurse with extensive clinical experience who has an intuitive grasp of the patient's clinical situation

### **CHAPTER THREE: REVIEW OF THE LITERATURE**

The purpose of the following literature review is to examine the existing research related to the key study concepts: clinical expertise and job satisfaction. First, recent literature pertaining to clinical expertise will be reviewed. Next, job satisfaction literature will be reviewed within the framework of the OFPNR. This review will focus on the research that is relevant to the study.

#### **Clinical Expertise**

Clinical expertise is a common term found in nursing literature dating back to the 1970s. In the review of original research articles related to clinical expertise, the definition chosen for this study was considered. Accordingly, articles that did not clearly define clinical expertise and/or incorrectly interpreted Benner's explanation of clinical expertise were excluded. These steps resulted in a limited number of articles.

Clinical expertise occurs as a result of a combination of education and experience. A direct link between these factors and clinical expertise are consistently found in the literature (Benner, 1984; Bobay, Gentile, & Hagle, 2009; Cameron & Brownie, 2010; Christensen & Hewitt-Taylor, 2006a; 2006b; McHugh & Lake, 2010; Roche, Morsi, & Chandler, 2009). For example, acute care nurses with many years of general nursing experience have self-reported high levels of clinical expertise (Bobay et al., 2009; McHugh & Lake, 2010). Further, when nurses categorized years of experience (i.e., general nursing, specialty, current workplace), specialty experience was found to have the highest correlation to clinical expertise (Roche et al., 2009). Thus, experience, measured in years, is a key element in clinical expertise; however, specialty experience appears to be more essential than other types of experience.

Education is a component of clinical expertise such that knowledge can be attained from it (Benner, 1984). Education includes general nursing education and/or specialty education. Many researchers acknowledge the association between education and clinical expertise (Benner, 1984; Bobay, Gentile, & Hagle, 2009; Cameron & Brownie, 2010; Christensen & Hewitt-Taylor, 2006a; 2006b; McHugh & Lake, 2010; Roche, Morsi, & Chandler, 2009). In a comparison between highest attained general nursing education and clinical expertise, diploma nurses rated higher in level of clinical expertise than nurses with undergraduate degrees (McHugh & Lake, 2010). In contrast, other researchers have indicated no relationship exists between education and clinical expertise (Bobay et al, 2009; Roche et al., 2009). Hence, the relationship between knowledge acquired through education and clinical expertise is confounding and requires further research.

Clinical expertise is associated with factors within the nursing work environment. Relevant factors in the nursing work environment can include relationships with colleagues, work empowerment (e.g., opportunity, support, resources), and a positive practice environment. However, there is no conclusive link between clinical expertise and nursing work environments (McHugh & Lake, 2010; Roche et al., 2009). For example, nurses reported positive work relationships enabled them to work at high levels of clinical expertise (Roche et al., 2009). While the same researchers indicated work empowerment did not affect clinical expertise, work empowerment did affect work relationships. Workplace empowerment may enable nurses to foster positive relationships with colleagues, which then leads to higher levels of clinical expertise. Conversely, other researchers report no association exists between positive practice environments and clinical expertise (McHugh & Lake, 2010). Thus, further study in this area is needed to clarify the impact nursing work environments have on clinical expertise.

Critical reflection and challenging preconceived notions enables experience to transform into expertise (Benner, 1984). As such, some nurses will not attain high levels of clinical expertise, regardless of years of experience, education, and/or work environment. Researchers to date have not had success in measuring this transformation. However, the need for this transformation to occur is recognized in the literature (Christensen & Hewitt-Taylor, 2006a; 2006b; King & Macleod Clark, 2002). Further research is needed to provide clarity to this crucial step in the progression of clinical expertise.

A review of the literature found few articles relating to this study's definition of clinical expertise. However, the literature available revealed that experience, education, work environment, and knowledge transformation are critical elements found in clinical expertise. A noticeable gap in the literature pertains to the lack of published research exploring the relationship between clinical expertise and job satisfaction, thus providing support for this study.

### **Job Satisfaction**

The factors that influence job satisfaction have a history in the research literature dating back to the 1970s. The job satisfaction research literature reveals peaks of published data in the 1970s and 1990s, with fewer publications in this area in the 1980s. This review utilized numerous searches of PUBMED, CINAHL, and SCOPUS. Relevant articles were also found using the snowball technique. All articles were limited to English publications.

Initial research in the field of management focused on the premise that job satisfaction was related to employee productivity. In this respect, high levels of employee satisfaction result in increased employee productivity. Further research has since discounted this premise as too simplistic.

The field of psychology contributed additional views to job satisfaction theory. One outlook focused on employee needs and wants in relation to job satisfaction (Maslow, 1987; Vroom, 1964). Another proposed job satisfaction and dissatisfaction were two separate concepts (Herzberg et al., 1959; Herzberg, 1973). As such, the factors influencing each concept were not interchangeable. Both of these views were discussed in Chapter two. Current research continues to utilize both of these models.

Prior to the 1970s, management and psychology theorists and researchers dominated the job satisfaction literature. More recently nursing theorists and researchers have begun to make significant contributions to the nursing specific body of knowledge in the area of job satisfaction (Longest, 1974; Mueller & McCloskey, 1990; Yu, 2009). Nursing researchers have used both psychology and management job satisfaction theories to guide their research.

Nursing job satisfaction literature, in particular, began increasing in volume in the 1990s. Current research, defined as the last seven years, is rich. One explanation for this trend may be related to health care outcomes, in particular, nursing, patient, and economic outcomes that were recognized in United States (US) hospitals with positive organizational climates, that is, magnet hospitals. As discussed in Chapter two, magnet hospitals exhibited high recruitment and retention rates. As well, these institutions were found to have positive nursing, patient, and economic outcomes as evidenced by such factors as high job satisfaction rates, lower failure to rescue rates, and lower cost of training and replacing staff, respectively (Aiken & Patrician, 2000). Published data on the success of magnet hospitals may have been a precursor to the subsequent interest in job satisfaction and its many influencing factors; hence, the peak of nursing literature in the 1990s.

As well, growing numbers of nursing specific theories have been developed which incorporate the concepts of job satisfaction, influencing factors, and intent to leave (O'Brien-Pallas et al., 2001; Price & Mueller, 1981; Tzeng, 2003). Research evidence of the relationship(s) between job satisfaction and its influencing factors has steadily accumulated over the years. From the earliest major nursing study (Nahm, 1940) through to some of the most recent reports (Chan & Lai, 2010; Fitzpatrick et al., 2010; Park & Kim, 2009), similar aspects are reported. The most often reported factors are found in Chapter Two (see Table 1). However, the research evidence of the relationship between job satisfaction and these influencing factors is not consistent.

In research, the organization of the factors that influence job satisfaction has depended on the framework chosen. To illustrate, a project using Herzberg et al.'s (1959) theory would organize the contributing factors as hygiene or motivator factors. The proposed study will utilize the OFPNR (see Figure 1), therefore supporting the use of organizational climate and personal factors to organize the following review of the job satisfaction literature.

**Organizational Climate.** Organizational climate is the term used to classify the characteristics of an organization that promote a positive work environment for nurses. The positive work environment contributes to the nurses' perception of delivery of quality care because this environment enables nurses to provide holistic patient care. In turn, increased perception of quality care delivery has been shown to positively influence job satisfaction since many nurses gain a sense of accomplishment or pride when they are able to meet patient needs through holistic patient care. Organizational climate consists of professional practice, staffing and resource adequacy, nursing management, nurse/physician collaboration, positive scheduling climate, control/autonomy, and competency.



***Professional Practice.*** Professional practice encompasses the many factors that enable nurses to practice to their full professional scope (Choi et al., 2004). Equality of nursing power within the hospital organizational structure, opportunities for career development and advancement, role conflict and ambiguity, and nursing involvement in decision making are the most relevant factors in the relationship between professional practice and job satisfaction.

The literature consistently reports a link between professional practice and job satisfaction (Cavanaugh, 1991; Davies, Laschinger, & Andrusyszyn, 2006; Hoffman & Scott, 2003; Stone, et al., 2006). More specifically, full time nurses ( $N=221$ ) in Los Angeles who participated in decision making and had opportunities for promotion in professional practice were more satisfied with their jobs (Cavanaugh, 1991). Moreover, nurses ( $N=500$ ) who reported low professional status due to hospital restructuring, changes to organizational structures, and a subsequent loss or devaluation of the nursing role were less satisfied at their work (Hoffman & Scott, 2003). Hence, a nurse's ability to be involved in decision making and nursing involvement in hospital administrative structure are key elements of being satisfied.

In other studies, professional practice environments affected other influencing factors, such as workload, which in turn impacted job satisfaction (Aiken et al., 2001). The same researchers reported that changes to organizational structure and removal of chief nursing officers and middle management positions resulted in increased workload for other nurses ( $N=43,000$ ). The increased workload led to a decrease in job satisfaction. Although the increased workload was the direct cause of the low job satisfaction, it resulted from the consequence of change in reporting structure, which is a concept of professional practice. Thus, professional practice environments' organizational structure can impact satisfaction of nurses, albeit indirectly.

Other studies have reported that difficulties with the professional practice concepts of role conflict or ambiguity lead to increased stress and subsequent low job satisfaction (Chen, Chen, Tsai & Lo, 2007; Davis et al., 2006; O'Brien-Pallas, Murphy, & Shamian, 2010). According to Chen et al. (2007), when a nurse's role is ambiguous, the nurse experiences job stress, hence, is likely to feel decreased job satisfaction (Chen et al., 2007; Davis et al., 2007). However, the relationship between role conflict and stress was insignificant in cultures that have a traditional respect for authority. A different result was found among Canadian nurses. In a large Canada wide study (wave 1  $N=4481$ , wave 2  $N=3844$ ), encompassing nine different unit types, O'Brien-Pallas et al. (2010) reported high levels of role ambiguity and role conflict were associated with high ITL. Increased ITL led to subsequent low job satisfaction for remaining nurses. Thus, professional practice concepts of ambiguity and conflict can have an indirect impact on job satisfaction through stress levels although this may be influenced by cultural factors.

Within the CC environment, professional practice issues have been reported to directly impact ITL. Choi et al. (2006) studied nurses in adult CC areas in the US ( $N=2324$ ) using the Perceived Nursing Work Environment (PNWE) tool. In multivariate analysis, professional practice was found to be associated with CC nurses' ITL ( $OR\ 0.52, p<.01$ ). The idea that professional practice can influence stress levels may have particular relevance in CC as stress is consistently recognized as a significant issue for CC nurses (Hines, 1974; Li & Lambert, 2008; Manojlovich & Antonakos, 2008; O'Brien-Pallas, Murphy, & Shamian, 2010). In other words, in a specialty area where stress is present, professional practice issues such as restructuring, role ambiguity, or lack of nursing involvement in decision making may be more detrimental to a nurse's job satisfaction and exacerbate ITL. Further study in this area is needed to substantiate

this claim. However, issues pertaining to professional practice are clearly predictive of job satisfaction and are therefore important to include in a study of job satisfaction.

***Staffing & Resources.*** The most pertinent factors in the relationship between staffing and resources and job satisfaction are adequacy of nurses/support services, workload, nurse to patient ratios, nurses' perception of the ability to provide quality care, and monetary rewards.

A large portion of the reviewed literature reported a positive relationship between staffing and resources and job satisfaction (Aiken et al. 2001; Andrews & Dziegielewski, 2005; Best & Thurston, 2004; Gagnon et al., 2006; O'Brien-Pallas et al., 2004). For example, Canadian general duty nurses ( $N=3000$ ) and managers ( $N=50$ ) who experience lack of staffing resources and unbalanced nursing workloads also have decreased job satisfaction (Gagnon et al., 2006). Moreover, nurses who report insufficient numbers of nurses and inadequate nurse to patient ratios exhibit low job satisfaction (Aiken et al., 2001). As well, Aiken et al. (2002) found that every additional patient above baseline that an adult general duty nurse cares for increases job dissatisfaction by 15%. Thus, an important aspect of nursing job satisfaction is an adequate number of nurses to manage workload.

In other studies, staffing and resources affected ITL, which is an outcome of low job satisfaction (Stone et al., 2006). When staffing and resources are perceived as inadequate, CC nurses were 1.23 times more likely to leave their positions (Stone et al., 2006). Hence, inadequate numbers of nurses can indirectly affect job satisfaction.

Nurses' perceptions of the ability to provide quality care are positively related to job satisfaction (Adams & Bond, 2000; Aiken et al., 2001; Dunn, Wilson & Esterman, 2005; Kramer & Haffner, 1989; Neumann, 1973). Nurses gain job satisfaction from the ability to provide high quality care (Kramer & Haffner, 1989). This satisfaction is apparent regardless of nursing

specialty (Davis et al., 2007); however, it may be attributed to the experience level of the nurses. Thus, a nurses' perception of the ability to provide quality care is an integral factor in job satisfaction.

Other studies have found that job satisfaction is affected by staffing and resource factors, such as nurse to patient ratios, which in turn impact perceived ability to deliver quality care (Tervo-Heikkinen, Kiviniemi, Partanen, & Vehvilainen-Julkunen, 2009). Tervo-Heikkinen et al. (2009) stated "...the relationship between the nurse staffing level (number of patients to RN) and other factors is direct only in terms of the quality of nursing care..." (p.992). Decreased quality of nursing care can also result in ITL. For example, Stachota et al (2003) found that 15% ( $n=183$ ) of ED and CC nurses reported leaving positions because of the inability to provide care due to inadequate staffing and resources. Thus, the inability to provide care can indirectly impact job satisfaction as a result of the inadequate supply of nurses or ITL.

Monetary reward is a broad term that can include the concepts of salary, income, pay, or benefits. Over the last six decades, monetary rewards have been consistently identified as positive predictors of job satisfaction (Blythe et al., 2008; Hines, 1974; Nahm, 1940; Pickens & Tayback, 1957; Wilson et al., 2008); however, the degree of satisfaction with this factor varies. For example, nurses of different generations reported satisfaction with pay and benefits; however, the degree of satisfaction (i.e., moderate or high) is positively linked to age (Blythe et al., 2008; Wilson et al., 2008). One explanation for these results may be linked to seniority in union collective agreements, as older nurses may have more seniority and subsequent elevated levels of pay or benefits.

Geographic location does not appear to alter the positive relationship that exists between monetary factors and job satisfaction. Studies conducted in various locations in the United

States (Nahm, 1940), New Zealand (Pickens & Tayback, 1957), Belgium (Willem et al., 2007) and Canada (Best & Thurston, 2006) have identified similar results. The literature also frequently reports that the type of nursing specialty does not affect the positive relationship between pay, benefits, and job satisfaction (Best & Thurston, 2006; Boyle et al., 2006; Davis et al., 2007). Nevertheless, CC nurses reported low satisfaction with pay in comparison to other nursing specialties (Boyle et al., 2006). However, the CC nurses reported less years of nursing experience and younger ages than the comparison groups suggesting there may be a relationship between level of expertise and monetary rewards, although this claim requires further study.

***Nursing Management.*** Nursing management broadly includes a manager's leadership style. More specifically, decision making, support of staff, and communication skills are the most relevant factors in the relationship between job satisfaction and nursing management.

The literature consistently reports a link between nursing management and job satisfaction (Aiken et al., 2001; Andrews & Dziegielewski, 2005; Boyle et al., 2006; Gagnon et al., 2006; Gunnarsdottir et al., 2009). For instance, nurses in ten different specialty units ( $N=55,516$ ) reported effective management decision making and staff support resulted in moderate job satisfaction (Boyle et al., 2006). In addition, unit level management support has been reported to be a significant independent predictor of job satisfaction (Gunnarsdottir et al., 2009). Thus, decision making that supports staff appears to be a key factor in the relationship between nursing management and job satisfaction.

In other studies, nursing management issues have affected other influencing factors, such as stress levels, which in turn impacted job satisfaction (Boyle et al., 1999). Managers who promoted group cohesion amongst their staff alleviated staff stress, which led to increased job satisfaction (Boyle et al., 1999; Larrabee et al., 2003). As well, managers who facilitated control

over practice for their staff increased staff job satisfaction by decreasing stress levels (Sellgren, Ekvall, & Tomson, 2003). Thus, nursing management can indirectly impact job satisfaction by decreasing staff stress.

Nursing management issues have been reported to impact ITL. Managers who do not provide staff support have high ITL rates among their employees (Boyle et al., 1999; Strachota, et al., 2003). However, other studies suggest nursing management only impacts ITL through its influence on job satisfaction. For instance, in one study lack of management support resulted in low job satisfaction, which in turn led to increased ITL (Sellgren et al., 2003). Hence, nursing management can affect job satisfaction directly and indirectly through ITL.

Communication skill is an integral component of nursing management; as such, communication has been shown over time to ameliorate managers' leadership abilities and increase staff job satisfaction (Aiken et al., 2001; Hines, 1974; Linton & Farrell, 2009; O'Brien et al., 2010). For instance, nurses who received verbal recognition from their managers reported job satisfaction (Hines, 1974). Experienced CC nurses ranked communication ability (i.e., approachability, consistent guidance) the second most important attribute of a manager (Linton & Farrell, 2009). As well, managers who promote collaboration amongst their staff increase job satisfaction (Park & Kim, 2009). In a recent study, O'Brien-Pallas and associates (2010) found that nurses reported job satisfaction when managers clearly articulated expectations. As well, managers who used effective communication to handle performance issues and conflict increased their staff job satisfaction (Gagnon et al., 2006). Clearly, nursing management communication skill is a key element in nurses' job satisfaction. Thus, the overwhelming message found in the literature regarding nursing management and job satisfaction is that

*positive* nursing management can lead to improved job satisfaction while *negative* nursing management can lead to decreased job satisfaction.

***Nurse /Physician Collaboration.*** Nurse/physician collaboration encompasses the relationships between nurses (excluding nurse to manager) as well as relationships between nurses and physicians. The most pertinent factors in the relationship between RN/physician collaboration and job satisfaction are effective teamwork and communication.

The literature consistently reported a positive predictive relationship between RN/RN collaboration and job satisfaction (Adams & Bond, 2000; Blythe et al., 2008; Boyle et al., 2006; Hines, 1974; Utriainen & Kyngas, 2009). Adams and Bond (2000) report workplace relationships to be the best predictor of nurse job satisfaction. Additionally, nurses who reported effective teamwork with other nurses also had job satisfaction (Blythe et al., 2008). Nurses from a variety of different units, including CC, who experienced effective communication with other nurses were more satisfied with their jobs (Boyle et al., 2006). Thus, teamwork and effective communication are important factors in the relationship between RN/RN collaboration and job satisfaction.

RN/RN collaboration can impact job satisfaction through other influencing factors, such as group cohesion and stress (Kovner et al., 2006; Li & Lambert, 2008). According to Kovner et al. (2006) collaboration between nurses increased group cohesion and improved job satisfaction. Conversely, CC nurses who experienced conflict with other nurses (i.e., ineffective teamwork) reported increased stress and low job satisfaction (Li & Lambert, 2008). Hence, nurse collaboration can impact satisfaction of nurses, albeit indirectly.

A positive predictive relationship between job satisfaction and RN/physician collaboration is also reported in the literature (Gunnarsdottir, Clarke, Rafferty, & Nutbeam,

2009; Manojlovich, 2005; Manojlovich & Antonakos, 2008; McNeese-Smith, 1999). In particular, nurses experienced greater job satisfaction when they had good rapport with physicians (McNeese-Smith, 1999). Effective communication between nurses and physicians is also reported to increase nurses' job satisfaction (Manojlovich, 2005). Thus, communication and relationships with physicians are vital elements for nurses' job satisfaction.

Although the literature shows a consistent positive predictive relationship between RN/physician collaboration, the levels of satisfaction appear to vary (Aiken et al. 2001; Aiken & Patrician, 2004; Boyle et al., 2006; Manojlovich & Antonakos, 2008). For instance, CC nurses reported lower satisfaction (i.e., moderate) with RN/physician collaboration than did ED nurses (i.e., high) (Boyle et al., 2006). Additionally, nurses working in magnet designated hospitals reported higher satisfaction with RN/physician collaboration than nurses working in non-magnet hospitals (Aiken & Patrician, 2001). Thus, differences in job satisfaction levels related to nurse/physician collaboration require further study.

Within the CC environment, different results have also been reported (Manojlovich & Antonakos, 2008). For example, nurses reported communication satisfaction with attending physicians, but communication dissatisfaction with first year residents (Manojlovich & Antonakos, 2008). Furthermore, as years of CC nursing increased, satisfaction with communication between nurse/physician decreased. These findings are particularly relevant to the current study for two reasons. First, the majority of Manitoba CC nurses work in academic facilities where residents are part of the health care team. Second, the inverse relationship between years of CC experience and communication satisfaction may be related to the nurses' level of clinical expertise. Hence, further study is needed to explore the effect of years of



experience or clinical expertise on the relationship between job satisfaction and RN/physician collaboration.

***Positive scheduling climate.*** A positive scheduling climate encompasses the hours nurses work. The specific factors in the relationship between positive scheduling climate and job satisfaction include: shift length (i.e., eight, ten, and/or 12 hours) and schedule flexibility (i.e., shift length and type). This section discusses published research on these factors.

Numerous studies report a direct link between positive scheduling and job satisfaction (Cartledge, 2001; Kovner, Brewer, Wu, Cheng, & Suzuki, 2006; Lai, Lin, Chang, Wang, Liu, Lee, Peng, & Chang, 2008; Richardson, Turnock, Harris, Finley, & Carson, 2007; Shader, Broome, Broome, West, & Nash, 2001; Stone et al., 2006). For example, US RNs in large urban centres reported shift length had no effect on job satisfaction (Kovner, Brewer, Wu, Cheng, & Suzuki, 2006). Hoffman and Scott (2003) and Stone et al. (2006) reported similar findings.

Other studies have reported that shift length impacts stress and quality care delivery. General duty nurses who worked longer shift length (i.e., 12 hours) reported higher stress levels than nurses who worked shorter shift length (Hoffman & Scott, 2003). In contrast, CC nurses reported longer shift length improved the delivery of quality care (Richardson, Turnock, Harris, Finley, & Carson, 2007). Hence, longer shift length can have both negative and positive effects on factors associated with job satisfaction.

Within the CC environment, scheduling issues have been reported to directly impact ITL. When nurses are unable to balance work and life demands because of shift inflexibility, ITL increases (Cartledge, 2001; Shader, Broome, Broome, West, & Nash, 2001). As well, some nurses report shift inflexibility results in poor sleep quality, which exacerbates ITL (Lai et al.,

2008). Thus, scheduling issues clearly have a direct influence on ITL and are therefore a key element in the study of job satisfaction.

***Autonomy.*** Autonomy is the ability to exercise independent nursing judgment. The literature consistently reports a positive association between autonomy and job satisfaction (Baernholdt & Mark, 2009; Best & Thurston, 2006; Kramer & Schmalenberg, 2006; Nathenson, 2007; Zangaro & Soeken, 2007). For example, rehabilitation nurses who used independent nursing judgment to improve delivery of quality patient care were more satisfied than other rehabilitation nurses (Nathenson, 2007). As well, general duty nurses, including CC nurses, reported autonomy improved career fulfillment and job satisfaction (Hoffman & Scott, 2003). Nurses in magnet hospitals who used autonomy to promote patient care experienced job satisfaction (Kramer & Schmalengerg, 2008). Thus, the ability to deliver quality care because of autonomy is a key element in nursing job satisfaction.

Geography does not appear to alter the positive relationship that exists between autonomy and job satisfaction. Studies conducted in various locations in the United States (Baernholdt & Mark, 2009), Belgium (Willem, Buelens, & DeJonghe, 2007), and Canada (Best & Thurston, 2006) have reported similar results. Further, groups of urban and rural nurses both reported autonomy as an important variable of job satisfaction (Baernholdt & Mark, 2009).

Nursing specialty also does not appear to affect the relationship between autonomy and job satisfaction. For example, nurse practitioners who reported job autonomy also reported job satisfaction (Kacel, Miller, & Norris, 2005; LaMarche & Tullai-McGuinness, 2009). Additionally, public health nurses who used independent nursing judgment reported job satisfaction (Best & Thurston, 2006). Thus, regardless of geography or nursing specialty, autonomy is a vital component of job satisfaction.

The relationship between autonomy and job satisfaction may be affected by years of experience (Daehlen, 2008; Zangaro & Soeken, 2007). For instance, nurses ( $N = 581$ ) reported consistent job satisfaction levels from graduation to three years post graduation (Daehlen, 2008), though the importance of working independently (i.e., autonomy) increased during that time. This finding suggests a nurse's ability to exercise independent nursing judgment may increase over time and also affect job satisfaction; however, further research is needed to explore this claim.

***Control over Practice.*** Control over practice refers to ownership of issues, problems, and solutions and self-regulation (Kramer & Schmalenberg, 2003). Control over work settings and work conditions and opportunities for advancement are factors in the relationship between control over practice and job satisfaction.

Most of the literature reports a link between control over practice and job satisfaction (Browning, Ryan, Thomas, Greenberg, & Rolnaik, 2007; Kramer & Schmalenberg, 2003; Kramer, Schmalenberg, Maguire, Brewer, Burke, Chmielewski et al., 2008; Tervo-Heikkinen et al., 2009). For example, ED nurses who felt they had limited control over working conditions reported high burnout and low job satisfaction (Browning et al., 2007). However, another study reported 67% of Finnish general duty nurses ( $N=854$ ) were satisfied with their jobs although only 8% of those nurses reported adequate control over work settings (Tervo-Heikkinen et al., 2009), suggesting control over practice was not a major factor for job satisfaction. Hence, although a nurse's control over his/her working conditions and work setting appear to be key elements in the relationship between job satisfaction and control over practice, the literature findings are not consistent.

Two major nursing studies support the positive predictive relationship between job satisfaction and control over practice (Kramer & Schmalenberg, 2003; Kramer et al., 2008). Nurses from eight different magnet hospitals who participated in a mixed methods study ( $N = 349$ ) reported more job satisfaction when control over practice was present (Kramer et al., 2008). In addition, researchers have reported control over nursing practice to be highly correlated to job satisfaction among general duty nurses ( $N = 279$ ; Kramer & Schmalenberg, 2003). Additional findings in the Kramer and Schmalenberg (2003) study indicate staff nurses may view control over nursing practice as equivalent or vastly comparable to clinical autonomy. Hence, control over practice and autonomy may be analogous. Although the relationship between autonomy and job satisfaction and control over practice and job satisfaction may be similar, further research is needed to verify this contention. Therefore it is important to include both factors in a study of job satisfaction.

***Nursing Competence.*** Within organizational climate, nursing competence refers to the overall competence level of nurses. The most pertinent factors in the relationship between competency and job satisfaction are the presence of competent nurses and support for inexperienced nurses (i.e., orientation programs and availability of preceptors).

The relationship between competency and job satisfaction is not consistent (Sawatzky & Enns, 2010; Stone et al., 2006; Kramer & Schmalenberg, 1991a, 1991b). For example, ED nurses ( $N = 261$ ) reported that as competency increased, job satisfaction decreased (Sawatzky & Enns, 2010). Conversely, CC nurses in magnet hospitals reported the presence of competent peers increased overall nursing job satisfaction (Kramer & Schmalenberg, 1991a, 1991b). Similarly, another study ( $N = 2323$ ) reported that CC nurses' ITL increased when there was a decrease in competency and job satisfaction (Stone et al., 2006). Canadian acute care nurses

attributed the ability to apply knowledge and skill (i.e., two components of competence) to increased job satisfaction (Best & Thurston, 2004). Since there is no agreement regarding the relationship between competency and job satisfaction, this relationship requires further study.

A large amount of the literature reviewed explored competency in terms of support for inexperienced nurses (i.e., orientation programs, availability of preceptors), and the subsequent relationship to job satisfaction (Buffum & Brandon, 2009; Cavanaugh & Huse, 2004; Hartigan, Murphy, & Walshe, 2010; Ihlenfeld, 2005; Proulx & Bourcier, 2008). This literature indicated successful orientation programs (i.e., competency factor) develop nursing competency and result in improved job satisfaction. For example, in one study only two of 27 CC nurses who completed a structured CC orientation program left their positions as a result of job dissatisfaction (Cavanaugh & Huse, 2004). Further, in a scholarly article, Elmers (2010) reported orientation programs are a significant aspect in competency development; as such, these programs help to promote job satisfaction and decrease ITL. Researchers have also described the development of CC competence in new graduate nurses during a structured orientation program with designated preceptors (Proulx & Bourcier, 2008). The success of this program was evident in the ability of the new graduates to safely care for CC patients. The previous research did not evaluate job satisfaction; however, since orientation programs support competence development, and there is a link between competence and job satisfaction, the information is relevant. Hence, competence of peers and support for continuing competence development are key factors in nurses' job satisfaction.

**Personal Factors.** Personal factors are demographic factors that are intrinsic to the nurse. Given that job satisfaction is unique and variable for each person, it is important to include person factors in a discussion of job satisfaction. In this study, the most relevant person

factors were age, level of education, and years of experience. Accordingly, a review of the literature of the relationship between job satisfaction and each of these person factors is included herein.

**Age.** A large portion of the literature reported a positive relationship between age and job satisfaction (Best & Thurston, 2004; Blythe, et. al. 2008; Caers et al. 2008; Tourangeau & Cranley, 2006; Wilson et al., 2007). For example, acute care nurses ( $N = 6541$ ), including CC, born between 1946 and 1964 reported higher levels of job satisfaction than did nurses born in 1965 and later (Wilson et al., 2007). Additionally, Canadian nurses ( $N=1396$ ), 50 plus years of age reported higher overall job satisfaction than did younger nurses (Blythe et al., 2008). Also noted in these studies was the correlation between age and years of experience, such that nurses of older age had more years of experience. Thus, age is a factor in job satisfaction but the effect of age may be impacted by years of experience.

Other research has reported a relationship between age and intent to stay in a position (i.e., opposite of ITL) (Larrabee et al., 2003; Shader et al., 2001; Sourdif, 2004; Torangeau & Cranley, 2006). Torangeau and Cranley (2006) reported that older nurses had the highest intent to stay of all age groups. A similar finding is reported by Shader et al. (2001). Despite the suggestion that age positively influences intent to stay (i.e., negatively influences ITL), this may not be related to job satisfaction. In other words, nurses who are the oldest and more likely to stay in their position may be basing their decision on years to retirement rather than job satisfaction. Hence, age can have an impact on intent to stay; however, further study is needed to clarify how job satisfaction factors into the relationship.

**Level of Education.** Many researchers have explored the relationship between level of education and job satisfaction (Gagnon et al., 2006; Hoffman & Scott, 2003; Kavanaugh, Duffy,

& Lilly, 2006; Larrabee et al., 2003; Ma et al., 2003; Rambur, McIntosh, Palumbo, & Reinier, 2005). There are, however, also inconsistent findings in this literature. For instance, Ingersol and associates (2002) found that nurses with higher education levels reported high levels of satisfaction, while nurses with the lowest levels of education reported the least satisfaction. Similarly, U.S. nurses ( $N=878$ ) who held a four year bachelor degree (BS) reported improved independent nursing decisions, decreased stress, and higher overall job satisfaction than their colleagues who held two year associate degrees (Rambur et al., 2005). Thus, higher levels of education may better prepare nurses to be autonomous, thereby decreasing stress and improving job satisfaction.

However, other studies reported level of education affected ITL (Gagnon et al., 2006; Li & Lambert, 2008; Sourdif, 2004; Torangeau & Cranley, 2006). For instance, Canadian nurses with the greatest ITL also had high levels of education (Gagnon et al., 2006). Another study found similar results such that diploma prepared nurses were less likely to leave their position than degree nurses (Sourdif, 2004; Tourangeau & Cranley, 2006). In other words, lower levels of education corresponded to lower ITL (i.e., higher intent to stay). Consequently, a nurse's decision to remain in a position may be influenced by his/her level of education. However, further study is needed to clarify how job satisfaction factors into this relationship.

***Years of Experience.*** There is a recognized link between years of experience and job satisfaction in the literature (Hoffman & Scott, 2003; Kavanaugh, Duffy, & Lilly, 2006; Li & Lambert, 2008; Ma et al., 2008; O'Brien-Pallas et al., 2008; Pickens & Tayback, 1954; Wilson et al., 2008). The findings related to the relationship between job satisfaction and years of experience may be the result of how years of experience is measured. For instance, health care employees ( $N=128$ ) in Midwest US reported overall job satisfaction increased as years in their

profession increased (Kavanaugh, Duffy, & Lilly, 2006). Similarly, Michigan nurses with the least years of experience also had the lowest job satisfaction (Hoffman & Scott, 2003). As well, public health nurses in Baltimore indicated additional years of experience corresponded to increased job satisfaction (Pickens & Tayback, 1954). A more recent longitudinal study ( $N = 3962$ ) showed a steady upward trend of job satisfaction at six, 18, and 36 months post graduation (Murrells, Robinson, & Griffiths, 2008) indicating job satisfaction may be affected by increasing years of experience. Thus, years of experience can impact job satisfaction.

In other studies, job satisfaction was inversely related to the years of experience in a current position (Li & Lambert, 2008; Ma et al., 2003; Sourdif, 2004; Tourangeau & Cranley, 2006; Wilkins & Shields, 2009). For instance, 17% of full time nurses who worked in the same job for more than 16 years reported job dissatisfaction, as compared to 7% of full time nurses who had worked in the same job for less than three years ( $N=2993$ ) (Wilkins & Shields, 2009). That is, more years of experience in current position were associated with job dissatisfaction. Similar results were reported in a study of South Carolina general duty nurses ( $N=17,500$ ), such that nurses with more than two years of experience in their current position were less satisfied than nurses with less than two years of experience in current position (Ma et al., 2003). Conversely, specific to the CC nursing population, Li and Lambert (2008) reported length of time in current position positively correlated to job satisfaction and to age. That is, the oldest nurses had been in their current positions the longest, suggesting both age and years of experience affect job satisfaction. Accordingly, the relationship between job satisfaction and years of experience, measured by years in current position, requires further study.

In other studies, years of experience had no effect on job satisfaction (Best & Thurston, 2006; Gagnon et al., 2006; Golbasi, Kelleci, & Dogan, 2008; Karanikola, Papathanassoglou,



Giannakopoulou, & Koutroubas, 2007). For example, in a study of Greek nurses ( $N = 154$ ), Karanikola et al. (2007) found that years of experience did not affect job satisfaction. Gagnon et al. (2006) also reported no difference in job satisfaction based on years of nursing experience. Thus, years of experience affects job satisfaction, however the inconsistent results may be related to how experience is measured (i.e., years of general experience, years in current position). As such, further study is needed to clarify this relationship

Overall, the most inconsistent reports on job satisfaction are found in the relationships between job satisfaction and age, level of education, and years of experience. Thus, further study of the relationship between these person factors and job satisfaction is needed, especially given the possible association between age and years of experience.

## **Summary**

This literature review explored the existing research for clinical expertise and job satisfaction. In keeping with the study definition of clinical expertise, a limited number of articles were found. Regardless, education, experience, work environment, and knowledge transformation were all reported aspects of clinical expertise. The relationships between these aspects and clinical expertise were similar, but not consistent.

Job satisfaction has been studied extensively over the past nine decades. Although job satisfaction studies originated in the fields of management and psychology, nursing has made a considerable contribution to the current job satisfaction literature. The relationships between the influencing factors and job satisfaction levels are similar, but not consistent. In particular, the personal factors of age, years of experience, and education portray the most inconsistent results.

A noticeable gap was evident from this literature review. No studies have explored the relationship between clinical expertise and job satisfaction. In order to adequately assess job

satisfaction for the current CC nursing population, clinical expertise should be included as an influencing factor, thus providing support for the current study.

## **CHAPTER FOUR: METHODOLOGY**

This chapter will describe the methods and procedures used to explore the relationship between self-reported level of clinical expertise and job satisfaction in CC nurses. The design, setting and sample will be discussed. Data collection procedures are outlined. A review of the chosen measurement tools follows. Finally, the plan for data analysis and ethical considerations are presented.

### **Research Design**

This study was part of a larger study entitled “The Manitoba Critical Care Nurses Retention Research Project.” The larger study utilized a mixed methods design, with quantitative and qualitative components; the thesis research used quantitative methodology. Specifically, a cross-sectional survey was conducted on a convenience sample of registered nurses (RNs) working in CC areas in the province of Manitoba. The remainder of this discussion will focus on the thesis study only.

### **The Setting**

The setting for the study was all of the hospital based CC areas in the province of Manitoba. There are CC (ICU/CCU) units in all six Winnipeg hospitals: Health Sciences Centre, St. Boniface General Hospital, Concordia Hospital, Seven Oaks General Hospital, Grace Hospital, and Victoria Hospital. In Brandon, there is one intensive care unit. Rural hospitals with critical care areas include: Dauphin General Hospital, Boundary Trails Health Centre (Winkler/Morden), Bethesda Hospital (Steinbach), Portage District General Hospital, and Thompson General Hospital.

## **The Sample**

The convenience sample was drawn from the population of nurses who work in CC areas in Manitoba. There are 778 CC nurses registered with the College of Registered Nurses of Manitoba (CRNM) (personal communication, L. Payette, January 13, 2011).

Inclusion criteria were as follows: any registered nurse within Manitoba who self identifies as a CC nurse with CRNM. Exclusion criteria were any nurse who is employed on a casual basis and/or in a senior management position in a critical care area.

## **Measurement Instruments**

The Critical Care Nurse Retention Survey was designed to operationalize the concepts within the OFPNR. Thus, this survey also operationalizes the key components of the thesis study, including the influencing factors, levels of clinical expertise, and the outcome of job satisfaction.

### **Measuring the influencing factors.**

**Organizational climate.** The *Perceived Nurse Working Environment* (PNWE) scale is a 42-item measure of the nursing *organizational climate* (Choi et al., 2004; see Appendix A). This scale is a revised version of the Nursing Work Index (NWI) scale. The NWI was originally developed and tested for use in magnet hospitals to investigate nursing job satisfaction and nurses' ability to provide quality care (Kramer & Hafner, 1989). Over time, the NWI was revised to reflect changes within the nursing profession and hospital organizations. The PNWE scale is the most recent revision of the NWI.

The PNWE scale was developed and originally tested in ICUs in the United States; it measures components of professional practice, staffing and resources, nursing management, nurse/physician collaboration, nursing competence, and positive scheduling climate. As such,

the PNWE scale measures the work environment as perceived by nurses. According to Choi and associates, this measure exhibits sound psychometric properties. Chronbach's alphas between 0.56 and 0.91 lend support for internal consistency of the PNWE. Factor analysis and ANOVA justify PWNE as a valid measure. One subscale (6 items), which was not relevant to CC nurses, was removed. Previous pairwise Pearson correlation coefficients between the scales supported the independence of the scales ( $r < .60$ ); therefore the removal of one subscale will not affect the remaining subscales.

A component of the *McCloskey Mueller Satisfaction Scale* (MMSS; Mueller & McCloskey, 1990; see Appendix D) was used to operationalize control over practice. According to the research literature, control over practice and autonomy are important influencing factors for job satisfaction. As the PNWE does not measure these concepts, one subscale of the MMSS was utilized. As well, an additional question related to autonomy was added to this component of the questionnaire.

The MMSS was designed to measure job satisfaction in hospital nurses (Mueller & McCloskey, 1990). The complete questionnaire is comprised of 31 job satisfaction items, grouped into eight subscales, and rated on a five point Likert scale. Reliability and validity of the individual subscales, including autonomy scale, was reported. Reliability was measured with Chronbach's alpha (.80) and test retest at six and 12 months (.48) (Mueller & McCloskey, 1990). Moderate convergent validity was found when compared to the Job Diagnostic Survey (vanSaane, Sluiter, Verbeek, & Frings-Dresen, 2003). As well, Mueller and McCloskey (1990) contend that the MMSS is a more valid measure of nursing satisfaction than tools designed for non-nursing populations (Mueller & McCloskey, 1990). The MMSS is a commonly used tool for measuring satisfaction in the nursing population; it has been used in a variety of clinical

areas, including CC (Lu et al., 2004; Torangeau, McGillis-Hall, Doran, & Petch, 2006). The tool is designed to use summative and subscale scoring, therefore, the use of one subscale is appropriate for use in the proposed study.

***Level of clinical expertise.*** The *Nursing Expertise Self Report Scale* (Garland, 1996; see Appendix B) is a 20 statement tool used to operationalize Benner's levels of clinical expertise: novice, advanced beginner, competent, proficient, and expert. The tool was designed to measure self perception of the three transitions in knowledge that occurs during the progression from novice to expert, as well as intuitive decision making (Garland, 1996).

Each of the 20 statements in the NESRS includes different characteristics found within the levels of clinical expertise. For example, the statement "Quality nursing care results from strictly adhering to policy and procedure" reflects the characteristics found in a novice or advanced beginner level of clinical expertise. When originally developed, this tool was tested for face validity and content validity by nursing experts familiar with Benner's Model. Test-retest by medical surgical nurses ( $n=48$ ) found 35 identical responses to 12 questions lending support to the reliability of the tool. Although the NESRS has not been used in any further published research, in a review of competence tools Meretoja and Leino-Kilpi (2001) confirmed Garland's assessment of the reliability and validity of the tool.

To gather additional insights on the potential relationship between level of clinical expertise and job satisfaction, an open-ended question was included in the survey: "What, if any, impact does your current level of clinical expertise have on your job satisfaction?" (see Appendix C). The responses to this question were analyzed using content analysis techniques (Hsieh & Shannon, 2005) noting the most common re-occurring words and phrases.

***Personal influencing factors.*** The Demographic Questionnaire was developed to elicit the personal factors that will describe the sample, as well as to explore the relationships with the other influencing variables and job satisfaction. Based on the research literature, the personal factors that will be included are: age, level of education, years of nursing experience, and years of CC experience (see Appendix E).

### **Measuring the Outcome**

***Job Satisfaction.*** A single item question was asked to address the outcome of *job satisfaction* based on a Likert 5 point scale (i.e., not at all satisfied to very satisfied) (see Appendix F). The use of a single item question is relevant when the concept of interest is global job satisfaction (Lu et al., 2003).

### **Data Collection Procedures**

The study procedures began following ethical approval by the Education Nursing Research Ethics Board (ENREB), University of Manitoba (see Appendix G).

As part of the larger study, preliminary strategies were implemented to inform managers regarding the study in an attempt to increase participation rate. Accordingly, a member of the research team (CL) contacted the unit managers of all the prospective CC units by telephone to explain and make them aware of the study (see Appendix H, Manager Script). The managers were asked to make announcements to their staff regarding the study at times they deemed appropriate. A sample announcement script was provided to the managers to ensure accuracy of information (see Appendix J, manager scripts). The managers were also asked to put up posters in their respective workplaces (see Appendix I, poster). Seven managers were spoken to. Attempted phone contact with the remaining seven managers was unsuccessful; therefore, an

introduction email was sent with attached information. Acknowledgement was received from two of those managers.

Invitations to participate in the study (see Appendix K), Research Subject Information and Consent Form (see Appendix L), and CC Nurse Retention Questionnaire packages (note: see Appendix A-F, only applicable to the thesis project) were sent to potential participants via email SurveyMonkey data collection program. CRNM completed this process by sending the invitation to participate with the SurveyMonkey link to all CC nurses in the province. CRNM also sent out two reminder emails at one and two weeks following the original notification. CRNM did not have access to the SurveyMonkey data and the research team did not have access to the identity of potential or actual participants.

### **Data Analysis Plan**

The primary dependent or outcome variable for this thesis study was job satisfaction. The primary independent variable was self-reported level of clinical expertise, based on Benner's levels of clinical expertise: novice, advanced beginner, competent, proficiency and expert. The additional independent variables of organizational climate and personal factors (see Table 1, Chapter two) were also measured.

Statistical analysis was done by a statistician from the Manitoba Centre for Nursing and Health Research (MCNHR). Data cleaning was completed prior to the analysis. Descriptive statistics (percentages, mean, median, standard deviation) were applied to the demographic and person factors. Contingency tables, Chi squared test, Kruskal-Wallis test, Wilcoxon test and Fisher's Exact test were used to test for associations between influencing factors, between influencing factors and job satisfaction, and between influencing factors and level of clinical



expertise. Finally, regression models were used to test for relationships among the influencing factors and concepts of interest. An alpha level of 0.05 was used for all statistical tests.

### **Ethical Considerations**

The study adhered to the Tri-Council Policy Statement regarding “Ethical Conduct for Research Involving Humans” (Canadian Institute of Health Research, 2010). Survey consent was presumed by the return of the completed SurveyMonkey Questionnaires. The nature of the study and subjects’ participation was clearly outlined in the Research Subject Information and Consent Form (see Appendix L). The protocol for ensuring informed consent was included in the provision of written information to each potential participant. Voluntary participation of subjects in the study was established and reinforced on the consent form. Participants were encouraged to read the consent form carefully prior to completing the SurveyMonkey Questionnaire and to forward any questions or concerns related to participation to the research team. Thus, the procedures of the study ensured informed consent.

The study did not involve any deception of participants. Study participants were given the option to receive a summary of the research findings. There were no potential harmful effects to participants. Although there were no individual benefits to participants, the results of the study may benefit CC nursing job satisfaction in the province of Manitoba. Participants were assured that they were free to withdraw from the proposed study with no negative consequences. There was no compensation for participants in the study.

Anonymity of the participants was addressed with a number of strategies. CRNM was contacted to send the Invitation to Participate (see Appendix K) and the SurveyMonkey link to all study participants via email. CRNM did not have access to the SurveyMonkey data and the research team did not have access to the list of potential/actual participants. All data were kept

in a locked file in the office of the PI and were accessible only by the researchers. All data, including hard copies and computer files, will be kept for seven years and then destroyed via confidential waste disposal. Participants were informed that, despite efforts to keep their personal information confidential, absolute confidentiality could not be guaranteed.

### **Summary**

In summary, the study used a cross-sectional design to explore the relationship between self-reported level of clinical expertise and job satisfaction of CC nurses. Measurement tools for job satisfaction, clinical expertise level, organizational and personal influencing factors were carefully chosen to operationalize the key study concepts. Ethical considerations were addressed throughout the procedures. Thus, the study had sound methodology to address the key research questions.

## CHAPTER 5: RESULTS

This chapter presents a portion of the findings from the Manitoba Critical Care Nurses Retention Study. The findings discussed pertain to exploring the relationship between self-reported level of clinical expertise and job satisfaction. Specifically, the following research questions are discussed:

1. What is the job satisfaction of Manitoba CC nurses?
2. What is the relationship between each of the influencing factors and job satisfaction in Manitoba CC nurses?
3. What is the relationship between the level of self-reported clinical expertise and each of the other influencing factors in Manitoba CC nurses?
4. What is the relationship between level of self-reported clinical expertise and job satisfaction after controlling for other influencing factors in Manitoba CC nurses?

Data for this study were collected over a four week period from March 10, 2011 to April 5, 2011. Completed questionnaires from 188 participants were entered into the internet based SurveyMonkey program. A statistician from MCHNR transferred the results to an excel spreadsheet, performed the preliminary data cleaning and coding procedures, and completed statistical analysis by SPSS computer software. No information was available for non respondents.

### **Data Analysis Procedures**

Demographic and job satisfaction outcome data were summarized using descriptive statistics (i.e., percentages, means, and standard deviations). Various parametric and non-parametric statistical tests were used to answer the research questions. The level of significance chosen for all analyses was alpha 0.05.

Parametric tests are more powerful than nonparametric tests and are appropriate to use when dealing with data that are normally distributed (Hassard, 1991). Parametric tests were used to test for possible association between the categorical variables in the study. The specific tests used were Chi squared and Fisher's Exact Test. Fisher's Exact Test is used when the sample size is small or when the expected value is low based on the row and column totals (personal communication, B. Dufault, May 5, 2011). Contingency tables are used when the variables are discrete.

Nonparametric tests do not assume a normal distribution exists in the data and are appropriate to use with ordinal data (Hassard, 1991). Nonparametric tests used in this study were Kruskal-Wallis Test, Wilcoxon Signed Rank, and Spearman Correlation Coefficient. The Kruskal-Wallis Test is used to compare medians of several variables; it is the nonparametric equivalent to a one way analysis of variance (ANOVA). Wilcoxon Signed Rank test analyzes paired data and is the nonparametric equivalent to a paired t test. The Spearman Correlation Coefficient measures the strength of a relationship between two variables using ranking. In this manner, it is the nonparametric equivalent of Pearson's Correlation Coefficient.

Regression analysis is conducted to describe and test the relationship between the dependant variable and linear combinations of three or more independent variables. As well, regression analysis does not assume the independent variable has a normal distribution (Hassard, 1991). Logistic regression is a type of regression analysis that predicts which variables are more important to the dependent variable and is used with ordinal data. Regression analysis was conducted with all of the influencing factors.

## Demographic Data

Table 2 presents a summary of the demographic data. The study participants ( $N=188$ ) ranged in age from 24 to 64 years. The majority of the participants were female (92%), and over half (60.6%) had completed continuing education certification from a CC program. More participants reported a degree than a diploma as highest level of nursing education. However, all classifications of degrees were collapsed into one category. Twenty two participants were Canadian Nurses Association certified in CC nursing. While the average number of years of nursing experience was 15.8, average years of CC experience were reported as 10.2. Seventy per cent of the participants worked in a tertiary care hospital and approximately three quarters of the total respondents (78.75%) held positions of 50% or greater equivalent full time (EFT). Twelve hour rotating day/night shifts were the most frequent worked (49.47%). A small number of the respondents (11.7%) worked only eight hour day shifts. The remaining shift rotations were collapsed into a third category because of the small cell sizes.

Table 2

*Sample Description: Person Factors (N = 188)*

Factor	#/M	%/SD	n
Age	Mean = 40.9; median=41.5 [range = 24-64]	SD=9.8	157
Gender			
Female	145	92.4%	
Male	12	7.6%	157
Education			
Diploma	64	40.8%	
Degree	93	59.2%	157
CE education certificate			
yes	114	61%	
no	74	39%	188
# of CC years	Mean = 10.2; median =7.0 [range = .5-41]	SD=9.3	157
# of nursing years	Mean =15.8; median =13 [range = 1-45]	SD=10.7	157
Employer			
Tertiary	107	66%	
Other (Urban/community)	55	34%	162
Employment status: >.5 EFT	66	41.3%	
FT	60	37.5%	
<.5EFT	34	21.3%	160
Regular Shift: 8 hr day	22	11.7%	
Other	73	38.8%	
12 hr day/night	93	49.5%	188
Combined family income:			
<50,000	8	5.1%	
50,001-100,000	66	42.0%	
>100,001-150,000	54	34.4%	
>150,000	29	18.5%	157
Marital status: Married	115	72.3%	
Separated/div	17	10.7%	
Single	27	27%	159
Have children: yes	97	61.8%	
No	60	38.2%	157

## Analysis of Research Questions

The following is a summary of the statistical analysis for each of the four research questions.

### **Research Question #1.** *What is the job satisfaction of Manitoba CC nurses?*

This research question was addressed by asking participants to rate their overall job satisfaction on a five point Likert scale. Table 3 presents the frequency distribution of the responses. These results indicate that 65% of the participants had overall job satisfaction (i.e., satisfied/very satisfied), compared to 23% who had job dissatisfaction (i.e., dissatisfied/very dissatisfied).

Table 3

*Job Satisfaction: Frequency Distribution (N = 188)\**

Rank	<i>n</i>	%
1 Very Dissatisfied	9	5.52
2 Dissatisfied	28	17.18
3 Neutral	20	12.27
4 Satisfied	61	37.42
5 Very Satisfied	45	27.61
Total	163	100

\*Note: Frequency Missing = 25

**Research Question #2.** *What is the relationship between each of the influencing factors and job satisfaction in Manitoba CC nurses?*

This research question was addressed by analyzing the responses on the PWNE scale, demographic questionnaire, and job satisfaction question. Nine of the variables were found to have a statistically significant association to job satisfaction. Table 4 lists the results of Kruskal-Wallis tests on the continuous variables and job satisfaction. Table 5 lists the results of the associations between the discrete variables and job satisfaction. Nine of the 26 variables were

statistically associated with job satisfaction: professional practice, staffing and resources, management, nurse/physician collaboration, nurse competence, control over practice, autonomy, positive scheduling climate, and sex. There was no statistically significant association found between job satisfaction and self-reported level of clinical expertise.

Table 4

*Associations Between Continuous Influencing Variables and Job Satisfaction Using Kruskal-Wallis Test (N=188)\**

Variable	Job Satisfaction					<i>p</i>
	Very Dissatisfied ( <i>M</i> )	Dissatisfied ( <i>M</i> )	Neutral ( <i>M</i> )	Satisfied ( <i>M</i> )	Very Satisfied ( <i>M</i> )	
Professional practice	26.56	30.79	31.60	35.70	38.89	<.0001
Staffing Resources	11.33	10.04	9.55	11.85	13.49	<.0001
Management	10.00	10.14	10.75	13.38	14.82	<.0001
Nurse/MD Collaboration	9.67	11.00	11.50	12.31	13.78	<.0001
Nurse Competence	16.89	16.54	16.90	18.64	19.93	<.0001
Level of Clinical Expertise	65.33	63.57	63.40	63.80	65.04	0.6631
Control/Responsibility	10.84	14.59	17.45	18.29	17.78	<.0001
Positive Scheduling Climate	4.56	4.96	4.70	5.70	6.29	.0013
Age	36.56	41.33	40.53	42.13	39.75	.6028
Weekly Overtime	1.00	6.31	4.41	6.33	4.10	.1820
Years as a Nurse	14.44	14.20	16.90	17.32	14.44	.7125
Years as CC Nurse	10.33	8.88	10.58	11.00	9.82	.9557
Years in Current CC	4.10	7.18	3.86	5.45	6.33	.3335

\*Note: frequency missing =25

Table 5

*Associations between Discrete Influencing Variables and Job Satisfaction*



Variable	Job Satisfaction					<i>P</i>	<i>n</i>
	Very Dissatisfied (%)	Dissatisfied (%)	Neutral (%)	Satisfied (%)	Very Satisfied (%)		
Autonomy	0.00	4.55	9.52	34.18	48.28	<.0001	161
Gender							
Female	4.83	17.24	9.66	40.69	27.59		
Male	8.33	16.67	41.67	8.33	25.0	.0120	157
Marital Status							
Married/cl	6.09	15.65	10.43	39.13	28.70		
Sep/div/widow	5.88	23.53	11.76	29.41	29.41		
single	3.70	18.52	22.22	33.33	22.22	.8373	159
Family Income							
<\$50,000	12.5	25.00	37.50	12.50	12.50		
\$50,001-100,000	4.55	18.18	16.67	37.88	22.73		
100,001-150,000	3.70	18.52	7.41	37.04	33.33		
>\$150,000	6.90	13.79	6.90	41.38	31.03	.4530	157
Children							
No	6.67	20.00	15.00	33.33	25.00		
Yes	5.15	13.40	11.34	40.21	29.90	.6746	157
Education							
Degree	4.30	17.20	15.05	33.33	30.11		
Diploma	7.81	15.63	7.81	43.75	25.00	.4111	157
Certificate							
No	4.08	14.29	16.33	44.90	20.41		
Yes	6.14	18.42	10.53	34.21	30.70	.4190	163
Weekends Off/month							
0-1	0	23.53	11.76	47.06	17.65		
4	10.0	25.00	15.00	20.00	30.00		
3	4.35	8.70	17.39	39.13	30.43		
2	6.06	17.17	11.11	37.37	28.28	.8415	159
Regular Shift							
8 hour day	4.55	9.09	18.18	36.36	31.82		
Other	12.50	14.58	12.50	41.67	18.75		
12 hour day/night	2.15	20.43	10.75	35.48	31.18	.2101	163
Current Primary Employer							
Other	5.45	20.00	21.82	36.36	16.36		
Tertiary	5.61	15.89	7.48	37.38	33.64	.0353	162
Employment Status							
Other	13.33	10.00	16.67	30.00	30.00		
Staff Nurse	3.79	18.94	11.36	38.64	27.27	.1810	162
Current EFT							
Full Time	3.33	20.00	10.00	36.67	30.00		
Part Time<50%	5.88	23.53	20.59	35.29	14.71		
Part Time >50%	7.58	12.12	9.09	37.88	33.33	.3652	160

**Research Question #3.** *What is the relationship between the level of self-reported clinical expertise and each of the other influencing factors in Manitoba CC nurses?*

Analysis of the scores from PWNE scale, NESRS and the demographic questionnaire provided data to answer this question. Three of the variables, namely positive scheduling climate, years as a critical care nurse, and education, were found to have a statistically significant relationship to level of clinical expertise. Spearman correlation coefficient was used to determine to what degree the continuous variables were related to level of clinical expertise. Results of significant variables are found in Table 6.

Table 6

*Correlation Between Variables and Level of Clinical Expertise (N = 188)*

Variable	$r_s$	$p$
Positive scheduling	-.2352	.0024
Years as CC Nurse	.1723	.0293
Years in current CC	.1426	.0720

\*Note: Frequency missing = 28

A negative, or inverse, relationship was present between level of clinical expertise and positive scheduling climate. Years as a critical care nurse had a positive relationship to level of clinical expertise. While not statistically significant, years in current critical care position approached a positive relationship of statistical significance.

Wilcoxon Two-Sample test was used to compare education level with level of clinical expertise (see Table 7). Nurses with a diploma in nursing as highest level of education had higher reported levels of clinical expertise than did degree nurses. All degrees were collapsed into one category as the cells for degrees other than nursing were too small to accurately perform statistical tests.

Table 7

*Correlation Between Education and Level of Clinical Expertise using Wilcoxon*

*Two-Sample Test*

Variable	<i>n</i>	<i>M</i>	<i>Mdn</i>	<i>p</i>	<i>SD</i>
Education degree	93	63.20	63.00	.0027	4.73
diploma	64	65.28	66.50	.0027	4.82

Frequency missing = 31

In summary, relationships between level of clinical expertise and all of the other variables were explored thorough Spearman Correlation Coefficient or Wilcoxon Two-sample Test. Positive scheduling climate, years as a CC nurse, and education level were found to have statistically significant relationships to level of clinical expertise.

**Research Question #4.** *What is the relationship between level of self-reported clinical expertise and job satisfaction after controlling for other influencing factors in Manitoba CC Nurses?*

This research question was addressed through the use of regression models. Regression models were used to describe and test the relationship between the dependent variable (i.e., job satisfaction) and a linear combination of several independent variables (i.e., influencing and person factors). The initial model included all influencing factors (see Tables 8 and 9). Level of clinical expertise and control over practice were the only two variables found to have a statistically significant positive relationship to job satisfaction. The variable management was approaching significance.

*Full Ordinal Logistic Regression Model: Job Satisfaction*  
*OLR Model  $R^2 = .4789$*

Variable	OR	<i>p</i>	95% CI	
Professional Practice	1.014	0.7023	0.994	1.089
Staffing/Resources	0.956	0.4891	0.842	1.086
Management	1.116	0.0641	0.994	1.254
Nurse/MD Collaboration	1.128	0.1430	0.960	1.324
Nurse Competence	1.011	0.8711	0.890	1.147
Level of Clinical Expertise	1.109	0.0052	1.032	1.193
Control/Responsibility	1.348	<.0001	1.517	1.195
Positive Scheduling	1.108	0.2728	0.923	1.330
Years as a nurse	0.998	0.9148	0.963	1.034
Education	0.548	0.1397	0.247	1.217
Certificate in ICU	1.014	0.9704	0.495	2.077
Current Primary Employer	1.353	0.4302	0.638	2.870

Note: OR =Odds Ratio; CI=Confidence Interval  
 $df = 1$ ;  $N=188$ ;  $n=156$

Additional condensed regression analysis was conducted on three variables: level of clinical expertise, control over practice, and management. The result of that analysis is found in Table 9.

Table 9

*Condensed Ordinal Logistic Regression Model: Job Satisfaction*  
*OLR Model  $R^2 = .4591$*

Variable	OR	<i>p</i>	95% CI	
RE: Job Satisfaction				
Management	1.150	0.0072	1.039	1.273
Level of Clinical Expertise	1.112	0.0021	1.039	1.190
Control/responsibility	1.381	<.0001	1.522	1.252

Note: OR =Odds Ratio; CI=Confidence Interval  
 $df = 1$ ;  $N=188$ ;  $n=156$

In summary, ordinal regression analysis provided the answer to this research question. Level of clinical expertise, control over practice, and management were the variables found to have a statistically significant positive relationship with job satisfaction for MB CC nurses.

One open-ended question was asked to provide additional insight related to this research question. The question asked was: “What, if any, impact does your current level of clinical expertise have on your job satisfaction?” Fifty five percent ( $n=104$ ) of the total participants provided responses to this question. Table 10 provides a summary of the responses.

Table 10

*Summary of Open Ended Responses (N=188)\**

Relationship Response	<i>n</i>	%
Positive	46	44.2
Negative	5	4.8
None	11	10.6
Non Specific answer	12	11.5
Did not address question	22	21.2
Additional influencing factors	6	5.8
Other	2	1.9
Total	104	100

\*Note: Frequency missing = 84

Regardless of how the nurse described the relationship between the two concepts, there were common words and phrases found throughout the responses. Comfortable, confident, comfort level, experience(s), and years of nursing were terms repeated most often. Comfortable and confident were used to describe how nurses' felt about their job and/or their ability to provide care while comfort level appeared to be synonymous with level of clinical expertise, for example:

*“I feel comfortable working with almost any patient”*

*“...confident in my ability to deal with any situation that arises.”*

*“...As my comfort level in this job has increased, so has my job satisfaction.”*

Experience(s) and years worked as a nurse were repeated time and again and appeared to be used to describe the nurses' levels of clinical expertise, for example:.

*“The amount of experience I have impacts how competent I feel in my position.”*

*“I have over 15 years experience and feel very comfortable in stressful situations.”*

*“I have been in critical care for 26+ years and feel I have alot of experience and alot of knowledge to give....”*

The majority of respondents felt clinical expertise contributed positively to job satisfaction. Notation of the comments included the following:

*“As I have advanced in education and expertise in my area, my comfort level in the area has improved, and therefore my satisfaction with my job has improved.”*

*“Clinical expertise makes the job much easier so I think it contributes to job satisfaction”*

*“I would be more satisfied with my job if I had greater clinical expertise...”*

Conversely, a smaller portion of nurses indicated a negative inverse relationship existed between job satisfaction and level of clinical expertise. The following comments provide examples of this relationship.

*“limits it, I see the same thing over and over...”*

*“once you get to a certain level, there is no place else to go so it can be stifling...”*

The nurses ( $n = 11$ ) who indicated no relationship existed between the two concepts provided the most concise comments.

*“none”*

*“I don't feel any correlation between clinical expertise and job satisfaction”*

Twenty two of the responses did not provide a clear answer to the question and were therefore removed.

Six respondents indicated their job satisfaction was impacted by factors other than level of clinical expertise.

*“...Because I feel I receive little to no support from senior nurses and therefore, often question my abilities, I believe it affects the dissatisfaction I feel with the job.”*

*“...my job dissatisfaction is based on overtime, shortage of RNs, floating inexperienced staff, poor infection control due to layout and design...”*

*“My dissatisfaction has nothing to do with my experience. Its the lack of communication and trust with our manager.”*

Nurses' responses to the open-ended question indicated a wide variety of beliefs about the relationship between level of clinical expertise and job satisfaction. The terms comfortable and confident were used to describe how nurses' felt about their jobs while experience(s) and years as a nurse were used in place of level of clinical expertise. However, the majority of respondents felt there is a positive relationship between these two concepts, which supports the findings of the quantitative analysis.

## **Summary**

This chapter presented the findings to the research questions, which were developed to explore the relationship between self-reported level of clinical expertise and job satisfaction. Descriptive statistics were used to summarize demographic data. Depending on the data, parametric and nonparametric statistical tests were used to address the research questions.

Univariate statistics were used to assess the association between job satisfaction and all influencing factors. Eight statistically significant positive associations were found: professional

practice, staffing and resources, management, nurse/physician collaboration, nurse competence, control over practice, positive scheduling climate, and autonomy. As well, sex was statistically significant to job satisfaction with females reporting higher satisfaction than males.

The relationship between level of clinical expertise and each of the influencing factors was explored through correlation statistics. Level of clinical expertise was found to have statistically significant relationships to three variables: positive scheduling climate, years as a critical care nurse and education. As level of clinical expertise increases, satisfaction with positive scheduling decreases. As years of CC nursing experience increases, level of clinical expertise increases. Diploma level nurses reported higher levels of clinical expertise than did degree nurses.

Lastly, regression analysis was used to explore the relationship between level of clinical expertise and job satisfaction. Level of clinical expertise, control over practice and management were positively related to job satisfaction. Thus, each of these variables independently predicts job satisfaction. Consequently, the research questions have been addressed through the appropriate data analysis. The following chapter will provide a discussion of the research results.



## CHAPTER SIX: DISCUSSION

This chapter includes a discussion of the research study findings, based on the results presented in Chapter Five. The primary objective of this chapter is to address the four research questions. To this end, the study results will be discussed within the context of relevant literature and organized within the study's two main concepts: clinical expertise and job satisfaction. A critique of the suitability of the adapted OFPNR and Benner's Model will be discussed; study limitations will also be highlighted. Implications and recommendations for nursing practice/administration, education, and research are presented, followed by the study conclusion.

### Demographic Results

The demographic information in this study was included to provide an overall description of the study respondents. Demographic statistics for Manitoba nurses were not available; therefore, CNA (2010) workforce profiles were used to compare the respondents to national CC nurses. This comparison provides insight into the representativeness of the sample to the study population CC nurses.

The proportion of female to male nurses in this study was similar to the CC national average (i.e., 92.4% and 7.6%; 94% and 6%, respectively) (CNA, 2010). The study respondents were younger than the average Canadian RN; however their mean age was comparable to the population of Canadian CC nurses. The young age of WRHA CC nurses was verified among current WRHA CC managers and educators (personal communication, M. Keisman, May 31, 2011; M. Rivet, May 26, 2011). A large portion of CC nurses work shift work, as was also noted in this study. Most CC nurses in MB work within the WRHA CC program. Place of employment ratio within this program (i.e., tertiary 2/3 to community 1/3) is similar to the ratio in this study (personal communication, T. McCallum, May 26, 2011).

Education level amongst the study respondents was the reverse of the national CC average. That is, approximately two thirds of the study respondents reported degree (including Master's) versus diploma as highest education achieved compared to one-third at the national level. This difference may be related to sampling bias. Specifically, more degree nurses may have chosen to respond to the study because their degree nursing program content included research courses. As a result, the degree nurses may have more knowledge regarding the importance of research in nursing, thus leading to an increased inclination to participate in the survey. Similarly, the degree nurses may be more engaged in workplace related initiatives. However, an informal CC educator consensus confirms that the majority of nurses attending the WRHA CC program are degree prepared nurses (personal communication, M. Kiesman, May 31, 2011). Another unique aspect of MB nurses who successfully completed the previous tertiary CC program may contribute to the high number of degree prepared nurses in this population. The previous CC program offered through Health Sciences Centre and St. Boniface Hospital was affiliated with the University of Manitoba. As such, nurses who successfully completed this program acquired 12 university credits towards a Bachelor of Nursing degree. This may have encouraged graduates of the HSC or St Boniface CC program to complete a Bachelor of Nursing degree, thus resulting in the current ratio.

EFT status between the study respondents and the national CC average was also reversed. Approximately 60% of the respondents were part-time compared to 40% full-time. This could be due to non-probability sampling such that more part-time staff completed the questionnaire than did full-time. However, according to a current WRHA CC manager these percentages are reflective of the current WRHA CC nursing workforce. This may be a result of recruitment and retention strategies used in the past several years. That is, in order to recruit and retain CC

nurses, many WRHA sites have accommodated staff requests for lower EFTs (personal communication, M. Rivet, May 26, 2011). Therefore, there are generally more part-time than full-time staff in these areas.

In summary, based on demographic comparison, the respondents of this study were a relatively representative sample of MB CC nurses.

### **Clinical Expertise**

This section will focus on a discussion of the study results and the associated literature related to clinical expertise. Bivariate analysis showed an association between level of clinical expertise and three variables: years of CC experience, level of education, and positive scheduling climate. These study results both contradict and support aspects of the dearth of published clinical expertise literature.

In the current study, experience was measured in years: years of nursing experience, years of CC experience, and years in current CC position. Years of CC experience was the only variable significantly associated with clinical expertise ( $r = .172, p = .029$ ); however, years in current CC position did approach significance ( $r = .143, p = .072$ ). This indicates that experience is positively associated with level of clinical expertise. This finding supports one of the underlying premises of Benner's Model; that experience in nursing and/or in specialty nursing, is necessary for, but not equivalent to clinical expertise (Benner, 1984; Benner et al., 1996). The positive association between experience and clinical expertise is found in the literature, both related to years of specialty experience (Roche et al., 2009) and years of nursing experience (Bobay et al., 2009; McHugh & Lake, 2010). The reason for the association between experience and clinical expertise may be related to the exposure to clinical situations, such that as years of experience increases there is a corresponding increase in the types of clinical situations a nurse is exposed to

and the number of times he/she encounters the situations. Continued exposure to these clinical situations may increase the nurse's confidence and ability to act accordingly. The number of clinical situations and associated knowledge accumulation then aid in progression of clinical expertise. Given the results of this study, specialty experience appears to be more influential in the association than overall years of experience. Again, this may be related to the types of clinical situations that CC nurses are exposed to and the increased comfort level they develop in handling these situations.

Benner (1984) states the link between experience and clinical expertise is related to using reflective practice and challenging preconceived notions. McHugh and Lake (2010) found experience, measured in years, made less of a difference at higher levels of expertise than at lower levels. These findings suggest that something in addition to accumulation of years enables a nurse to achieve the expert level. As well, this result provides a possible explanation of why some highly experienced nurses never achieve expert levels (Christensen & Hewitt-Taylor, 2006). Perhaps the highly experienced non-expert nurse does not use reflection or challenge accepted knowledge, which then hinders the progression to higher levels of clinical expertise. Regardless, experience and a nurse's ability to use critical reflection and challenge preconceived notions are paramount to progressing to higher levels of clinical expertise.

Level of education was found to be associated with clinical expertise such that nurses with a diploma were more likely to report high levels of clinical expertise than nurses with a degree. Three types of education were measured in this study: nursing education, specialty education, and/or specialty certification. However, due to small cell sizes, degrees other than nursing were collapsed into one degree category, while specialty education (i.e., CC program) and specialty (i.e., CNA) certification were collapsed into another category. Thus, highest level

of education (i.e., diploma or degree) and specialty certificate (i.e., yes or no) were the two final categories pertaining to education. This evidence supports previous research reporting that diploma nurses have higher levels of clinical expertise than nurses with bachelor degrees (McHugh & Lake, 2010). One rationale for this finding links experience, education, and level of clinical expertise. Specifically, diploma nurses tend to be older and have more years of clinical experience than degree nurses. Accordingly, although education was found to be inversely associated with level of clinical expertise, this finding may be an indirect result of more years of experience.

Positive scheduling climate encompasses the hours nurses work through shift length and rotation. In this study, there was an inverse association between positive scheduling and clinical expertise such that, as nurses' self-reported level of clinical expertise increased there was a corresponding decrease in positive scheduling scores. No published literature specific to clinical expertise and shift length or rotation was available to compare these findings. The rationale for the negative association between clinical expertise and scheduling climate may be related to experience, age, and/or seniority. For instance, nurses with higher levels of clinical expertise also tend to be older, have more experience, and have worked longer (i.e., have higher levels of seniority). Within Manitoba, because CC nurses work under collective agreements, other than vacation choice, there are limited scheduling advantages related to experience, age, and/or seniority. Collective agreements ensure shift length and rotation are equally distributed amongst nurses of similar union levels (e.g., Nurse II, Nurse III). Thus, a nurse with high clinical expertise will work the same shift length and type of rotation as a nurse with low levels of clinical expertise. In essence, there is no scheduling reward for attaining higher levels of clinical expertise. However, nurses who have achieved a high level of clinical expertise may feel they

are deserving of rewards, such as a better work schedule, for that accomplishment. These experts, who are probably older, with many years of experience, receive little recognition for that achievement through collective agreements, thus explaining the negative association between clinical expertise and scheduling climate.

In summary, in the bivariate analysis clinical expertise was associated with years of experience, level of education, and scheduling climate. The associations between these variables and level of clinical expertise may be primarily related to the passage of time. That is, the common rationale for the associations relates to increased time and increased exposure to clinical situations.

### **Job Satisfaction**

The following section will review the significant study results related to job satisfaction. The variables associated with job satisfaction were all reported as general scores: that is, they were not broken down to specific elements within the overall factor. The variables found to be significantly associated with job satisfaction in the bivariate analysis were as follows: professional practice, staffing and resources, nurse/physician collaboration, positive scheduling climate, nurse competence, sex, autonomy, control over practice, and management. In the regression analysis, control over practice, nursing management, and clinical expertise were positive predictors of job satisfaction.

All of these variables, with the exception of sex, were positively associated with job satisfaction such that mean scores for each of these variables increased as level of job satisfaction increased. In regards to the sex variable, females reported higher job satisfaction than males. Although the study results were generally consistent with previous research, there

were some differences. The findings for each of these variables will be discussed within the context of the corresponding literature.

**Professional practice.** The professional practice variable in this study included the factors that enable nurses to work to their full professional scope. In the bivariate analysis, professional practice was positively associated with job satisfaction. This finding is consistently supported by previous research, despite differences in measurement tools or location of research. For Manitoba CC nurses, the positive association between these variables is a logical one.

Continuing education and career development opportunities are factors enabling nurses to work to their full professional scope. The WRHA and Brandon CC programs are clearly a continuing education opportunity for nurses who aspire to work in CC, or other specialty areas which utilize this type of nursing knowledge. Thus, nurses who take the WRHA or Brandon CC program may view this increased knowledge and subsequent employment in CC as an expanded career opportunity, which would explain the positive association between professional practice and job satisfaction.

The organizational structure of the WRHA CC program and all other Manitoba regional health authorities include significant nursing involvement at high organizational levels such as Chief Nursing Officer and Director of Patient Services positions. Thus, these positions ensure the nursing profession has equal power and authority in CC processes and administrative decision making. In addition, most of the Manitoba CC programs have active nursing participation for in-service education, nursing practice committees, and policy committees. All of these steps may promote some CC nurses to practice to their full scope and help explain the positive association found between professional practice and job satisfaction.

**Staffing and resources.** In this study, staffing and resources was operationally defined as the numbers of nurses to complete work at hand, nurses' perception of quality care, and monetary rewards. This variable was positively associated with job satisfaction in the bivariate analysis. Similar findings are reported in the literature.

A key factor for nursing job satisfaction is the nurses' perception of the ability to provide optimal care (Adams & Bond, 2000; Aiken et al., 2001; Dunn, Wilson & Esterman, 2005; Kramer & Haffner, 1989; Neumann, 1973). When inadequate numbers of nurses are available to provide quality patient care ITL increases (Stone et al., 2006). The current CC vacancy rate of approximately 20% would suggest there are not enough nurses available to complete the work. However, the number of part time nurses in Manitoba CC units lends to extra coverage for vacant shifts, such that a part-time nurses may pick up shifts above their EFTs. Full-time nurses may also work overtime shifts to cover vacant shifts. According to Manitoba CC nurses and managers, these are common practices. Thus, enough nurses are present to cover the vacant shifts and complete work at hand. However, these practices may lead to dissatisfaction because of the detrimental effect on stress levels and nurses' health.

Monetary reward is also consistently reported as a positive predictor of job satisfaction in the literature (Blythe et al., 2008; Hines, 1974; Nahm, 1940; Pickens & Tayback, 1957; Wilson et al., 2008). Support for the similar results of this study pertains to the Manitoba Nurses Union (MNU), since Manitoba RNs are among the most highly paid nurses in Canada. Specific to CC, MNU provides an education stipend for nurses who have a degree or specialty education, such as a CC program. Since a large portion of the respondents had a degree, they would receive this stipend. Additionally, diploma nurses who have completed the current or previous CC specialty program would receive this stipend. However, it is important to acknowledge that the effect that



monetary reward has on this staffing and resources variable is speculation because it is only one component of the overall variable.

**Nurse/physician collaboration.** Nurse/physician collaboration involves communication and relationships between nurses (i.e., excluding nurse to manager) and between physicians and nurses. In the bivariate analysis, although there was no significant association between nurse to nurse collaboration and job satisfaction, there was a positive association between nurse/physician collaboration and job satisfaction.

The job satisfaction and nurse to nurse collaboration findings in this study differ from the literature. The majority of the literature indicates collaboration with nurse colleagues is a positive predictor for job satisfaction (Adams & Bond, 2000; Blythe et al., 2008; Boyle et al., 2006; Hines, 1974; Utriainen & Kyngas, 2009). The primary rationale for this difference may be related to how nurse to nurse collaboration was measured in this study. The questions added to address this variable had not been tested for validity or reliability. Thus, the non-significant findings may be attributed to measurement error. However, the lack of association found between job satisfaction and nurse/nurse collaboration may also reflect the value CC nurses place on nurse to nurse relationship in regards to patient care. That is, the ability to work together with other nurses may not be a significant factor for individual patient care delivery because CC nurses generally have a one to one nurse to patient ratios. Thus, the ability of nurses and physicians to work together for patient plan of care may be more important than the ability of nurses to work together.

The current study results support the positive association between nurse and physician collaboration found in the literature (Aiken et al. 2001; Aiken & Patrician, 2004; Boyle et al., 2006; Manojlovich & Antonakos, 2008). Daily rounds, which are a common practice in

Manitoba CC units, may influence the collaboration and teamwork between nurses and physicians. During daily rounds, the entire health care team (i.e., bedside nurse, charge nurse, attending physician, CC medical service, allied health, and pharmacy) attends at each patient bedside. All staff, and nurses in particular, take part in the presentation of past medical history, hospital course, present status, ongoing problems, and plan of care. This is an ideal example of interdisciplinary collaboration and may be a primary reason for the positive association between RN/physician collaboration and job satisfaction.

A recent study provides additional insight into the communication aspect of nurse/physician collaboration in CC settings. Manojlovich and Antonakos (2008) reported years of CC experience had an inverse association to satisfaction with physician communication. One suggestion for this result may be the level of clinical expertise of the nurse. The misconception that years of experience automatically equate to expertise is not valid (Benner, 1984; Roche et al., 2009). An experienced non-expert CC nurse who expects a certain amount of recognition from physicians based solely on the nurse's years of experience may be dissatisfied when recognition is not received. In this manner, the dissatisfaction may be an indirect result of lack of clinical expertise.

**Positive scheduling climate.** Positive scheduling climate encompassed the hours nurses work (i.e., shift length and rotation). There was a positive association between this variable and job satisfaction in the bivariate analysis. The literature reports inconsistent findings in this regard. The majority of studies indicated scheduling climate was positively associated with job satisfaction (Richardson et al, 2007; Stone et al, 2006). However, other studies indicated an inverse association (Lai et al., 2008; Shader et al., 2001). It is reasonable to argue that job satisfaction would be positively associated with scheduling because better hours and shift

flexibility may enable nurses to have more control over some hours they work. This, in turn, assists nurses to achieve work-life balance. The most obvious explanation for the difference between the current study and previous research pertains to collective agreements. The presence of a collective agreement ensures that shift length and scheduling issues (i.e., weekends worked/month, number of consecutive shifts, equal allocation of days to nights) are regulated. Hence, when an inverse relationship was reported in the literature it may have been because there was no collective agreement present.

In addition to the regulation of scheduled shifts, EFT may impact on the association between scheduling and job satisfaction in the current study. As mentioned, the majority of Manitoba CC nurses work part time, but many choose to work over their scheduled EFT. For the most part, the shifts (i.e., length, time of day, day of week) worked over EFT are based on the individual nurse's choice. The ability to hold a part-time EFT, but have the flexibility of when and if to work extra shifts may be another reason for the positive relationship between scheduling and job satisfaction found in the current study.

**Nursing competence.** In the current study, nursing competence refers to the presence of competent nurses and support for inexperienced nurses in the work environment. In the bivariate analysis there was a positive association between nursing competency and job satisfaction. The majority of literature supports this finding. For example, Cavanaugh and Huse (2004) found successful orientation programs developed nursing competency and resulted in increased job satisfaction. This finding is consistent with the current study population because the majority of Manitoba CC nurses are graduates of a recognized CC program (i.e., orientation program). Since 2008, the WRHA has had a six month CC nursing training program for all nurses hired into CC positions. Prior to 2008, tertiary care ICUs and community ICUs in Winnipeg each had an

educational training program similar to the existing WRHA program. Brandon General Hospital also has a similar orientation program that new CC nurses generally attend. The training programs include theoretical and clinical components. The clinical components are designed to support the application of theory and new skills and are done with preceptors. The preceptors function to assist novice CC nurses in the acquisition of clinical knowledge and skills, thus supporting progression to a competent level of clinical expertise. The designated theoretical and clinical orientation found in the WRHA and Brandon CC programs is consistent with literature descriptions of successful CC orientation programs. Hence, the WRHA and Brandon CC programs are designed to increase competence of new staff, which in turn may impact on job satisfaction. As well, the use of existing CC nurses to act as preceptors may aid in the progression of these nurses to higher levels of clinical expertise. Thus, the overall structure of the WRHA and Brandon CC programs directly address the most relevant factors found in the relationship between job satisfaction and competency (i.e., support for novice nurses, orientation programs, availability of preceptors).

**Sex.** Female nurses were found to be more satisfied than male nurses in the bivariate analysis. This is consistent with some literature. Tourangeau and Cranley (2006) reported male nurses have higher ITL; however other researchers report no association between sex and job satisfaction (Wilkins & Shields, 2009). One possible explanation for this relationship may be related to the social aspect of work such that, in the predominantly female work environment, female CC nurses may have more of their social needs met at work, which, in turn may explain their higher levels of job satisfaction. Although this is pure speculation, a current WRHA CC educator agrees it is a reasonable explanation for the gender differences in job satisfaction in their workplace (personal communication, S. Gilchrist, June 1, 2011).

**Autonomy.** Autonomy is the ability to exercise independent nursing judgment. In the bivariate analysis there was a positive association between autonomy and job satisfaction. This finding supports previous literature results (Baernholdt & Mark, 2009; Best & Thurston, 2006; Kramer & Schmalenberg, 2006; Nathenson, 2007; Zangaro & Soeken, 2007). For example, Kramer and Schmalenberg (2008) reported that nurses who promoted patient care through autonomous decision making had higher job satisfaction.

In areas with clear procedures, standards of care, and role clarity, nursing autonomy may be higher (Willem et al., 2007; Zangaro & Soeken, 2007). Manitoba CC environments have policy and procedure manuals readily available in most units; within the WRHA, many of these policies and procedures are standardized across the region. The presence of policy and procedure documents may enable CC nurses to make autonomous nursing decisions because they provide structure and role clarity.

Role clarity can promote autonomy in CC nurses, especially when there is an understanding of the overlap of nursing and medical care that CC patients require (Kacel, Miller, & Norris, 2005; Kramer & Schmalenberg, 2003; LaMarche & Tullai-McGuinness, 2009). When roles are clearly delineated, CC nurses are able to make autonomous decisions because they can better understand the differences between a nursing function and a medical function. CC nurse role clarity can enable the nurses to make autonomous *nursing* decisions, at the same time recognizing when *medical* decisions need to be made. In addition, role clarity combined with positive interdisciplinary collaboration may also promote autonomy, which in turn may improve job satisfaction. The earlier discussions of nurse/physician collaboration supports the claim interdisciplinary collaboration may be present in Manitoba CC areas.

Level of education has been found to influence autonomy such that higher levels of education may better prepare nurses to make autonomous decisions (Rambur et al., 2005). For example, as knowledge, acquired through education, increases, a nurse may feel more confident in patient assessment, intervention, and evaluation. Thus, the nurse may be better able to make independent nursing decisions. The WRHA and Brandon CC orientation programs provide a higher level of education for most nurses in the province. It may be this specialty knowledge and skill that enables CC nurses to better make autonomous nursing decisions. Thus, the presence of these factors may provide rationale for the positive association between autonomy and job satisfaction found in this study.

**Control over practice.** Control over work settings and working conditions are part of control over practice. In the bivariate analysis and the multivariate analysis there was a positive association between control over practice and job satisfaction, which support previous research.

As a result of large seminal studies conducted in magnet hospitals, Kramer and Schmalenberg (2003) and Kramer et al. (2008) emphasize the importance of control over practice in job satisfaction. The majority of Manitoba CC units' general practice is to have one nurse to one patient for the duration of that nurse's shift. This factor may increase CC nurses' sense of control over practice. Increased nurse to patient ratios have been shown to decrease control over practice (Tervo-Heikkinen et al., 2009) because of the detrimental impact on care delivery. Thus, having one patient may enable CC nurses to improve their control over practice because of more effective patient care delivery.

Daily patient rounds and the reporting structure within most Manitoba CC units may also increase nurses' perception of control over practice. Nurses have the opportunity to provide input into patient care decisions during patient rounds. The reporting structure in most Manitoba

CC units is that there is a nurse in charge at all times. This nurse collaborates with the attending physician regarding unit admissions, transfers, and discharges to the unit. Both of these examples demonstrate how Manitoba CC nurses have control over practice. Ultimately, the ability to control practice can make a nurse feel pride in his/her accomplishments and actions as well as the unit's accomplishments. In turn, job satisfaction can be positively affected. Hence, Manitoba CC nurses have opportunities to control their practice, which can explain the positive association to job satisfaction found in this study.

In the multivariate analysis, there was a positive predictive relationship between control over practice and job satisfaction. This finding suggests the relationship between control over practice and job satisfaction is a powerful one. Although autonomy was also significant in the bivariate analyses, this variable was not included in the final regression model. This finding may be related to autonomy being explained by proxy in the regression model. Proxy occurs when controlling for the influence of other variables reveals the explanatory power of another variable (Hassard, 1991), which in this case was control over practice. This effect is probably due to the related nature of the two terms. Considerable overlap occurs between clinical autonomy, professional autonomy, and control over practice (Kramer & Schmalenberg, 2003). Thus, the ability to have autonomous practice, (i.e., independent *nursing* decision making) can only be carried out if a nurse has control over practice. In this manner, control over practice becomes more significant than autonomy.

A significant part of control over practice also includes other components of the organizational climate, such as professional practice and nursing management. The positive associations found between other variables and job satisfaction are significant; however, the impact those variables have to enable a nurse to have control over practice results in a more

significant relationship between control over practice and job satisfaction. Control over practice can predict job satisfaction because when a nurse is accountable for and takes ownership of care, there is a pride and sense of responsibility for one's actions as well as favourable outcomes.

**Nursing management.** A manager's leadership style was the broad description used for nursing management in this study. Nursing management was positively associated with job satisfaction in the bivariate analysis as well as in the multivariate analyses. This finding lends further support for the consistent evidence in the research literature (Aiken et al., 2001; Andrews & Dziegielewski, 2005; Boyle et al., 2006; Gagnon et al., 2006; Gunnarsdottir et al., 2009). Nurses report relationships with managers as the primary predictor of job satisfaction (Decker, 1999; Gunnarsdottir et al, 2009). As well, managers who provide supportive practice environments have lower ITL among their staff (O'Brien-Pallas et al, 2010). Thus, the overwhelming message in this study and the literature reflects the significant relationship between nursing management and job satisfaction.

In the current study, although nursing management only approached significance in the full regression model, when assessed in the proportional ordinal regression model, nursing management was a significant predictor of job satisfaction. This difference may be related to a masking effect, such that the effect of nursing management on job satisfaction was masked by other factors such as professional practice, staffing and resources, scheduling climate, competence, autonomy, and nurse/physician collaboration in the full model.

The main rationale for why nursing management was masked by many other variables may be due to *nurses' perception* of the authority nursing management has over multiple aspects of the work environment. According to Gunnarsdottir et al. (2009), perceptions of nursing support from senior management affect job satisfaction. Nursing management influences



professional practice by removing barriers and leading organizational initiatives to enable nurses to practice to their full scope. Linton and Farrell (2008) describe this as providing access to opportunity, resources, and information. An example in the CC environment is an educational committee which organizes an annual education day. The members of this committee are CC staff nurses. Without management support, the ongoing involvement of staff nurses in this event would not be possible.

Nursing management's influence on staffing and resources is significant. In the current study population, one of the main functions of a manager is to staff the CC unit. Thus, who is hired is partially under the control of the manager. However, managers do not have control over who applies for positions. A staff nurse's perception of how well the manager is handling human resource issues may result in variations in job satisfaction. As well, vacancy rates in a CC unit are often blamed on ineffective nursing management. For example, the inability to recruit new staff or retain existing staff may be blamed on how managers lead the unit or lack of organization in completing paperwork to post positions.

Although nursing management can play a key role related to flexibility in the hours and rotations nurses work, the scheduling climate of a unit is limited by upper management, budgetary restrictions, and union rules and regulations; nursing staff may not realize how these factors can constrain a manager, resulting in dissatisfaction with the manager. Hence, the nursing management variable may have masked the scheduling climate variable's effect on job satisfaction.

According to Gunnarsdottir et al. (2009), the overall care provided in a unit is a key predictor of the leadership style in the unit. In this manner, nursing management may have been a proxy for the competence variable. The competence level of CC nurses may affect the level of

care delivery. Since nursing managers hire the nurses, some staff may perceive the manager is then partially responsible for the delivery of care. That is, if incompetent nurses are working, it is because the manager hired them and therefore the manager is responsible. Thus, nursing management may have masked the effect competence has to job satisfaction.

The influence of nurse/physician collaboration may have been masked by nursing management in the regression analysis. In other words, nursing management may play a key role in facilitating optimal nurse/physician collaboration. For example, ongoing disrespectful communication between members of the health care team can affect job satisfaction. However, if management does not address the issues, it may appear they are excusing the behaviour. Thus, the effect on job satisfaction may be attributed to poor management style rather than an issue related to nurse/physician collaboration.

Overall, the primary reason nursing management is a positive predictor of job satisfaction is likely because *positive* management actions enable nurses to efficiently complete their jobs (i.e., provide patient care), leading to a sense of accomplishment, an optimistic attitude, and feelings of satisfaction.

**Clinical Expertise.** The positive predictive relationship between level of clinical expertise and job satisfaction found in this study is pioneering research. Hence, there is no literature available that supports or contradicts the study results. However, some insights can be gleaned from the personal factor and job satisfaction literature, specifically related to age, education level, and years of experience. It is reasonable to compare this literature to the study findings because of the association found between age, level of education, and years of experience as discussed earlier in this chapter.

In the multivariate analysis, while level of clinical expertise was a positive predictor of job satisfaction, age, level of education, and years of experience were not. Each factor will be reviewed in light of the study results and previous literature.

The majority of the literature indicated that increased age was associated with increased job satisfaction (Best & Thurston, 2004; Blythe, et. al. 2008; Caers et al. 2008; Tourangeau & Cranley, 2006; Wilson et al., 2007). Often the increased satisfaction in relation to age was attributed to increased years of experience. Another potential reason for the association may be the increase in life experience one gains as age increases. This corresponds to Benner's (1984) claim that the aspect, personal knowledge, affects knowledge progression. Hence, life experience combined with work experience may affect CC nurses insight, which then impacts job satisfaction.

In the bivariate analysis, years of CC experience was associated with increased levels of clinical expertise. In turn, in the multivariate analysis, level of clinical expertise was a positive predictor of job satisfaction. Responses to the open-ended question revealed nurses felt years of nursing experience and years of CC expertise were important aspects in the relationship between level of clinical expertise and job satisfaction. The majority of literature supports the claim that years of experience positively predicts job satisfaction (Hoffman & Scott, 2003; Kavanaugh, Duffy, & Lilly, 2006; Li & Lambert, 2008; Ma et al., 2008; O'Brien-Pallas et al., 2008; Pickens & Tayback, 1954; Wilson et al., 2008). Years of experience may increase CC nurses' exposure to clinical situations. Repeated exposure to clinical situations may result in knowledge and skill accumulation. Enhanced knowledge and skill can improve nurses' comfort and confidence in identifying important changes, anticipating interventions, and carrying out needed treatments. The result is a sense of accomplishment and pride in work and increased job satisfaction. The

effect of years of CC experience was clearly evident for the study respondents, as indicated in many of the responses to the open ended question. For example:

*“after my many years in varied ICU settings, I feel comfortable working with almost any patient.”*

Other studies have reported an inverse relationship between years of experience and job satisfaction (Li & Lambert, 2008; Ma et al., 2003; Sourdif, 2004; Tourangeau & Cranley, 2006; Wilkins & Shields, 2009). The rationale for this finding may be related to a sense of resentment experienced nurses feel when their knowledge and/or decision making ability is questioned or not valued. One respondent’s answer demonstrates this:

*“wish I could practice at my current level, but person that do not have the breadth of experience that I have think they know everything...”*

Another possible reason for the inverse relationship is frustration and/or stress. After many years in CC, the ongoing years of stress or frustration with unresolved issues may result in low job satisfaction. As well, decreased career opportunities which can occur after years of CC nursing may also result in low job satisfaction. One answer illustrates this point:

*“Once you get to a certain level, there is no place else to go so it can be stifling to get to that point.”*

In this study, lower levels of education (i.e., diploma) were associated with higher levels of clinical expertise. Similarly, some previous researchers also found that diploma nurses have higher levels of job satisfaction (Sourdif, 2004; Tourangeau & Cranley, 2006). For the study population, the rationale for this finding may be attributed to years of experience. As previously mentioned, diploma nurses tend to have been nursing longer, thus have more years of experience. The elevated job satisfaction for the diploma nurses can then be explained by years

of experience and not by education level. For the study population of degree nurses, their lower levels of clinical expertise may be also related to fewer years of CC experience. Since the majority of nurses attending the WRHA CC orientation are degree prepared, it stands to reason they also have less years of CC experience.

In summary, there is a positive predictive relationship between level of clinical expertise and job satisfaction. The main reason for this relationship relates to the increase in knowledge and skill a nurse acquires through years of exposure to clinical situations and the pride in their accomplishments which occur as a result of providing the best care for the patient.

The current study results generally support previous job satisfaction literature. Control over practice and nursing management were the key predictors of job satisfaction. As well, these variables appear to be the proxy for other important factors in job satisfaction. This study also contributes new insights to the job satisfaction literature such that level of clinical expertise is a positive predictor of job satisfaction. Although the reason for this result is most likely related to repeated exposure of clinical situations stemming from many years of experience, further study regarding how knowledge is transformed to expertise is needed to further clarify this relationship.

### **Conceptual Framework Revisited**

The conceptual frameworks chosen for this study were Benner's Model of Skill Acquisition in Nursing and OFPNR. The purpose of a conceptual framework is to guide the research process through explanation of the relationships between study variables (Wood & Ross-Kerr, 2006). Therefore, the following discussion will highlight how the two frameworks achieved this goal.

Benner's Model was developed to explore and describe the knowledge changes that may occur when nursing practical experience increases (Benner, 1984). Benner's model clearly does not equate age, years as a nurse, or years as a specialty nurse with progression through the levels of clinical expertise. Because of this significant distinction, Benner's model was an appropriate framework for exploring clinical expertise. The results from the multivariate regression analyses support this claim. In these analyses, level of clinical expertise was significantly related to job satisfaction, while age, years as a nurse, and years as a CC nurse were not, thus supporting Benner's hypothesis that experience is not just the passage of time. Thus, Benner's Model was a valuable framework to explore clinical expertise, within the context of job satisfaction.

The OFPNR was developed as a visual depiction of the theoretical links between influencing factors, intermediary factors, and nurses' intent to leave (personal communication, Dr. J. Sawatzky, January 24, 2011). Although, the purpose of this study was to explore only influencing factors, clinical expertise, and job satisfaction the OFPNR was easily adapted to support this purpose. The adaptation involved adding level of clinical expertise as an influencing factor, removing the intermediary factors, and changing job satisfaction to the outcome. This adaptation allowed the framework to retain a visual representation of the theoretical link between influencing factors, including level of clinical expertise, and job satisfaction without interfering with the overall flow of the framework. In bivariate analyses, links were found between nine influencing factors (i.e., professional practice, staffing and resources, management, nurse/physician collaboration, nurse competence, control/responsibility, autonomy, positive scheduling climate, sex) and job satisfaction. These findings lend support for the theoretical links within the model. In multivariate regression analysis, three of the influencing factors (i.e., nursing management, control/responsibility, level of clinical expertise) were significant

predictors of job satisfaction. Thus, the adapted OFPNR was an appropriate framework to explore the relationship between job satisfaction and level of clinical expertise.

### **Study Limitations**

The limitations of a study involve critical analysis of the study design, method, and results in order to determine internal and external validity. This analysis determines the applicability and generalizability of the results (LoBiondo-Wood & Haber, 2005). The main limitations of this study are related to the sampling strategy and instrumentation.

**Sampling Strategy.** The current study used convenience sampling which, although commonly used, has a major disadvantage. That is, there is an increased risk of bias since participants volunteer to participate and information is not obtained from non respondents (LoBiondo-Wood & Haber, 2005). Nurses who chose to not participate may have done so because of disengagement resulting from low job satisfaction. This contention is supported by the job satisfaction results that were clearly skewed to a positive response.

Another disadvantage of convenience sampling found in this study is the 24% response rate. One quarter of a population is not a large sample and can interfere with the validity of the results. However, if a sample is representative of the overall population, as this sample was, a small sample size can provide an accurate picture of the larger population (LoBiondo-Wood & Haver, 2005). As well, since the population was large (i.e., 778 nurses), a sample size of 188 was sufficient to represent the population.

Potential participants were those nurses who self-reported with CRNM as CC nurses. CRNM does not provide a definition of CC (personal communication, L.Payette, January 13, 2011), thus allowing for a discrepancy to occur between this study's definition of CC and the self-reporting nurses' definition. However, the other choices of categories provided by CRNM

that may overlap with CC, such as ED, are clearly differentiated. This will most likely have deterred nurses who work in other areas from self reporting as CC nurses.

Utilizing online SurveyMonkey to collect data was also a study limitation. Manitoba CC nurses who did not access their email accounts were automatically excluded from this study. As well, some health care institutions block the SurveyMonkey site from being accessed through hospital email. Thus, nurses who provided hospital email addresses to CRNM may not have been able to access the site. However, the WRHA CC areas do not block SurveyMonkey; therefore, the majority of the MB CC nursing population should not have encountered this limitation.

Factors unique to MB CC nurses may limit the generalizations that can be made from the findings. For example, the distribution of part-time to full-time nurses and education levels reported by MB CC nurses are different than the average Canadian CC nurse. Thus, the effect of these differences on clinical expertise and job satisfaction may result in these findings not being applicable to other Canadian CC nurses.

Lastly, the educational training that most WRHA and Brandon CC nurses receive may have affected the overall reported levels of clinical expertise and/or the competency influencing factor because the program provides extra support to nurses at the beginning of their CC career. Given that 70% of the respondents worked in tertiary centres and would probably have completed this program, their level of clinical expertise and/or competency may differ than CC nurses who have not taken such a program. Thus, caution must be taken when generalizing these findings to other CC populations.

**Instrumentation.** The second major study limitation relates to instrumentation. In this study, self-report of level of clinical expertise was accomplished by using the NESRS. Two



weaknesses have been identified in the use of this tool. First, the NESRS was developed in the early 1990s, based on Benner's original 1984 research. Since that time, Benner, Hooper-Kyriakidid, and Stannard (1999) have extended the original work to better understand clinical judgment and experiential learning that occurs in CC settings, to include two categories of thought and action and nine categories (domains) of practice. As a result, the NESRS does not incorporate the most up to date research regarding CC nursing practice. Second, self-reporting of clinical expertise may not be the most accurate method to measure this variable; ideally, peers and/or management should be involved in this process.

The open-ended question was included to provide additional data regarding the relationship between job satisfaction and level of clinical expertise. Important information was gleaned from this question; however, it was apparent there were misconceptions about the definition of level of clinical expertise. As a result, some of the responses equated experience or length of nursing career with level of clinical expertise. A definition of each level of clinical expertise would have added clarity for the respondents and potentially affected the results.

The PNWE scale used to assess organizational climate factors did not include a scale to measure autonomy and control over practice. In order to collect information related to autonomy and control over practice, the research team added a number of questions to the survey. Although the control questions were extracted from a valid and reliable instrument, the autonomy question was new. The reliability and validity of this question was not tested for this survey.

In summary, although there were a number of limitations related to the sampling strategy and instrumentation, the respondents appear to be representative of the current population of MB CC nurses.

## **Implications and Recommendations**

Prior to this study, there was a gap in the literature in relation to the relationship between level of clinical expertise and job satisfaction. Findings from this study have contributed to the knowledge of the positive predictive relationship that exists between these concepts. These results can act as a basis for individual nurses, managers, and nurse researchers to begin job satisfaction strategy development based on level of clinical expertise. Thus, this study has implications and recommendations for nursing practice and administration, education, and research.

**Nursing Practice and Administration.** Job satisfaction, by definition, is an individual feeling a nurse has about work. Self-reported level of clinical expertise is also unique to each nurse. Therefore, it is essential for individual nurses and managers to understand the significance of this relationship in the workplace.

When nurses recognize the relationship between these two concepts, it can promote the importance of ongoing, career self-assessment regarding their current level of clinical expertise and the development of individualized learning plans to progress through the levels of clinical expertise. Accordingly, it is important for every nurse to assume personal accountability, to take ownership of his/her job satisfaction and level of clinical expertise. When this is accomplished, the individual nurse can be in control over his/her practice, which in turn will improve job satisfaction. In addition, as nurses progress through the levels, they can be a role models or mentors for other nurses in the unit, thus empowering colleagues to increase their level of clinical expertise.

Managers should assist their employees in regular self-assessment of job satisfaction and level of clinical expertise. Self-assessment should be followed by a review of the priority

influencing factors relevant for that nurse, as well as a learning plan to support progression through the levels of clinical expertise. Thus, managers can support ongoing amelioration of employee clinical expertise and job satisfaction.

Managers should also consider nursing staff mix in relation to clinical expertise. In order to best utilize the knowledge, intuition, and decision making capacity of proficient and expert nurses, managers should consider teams of nurses at different levels of clinical expertise. In this manner, the expert staff can support and mentor the development of expertise for nurses of lower levels. In addition to recognizing existing clinical expertise and supporting developing clinical expertise, teams of this mix would foster the delivery of safer care, because less experienced nurses would be closely supervised and mentored.

The challenge for managers and expert nurses alike is to keep nurses with extensive clinical expertise engaged. Managers should provide professional practice opportunities and encourage these nurses to participate in activities that foster control over practice or mentoring skills. In this manner, these nurses will be using their expertise for improvements to CC nursing units and quality patient care. The recognition and challenge these opportunities provide can help keep experts engaged, and improve their overall job satisfaction.

Nursing management's role in creating and maintaining positive work environments, which enable nurses to advance their practice, ultimately improves job satisfaction. Given the importance of positive nursing management, it is integral health care organizations foster effective leadership for nurse managers. Accordingly, novice nurse managers should be mentored to increase their expertise. Expert nurse managers should be utilized to mentor inexperienced managers. The resulting increased job satisfaction for nurse managers would then

enable them to be effective role models. Thus, the development of clinical expertise to promote job satisfaction should be undertaken for nursing management as well as staff nurses.

Nursing practice and nursing management are closely related such that managers have the ability to improve the work environment so that nurses can focus on patient care. When nurses are not faced with barriers to providing high quality patient care, the result is improved patient outcomes and perhaps better nursing outcomes as well.

**Nursing Education.** The relationship between clinical expertise and job satisfaction has implications for nursing education for the whole trajectory of a nurse's career. The best place to begin the development of reflective practice and clinical reasoning is at the start of a nurse's career, which are undergraduate nursing programs. Thus, undergraduate nursing programs should include theory about Benner's Model, including relevant research literature as to the influence the model can have throughout a nurse's career.

Following graduation and continuing throughout a nurse's career, ongoing education should be based on level of clinical expertise. Admittedly, this would be time consuming for managers or nurse educators, but the benefits would be worth the time and effort. For example, the use of didactic, rule based information is best provided to novice and advanced beginner levels, while clinical case analysis and peer review best supports proficient and expert nurses. With the manager and/or nurse educator as facilitators, the development and delivery of this education would then be shared between staff nurses. In this manner, each level would receive education that best meets their current learning needs and there would be recognition of expertise among current staff.

Transitioning to unfamiliar specialty nursing areas, such as CC, can be a stressful time for a nurse. For many, this transition may cause feelings of inadequacy and fear. CC nursing

orientation may alleviate many of these feelings by discussing the relationship between levels of clinical expertise and job satisfaction. Knowledge of the norm of transitioning from proficient or expert to novice that can occur in unfamiliar clinical situation can prepare new CC nurses for the challenges they may face in the clinical area.

One of the most influential roles for each of the above situations is the nurse educator. Nurse educators should have knowledge about Benner's Model in order to guide their teaching strategies, whether theory based teaching or clinical teaching. It is essential for nurse educators to understand how nurses of different levels of clinical expertise make decisions that guide patient care. As well, nurse educators should share this knowledge with preceptors and mentors. In addition to supporting nurses' progression of clinical expertise, nurse educators should apply this knowledge to their own careers. Being a clinical expert does not necessarily mean one will be an expert nurse educator. Understanding the transition from expert clinical nurse to novice nurse educator is part of the acquisition of new knowledge may alleviate feelings of inadequacy and enable nurse educators to achieve job satisfaction.

**Future Research.** Results of this study support previous evidence in relation to the positive relationship between organizational climate factors and job satisfaction. However, this study also adds insight into the previous gap that existed regarding the relationship between levels of clinical expertise and job satisfaction. Future research should focus on extending the knowledge gleaned from this study.

Since the NESRS does not incorporate the most up to date evidence of CC nursing practice, subsequent study of clinical expertise should incorporate the two categories of thought and action and nine categories (domains) of CC nursing practice (Benner et al., 1999). This process must begin with refinement of the NESRS or the development of another reliable and

valid measure of clinical expertise. This would provide a more in depth and accurate understanding of specific aspects of level of clinical expertise within CC nursing practice. In turn, this evidence may also be useful in further exploration of the relationship between clinical expertise and job satisfaction.

Self-reporting results in subjective findings. A more robust method of exploring level of clinical expertise would include self-report along with manager and/or peer assessment. Accordingly, future studies could utilize mixed method research and incorporate qualitative interviews with nurses and managers in relation to levels of clinical expertise. This type of study would also prevent potential misunderstandings regarding the definition of level of clinical expertise.

All experienced nurses do not become experts (Benner, 1984; Christensen & Hewitt-Taylor, 2006). For that reason, future research should explore what transformation, other than years of experience, occurs that enables a nurse to progress from proficient to expert. Further understanding of the key factors that influence or facilitate this transformation would aid in the development of strategies to guide all nurses to progress to expert levels of clinical practice.

Nursing practice should be guided by evidence informed research. The study results support the drive for evidence informed practice. Expert clinicians are the ideal practitioners to apply evidence informed research into appropriate clinical practice to best meet the needs of the population of interest. Accordingly, it is in the best interest of patients, organizations, and nurses for nursing practice to be carried out by practitioners who practice at an expert level.

There is very little research evidence to link level of clinical expertise to patient outcomes. Although previous studies have established a link between years of experience or level of education and patient outcomes (Aiken et al., 2002; 2003), these concepts are not

equivalent to level of clinical expertise. Thus, future research should be conducted to explore the relationship between level of clinical expertise and patient outcomes. Future research is also required to examine whether other nursing specialty populations, in Canada and around the world, would exhibit the same results.

## **Summary**

A discussion of the results of this study was presented in this chapter. Statistically significant associations and relationships between level of clinical expertise, job satisfaction, and level of clinical expertise and job satisfaction were reviewed. These statistically significant results were also discussed in relation to relevant literature. The appropriateness of OFPNR and Benner's Model as guiding frameworks were reviewed in light of the study results. Limitations of the study were acknowledged. Lastly, recommendations for nursing practice, education and research were discussed.

## **Conclusion**

This study explored the relationship between self-reported level of clinical expertise and job satisfaction for CC nurses. Relationships between influencing factors (i.e., organizational climate, level of clinical expertise, and personal factors) and job satisfaction were also examined.

Two conceptual frameworks provided organization for this thesis. While Benner's Model of Skill Acquisition in Nursing as used for clinical expertise, an adapted OFPNR was used to guide job satisfaction. Both frameworks proved to be reasonable choices to guide the study.

The study utilized a cross-sectional, quantitative approach to explore the relationships between the two main concepts and between influencing factors of job satisfaction. Multiple

variables were significantly associated with job satisfaction in the bivariate analysis. In multivariate analyses, control over practice, nursing management, and level of clinical expertise were found to be the key predictors of job satisfaction.

Control over practice and nursing management variables were each significant to job satisfaction. As well, both variables likely masked the influence of other variables. Control over practice and nursing management may have stood out because they allow nurses to take pride in their accomplishments and help to remove barriers to effective nursing practice. Level of clinical expertise likely predicts job satisfaction because the accumulation of knowledge increases comfort level and a sense of pride in work. Thus, all three of these variables assist nurses to feel more satisfied with their jobs.

This study lends support for previous literature related to control over practice and nursing management. A new finding in this study was the relationship between clinical expertise and job satisfaction. Specific recommendations for future nursing research include the need to explore why some experienced nurses do not achieve expert status. The study of clinical expertise should continue to be a nursing priority in order to continue to strive for the goal to provide optimal patient care.



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## APPENDIX A

## THE CRITICAL CARE NURSE RETENTION SURVEY – PART I

**This part of the questionnaire includes statements about perceptions of the nursing work environment. For each statement, please indicate whether you agree/disagree that this statement is true in your current work environment. Please circle the most appropriate response, using the following scale:**

	Strongly Disagree.	Disagree Somewhat	Agree Somewhat	Strongly Agree
	1	2	3	4
1. There are career development opportunities	1	2	3	4
2. There is opportunity for staff nurse to participate in policy decisions	1	2	3	4
3. There are opportunities for advancement	1	2	3	4
4. Staff nurses are involved in the internal governance of the department	1	2	3	4
5. There is support for new and innovative ideas about patient care	1	2	3	4
6. Nursing staff is supported in pursuing further education	1	2	3	4
7. Staff nurses have the opportunity to serve on hospital and nursing committees	1	2	3	4
8. Administration listens and responds to employee concerns	1	2	3	4
9. There is an active in-service/continuing education program for nurses	1	2	3	4
10. Contributions that nurses make to patient care are publicly				

	acknowledged	1	2	3	4
11.	There is an active quality assurance program	1	2	3	4
12.	There are clinical nurse specialists who provide patient care consultation	1	2	3	4
13.	There is a chief nursing executive who is equal in power and authority to other top-level hospital executives	1	2	3	4
14.	There is enough staff to get the work done	1	2	3	4
15.	There are enough RNs on staff to provide quality patient care	1	2	3	4
16.	there are adequate support services to allow me to spend time with my patients	1	2	3	4
17.	There is enough time and opportunity to discuss patient care problems with other nurses	1	2	3	4
18.	My salary is satisfactory	1	2	3	4
19.	My nurse manager is a good manager and leader	1	2	3	4
20.	The nurse manager backs up the nursing staff in decision making	1	2	3	4
21.	The nurse manager consults with staff on daily programs and procedures	1	2	3	4
22.	The supervisory staff is supportive of nurses	1	2	3	4
23.	There is praise and recognition for a job well done	1	2	3	4
24.	There is a lot of teamwork between doctors & nurses	1	2	3	4

25.	Physicians and nurses have good working relationships 4	1	2	3	
26.	There is collaboration between nurses and physicians	1	2	3	4
27.	Physicians provide high quality medical care	1	2	3	4
28.	There is a preceptor program for newly hired RNs	1	2	3	4
29.	I work with experienced nurses who know the department	1	2	3	4
30.	I work with nurses who are clinically competent	1	2	3	4
31.	There are standardized policies, procedures, and ways of doing things	1	2	3	4
32.	There is a good orientation program for newly employed nurses	1	2	3	4
33.	There is floating, so that staff is equalized among units in the hospital	1	2	3	4
34.	Staff nurses actively participate in developing their work schedules/rotations	1	2	3	4
35.	Regular, permanently assigned critical care staff nurses never have to float	1	2	3	4
36.	Flexible or modified work schedules are available	1	2	3	4
37.	I would not hesitate to recommend this department to a friend seeking employment	1	2	3	4
38.	Given the opportunity, I tell others great things about working here	1	2	3	4
39.	It would take a lot to get me to leave this critical care unit	1	2	3	4
40.	I rarely think about leaving this critical care unit to work somewhere else	1	2	3	4



41. This critical care unit inspires me to do my best work  
every day 1 2 3 4
42. This critical care unit motivates me to contribute more than  
is normally required to complete my work 1 2 3 4

## APPENDIX B

## THE CRITICAL CARE NURSE RETENTION SURVEY – Part II

**The following is a list of statements about nursing care. Please circle the number that best represents your agreement with the statement**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Unsure</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
1. I often know ahead of time that my patient will take a turn for the worse	1	2	3	4	5
2. I frequently draw on past experiences when making patient care decisions.	1	2	3	4	5
3. Quality nursing care results from strictly adhering to policy and procedure.	1	2	3	4	5
4. When I do patient care, only a few pieces of information stand out as critically important.	1	2	3	4	5
5. I am consciously aware of the process of decision making in patient care.	1	2	3	4	5
6. Emotional attachments get in the way of good nursing care.	1	2	3	4	5
7. When something goes wrong with my patient, I seem to know automatically what to do.	1	2	3	4	5
8. Sometimes I find it difficult to identify objective reasons for certain patient care decisions.	1	2	3	4	5
9. The best way to give good nursing care is to	1	2	3	4	5

get close to the patient.

10. I find it time consuming to set priorities in patient care.	1	2	3	4	5
11. I make my best decisions about patient care when I remain objective.	1	2	3	4	5
12. In an emergency, things happen so fast that I don't know what to do.	1	2	3	4	5
13. I base my patient care decisions more on the rules I learned in nursing school than on my experience in patient care.	1	2	3	4	5
14. It seems obvious to me what things need to be done first for my patients.	1	2	3	4	5
15. I use facts such as lab values and vital signs as my main source of information for making patient care decisions.	1	2	3	4	5
16. I usually require a lot of information about a patient care situation before I am comfortable with making a decision.	1	2	3	4	5
17. I do my best nursing care when I become truly involved with the patient.	1	2	3	4	5
18. I am comfortable with altering standard patient care procedures when I see the need.	1	2	3	4	5
19. Sudden patient care emergencies usually come as a complete surprise to me.	1	2	3	4	5
20. I find myself relying a lot on gut feelings when it comes to patient care.	1	2	3	4	5

## APPENDIX C

## Open Ended Question

**What impact, if any, does your current level of clinical expertise have on your job satisfaction?** \_\_\_\_\_

— \_\_\_\_\_

— \_\_\_\_\_

## APPENDIX D

## THE CRITICAL CARE NURSE RETENTION SURVEY – Part III

**The following questions relate to your work environment. How satisfied are you with the following aspects of your current job? Please circle the number that applies.**

	Very Satisfied	Moderately satisfied	Neither satisfied nor dissatisfied	Moderately dissatisfied	Very dissatisfied
1. control over what goes on in your work setting	1	2	3	4	5
2. opportunities for career advancement	1	2	3	4	5
3. your amount of responsibility	1	2	3	4	5
4. your control over work conditions	1	2	3	4	5
5. your participation in organizational decision making	1	2	3	4	5
6. your autonomy in clinical decision-making	1	2	3	4	5

## APPENDIX E

## THE CRITICAL CARE NURSE RETENTION SURVEY – Part VI

**Demographic Information Form**

**Responses to the following questions are a very relevant and key part of this study. Please answer all questions. Remember that all information provided will be kept strictly confidential.**

1. What is your highest level of education achieved/completed to date? PLEASE CHECK(✓)

ALL THAT APPLY.

- a. RN – diploma.....(    )
- b. RN – undergraduate degree (i.e., BN, BScN)..... (    )
- c. RN – undergraduate degree – other (i.e., BA)..... (    )
- d. RN – graduate degree (i.e., MN; MScN)..... (    )
- e. ICU Program graduate.....(    )
- f. other, please specify\_\_\_\_\_

2. What is your current employment status in Critical Care? PLEASE CHECK (✓) THE MOST APPROPRIATE RESPONSE.

- a. \*staff nurse – part-time.....(    )  
\*please specify % of EFT currently working\_\_\_\_\_%
- b. \*staff nurse – full-time.....(    )  
\*if you work > full-time on a regular basis, please indicate how  
many hours of overtime you work/week\_\_\_\_\_hrs
- c. Clinical resource nurse.....(    )
- d. educator.....(    )
- e. CNS/NP.....(    )
- f. other, please specify\_\_\_\_\_

3. What is your regular shift rotation? PLEASE CHECK (✓) THE MOST APPROPRIATE RESPONSE.

- a. 8 hour day shifts only.....(    )
- b. rotating 8 hours - days/evenings.....(    )
- c. rotating 8 hours - days/nights.....(    )
- d. rotating 12 hours – days/nights.....(    )
- e. permanent evenings or nights.....(    )
- f. other – please specify\_\_\_\_\_

4. On average, how many weekends do you have off in a month? PLEASE CHECK (✓) THE MOST APPROPRIATE RESPONSE.

- a. none.....(    )
- b. one.....(    )
- c. two.....(    )
- d. three.....(    )
- e. four.....(    )

5. Please indicate your current primary employer:

- a. Tertiary hospital ED (i.e., HSC or SBGH).....(    )
- b. Urban community hospital ED.....(    )
- c. Rural hospital ED.....(    )
- d. Other; please specify\_\_\_\_\_

6. Please indicate your current primary area of employment:

- a. Medical ICU .....(    )
- b. Surgical ICU.....(    )
- c. Combined Medical/Surgical ICU.....(    )
- d. Cardiac Surgery ICU.....(    )
- e. Coronary care unit.....(    )
- f. Other; please specify\_\_\_\_\_

7. Please specify the number of years you have been working as a nurse: \_\_\_\_\_ years

8. Please specify the number of years you have been working as a nurse in critical care: \_\_\_\_\_ years

9. Please specify the number of years you have been working in your current/same role/position in critical care: \_\_\_\_\_ years

9. Date of birth: \_\_\_\_\_ month \_\_\_\_\_ day \_\_\_\_\_ year

10. SEX (✓): ☐ male ☐ female

11. Current marital status. PLEASE CHECK (✓) THE MOST APPROPRIATE RESPONSE.

- a. single.....(    )
- b. married/common-law.....(    )
- c. widowed.....(    )
- d. separated/divorced.....(    )

12. Do you have children? PLEASE CHECK (✓) either

YES ☐ or NO ☐



Please indicate the following:

- a. # of children \_\_\_\_\_
- b. age of oldest child \_\_\_\_\_
- c. # of children living @ home \_\_\_\_\_

Go to Question #8



13. What is your annual combined household/family income? PLEASE CHECK (✓)  
THE MOST APPROPRIATE RESPONSE.

- a. \$50,000 or less .....(    )
- b. \$50,001 – \$75,000.....(    )
- c. \$75,001 - \$100,000.....(    )
- d. \$100,001 - \$125,000.....(    )
- e. \$125,001 - \$150,000.....(    )
- f. \$150,001 - \$175,000.....(    )
- g. \$175,001 - \$200,000.....(    )
- h. over \$200,000.....(    )

## APPENDIX F

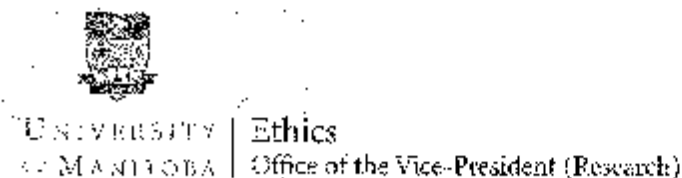
## Job Satisfaction

For the first question, please respond based on the following scale:

Not at all satisfied	Somewhat dissatisfied	Neither satisfied or dissatisfied	Somewhat satisfied	Very Satisfied
1	2	3	4	5

1. **Overall, how satisfied are you with your job?** 1 2 3 4 5

## APPENDIX G



CTC Building  
208 - 1941 Lafoc Road  
Winnipeg, MB R2T 2N2  
Fax (204) 269-7173  
[www.umanitoba.ca/research](http://www.umanitoba.ca/research)

## APPROVAL CERTIFICATE

February 1, 2011

**TO:** Jo-Ann V. Sawatzky  
Principal Investigator

**FROM:** Stan Straw, Chair *[Signature]*  
Education/Nursing Research Ethics Board (ENREB)

**Re:** Protocol #E2011:008  
"The Manitoba Critical Care Nurses Retention Research Project"

Please be advised that your above-referenced protocol has received human ethics approval by the **Education/Nursing Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement. This approval is valid for one year only.

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

**Please note:**

- If you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to the Office of Research Services, fax 261-0325 - please include the name of the funding agency and your UM Project number. This must be faxed before your account can be accessed.

- If you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.

**The Research Ethics Board requests a final report for your study (available at: [http://umanitoba.ca/research/ors/ethics/crs\\_ethics\\_human\\_REB\\_forms\\_guidelines.html](http://umanitoba.ca/research/ors/ethics/crs_ethics_human_REB_forms_guidelines.html)) in order to be in compliance with Tri-Council Guidelines.**

## APPENDIX H

## Script for Contact with Manager

The following are the key points that will be addressed in the telephone contact with the critical care managers:

- *Hello, my name is -----*
- *I am calling regards to a study that will be initiated in the near future*
- *The title of the study is: the Manitoba Critical Care Nurses Retention Research Project*
- *I am calling to tell you about the study and to ask for your help to inform your staff about the study*
- *Here is a brief overview of the study:*
  - *The primary purpose of the study is to explore and describe the factors that predict the retention of nurses working in critical care areas in Manitoba.*
  - *This research is being conducted by a team of nursing and medical researchers from the University of Manitoba and St Boniface Hospital*
  - *The target population is all critical care nurses in the province of Manitoba;*
  - *please note that managers, like yourself are excluded from the study*
  - *CRNM will send an e-mail to all nurses who have self-identified as critical care nurses in the province; this e-mail will provide a link to the Survey Monkey Program, which will include information about the study and the questionnaires*
  - *If you would like further information about the study, we would be happy to send you a copy of our ethics proposal*
- *Would you be willing to help us by informing your staff about this study and/or putting up several posters about the study in your critical care unit?*
- *If so – we will send you the posters and a script [via e-mail] to read to your staff at appropriate times, such as staff meetings and/or change of shift report and several posters*

- *Please note that it is important that you do not encourage or discourage participation in this study as this may be perceived as coercion because you are in a position of power/authority over your staff. We would ask that you simply inform your staff about the study.*
- *If not – thank-you for your time*
- *Any questions?*

## APPENDIX I

## Poster

**THE MANITOBA CRITICAL CARE NURSES RETENTION STUDY****ATTENTION: CRITICAL CARE NURSES**

WHAT? As a critical care nurse, in Manitoba you should be receiving an e-mail shortly [via CRNM] requesting your participation in a research study that is designed to explore critical care retention issues and strategies for solutions.

WHY? Recruitment and retention of nurses in Manitoba's critical care areas are ongoing issues; Our goal is that the knowledge and insights gained from this research will lead to the development of strategies for critical care nurse retention in this province.

WHO? CRNM members who have self-identified as critical care nurses, and have provided CRNM with an e-mail address will receive an e-mail invitation to participate in this study

Where? The questionnaires can be completed on-line via Survey Monkey; if you do not receive the request to participate via e-mail please contact the study's principal investigator: Dr. Jo-Ann Sawatzky. A member of the research team will also be conducting interviews with 8 to 10 volunteers; if you participate in this part of the study, the interview will take place at a mutually agreed upon time/place.

Thank-you for taking the time to read this information. You can make a difference! It is through research projects such as this one that we will gain a better understanding of the retention issues and strategies to retain nurses in the province's critical care areas.

Sincerely,

Jo-Ann Sawatzky, RN, PhD

Faculty of Nursing, University of Manitoba

Principal Investigator: The Manitoba Critical Care Nurses Retention Study

Ph#: 474-6684

e-mail: [joanne\\_sawatzky@umanitoba.ca](mailto:joanne_sawatzky@umanitoba.ca)

## APPENDIX J

## Script for Managers

Dear Critical Care Manager;

As per our telephone discussion, the research team would greatly appreciate your help in promoting Manitoba Critical Care Nurses Retention Research Project. To this end, we are providing you with a script to read to your staff at any appropriate opportunity:

*I have been asked to tell you that you will soon be receiving an e-mail from CRNM regarding a study that is being conducted by a group of researchers from the University of Manitoba and the WRHA. The goal of this study is to identify the key predictors of nursing turnover, as well as strategies for retention in critical care areas in the province of Manitoba.*

*The study survey can be completed on your computer via Survey Monkey. It takes about 20 minutes to complete the questions. In addition, the research team will be inviting 10 volunteers to participate in an interview component of the study. Participation in this study is voluntary.*

*The information you provide in this study will be kept confidential; I am only a messenger; I am not involved in this study; I will not have access to any information related to this study, such as who does or does not participate. If you have any questions about this study, please contact Dr. Jo-Ann Sawatzky, as per the contact information on the posters.*



## APPENDIX K

## Invitation to Participate

**ATTENTION: CRITICAL CARE NURSES**

Do you work in a critical care area in the province of Manitoba? Are you a staff nurse, clinical resource nurse (CRN), or an educator? If so, keep reading, because you can make a difference!

You are invited to participate in a research project designed to explore and describe factors that may influence nurses' intent to leave critical care. The study is being conducted by a group of researchers, and critical care clinicians and administrators. Our goal is that the knowledge and insights gained from this research will lead to the development of strategies for critical care nurse retention in the province of Manitoba.

Participation in the study is voluntary. If you are interested, and agree to participate, it will involve completing the questionnaire package via the attached link to Survey Monkey. This should take approximately 20 minutes of your time. By completing the Survey Monkey Questionnaire, you consent to participate in this study. Your decision to take part in this study is voluntary. Your decision to not participate, or to not answer any question, or to withdraw from the study by logging off the website will not have any negative consequences. All information you provide will be kept strictly confidential.

Thank-you for taking the time to read this information. You can make a difference! It is through research projects such as this one that we will gain a better understanding of the retention issues and strategies to retain nurses in the province's critical care areas.

Sincerely,

Jo-Ann Sawatzky, RN, PhD

Faculty of Nursing, University of Manitoba

Principal Investigator: The Manitoba Critical Care Nurses Retention Study

Ph: 474-6684

e-mail: [joanne\\_sawatzkyA@umanitoba.ca](mailto:joanne_sawatzkyA@umanitoba.ca)

## APPENDIX L

## Survey Consent

**-University of Manitoba Letterhead -****RESEARCH SUBJECT INFORMATION & CONSENT FORM**

Project Title: The Manitoba Critical Care Nurses Retention Study

Researcher(s): Principal Investigator: Jo-Ann V. Sawatzky RN, PhD  
Faculty of Nursing, University of Manitoba

Co-Investigators: Rakesh Arora MD, PhD, FRCSC, FACS

Carol Enns RN, MN;

Carol Legare RN, BN;

Michaele Rivet RN.

Sponsor: TBA

.....

This consent form, a copy of which you can print for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The main purpose of the Manitoba Critical Care Nurses Retention Study is to explore and describe factors that may influence nurses' intent to leave critical care. The study is being conducted by a group of researchers, and critical care clinicians and administrators. Our goal is that the knowledge and insights gained from this research will lead to the development of strategies for critical care nursing retention in the province of Manitoba.

We are asking all staff nurses, clinical resource nurses (CRNs) and educators, who are currently employed in critical care areas in the province of Manitoba to participate in this study. In addition we are asking for volunteers to participate in a one-on-one interview. The purpose of the interview is to gain insight into the experiences of ED nurses regarding factors that are influencing their intent to stay or leave their current ED working environment, as well as strategies for retention. Please consider participating in this study. If you agree to take part in the **survey**, we ask that you please complete the survey on-line @ [www.surveymonkey.com](http://www.surveymonkey.com).

There are no anticipated risks to you for participating in this research. You may not benefit directly from participation in this research; however, the study results will contribute to a better understanding of the issues related to nursing retention in critical care. There will be no financial costs for you to participate; the only cost is your time. The survey questionnaire will take approximately 20 minutes to complete. You will not be paid for your participation in this study.

If you are interested and/or willing to participate in the **one-on-one interview**, please check the appropriate box in the questionnaire package and complete the contact information. Carol Enns, who is an instructor in the Faculty of Nursing, a member of our research team, and the interviewer, will contact you directly to provide further information about this component of the study and to answer any questions you may have in this regard. Our goal is to interview a total of 8 to 10 critical care nurses. Potential interviewees will be selected in the order received. The interview will include a series of broad questions related to factors that are influencing your decision to stay or leave critical care, as well as strategies to retain nurses in critical care areas. These interviews will be conducted by Carol Enns, at a mutually agreed upon private place.

The interviews will be audiotaped and transcribed verbatim by a PHIA certified transcriptionist. The transcriptionist will not have access to the identity of the interviewees. The interview will take approximately 60 to 90 minutes.

All information you provide to the Manitoba Critical Care Nurses Retention Study will be kept strictly confidential. Your name does not appear on the actual questionnaire. Questionnaires are coded; all information provided will be treated as confidential in accordance with the Personal Health Information Act (PHIA) of Manitoba. All data will be kept in a locked filing cabinet in the office of the PI; all data, including hard copies and tapes will be kept for a maximum of 10 years and then destroyed by confidential waste disposal. Only members of the research team will have access to the study data. The Education and Health Research Ethics Board (ENREB) at the University of Manitoba may review your research-related records for quality assurance purposes. If the results of the study are published or presented at conferences, your identity will remain confidential. By completing the Survey Monkey Questionnaire, you consent to participate in this study. Your decision to take part in this study is voluntary. You do not have to take part in this study. Your decision to not participate or to withdraw from the study will not have any negative consequences. If you would like to receive a summary of the study results, please complete the contact information on the Survey Monkey Questionnaire.

Completion of Survey Monkey Questionnaire indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

For further information, please contact:

Dr. Jo-Ann Sawatzky  
Telephone#: 204-474-6684

E-Mail: [joanne\\_sawatzky@umanitoba.ca](mailto:joanne_sawatzky@umanitoba.ca)

Do not complete the Survey Monkey Questionnaire unless you have a chance to ask questions and have received satisfactory answers to all of your questions.

This research has been approved by the Education and Nursing Research Ethics Board. If you have any concerns or complaints about this project you may contact any of the above-named persons or the Human Ethics Secretariat at 474-7122, or e-mail [margaret\\_bowman@umanitoba.ca](mailto:margaret_bowman@umanitoba.ca). A copy of this consent form should be kept for your records and reference.