Dominican Nursing Students’ Self-Reported Mastery of International Nursing Competencies

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DOMINICAN NURSING STUDENTS’ SELF-REPORTED MASTERY OF INTERNATIONAL NURSING COMPETENCIES

by

Wady Ramirez

A dissertation submitted to the Graduate College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Educational Leadership, Research, and Technology Western Michigan University April 2020

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DOMINICAN NURSING STUDENTS’ SELF-REPORTED MASTERY OF INTERNATIONAL NURSING COMPETENCIES

Wady Ramirez, Ph.D.
Western Michigan University, 2020

The Dominican health care system has many challenges to meet the legal and the population’s health care expectations (La Hoz, 2018; United States Agency for International Development, 2013). The purpose of this study was to evaluate how well Dominican nursing students, who have completed their internship but not yet defended their final career project, assessed themselves against a set of international nursing competencies. In addition, the purpose was to explore any differences in their self-assessments based on whether these students completed their internship at public health care centers or not. Finally, the goal was to determine to what extent do work background, academic background, and demographic variables predict nursing students’ competency self-assessment. This study intends to help address the general problem of deficiencies in the Dominican health care system by focusing attention on how competent new nursing professionals perceive they are and how background variables might influence their competency attainment.

The research design of this study was non-experimental quantitative, using a structured online survey. The sample had 205 nursing students just prior to graduation from the seven participating nursing schools during the September–December 2019 semester in the Dominican Republic. I used the Nurse Competence Scale (NCS) instrument (Meretoja, Isoaho, & Leino-Kilpi, 2004) to assess nursing students’ perception of competency attainment, and also translated
the instrument to Spanish and validated it for the DR context. The data were analyzed using descriptive statistics, one-way between-subject ANOVA, and backward multiple regressions.

Results in this study reveal that Dominican nursing students scored high in the diagnostic functions, work role, and helping role competency categories, and could improve their therapeutic interventions and ensuring quality competencies. Their competency attainment is the same regardless if they completed their nursing internship at public health care centers or not. The strongest predictors for their competency self-assessment level were high school academic level and the number of healthcare-related diplomas. This study suggests a roadmap to improve the nursing competency level in the DR. Further research topics could consider the assessment of nurses at service and explore the perspective of their supervisors.
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CHAPTER I
INTRODUCTION

The Dominican health care system has many challenges to meet the legal and the population’s health care expectations. Part of these challenges can be solved easily by increasing the healthcare budget and using it to improve the healthcare infrastructure in the Dominican Republic (DR). However, there are other significant improvements needed in the healthcare personnel that require more time, resources, and a systems thinking approach, due to the size and complexity of these unique challenges.

With this research, I intend to focus on the persistent challenge of improving Dominican nursing competencies by providing a snapshot of the perceived competency level of Dominican nursing students just prior to graduation. Improving nursing competencies is important because nurses are the health care professionals who spend the most time with patients and who are expected to play a critical role administering doctors’ orders, monitoring patients’ conditions, and taking action in case of changes in the patient status (Hamric, Hanson, Tracy, & O’Grady, 2013). Therefore, this study focuses on nursing students who are about to enter their professional nursing career, where they are expected to begin the much-needed improvement process among Dominican healthcare personnel.

Background

Access to health care is a fundamental right in the DR (Article No. 61, 2010), but the Dominican government is challenged to provide the health care service that the population demands related to coverage and quality (Batista, 2015; La Hoz, 2018; Ministerio de Salud Pública [MSP], 2013). For instance, the national mortality rate for children less than one-year-old is...
old is 22.9 deaths per 1,000 live births (Pan American Health Organization, 2017), and the maternal mortality rate is 92 deaths per every 100,000 live births (Pan American Health Organization, 2017). In 2015, only 68.6% of births in the DR were attended by qualified health personnel (Pan American Health Organization, 2017). The incidence of tuberculosis in the DR is 42.3 per every 100,000 people, with a mortality rate for that cause at 5.5 deaths per every 100,000 people (MSP, 2013). Chronic malnutrition in children under five years old reached 7.1% and 2% of children have stunted growth (Pan American Health Organization, 2017). These are some of the factors signaling a significant deficit in the DR health care system.

The Dominican health care system is composed of several types of health care centers with different administration, funding sources, and target populations. There are hospitals administered directly by the MSP, which receive funding from the MSP budget and the SENASA [National Health Insurance], and which provide assistance to people with different health insurance, but also to those without health insurance. There are hospitals administered by the Instituto Dominicano del Seguro Social (IDSS) [Dominican Social Service Institute], which receive funding from the IDSS budget and the SENASA insurance, and which provide assistance mainly to patients with the Salud Segura health insurance. There are hospitals administered by Fuerzas Armadas (FFAA) [Dominican Armed Forces], which receive funding from the FFAA and SENASA insurance, and which provide assistance mainly to the military and their relatives. There are hospitals administered by the Policía Nacional (PN) [Dominican National Police], which receive funding from the PN and SENASA insurance, and which provide assistance mainly to police officers and their families. There are health care centers administered by the NGO’s, which receive funding from the MSP, many health insurances, international funds, donations, the Dominican Congress, and patients, and which provide assistance to the general
population with insurance and resources to pay. There are health care centers administered by private institutions, which receive funding from many types of health insurance plans and patients, and which provide assistance to the general population who have insurance and resources to pay (Decreto No. 351-99: Reglamento General de Hospitales de la República Dominicana [Decree No. 351-99: Dominican Hospitals General Rules], 1999).

While health care access is an economic and social right in the DR Constitution, recent funding priorities have not kept pace with the need. In the DR, only 2.7% of the gross domestic product (GDP) was allocated to public health care for 2018 (DIGEPRES, 2018), despite having a health expenditure of 8.56% of the GDP on average for Latin American and Caribbean countries in 2016 (The World Bank, n. d.). The Dominican Medical Association and groups in the National Pact for Health (PANASALUD, acronym in Spanish) have organized several massive demonstrations during recent years to demand the government invest 5% of the GDP in public health care, as well as a general readjustment of wages, among other points (Batista, 2017).

Beyond underinvestment in health care, nursing education in the DR also faces enormous challenges, suggesting important changes are needed in patterns of training, service delivery, and staffing to respond to real demands from the Dominican society and the world (DR Higher Education Ministry, 2010). There are 11 nursing schools offering four-year nursing bachelor’s degrees in the DR. These programs include theory classes, laboratory practices, community work, hospital internships, and a final research project (Ministerio de Educación Superior Ciencia y Tecnología [MESCyT], 2012). The former Minister of MESCyT, Dr. Ligia Amada Melo, has suggested that students graduating from nursing schools must demonstrate the attainment of competencies to help solve the problems of the population and better meet patients’ needs (MESCyT, 2012). The term competency is defined by the International Council of Nurses (2008)
as the knowledge, skill, and judgment relating to a range of skills and personal attributes and attitudes that a nurse needs to possess.

To address this situation, the Nursing Commission of the MESCyT published two different lists of competencies that nurses graduating from Dominican universities should possess. The first list of competencies was published in 2012 and included a list of 46 competencies nursing students should obtain prior to graduation. These 46 competencies were initially divided into four categories: personal characteristics, intellectual abilities, technical competencies, and affective competencies (MESCyT, 2012). In 2014, the list was updated, tripling the number to 121 nursing competencies, which are now divided into three levels of proficiency: primary, professionals and specialized (MESCyT, 2014). The 2014 revision of the competencies was part of an effort to achieve consensus within the local nursing community regarding the competencies that graduated nurses should possess. Since then, the government’s Nursing Commission has been working with nursing departments at Dominican universities to help them align their nursing programs with these new expectations.

Appendix A compares the 2014 list of MESCyT nursing competencies with the list of 73 competencies in the Nurse Competence Scale (NCS), which is an internationally validated instrument for nurse competence assessment adopted by several developed countries. The 73 NCS competencies on the left are matched with the equivalent competencies from the 2014 list of MESCyT nursing competencies on the right. This comparative analysis shows that there are 29 (39.72%) competencies from the NCS without an equivalent competency in the MESCyT nursing competency list, highlighting the gap between the nursing competencies development expectations from the MESCyT and the NCS. It also emphasizes the importance of considering international competencies frameworks at nursing schools in order to prepare nurses to be
proficient to work both in the DR and in international contexts (Flinkman et al., 2017; Meretoja, Isoaho, & Leino-Kilpi, 2004).

Moreover, the MESCyT new competency categories—primary, professionals, and specialized—may not be self-explanatory to nursing teachers in the DR. These levels of proficiency are in contrast to categories in international standards, such as the helping role, teaching-coaching, diagnostic functions, managing situations, therapeutic interventions, ensuring quality, and work role, all of which offer a more intuitive understanding of the nature of the content within each competency category. It is also important to consider that the use of an international set of competencies may provide a frame of reference for comparisons with other countries, and potentially help Dominican-trained nurses take advantage of international professional opportunities (Meretoja, Isoaho, & Leino-Kilpi, 2004; MESCyT, 2014).

**Problem Statement**

**Practical Problem**

There is a problem of inadequate funding for the DR health care system and a need for appropriate tools and incentives to better prepare the health care professionals who provide the health care services that the Dominican population expects. While the Dominican Medical Association and other organizations from the Dominican society are pressuring the government to increase the public health budget (Batista, 2017), the MESCyT is working on the definition and implementation of a general framework that promotes the continuous improvement of nursing school education (MESCyT, 2012, 2014). In the meantime, there is also a need for the academic community to help identify the fundamental training development needs of nursing students training to be nursing professionals. This includes the establishment of a framework for the assessment and measurement of nursing competencies.
Studies Addressing the Problem

Previous research has addressed the topic of nurse competencies from different perspectives. From the viewpoint of nurse competency assessment instruments, Meretoja, Isoaho, and Leino-Kilpi (2004) developed a 73-item instrument divided into seven categories, the Nurse Competence Scale (NCS), to assess the level of nurse competence. This instrument is validated for use in several nursing schools and hospital units to assess nursing competencies, and its reliability was confirmed for the contexts of Finland, Australia, Italy, Norway, Iran, Lithuania, Egypt, USA, Switzerland, Sweden and Uruguay (Bahreini, Moattari, et al., 2011; Cowin et al., 2008; Delaney, Friedman, Dolansky, & Fitzpatrick, 2015; Delai, Mortari, & Meretoja, 2009; De-Souza-Cruz & Mariscal-Crespo, 2016; Hamström, Kankkunen, Suominen, & Meretoja, 2012; Istomina et al., 2011; Kajander-Unkuri et al., 2014, 2016; Kamel, Fakhry, & Ibrahim, 2011; Karlstedt, Wadensten, Fagerberg, & Poder, 2015; Kawther, Samah, & Fatma, 2011; Koskinen, Likitalo, Aho, Vuorio, & Meretoja, 2014; Lima, Newall, Kinney, Jordan, & Hamilton, 2014; Meretoja, Isoaho, & Leino-Kilpi, 2004; Meretoja & Koponen, 2012; Müller, 2013; O’Leary, 2012; Salonen, Kaunonen, Meretoja, & Tarkka, 2007; Stobinski, 2011; Wangensteen, 2010; Wangensteen, Johansson, Bjorkstrom, & Nordstrom, 2012, Wangensteen, Johansson, & Nordstrom, 2015). Recently, Flinkman et al. (2017) confirmed the value of the NCS for determining relationships between background variables and nursing competencies among nurses with different levels of experience, preparation, and positions. However, the NCS instrument should be validated for use in the Dominican context, to confirm its value in the local environment.

Other researchers have looked at the perspective of nurse competency assessment within different contexts. For example, Hamström et al. (2012) considered the most essential competencies at ambulatory surgery units, using the NCS, while several studies (Donilon, 2013; Harding,
considered nurse competence within acute care, intensive care, and emergency room contexts. From the perspective of nurse competence development, Benner (1982) described the process needed for a nurse to go from novice to expert, through the movement over five levels of proficiencies that she described, and Wilson et al. (2012) voiced the need for health professionals’ competency development to effectively address global health issues.

**Literature Deficiency Statement**

Despite previous research on nurse competencies, there appears to be a deficiency in the literature concerning nurse competency assessment and development within developing countries, since few of the current studies were conducted in developing countries like the DR (Flinkman et al., 2017). Only developing countries like Uruguay, Iran, Lithuania, and Egypt have studied nursing competencies assessment using the NCS, according to Flinkman et al. (2017) (Bahreini, Moattari, et al., 2011; De-Souza-Cruz et al., 2016; Istomina et al., 2011; Kamel et al., 2011).

**Significance of the Study**

This study is significant because it provides an evaluation of the current competency level of nursing students graduating from Dominican nursing schools and validates the nursing competency assessment instrument for the DR context. An evaluation of the current competency levels of graduating nursing students is important because it may help nursing school directors improve their nursing programs and better prepare future nursing students. The validation of the instrument for the DR context is important because it may serve as a tool for the assessment of nursing competencies at several Dominican contexts and, based on that, the development of continuous education programs to improve competency areas with lower scores.
This study is also important because it represents a contribution from the DR academic community to Dominican policymakers, nursing school directors, nursing hospital directors, and continuous development directors, since it provides data that could help them make informed decisions grounded in empirical information related to nursing competencies in the DR. In addition, this study may contribute to the saving of many lives because it will provide meaningful inputs for the development of nursing academic programs in order to better prepare future nurses to meet critical competencies. It may also help save resources because it could serve as a guide to identifying the critical areas of investment needed to best support continuing education for nurses at service.

**Purpose Statement**

The purpose of this study is to evaluate how well Dominican nursing students—who have completed their internship but not yet defended their final career project—assessed themselves against a set of international nursing competencies. In addition, the purpose is to explore any differences in their self-assessments based on whether these students completed their internship at public health care centers or not. Finally, the goal is to determine to what extent does work background, academic background and demographic variables predict nursing students’ competency self-assessment.

**Research Questions**

I initially intended to address the purpose of this study through the following research questions:

1. How well do Dominican nursing students who are about to graduate believe they have mastered the NCS international nursing competencies?
2. Is there a significant difference in these self-assessed competencies attainment based on whether students completed their internship at public health care centers or not?

3. To what extent does the entity type predict nursing students’ competencies self-assessment, when controlling for demographic variables?

However, since most of the participants in my sample performed their nursing internship at health care centers administered by the MSP, I was forced to conduct the multiple regression analysis without this variable. The final version of my third research question is: to what extent does work background, academic background, and demographic variables predict nursing students’ competencies self-assessment?

These research questions sought to consider Dominican nursing students’ perceptions of their competencies just prior to graduation while exploring the influence of work background, academic background, and demographic variables over their competency self-assessment. The first question sought to provide a picture of nursing students’ perception of their mastery of the NCS competencies. The second question sought to explore if there was a significant difference in the self-assessment of Dominican nursing students depending on whether students completed their internship at public health care centers or not. Finally, the third question sought to explore the influence of variables inherent to each student, such as work background, academic background, and demographic variables, over Dominican nursing students’ competency self-assessment.

**Conceptual Framework**

The conceptual framework in Figure 1 illustrates how the six key elements (boxes) of this study interact to answer the research questions. More specifically, this conceptual framework illustrates my intention of exploring the influence of the type of entity administrating the health center where these students completed their internships, and their work background, academic
background, and demographic variables (boxes one to four), over Dominican nursing students’ competency self-assessment just prior to graduation (fifth box), according to the seven categories of the Nurse Competency Scale (NCS) instrument as shown in the sixth (inner) box (Meretoja, Isoaho, & Leino-Kilpi, 2004).

![Conceptual framework for study](image)

*Figure 1.* Conceptual framework for study (Ramirez, 2018).

The first box in this conceptual framework illustrates my intention to explore how the type of entity administrating the health center where these students completed their internships influences Dominican nursing students’ competency self-assessment just prior to graduation according to the NCS. This variable is important because students attend nursing schools to
acquire professional competencies to work as nurses, and the nursing internships are important learning experiences that take place outside university campuses. Therefore, it is important to consider how the type of entity administrating the health center where these students completed their internships influences nursing students’ competency self-assessment. Nursing students reported the name of the hospital where they completed their internship, then I matched it with its corresponding type of entity administrating the health center according to the MSP official database and then classified them as public and non-public. Dominican nursing students can complete their internships at health care centers administered by one of the six types of entities, from which the IDSS, MSP, FFAA, and PN health care centers belong to the public sector, while NGOs and private health care centers belong to the non-public sector (MESCyT, 2012).

The second box in this conceptual framework illustrates my intention to explore how the students’ work background variable influences Dominican nursing students’ competency self-assessment just prior to graduation according to the NCS. This variable is informative since students’ previous experiences in healthcare-related activities are connected to higher nursing competency performance (Benner, 1982; O’Leary, 2012). Nursing students reported the number of years they have experience in healthcare-related activities.

The third box in this conceptual framework illustrates my intention to explore how the students’ academic background variables influence Dominican nursing students’ competency self-assessment just prior to graduation according to the NCS. I described students’ academic background with two variables: Number of diplomas received from trainings or studies related to the health care area, and the type of high school from which they graduated. The first academic variable refers to Wiggins’ (1998) reference to the importance of trainings and studies for
competencies acquisition. The second academic variable refers to Lubienski, Lubienski, and Crane’s (2008) reference to the impact of the type of school on students’ academic achievement. The fourth box in this conceptual framework illustrates my intention to explore how the students’ demographic variables—sex and age—influence Dominican nursing students’ competency self-assessment just prior to graduation according to the NCS. It was interesting to consider sex because most nurses are female in Dominican culture (Davies, 1995; MESCyT, 2016). It was interesting to consider age and explore if younger students’ self-assessment was higher in their nursing competency level or if it was the other way around (Beauvais, Brady, O’Shea, & Griffin, 2011; O’Leary, 2012; Salamonson & Andrew, 2006).

The fifth box in this conceptual framework represents the center of the research, which is the competency self-assessment of my target population, according to NCS competency categories. This box specifies the target population, frames the study in place and time, and relates it to the sixth (and inner) box, which includes the seven nursing competencies in the NCS instrument developed in Finland by Meretoja, Isoaho, and Leino-Kilpi (2004), and used and validated in many contexts (Flinkman et al., 2017). The purpose of the NCS is to assess the level of nursing competencies by using 73 items divided into seven competency categories: helping role (7 items), teaching–coaching (16 items), diagnostic functions (7 items), managing situations (8 items), therapeutic interventions (10 items), ensuring quality (6 items), and work role (19 items).

Methods Overview

The research design of this study was non-experimental quantitative, using a structured online survey. Data was collected from Dominican nursing students just prior to graduation in the DR regarding their perception of competency attainment. The data collection process took place at seven of the 11 Dominican nursing schools. All nursing schools were invited to
participate with their students, but only seven of them responded. The sample was composed of the 205 nursing students, out of 307, that completed the instrument and met the inclusion criteria. Inclusion criteria includes nursing students that had, at the data collection moment (July–August 2019), completed (or were in the middle of) their nursing internship. I used the Nurse Competence Scale (NCS) instrument developed by Meretoja, Isoaho, and Leino-Kilpi (2004) in Finland for the assessment of Dominican nursing students’ competencies. The data were analyzed using descriptive statistics, one-way between-subject ANOVA, and backward multiple regressions.

Chapter Summary

This study intends to help address the general problem of deficiencies in the Dominican health care system by focusing attention on how new nursing professionals perceive their competency attainment and how background variables might influence their competency attainment self-assessment. This study seeks to help nursing school directors in their attempts to improve their nursing school academic curriculum, and in developing continuing education programs to reinforce any deficiencies. My goal with this study was to draw conclusions based on the findings that may contribute to the improvement of the quality of the healthcare that the population receives in the Dominican health centers.
CHAPTER II
LITERATURE REVIEW

In this literature review, I present the concepts, studies, and background information necessary to better understand this study’s analysis regarding the self-assessment of Dominican nursing students’ competencies. First, I present definitions related to nursing competencies to set a proper understanding of this core concept for this study, then share the importance of considering nursing competencies from a common international perspective. Second, I describe how nursing competencies are assessed—or self-assessed—in different contexts. Third, I describe and analyze different nursing competencies assessment instruments and nursing competencies list. Fourth, I present theory and strategies for nurse competency development. Finally, I close the chapter with a description of the context of the DR health care system and the DR nursing academic programs.

Nursing Competencies

Competence is a crucial attribute for assuring high-quality, ethical and safe nursing care (Kendall-Gallagher & Blegen 2009), leading several prominent authors to define competencies in the nursing context over the years. For example, Benner (1982) defined competence as the ability to perform a task with desirable outcomes, while Del Bueno (1987) preferred to define it as the effective application of knowledge and skills. Mansfield and Mitchell (1996) simplified the definition to something that a person should be able to do. The Nursing Care Continuum Framework and Competencies and the International Council of Nurses defined competence as possessing knowledge, skill, and judgment relating to a range of skills and personal attributes and attitudes (International Council of Nurses, 2008). According to the American Nurses Association (2015), “A competency is an expected level of performance that integrates knowledge, skills,
abilities, and judgment” (p. 44). The Nursing and Midwifery Board of Ireland (2015) defined nursing competence as the ability of the Registered Nurse to practice safely and effectively, fulfilling his/her professional responsibility within his/her scope of practice.

Even though differences in the definition of nursing competency can be found among various authors, the essence remains the same. For this study, I will adhere to the competence definition suggested by Meretoja, Leino-Kilpi, and Kaira (2004), who defined the concept as “functional adequacy and capacity to integrate knowledge and skills to attitudes and values into specific contextual situations of practice” (pp. 330–331).

Considering nursing competencies from a common international perspective is important for two key reasons. The first is the common need for every human to receive proper health care, regardless of their nationality, ethnicity, or socioeconomic status. The second is the potential benefits for nursing professionals and patients due to a nursing professional’s mobility process based on a common nursing competency framework. This helps to ensure competency level recognition for nurses and quality service for patients. Seeing that nursing competencies impact nurses and patients from diverse backgrounds, seriously examining said competencies from an international perspective could be beneficial for both patients and nurses.

The Universal Declaration of Human Rights (UDHR), proclaimed by the United Nations General Assembly on December 10, 1948, in Paris, provides several arguments to defend the need for competent nursing staff worldwide. Article 1 refers to the freedom, dignity, and rights of all humans. Article 2 refers to the equality of all humans regardless of their race, color, sex, language, religion, nationality, among others (United Nations, 1948). As the articles suggest, every human deserves proper access to health care services and quality health care assistance.
Regarding nursing mobility, Article 23 of the UDHR presents a person’s right to work and freely choose a job with favorable conditions and fair remuneration. Moreover, Article 25 refers to the right to a standard of living adequate for the health and well-being of a person and their family, along with access to proper health care. Health care professionals, like nurses, have the right to pursue job opportunities with better conditions (United Nations, 1948). Since these opportunities could appear in different contexts, nursing professionals need a common framework to make employment decisions grounded on reliable nursing competencies assessment. This way nursing professionals could take advantage of better work opportunities, while patients and health care centers could, in turn, benefit from better nursing services.

**Nurse Competencies: Supervisor Assessment and Self-Assessment**

In regard to analyzing a shared framework for nursing competencies, two approaches prevail: supervisor assessment on one hand and self-assessment from the nurse or nursing student on the other. Even though many authors are convinced of the value of nurse competencies self-assessments, Baxter and Norman (2011) considered that this commonly used and well-intentioned practice may be ineffective (Cowin et al., 2008; Delaney et al., 2015; Dellai et al., 2009; Kajander-Unkuri et al., 2014; Lima et al., 2014; Salonen et al., 2007). Baxter and Norman (2011) suggest “that additional evaluation measures should be used to determine areas of strength and weakness, particularly when it comes to clinical learning” (p. 2411). However, this is a minority opinion in the nurse competencies literature.

**Nursing Students Self-Assessment**

Several researchers have confirmed the value of nursing students self-assessing their practices in a variety of contexts. For example, Hengstberger-Sims et al. (2008) conducted a study of three cohorts (\(n = 116\)) of new graduate nurses undertaking a year-long transition to
graduate practice programs in metropolitan public hospitals in Australia. The researchers found a relationship between perceived nursing competence and the frequency of use for each competence. They also discovered that research competency scores are substantially lower than all other categories of competency (Hengstberger-Sims et al., 2008). Implications for education and practice indicate that assessment of nurse competency for the new graduate nurse should focus on the development of generic nursing competencies rather than a current expectation of advanced and workplace-specific nurse competencies.

In another Australian hospital, Lima et al. (2014) studied 47 graduate nurses starting a graduate nurse program in a large pediatric hospital during 2013 and found that these graduate nurses had a lower level of self-assessed competence at the time of commencing practice than was found with other nurses with more experience in similar studies. The mean overall self-assessed competence for these graduate nurses was 40.1 (±10.5). Within the domains, means ranged from 35.0 (±14.3) for the teaching–coaching domain to 47.5 (±14.6) for ensuring quality. In looking at the frequency of use, the helping role was most frequently used (74%) while the work role was least used (34%). They also identified a strong pattern that items related to coaching, mentoring, guiding or supporting other health professionals, including students, had a low mean competence score.

A study from Finland also weighs in on the matter of nursing students’ self-assessments. Kajander-Unkuri et al. (2014) studied 154 graduating nursing students practicing in their final clinical placement in university hospitals during 2011. Kajander-Unkuri et al. (2014) found that graduating nursing students in Finland have good competence at the moment of graduation based on their self-assessments, and that knowledge-tests could be used alongside self-assessments of competence to provide a wider picture of the nursing students competencies. Their level of
competence ranged from 59.4 to 75.6 and the mean was 66.7. Over half (62.9%) of the students assessed their level of competence as good (VAS N 50–75) and 25.8% as very good (VAS N 75–100). They also concluded that self-assessment is a basis for competence development since nurses can define their training priorities based on the competency areas they score lower in their periodical self-assessment process.

These studies confirm that nursing competencies self-assessment provides a reasonable idea of nurses’ actual competency level and that it could be a valid approach to assess the competency level of nurses in different stages. Even though certain groups may self-assess higher or lower than their competence level, it is reasonable to consider competency self-assessment as a good guide to orient training programs at hospitals, to revise curricular programs at nursing schools and empower nursing professionals to guide their competence development process based on a systematic self-assessment of their competencies.

**Comparison of Self-Assessment and Assessment**

Other researchers have compared the usefulness and efficacy of self-assessment versus supervisor assessment. For example, in his study of 62 newly-employed nurses with different education levels (Associate of Science in Nursing, Diploma & Bachelor of Science in Nursing) and experience ranging from new graduates to 20+ years, Koncaba (2007) confirmed that there is a relationship between self-assessment of competence and actual competence performance. In this study, using simulated clinical scenarios among newly employed nurses, the self-assessment of 47% (28) of the nurses matched their measured assessment and one nurse’s measured assessment exceeded his/her self-assessment (1%). There were 32 nurses or 52% whose self-assessment was higher than their measured assessment.
In contrast, Kajander-Unkuri et al. (2016) in their study of 42 student-mentor pairs during 2011 in Finland, and Bahreini, Moattari, et al. (2011) in their study of 330 nurses and 19 head nurses working in a university hospital in Iran, found that nursing students and nurses assessed their nurse competencies higher than their mentors and nursing supervisors. The students in Finland assessed themselves (64.5 ± 12.2) to have higher competency levels than assessed by their mentors (56.7 ± 19.0). Similarly, the students in Iran assessed themselves (87.03 ± 10.03) to have higher competency levels than the assessment done by their head nurses (80.15 ± 15.54).

Kajander-Unkuri et al. (2016) suggested that their results may be due to different understandings of nurse competence between the two groups. Bahreini, Moattari, et al. (2011) suggested the differences could be reconciled by using a combination of nurse competency assessment methods in order to reach a more valid and precise conclusion regarding nurses’ competence level.

**Nurse Competence Assessment Instruments**

The competency assessment process requires the use of one or more currently available competency assessment instruments. The two principal instruments developed to standardize the assessment of nurse competencies are the Nurse Competence Scale (NCS) developed by Meretoja, Isoaho, and Leino-Kilpi (2004) and the ETHAN Questionnaire Tool (EQT) developed by Cowan, Norman, and Coopamah (2005). In this section, I will describe the nursing assessment instruments that I have found in the literature and compare them to the list of competencies that the nursing students are expected to develop at Dominican nursing schools, according to the MESCyT’s nursing commission.
Nurse Competence Scale (NCS)

The Nurse Competence Scale (NCS) instrument developed by Meretoja, Isoaho, and Leino-Kilpi (2004) assesses the level of nurse competence within a variety of health care settings. This instrument has 73 items divided into seven categories—helping role, teaching–coaching, diagnostic functions, managing situations, therapeutic interventions, ensuring quality, and work role—was developed based on the categories from Benner’s (1982) From Novice to Expert competency framework and Schwirian’s (1978) Six Dimension Scale of Nursing Performance (6D). Benner (1982) described the process needed for a nurse to go from novice to expert, through the movement over five levels of proficiencies: novice, advanced beginner, competent, proficient and expert—while Schwirian’s (1978) 6D 52-items instrument, served Meretoja, Isoaho, and Leino-Kilpi (2004) as a reference to test concurrent validity of the NCS, since it was the closest existing instrument for the assessment and self-assessment of nursing performance.

The NCS has been used by numerous researchers (Bahreini, Moattari, et al., 2011; Cowin et al., 2008; De-Souza-Cruz & Mariscal-Crespo, 2016; Kajander-unkuri et al., 2014, 2016; Lima et al., 2014; Meretoja, Isoaho, & Leino-Kilpi, 2004; Salonen et al., 2007; Stobinski, 2011). The NCS is an internationally validated instrument for nurse competency assessment that has been adopted by several developed countries. Recently, Flinkman et al. (2017) confirmed the value of the NCS for determining relationships between background variables and nursing competency levels, among nurses with different levels of experience, preparation, and positions.

Several studies have focused particularly on the self-assessment usage of the NCS. For instance, Lima et al. (2014) used the NCS to determine the self-assessed level of competence of 47 nurses starting a graduate nursing program in a large tertiary pediatric hospital in Australia. On their part, Kajander-unkuri et al. (2014) used the NCS electronically for the self-assessment
of the levels of competencies of 154 graduating nursing students in Finland. Additionally, the researchers analyzed the factors related to different levels of nursing competency. Also in Finland, Salonen et al. (2007) used the NCS to describe the self-assessed competencies of 235 RNs working in intensive care and emergency room settings at a major university hospital. With the participation of 101 critical care nurses at a tertiary care hospital on the east coast of the USA, O’Leary (2012) used the NCS to explore the relationship of self-assessed competence with age and nursing experience.

Stobinski (2011) studied the self-assessed competency levels of 228 civilians and 228 military perioperative nurses from the US Navy in 2010 using the NCS, compared with their assessment of their nursing work environment, using the Practice Environment Scale–Nursing Work Index (PES-NWI). He found that Navy nurse subjects had higher overall NCS scores ($M = 82.74, SD = 11.2$) than the civilian nurses ($M = 78.84, SD = 11.9$), which is surprising considering that Navy nurses had far less experience than their civilian counterparts.

Even though the NCS is primarily used as a self-assessment instrument, it can also be helpful to judge competencies. Researchers like Kajander-Unkuri and Bahreini conducted studies comparing nurses’ self-assessment to the evaluation by a supervisor or mentor. Kajander-Unkuri et al. (2016) used the NCS to assess the congruence between 60 graduating nursing students’ self-assessment and their 60 mentors’ assessments concerning nurse competence in the last week of final clinical placement of nursing education in Finland during 2011. Bahreini, Moattari, et al. (2011) used the NCS to compare the competence self-assessment of 330 nurses with the assessment made by their respective 19 head nurses working in a university hospital setting in Iran during 2009, and found that nurses assessed their nurse competencies higher than their mentors and nursing supervisors.
In addition to presenting self-assessed nursing competencies, could the NCS inform researchers of the relationship between the level of competency and their frequency of use? That question has been addressed in separate studies by Hamström and Hengstberger-Sims. Hamström et al. (2012) used the NCS electronically for the self-assessment of Finnish nurses’ level of competencies and their actual competency use in the ambulatory surgery setting. This study included 148 nurses from six ambulatory units in six different hospitals in Finland during 2008. Hengstberger-Sims et al. (2008) used the NCS and the Australian National Competency Standards (ANCI) to determine the relationship between perceived nursing competence and self-assessed frequency of use by 116 new graduate nurses. These nurses were undertaking a year-long transition to graduate practice programs in metropolitan public hospitals in Australia over a three-month period in 2005. They found that a relationship exists between perceived competence and frequency of use and that research competency scores are substantially lower than all other categories of competency.

Some of the above-mentioned studies combined the NCS with other measurement instruments, like the PES-NWI and ANCI. Other studies in which the NCS was used in conjunction with different tools are the ones by Cowin (2008), Delaney (2015), and De-Souza and Mariscal-Crespo (2016). Cowin et al. (2008) analyzed the correlation of the competence self-assessment levels of 116 newly graduated RNs in transition programs throughout the state of New South Wales, Australia during 2005, using the NCS and the ANCI. They found that the correlational relation between ANCI domains and NCS factors suggests that these scales are indeed used to measure related dimensions, with a statistically significant relationship ($r = 0.75$).

At a large health system in the northeastern United States during 2015, Delaney et al. (2015) analyzed the influence of a multimodal sepsis educational program for critical care and
emergency departments in a group of 82 RNs on knowledge acquisition and self-assessed competence in the early recognition and treatment of patients with sepsis. The researchers carried out this evaluation using NCS and the Taming Sepsis Educational Program® (TSEP™). They found no improvement in the overall participants’ self-assessed competence scores; nevertheless, self-perceived frequency of use of competence behaviors improved. For instance, participants felt more competent on three sepsis-targeted statements, and posttest knowledge scores showed significant improvement.

On their part, De-Souza-Cruz and Mariscal-Crespo (2016) analyzed the nursing competency levels according to the clinical learning environment of 33 undergraduate nursing students from Facultad de Enfermería de la Universidad de la República and Universidad Católica del Uruguay during 2013. To do this, the researchers used the NCS and the Practice Environment Scale-Nursing Work Index (PES-NWI). They found that students’ perceived level of competency is very good (76.97; VAS:0–100), while the work environment was mostly unfavorable (54.5% disagree). The researchers found no relation between competency and work environment for the sample they considered.

While De-Souza-Cruz and Mariscal-Crespo focused on the influence of the learning environment on competence, Bahreini, Shahamat, et al. (2011) explored the influence of the type of hospital on level of clinical competence via a qualitative study of 266 nurses working in two types of university hospitals in Iran. Using the NCS to determine and compare the level of clinical competence, Bahreini, Shahamat, et al. (2011) found that nurses who were working at a high standard university hospital viewed themselves as more competent than those who were working at a lower standard university hospital.
Other researchers were similarly interested in the factors that affect the level of competence. Istomina et al. (2011) used the NCS and the Good Nursing Care Scale for Nurses with nurses \((n = 218)\) working with patients after abdominal surgery to explore the factors associated with higher nurse competency levels at 11 surgical wards of 7 Lithuanian hospitals over a three-month period. They found that the overall level of nurse competence and the frequency of using the competencies in practice was perceived as high by nurses. The highest scores were the competencies related to managing situations and work role; while the lowest were teaching–coaching and ensuring quality. They concluded that “nurse education, nurse experience, and nurse professional development play a significant role in the evaluation of nurse competence as well as the evaluation of the quality of nursing care” (Istomina et al., 2011, p. 230).

The NCS is proven to be flexible enough to translate well into other languages and cultures. Müller (2013) tested the psychometric properties of the NCS and evaluated its German version using confirmatory factor analysis and Rasch modeling with data from 679 nurses generated at a university hospital in Switzerland in 2007. Dellai et al. (2009) validated the NCS instrument content for the assessment of nursing competencies in the Italian culture, with semi-structured interviews of 10 nurses from different departments in 2006. These studies resonate with the need and my intention to confirm the validity of the NCS for other contexts, like the DR.

Other authors also used the NCS for the assessment and self-assessment of competencies with nursing students and nurses at service in different clinical environments, but published their results in languages different than English and Spanish like Norwegian, Egyptian, Finnish, and Swedish (Kamel et al., 2011; Karlstedt et al., 2015; Kawther et al., 2011; Koskinen et al., 2014; Wangensteen, 2010; Wangensteen et al., 2012, 2015). That the NCS has been used with different
cultures and ethnicities of nurses speaks to the widespread usefulness and validity of the instrument.

**ETHAN Questionnaire Tool (EQT)**

The ETHAN Questionnaire Tool (EQT) developed by Cowan et al. (2005) is a self-assessment instrument with two versions composed of 108 items for the competence self-assessment of nurses. This instrument was used to assess nurse competencies in hospitals in countries of the European Union (EU), such as the UK, Belgium, Greece, Germany, and Spain. The EQT was found useful for detecting differences in nursing competence to facilitate nurse workforce mobility across the EU. The EQT was adopted to improve transparency in the assessment of nursing competencies and to provide a common competency framework for nurses mobility across the EU (Cowan, Wilson-Barnett, & Norman, 2007; Cowan, Wilson-Barnett, Norman, & Murrells, 2008).

**Dominican Nursing Competencies List**

The Nursing Commission of the MESCyT published two separate lists of competencies that nurses graduating from Dominican universities should possess. The first list was published in 2012 and suggested 46 competencies that nursing students should obtain prior to graduation. These were divided into four self-explained categories: personal characteristics, intellectual abilities, technical competencies and affective competencies (MESCyT, 2012). In 2014, the MESCyT published an updated list, which included 121 competencies divided into three categories: primary, professional, and specialized. This revision of competencies was part of an effort to achieve a consensus within the nursing community regarding the competencies that graduated nurses should possess. The Dominican government’s Nursing Commission is working
with nursing departments at Dominican universities to help them align their nursing programs with these new expectations.

Appendix A presents the list of 73 competencies in the Nurse Competence Scale (NCS), on the left, matching it with equivalent competencies from the 2014 MESCyT nursing list of competencies on the right. To prepare this comparative analysis, I considered each of the 73 competencies in the NCS and compared it with each of the 121 competencies in the current MESCyT list of nursing competencies, looking for congruences and similarities. Three nursing professionals and experienced educators assisted me in matching and revising the competencies matching. This comparative analysis shows that there are 29 (39.72%) competencies from the NCS without an equivalent in the MESCyT list. This analysis illustrates the gap between the nursing competencies development expectations from the MESCyT and those of the NCS. Also, it supports the importance of implementing international competencies frameworks at nursing schools to prepare nurses to work in the DR and in international contexts (Cowan et al., 2005; Flinkman et al., 2017; Meretoja, Isoaho, & Leino-Kilpi, 2004).

A difference in design and purpose is evident when comparing the three above-mentioned nursing competency frameworks. Both the NCS and the EQT have been conceived as measurement instruments, and have been validated as such on international levels. In contrast, the Dominican nursing competencies framework, distributed by the MESCyT, is not a measurement instrument, but a list. It is a descriptive guide that nursing schools are to develop throughout their curriculum and is not yet validated.

Other Assessment Instruments and Standard Frameworks

Other authors developed and reviewed other assessment instruments and standards related to nursing competencies. Wilkinson (2013) presented four research reports with multidimensional
self-reporting tools designed for use with nurses in ongoing practice. These studies, conducted in Europe and Asia: (a) recognized the increased mobility of the international nursing workforce in the EU, as the global shortage of health care workers increases (Cowan et al., 2008); (b) identified the need for the development of core competencies for public health nurses in Taiwan (Lin, Hsu, Li, Mathers, & Huang, 2010); (c) developed a tool to measure generic nursing competencies of Chinese RNs because they found no existing instrument for Chinese RNs (Liu, Kunaiktikul, Senaratana, Tonmukayakul, & Eriksen, 2007); and (d) developed a self-reporting tool to provide evidence of nurses’ competence in Jordan (Safadi, Jaradeh, Bandak, & Froelicher, 2010).

When discussing nursing competency in the EU, Kajander-Unkuri, Salminen, Saarikoski, Suhonen, and Leino-Kilpi (2013) took a different approach by grouping their findings. They described seven studies and three additional documents from the EU which identified 67 competence areas classified into eight main categories: (1) professional and ethical values and practice; (2) nursing skills and intervention; (3) communication and interpersonal skills; (4) knowledge and cognitive ability; (5) assessment and improving quality in nursing; (6) professional development; (7) leadership, management and teamwork; and (8) research utilization. They found little research on nursing students’ generic competence in Europe in their systematic literature review. They conclude that graduating nursing students competence assessment is a key issue for educators and administrators and that a Common European nursing competency assessment tool would contribute to high-quality nursing care for all countries.

In summary, for the purpose of this study, I will use the NCS instrument developed by Meretoja, Isoaho, and Leino-Kilpi (2004) because its widespread use has been properly documented and validated for several contexts in many countries. This widespread use aligns with my intention of providing the Dominican nursing community with a proper tool for nursing competence
development based on periodic self-assessment of nursing competencies. This type of self-assessment could help nurses committed to their professional growth to design plans to improve in competency areas where they score lower, which is the approach of an adult learner (Brookfield, 1986; Knowles, Holton, & Swanson, 2012).

**Nurse Competence Development**

Well-developed nursing competency is critical for effective patient care because inadequate nursing care can have a negative impact on patient outcomes. Continuous education through nurse competence development programs can help build clinical skills and keep nurses up-to-date on professional, ethical and legal concerns (Jackson, 2004). In this section, I present several studies related to nurse competence development and describe the experience of certain authors evaluating the said process.

**Nurse Competence Development Process**

Wilson et al. (2012) highlighted the challenge of effectively addressing the global health issues of being clinically competent, safe, and culturally appropriate due to the growing interdependence of, and increasing collaboration with, health care actors in an ever-expanding international context. In such an environment, it is necessary that nurses undergo a successful competency development process that equips them to meet multi-faceted demands.

Nurse competence development should be a purposeful process that moves the nursing professionals through the five levels of proficiency described by Benner (1982): novice, advanced beginner, competent, proficient, and expert. Graduated nurses may achieve higher levels of proficiency when they are provided with clear expectations of their nursing practice from their supervisors (Harding et al., 2013). The degree to which a particular set of competencies should be developed depends, in part, on the specific needs of patients for whom the nurse is
providing care. Nurses need high levels of competency in the cognitive and affective competency domains, as well as the psychomotor competency domain, in order to handle patients with physical limitations to moving by themselves (Jones, 2002).

To appropriately monitor competence development, said capacities must be measured in the first place. Once a baseline assessment is established, it is then possible to track competence development. Butler et al. (2011) indicated that the competency assessment process should be standardized to support the continuity of learning and the development of competencies over time.

**Nurse Competence Development Experiences**

Several authors have considered nurse competence development from a variety of perspectives. In their study of 36 nursing students at a small private Jesuit university in the northeast United States during the first week of classes of 2009, Shea, Grossman, Wallace, and Lange (2010, p. 188) concluded that “graduate nursing education programs provide students with opportunities to develop the content and skill set needed to practice in an advanced role.” Chang, Chang, Kuo, Yang, and Chou (2011) found that both the academic level and nursing service experience contributed to nurses’ critical thinking ability in a clinical setting, in their study of 570 clinical nurses at a medical center in southern Taiwan. For example, Chang et al. (2011) found that clinicians’ nurses with a master’s degree were significantly better than those with a bachelor’s degree or a diploma; nurses with over five years of work experience in the field were significantly better than those with under five years of field experience. Donilon (2013) studied 74 registered nurses working in an acute care setting from a community hospital in the northeastern United States. Throughout the study, she identified the importance of cross-training in more than one specialty to increase nurses’ self-perceived competence in managing patient situations.
These researchers confirm the importance of training programs for the development of nursing competencies in different settings.

More recently, in their study of 82 critical care and emergency department nurses in a one-year, critical care, nurse training program at a large health care center in the northeastern United States, Delaney et al. (2015) found no improvement in the overall self-assessed competence scores after a training program. Initially, these results seem to contradict those of other studies. However, the researchers found an increase in the number of nurses who perceived an improvement in their competence behaviors. This was based on participants’ reported feelings of greater nursing competency in some areas and the significant increase in their post-test scores. Regarding the competencies required for emergency situations, such as typhoon disaster relief, Jiang et al. (2015) studied 607 nurses working in four tertiary hospitals and two secondary hospitals in Fujian, China during November 2011. The researchers concluded that nurses’ experience, previous training, current position of employment, and attitudes contribute to better nursing performance. All of these studies confirm the importance of graduate nursing education programs, training, work experience and attitude for the achievement of higher levels of competencies among nurses serving in different contexts.

**Study Context**

In this section, I describe the context for this study and highlight relevant information to better understand the study and its implications for the DR. First, I provide a summary of Dominican socio-economic factors, after which I proceed to mention the laws and legal framework that regulate the Dominican medical field.
Dominican Public Health System

The DR is located in the Hispaniola Island, between the Caribbean Sea and the Atlantic Ocean, in the archipelago of the Antilles. The DR has a population of 10.6 million, 80% of which live in urban areas. Life expectancy at birth was 73.8 years (70.8 in men and 77.0 in women) in 2016. The basic indicators of health and development have improved systematically between 1990 and 2015, reaching a Human Development Index of 0.715 in 2014. The main sources of income are gold exports, tourism and the service industry, and remittances from Dominicans living abroad (Pan American Health Organization, 2017).

The legal framework that rules Public Health in the DR is composed of several laws and norms: the DR constitution (June 14, 2015); the general health law No. 42-01 (March 8, 2001); the Dominican social security law No. 87-01 (May 9, 2001); the public duty law No. 41-08 (January 16, 2008); the professionals’ *exequatur* (or license) law No. 111 (November 3, 1942); and, the recently graduated doctors’ internship law No. 116-80 (January 16, 1980) and the national strategy development law for year 2030 No. 1-12. Recently, the President of the DR, Danilo Medina Sánchez, issued the decree 173-16 forming a commission for the establishment of the Dominican National Qualification Framework.

Despite its challenges as a small Latin American country, the DR possesses a growing economy with a focus on the service industry. From a socio-economic perspective, establishing a health industry that fits well with the demands of tourism is an incentive for improving the health care sector.

Nursing Academic Programs

The MESCyT recognizes 11 nursing schools offering nursing bachelor’s degrees at Dominican universities and one nursing school offering a two-year technical degree in nursing at
the only community college in the Dominican Republic. These higher education institutions are ruled by the Standards for the creation of schools and training of nursing professionals in the Dominican Republic [Normas para la creación de escuelas y formación de profesionales de enfermería en la República Dominicana] (MESCyT, 2012). In this section, I describe Dominican nursing academic programs according to the standard for nursing schools (MESCyT, 2012). This description is in terms of the requirements for nursing graduates, curriculum structure of study plans, laboratories and requirements for hospital and community practices.

The profile of nursing graduates from nursing schools in the DR should be in accordance with all the Dominican laws, should describe the required competencies for the labor market and the means and strategies to develop them. The nursing educational program should include a description of the DR public health care system situation, a description of the demand for nurses, the objectives of the program and educational objectives for each knowledge field aligned with the graduation profile.

The curriculum structure of nursing studies requires from 160 to 190 credits in four years for the nursing bachelor’s degrees, and from 110 to 130 credits in two and a half years for the higher technical degree. Nursing schools should have properly equipped basic sciences laboratories and nursing laboratories to simulate nursing practice environments with the proper simulation equipment. They should also have an academic program and protocol for the hospitals and community internship, where nursing students have the opportunity to master the skills they have learned throughout the nursing program. These internships must be supervised by a professor who guides each nursing student and evaluates their performance (MESCyT, 2012).
Chapter Summary

An overview of nursing competence literature presents several definitions of the term, most of which focus on the issue of practice. In general, nursing competence deals with possessing knowledge, skills, and attitudes to effectively and responsibly carry out a nursing professional practice. For the purposes of this study, I chose to observe the definition by Meretoja, Leino-Kilpi, and Kaira (2004), who submitted that nursing competency is the “functional adequacy and capacity to integrate knowledge and skills to attitudes and values into specific contextual situations of practice” (pp. 330–331). Common international standards for nursing competencies benefit both nurses and patients. Global competencies frameworks facilitate nurses’ mobility and allow patients to gain access to quality health care.

When it comes to measuring nursing competencies, several studies in the literature sustain the validity of self-assessment instruments for those purposes, while acknowledging the value of combining it with other assessment tools to obtain a deeper and more accurate understanding of competency level. Researchers have evaluated nurses at different stages of their careers, both in terms of competencies self-assessments and in comparison to self-assessed competencies with evaluation from supervisors or mentors.

A few self-assessment tools are prominent in the nursing competence literature, most notably the EQT and the NSC. A widely used and internationally validated instrument, the NCS has been applied in various settings and translated with different types of nurses. The EQT has been used in several countries of the European Union. As for nursing competencies in the Dominican Republic, the framework issued by the MESCyT is the Dominican Nursing Competencies list. This list details 121 competencies that nurses ought to develop throughout their university
training. Other studies examine the description and development of different nursing competence measuring tools.
CHAPTER III

METHODS

The purpose of this study was to evaluate how well Dominican nursing students, who have completed their internship but not yet defended their final career project, assessed themselves against a set of international nursing competencies. In addition, the purpose was to explore differences in their self-assessments based on whether these students completed their internship at public health care centers or not. Finally, the goal was to determine to what extent does work background, academic background, and demographic variables predict nursing students’ competency self-assessment.

I initially intended to address the purpose of this study through the following research questions:

1. How well do Dominican nursing students who are about to graduate believe they have mastered the NCS international nursing competencies?

2. Is there a significant difference in these self-assessed competencies attainment based on whether students completed their internship at public health care centers or not?

3. To what extent does the entity type predict nursing students’ competencies self-assessment, when controlling for demographic variables?

However, since most of the participants in my sample performed their nursing internship at health care centers administered by the MSP, I was forced to conduct the multiple regression analysis without this variable. The final version of my third research question is: to what extent does work background, academic background and demographic variables predict nursing students’ competencies self-assessment?
These research questions sought to consider Dominican nursing students’ perceptions of their competencies just prior to graduation while exploring the influence of work background, academic background, and demographic variables over their competency self-assessment. The first question sought to provide a picture of nursing students’ perception of their mastery of the NCS competencies. The second question sought to explore if there was a significant difference in the self-assessment of Dominican nursing students depending on whether students completed their internship at public health care centers or not. Finally, the third question sought to explore the influence of variables inherent to each student, such as work background, academic background, and demographic variables, over Dominican nursing students’ competency self-assessment.

Research Design and Rationale

The research design of this study was non-experimental quantitative, using a structured online survey for data collection. Non-experimental designs are characterized by a lack of independent variables manipulation and random assignment of participants to conditions (Shadish, Cook, & Campbell, 2002). My reason for using this research design was the nature of my research questions, which are neither about determining causal relationships nor do they involve independent variables that can be manipulated. This study collected data from Dominican nursing students just prior to graduation in the DR regarding their perception of competency attainment without manipulating any variables. Dominican nursing students reported how well they considered they have mastered each of the 73 competencies in the NCS and also reported about their work experience background, academic background, and demographics.

Setting, Population, and Sample

The settings for the data collection were seven of the 11 nursing schools at universities in the DR. The 11 nursing schools were invited to participate with their students in the study, but
four of them did not respond despite the invitation and follow-up process described in the data collection protocol. I intended to consider every Dominican nursing school because I wanted to provide a description and an analysis of the competencies of all Dominican nursing students just prior to graduation, and not just a sub-group of nursing schools. Having information about the competency level of those nursing students serve to inform policymakers in their process of addressing the healthcare challenges of the country.

Figure 2 shows the total number of students at each of the 11 nursing schools in the DR during 2016, which is the most recent data available (MESCyT, 2018). Based on this data, I estimate that the population for my study is around 500 Dominican nursing students from all Dominican nursing schools during a typical semester who completed their internship but have not yet defended their final career project. For this estimation I took as reference the 2016 official data, the updated population data from some nursing schools, and an estimated percentage of the population located at the last semester of their program. I focused on Dominican nursing students at the last stage of their education because they had the opportunity to experience all the learning opportunities provided by their nursing schools, reflect on their internship experience, and relate theory with practice.

I have also chosen this population because they represent the newest generation of nurses who will soon be in charge of providing health care in the country and be part of the healthcare improvements that the Dominican population expects. I chose an online survey to collect data from nursing students because it is an accessible and comfortable mechanism to guide participants to report their competency self-assessment related to each of the 73 items in the NCS instrument and to report their internship and background variables. Also, it provides highly organized data and is valuable for performing the proposed analysis. This approach helped me describe the
competency state of soon-to-graduate new nurses, as well as to explore the influence of some work-related variables, education-related variables, and demographic variables over Dominican nursing students’ competency self-assessment.

![Dominican Nursing Schools Student Population, Year 2016](image)

Source: MESCyT, 2017

Figure 2. Number of nursing students in the 11 Dominican nursing schools, year 2016.

The sample was composed of the 205 nursing students, out of 307, that completed the instrument and met the inclusion criteria. It includes nursing students, that at the data collection (July–August 2019), had completed (or were in the middle of) their nursing internship. I planned to survey this sample because it was important to consider participants from all the nursing schools in the DR since their graduates will provide health care in the entire country. Online survey tools and contact with most nursing schools provided convenient access to most of the population of these nursing students. Also, since selecting a random and representative sample from the population would require additional logistics, the sample includes all students who
responded to the request to participate. All participants were afforded the opportunity to self-report their nursing competencies and their demographic data.

**Instrumentation**

I used a multi-part researcher-developed data collection instrument with an English and a Spanish (Appendix B) version. The first section is the informed consent which explains the context, the importance, and the reason to carry out this study, as well as the participation criteria and researcher commitment to ethics and participant protection. Second, it includes the NCS 73-items for the self-assessment of nursing competencies. Third, the instrument includes a question to double-check that participants meet the inclusion criteria. Fourth, it includes six questions related to the study’s independent variables (IV): internship-related variables, work background variable, academic background variables, and demographic variables. The data collection instrument ends with two open-ended questions to allow the participant to make additional comments related to the IVs or the DV.

The largest component of the survey is the fourth section of the data collection instrument, which includes the Nurse Competence Scale (NCS) developed by Meretoja, Isoaho, and Leino-Kilpi (2004) in Finland, taking into account the categories from Benner’s (1982) *From Novice to Expert* competency framework. The NCS was used in numerous contexts for the assessment and self-assessment of competencies of nursing students, newly graduated nurses, nurses at service, and nursing directors at health care centers (Bahreini, Moattari, et al., 2011; Cowin et al., 2008; Delaney et al., 2015; Dellai et al., 2009; De-Souza-Cruz & Mariscal-Crespo, 2016; Hamström et al., 2012; Hengstberger-Sims et al., 2008; Istomina et al., 2011; Kajander-Unkuri et al., 2014, 2016; Kamel et al., 2011; Karlstedt et al., 2015; Kawther et al., 2011; Koskinen et al., 2014; Lima et al., 2014; Meretoja, Isoaho, & Leino-Kilpi, 2004; Meretoja & Koponen, 2012; Müller,
Recently, Flinkman et al. (2017) confirmed the value of the NCS to determine relationships between background variables and nurses’ competencies, among nurses with different levels of experience, preparation, and positions, based on their review of 30 studies using the NCS to assess nursing competencies. The NCS consists of 73 items structured in seven competency categories: helping role (7 items), teaching–coaching (16 items), diagnostic functions (7 items), managing situations (8 items), therapeutic interventions (10 items), ensuring quality (6 items), and work role (19 items).

For the NCS items, nursing students rated each by using a Visual Analog Scale (VAS) from 0 to 100 (0 = very low competence; 100 = very high competence); for descriptive analysis purposes, the VAS will be divided into four parts to represent the level of competence as low (0–25), rather good (N25–50), good (N50–75) and very good (N75–100) (Meretoja, Isoaho, & Leino-Kilpi, 2004).

**Validity and Reliability**

This instrument has been validated to be used in several contexts to assess nursing competencies, and its reliability has been confirmed for the context of Finland, Australia, Italy, Norway, Iran, Lithuania, Egypt, USA, Switzerland, Sweden and Uruguay (Bahreini, Moattari, et al., 2011; Cowin et al., 2008; Delaney et al., 2015; Dellai et al., 2009; De-Souza-Cruz & Mariscal-Crespo, 2016; Hamström et al., 2012; Hengstberger-Sims et al., 2008; Istimina et al., 2011; Kajander-Unkuri et al., 2014, 2016; Kamel et al., 2011; Karlstedt et al., 2015; Kawther et al., 2011; Koskinen et al., 2014; Lima et al., 2014; Meretoja, Isoaho, & Leino-Kilpi, 2004; Meretoja & Koponen, 2012; Müller, 2013; O’Leary 2012; Salonen et al., 2007; Stobinski, 2011;
Wangensteen, 2010; Wangensteen et al., 2012, 2015). However, the NCS instrument should be validated for use in the Dominican context, to confirm its value for the local environment.

These studies using the NCS to assess nursing competencies calculated the Cronbach’s alpha to test its reliability for the overall competence scores, as well as for each competency category. Cronbach’s alpha is an estimate of internal consistency reliability with results that could range from zero to one, depending on if there is no internal reliability or if reliability is perfect (Cronbach, 1951). Most of these studies reported the Cronbach’s alpha of their studies comparing it with the Cronbach’s alpha obtained by Meretoja, Isoaho, and Leino-Kilpi (2004) for each of the seven competency categories in the NCS, which ranged from 0.79 to 0.91. For this reason, I validated the NCS internal consistency and reliability for the Dominican context by calculating the Cronbach’s alpha for each of the NCS categories and comparing it to Meretoja, Isoaho, and Leino-Kilpi’s (2004) results when they developed and tested the NCS instrument (Cowin et al., 2008; Fisher & Parolin, 2000; Norman et al., 2002).

**NCS Use Permission and Translation**

Permission to use the NCS instrument was obtained from Wiley-Blackwell, with the author’s observation that no modification to the instrument is allowed and that the 73 items should be used in their original form—with translation (see Appendix C). Some questions were added to my overall survey to gather the necessary data regarding respondents’ internship experience, their work background, their academic background, and to know the demographics of the sample. Specifically, I gather the name of the health care center where participants completed their nursing internship, their number of years working in a health care-related position before starting their nursing internship, and the number of diplomas from trainings or
studies earned related to the health care area, as well as the type of high school where they graduated, their sex, and their age.

The NCS instrument items were translated from English into Spanish by a Dominican native Spanish speaker who graduated from a nursing program in the USA, and then revised by a Dominican educator expert in competency assessment, and finally translated back to English, to confirm that the essence of the instrument was preserved during the translation process. Also, as part of a pilot test of the instrument, three nursing professors were asked to complete the survey with the translated items and to point out any unclear or ambiguous items. This step was important to increase the reliability of the study and the validity of the instrument for nursing competency self-assessment in the context of Dominican nursing schools. Although no items could be changed per the permission granted by Wiley-Blackwell, as needed, some clarifying language in Spanish was added based on this pilot test.

Variables

I considered several variables in this study (see Table 1.) The dependent variable (DV) was *Dominican nursing students’ competency self-assessment* (NC-SA) just prior to graduation, while the independent variables (IVs) were grouped into four categories: an internship-related variable, work background variable, academic background variables, and demographic variables. I considered the NC-SA DV using a 0–100 VAS to measure their overall competency self-assessment and to measure their competency self-assessment for each of the seven competency categories in the NCS: helping role, teaching–coaching, diagnostic functions, managing situations, therapeutic interventions, ensuring quality, and work role (Meretoja, Isoaho, & Leino-Kilpi, 2004).
Table 1

Variable List

<table>
<thead>
<tr>
<th>Variable Code</th>
<th>Variable Name</th>
<th>Variable Type</th>
<th>Variable Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC-SA</td>
<td>Dominican nursing students’ competency self-assessment</td>
<td>DV</td>
<td>Continuous interval 0-100</td>
</tr>
<tr>
<td>HCC-Admin</td>
<td>Type of entity administering health care center</td>
<td>IV</td>
<td>Categorical</td>
</tr>
<tr>
<td>HCC-Sector</td>
<td>Health care center sector</td>
<td>IV</td>
<td>Dichotomous categorical 0=Public / 1=Non-public</td>
</tr>
<tr>
<td>WorkExpYrs</td>
<td>Number of years working in nursing related activities before starting internship</td>
<td>IV</td>
<td>Continuous interval zero to 50</td>
</tr>
<tr>
<td>HCDip</td>
<td>Number of diplomas received from trainings or studies related to the health care area</td>
<td>IV</td>
<td>Continuous interval zero to 20</td>
</tr>
<tr>
<td>HS-AcadLevel</td>
<td>High schools academic level</td>
<td>IV</td>
<td>Dichotomous categorical 0=Upper Academic Level / 1=Lower Academic Level</td>
</tr>
<tr>
<td>Sex</td>
<td>Sex</td>
<td>IV</td>
<td>Dichotomous categorical 0=Male / 1=Female</td>
</tr>
<tr>
<td>Age</td>
<td>Age</td>
<td>IV</td>
<td>Continuous interval 20 to 80 years</td>
</tr>
</tbody>
</table>

The internship-related variables were *Type of entity administering health care center* (HCC-Admin) and *Health Care Sector* (HCC-Sector). *Type of entity administering health care center* is a categorical variable that can take six numerical values depending on the type of entity administering the health care center where the student completed their nursing internship (IDSS, MSP, NGO, Private, FFAA, PN). *Health Care Sector* is a dichotomous categorical variable that identifies whether a health care center is administered by a public entity or not. Students were not asked to complete the information regarding the type of entity administering the health care center or the health care center sector where they completed their internship because they may not know that information. Instead, they indicate just the name of the hospital, and I assigned the
entity administering each health care center and the sector based on the MSP registry (Pan American Health Organization, 2017).

The work background IV is the *number of years working in nursing related activities* before starting their internship (WorkExpYrs). This is a continuous interval variable that can take numerical values from zero to 50, depending on the number of years working in nursing related activities before starting the internship for each participant. Some students start a nursing career just after finishing high school, while others start pursuing their nursing bachelor’s degree after having several years working at healthcare-related areas to be able to apply to a graduate nursing position. The number of healthcare-related experience years could suggest higher nursing competency levels, depending on the nature of experience and the students’ involvement. This variable is important to consider since Benner (1982) found that the years of experience is one of the key elements in the competency development process of graduated nurses going from novice to expert.

I considered two academic background IVs: *number of diplomas received from trainings or studies related to the health care area* (HCDip) and the *high school academic level* (HS-AcadLevel). The number of previous health-related trainings or diplomas received is a continuous interval variable that can take numerical values from zero to 20 and may be important to consider to explore whether eventual improvements in nursing competency are related to this. This numerical variable can refer to a wide range of training programs available in the DR. Health care training programs in the DR could require few hours—to develop an specific basic skill—or could require several months—to develop a set of professional competencies. These training programs could be offered by supervised and formal institutions or by unsupervised informal entities, which may suggests different levels of training quality. The *high school academic level*
variable is represented with a dichotomous categorical variable where 0 represents upper academic level schools and 1 represents lower academic level schools. It is important to consider the high school academic level as an IV because it is a proxy of the academic preparation of students entering nursing school and also, since it may be interesting to consider how high school programs with different emphasis influence nursing students’ competence self-assessment.

I considered sex and age as demographic IVs. Sex is a dichotomous categorical variable that would be interesting to determine if Sex influences nursing competency self-assessment, since 93.3% of nursing students are female, and only 6.7% are male (MESCyT, 2017). Age is a continuous interval variable ranging from 20 to 80 years, that will be interesting to consider and explore if younger students self-assess their nursing competency at a higher level or if it is the other way around.

**Data Collection Procedures**

The data collection procedure began with obtaining the contact information from key participants gatekeepers and requesting permission to access them, to setting the logistics to ensure the online survey operation and considering the details to deliver clear instructions to participants. I ensured reliability by following carefully these data collection steps:

1. Request the contact list of the 11 nursing directors of the Dominican nursing schools from the nursing commission at MESCyT.
2. Send a *permission request letter* to each nursing school, as shown in Appendix D, explaining my research project and the group of students I need to access.
3. Contact each nursing school director and request a meeting or an email address to present my research project and to ask permission to survey their nursing students who completed their internship experience but have not yet graduated.
4. Attend a meeting with each nursing director, or call again to verify that they have received my permission request email, to clarify any doubt or question regarding the research project.

5. Request the information of the contact person designated by the nursing director at each nursing school to coordinate logistics and encounter with each group of nursing students meeting the selection criteria.

6. Test the functioning of the online survey with PCs, laptops, tablets, and smartphones.

7. Set the online survey and link it to a short and simple URL address so participants can easily type it into any web browser, and access directly the online survey from their electronic devices.

8. Schedule the data collection encounters with the contact person at each nursing school.

9. Prepare a set of tablets to use in case there are not enough devices available for accessing the online survey.

10. Prepare one projector and a laptop with the instructional video.

11. Prepare a projector to present the video and a portable Wi-Fi hotspot device to provide internet access to laptops, tablets, and smartphones, in case there is no internet connection available in the assigned room.

12. Confirm the data collection appointment two days before, and reschedule if necessary.

13. Arrive 30 minutes before the established time to verify the room condition and to set the necessary IT support if necessary.

14. Greet the contact person, thank them for the opportunity, explain the general purpose of the study, and indicate the estimated duration time of the survey.
15. Greet the nursing student group, introduce myself and play the video explaining the study purpose, its rationale, the participation rules, and the participation request. The video instruction script is shown in Appendix E.

16. Inform nursing students that they should not write their names on the survey since it is an anonymous survey.

17. Share the online survey URL with the nursing students by projecting it at the end of the instructional video and provide them with assistance if needed.

18. After they have watched the instructional video, read and accepted the informed consent, ask them to complete the survey.

19. Verify that the data is being collected properly in the survey database.

20. Provide a small numbered paper to each participant, once they complete the survey, to participate in a RD$2,000 pesos gift card raffle.

21. Draw a winner from all the participants completing the survey at each data collection session and deliver the gift card prize from a local department store.

22. Thank participants for their participation in the study.

23. Thank the contact person for the coordination assistance.

24. Thank the nursing director for permission granted.

25. Repeat these procedures at 11 different nursing schools.

To perform this data collection procedure, I pursued appropriate permission as required by each participating institution. I invited all the nursing schools that are accredited in the DR to participate in my study since there has been no previous study of this nature in the country. However, given that it was unlikely that all schools would respond in a timely fashion for this
dissertation research, I built in several steps to seek the highest response rate possible in a reasonable timeframe.

I sent a *permission request letter* to each university with a nursing school (Appendix D) asking for their collaboration in my research by granting access to their nursing students. If they did not respond within one week of sending the letter and confirming its reception in the nursing school, I sent them a *reminder letter* requesting their permission to access their nursing students for my study (Appendix F). If they did not respond to the second letter within one week, I gave up on the participation of that nursing school.

**Data Analysis**

I analyzed the data using descriptive statistics, one-way between-subjects ANOVA, and backward multiple regressions analysis on SPSS 25 to describe the sample and address the research questions, as shown in Table 2. “Descriptive statistics are mathematical techniques for organizing and summarizing a set of numerical data” and provide a picture that helps the reader understand better the sample regarding the number and distribution of participants (Gall, Gall & Borg, 2007, p. 132). Descriptive statistics are appropriate for this study because they help inform the reader regarding the characteristics and composition of the sample, such as sex, age, and the number of participants per type of HCC. I indicated the number and percentage of participants per type of HCC, the number and percentage of participants graduated from each type of high school, and the number and percentage of participants from each sex group. Additionally, I provided the number of participants’ for each range of years working in a healthcare-related position before starting their internship, the number of diplomas from trainings or studies related to the health care area earned by participants, participants’ age and participants’ overall and by category self-assessed competency level.
Table 2

*Data Analysis Cross-Walk Table*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Variables</th>
<th>Statistical Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How well do Dominican nursing students who are about to graduate believe they have mastered the NCS international nursing competencies?</td>
<td>NC-SA</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td>2. Is there a significant difference in these self-assessed competencies attainment based on whether students completed their internship at public health care centers or not?</td>
<td>NC-SA, HCC-Admin and HCC-Sector</td>
<td>One-way between subject ANOVA</td>
</tr>
<tr>
<td>3. To what extent does work background, academic background and demographic variables predict nursing students’ competencies self-assessment?</td>
<td>NC-SA, WorkExpYrs, HCDip, HS-AcadLevel, Sex and Age</td>
<td>Backward multiple regression</td>
</tr>
</tbody>
</table>

NC-SA: Dominican Nursing Students Competency Self-Assessment
HCC-Admin: Type of entity administering health care center
HCC-Sector: Type of entity administering health care center

One-way between-subjects ANOVA (or analysis of variance) is the statistical procedure that compares the amount of variance of individual scores between subjects from different groups in the sample (Gall, Gall, & Borg, 2007). This type of analysis was appropriate for my study because it indicated if there was a statistically significant difference in the nursing competency self-assessment—whether in the overall or the by categories score—of students who completed their internship in HCCs administered by different types of entities or from different sectors.

A backward multiple regression is an analysis “where two or more predictors are used to explain the criterion variable” using the backward selection procedure, which begins with all the variables in the model gradually eliminates variables from the regression model to offer the best-simplified model to describe the data (Lomax & Hahs-Vaughn, 2013, p. 658). This type of analysis was intended to help us generate regression models to predict nursing students’ competency self-
assessment (NC-SA) based on work background variable, academic background variables, and demographic variables (WorkExpYrs, HCDip, HS-AcadLevel, Sex, and Age). Here I present the multiple regression model to predict nursing students’ competency self-assessment: NC-SA (Y) 

\[ \beta_0 + \beta_1 \text{Sex} + \beta_2 \text{Age} + \beta_3 \text{HS-AcadLevel} + \beta_4 \text{WorkExpYrs} + \beta_5 \text{HCDip}. \]

**Limitations**

There were several limitations in this study related to the data collection, data analysis, access to participants, access to information, and the characteristics of the resulting sample. The first limitation was related to the data collection instrument, since the NCS was developed by Meretoja, Isoaho, and Leino-Kilpi (2004) primarily “to be used by nurses and managers to assess the level of nurse competence” (p. 125). Nevertheless, it has been used by several researchers for the competency self-assessment of nursing students just prior to graduation and newly graduated nurses with good levels of internal consistency reliability (Cowin et al., 2008; Delaney et al., 2015; Kajander-Unkuri et al., 2016; Lima et al., 2014; Salonen et al., 2007). I included an internal consistency reliability test using Cronbach alpha coefficients analysis of the data to indicate to what extent the instrument can assess the competencies it is intended to measure in the Dominican context. I conducted a pilot test with a small group of nurses and nursing students to ensure they understand the instrument and that each item means what it is intended to mean.

The second limitation was related to the data collection process, since some nursing schools did not have a computer lab with internet access or enough computers available to be used at the moment of the data collection encounter. I coordinated with nursing schools to have those IT resources available at the time of the data collection, but I also made arrangements to provide a portable Wi-Fi hotspot and tablets to access the online survey when needed. I also
developed a short and simple URL address to allow students to easily fill the online survey in case they wanted to fill out the survey using their laptops, tablets, or smartphones.

The third limitation was related to survey instructions since students could have different understandings of the instructions and the criteria that they should use to fill the survey, which could result in some variance in the outcomes. Nevertheless, I prepared a video explaining in a clear and detailed manner the instructions, to ensure that every nursing student completing the online survey received the same explanation in order to reduce the variance related to the instructions given. I also had the staff ready to answer any question regarding filling out the survey at each data collection session.

The fourth limitation was related to access to the study’s participants since four universities did not grant permission to include their students in the study. Those universities did not respond in a timely manner despite sharing the instrument with the nursing director, so they may verify that it does not compromise them and meeting the follow-up protocol. The absence of these nursing schools limited the number of participants in the study since they represent two large, one medium, and one small nursing schools. Fortunately, other large participating nursing schools serve the same locations.

The fifth limitation was the difficulty to access updated official statistics about the number of students enrolled at the Dominican nursing schools accredited by MESCyT. The most recent data available is from 2016 and it does not detail the population by cohort. For this reason, I based my population estimates on the 2016 data, knowing that it was likely to have a significant variance from the reality.
The sixth limitation was that some of the participants provided missing or contradictory data while completing the survey. For this reason, 102 (33.22%) participants, out of the 307 total participants, were excluded from the study to protect the quality of the data set.

The seventh limitation was that most participants completed their internship at hospitals administered by the MSP and few at hospitals administered by the IDSS, FFAA, PN, ONG, and Private. For this reason, there was not enough variance to consider the *Type of entity administering health care center* (HCC-Admin) variable in the multiple regression analysis. I had to exclude the HCC-Admin variable from the multiple regression analysis and explore health care centers by sector (HCC-Sector) variable.

**Delimitations**

This study is delimited in subject, place, and time by several aspects. It is delimited in subjects since it only considers Dominican students enrolled in a four-year bachelor’s degree nursing program who have completed their internship but have yet to defend their final career project. I excluded nursing students enrolled at two-year technical nursing programs and nursing students from master and doctorate level programs. It is delimited in place since it only considers those students from the 11 accredited nursing schools in the DR during the year 2019 by the MESCyT. I excluded the institutions offering formal and informal technical nursing degrees in the DR, along with national and international institutions offering master and doctorate programs to Dominican nursing students, either online or face-to-face.

**Chapter Summary**

The research design of this study is non-experimental quantitative, using a structured online survey. This study collected data from Dominican nursing students just prior to graduation in the DR regarding their perception of competency attainment. The settings for the data collection...
were the 11 nursing schools at universities in the DR. The sample was drawn from about 500 Dominican nursing students completing their internships during the last semester of 2019. I used the Nurse Competence Scale (NCS) instrument developed by Meretoja, Isoaho, and Leino-Kilpi (2004) in Finland for the assessment of Dominican nursing students’ competencies. The data were analyzed using descriptive statistics, one-way between-subject ANOVA, and backward multiple regressions.
CHAPTER IV
RESULTS

In this chapter, I present the results of the data analysis intended to answer the research questions. First, I describe the sample to better understand the characteristics of the participants. Second, I present the data that supports the validity of my NCS instrument Spanish version for the self-assessment of nursing student competencies in the Dominican Republic. Third, I provide a detailed description of participants’ nursing competency level for each of the 73 competencies divided into seven categories from the Nurse Competence Scale (NCS) developed by Meretoja, Isoaho, and Leino-Kilpi (2004). Fourth, I present a one-way between-subject ANOVA to explore the differences between the self-reported competencies from students completing their internship at health care centers administered by public and non-public sector entities. Finally, I present a multiple regression model to predict nursing students’ self-reported competency level based on sex, age, high school academic level, experience years in health care, and number of trainings variables.

Describing the Sample

The sample was comprised of 205 nursing students, out of 307, that responded to the instrument and met the inclusionary criteria. It includes nursing students, that at the time of data collection (July–August 2019), had completed (or were in the middle of) their nursing internship. There were 102 participants removed from the study because they did not answer all the questions, indicated they do not meet the inclusionary criteria, indicated that they started to work in the health care area at an improbable age, or reported more training and diplomas than what is considered reasonable. The 205 participants in the sample were nursing students from seven out
of the 11 nursing schools in the Dominican Republic (DR). Four of the nursing schools did not provide permission to collect data from their students, despite follow-up letters and meeting the data collection procedure. In that group of four nursing schools, there are two large, one medium, and one small nursing school serving nursing students from the capital, east and north region of the DR. In the group of seven participating nursing schools, there are four large and three medium nursing schools serving nursing students from all the regions in the country.

From the total of 205 participants in the sample, 7 (3.4%) were male and 198 (96.6%) were female, which reflects the female predominance in this profession. The age range distribution for this group was 67 (32.7%) participants in the age range 20–25 years old, 52 (25.4%) participants in the range of 26–30 years old, 40 (19.5%) participants in the range of 31–35 years old, 26 (12.7%) participants in the range of 36–40 years old, and 20 (9.8%) participants that were older than 41 years old. This age distribution shows that the nursing career is popular among young people but still remains an attractive career to people over 35 years old.

Table 3 shows that 51 (24.9%) participants in the sample graduated from upper academic level schools, which includes private and polytechnic schools, based on the scores from the Dominican National High School Test. It also shows that 154 (75.1%) of participants in the sample graduated from lower academic level schools, such as lyceum, public schools, and accelerated high school programs. The K-12 education system has been improving in the DR with its continuous budget increase since 2012. There has been an increase in the number of schools, educational coverage, teaching material, trainings for teachers, and food for students, but these improvements have not yet eliminated the academic level gap among some of these types of high schools. This large percentage of students coming from lower academic schools may relate to the fact that the nursing career is more economical and may be less academically
demanding than other healthcare-related careers like dentistry and medicine. Many students enroll in the nursing career, since it represents their opportunity to get involved in a health care area (Ministerio de Educación de la República Dominicana [MINERD], 2018).

Table 3

<table>
<thead>
<tr>
<th>High School Academic Level</th>
<th>N</th>
<th>Percentage (%)</th>
<th>High School Type</th>
<th>N</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Academic Level Schools</td>
<td>51</td>
<td>24.90%</td>
<td>Private Schools</td>
<td>19</td>
<td>9.30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Polytechnic Schools</td>
<td>32</td>
<td>15.60%</td>
</tr>
<tr>
<td>Lower Academic Level Schools</td>
<td>154</td>
<td>75.10%</td>
<td>Lyceum</td>
<td>115</td>
<td>56.10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Public Schools</td>
<td>17</td>
<td>8.30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Adult Accelerated Schools</td>
<td>22</td>
<td>10.70%</td>
</tr>
<tr>
<td></td>
<td>205</td>
<td>100%</td>
<td></td>
<td>205</td>
<td>100%</td>
</tr>
</tbody>
</table>

Regarding the number of diplomas and certificates from health care trainings, 30 (14.6%) participants reported none, 90 (43.9%) participants reported 1–3, 40 (19.5%) participants reported 4–6, 18 (8.8%) participants reported 7–9, and 27 (13.2%) participants reported 10 or more. This means that at the time of starting their internship, nursing students have different numbers of healthcare-related training and therefore their internship performance could be influenced by that. Concerning nursing students’ previous health care work experience, 44.9% had no previous work experience, 25.4% had 1 to 3 years, 12.2% had 4 to 6 years, 8.8% had 7 to 9 years, and 8.8% reported 10 or more experience years. On average, Dominican nursing students have two years of experience at the time they enter their nursing internship. This means that, at
the time of entering their internship, nursing students have had the opportunity to work in a
health care related position, and it could be reasonable to consider that they could be more
familiar with the nursing environment than those without any previous experience in the area.

Nursing students in this sample conducted their nursing internship at health care centers
administered by one of the four types of entities, from which the IDSS and MSP health care
centers belong to the public sector, while NGOs and private health care centers belong to the
non-public sector. Four (1.95%) students were assigned to have their internship at health care
centers administered by the IDSS, 191 (93.17%) at health care centers administered by the MSP,
2 (0.98%) at health care centers administered by NGOs, and 8 (3.90%) at health care centers
administered by private entities. In summary, 195 (95.12%) participants completed their
internship at health care centers from the public sector and only 10 (4.88%) completed their
internship at health care centers from the non-public sector. The majority of participants in the
sample were female 198 (96.59%) and only 7 (3.41%) participants were male.

**Instrument Validity and Reliability for the DR Context**

The Nurse Competence Scale (NCS) Spanish version is a valid instrument for the self-
assessment of nursing professional competencies among nursing students that are about to graduate
from Dominican nursing schools. Its internal consistency reliability is validated with the Cronbach
alpha results in Table 4, which compares the Cronbach alpha from this study and Meretoja, Isoaho,
and Leino-Kilpi’s (2004) first study, for each of the seven NCS categories. The Cronbach’s alpha
from this study ranged from 0.81 to 0.96, which is very good and resonates with Meretoja,
Isoaho, and Leino-Kilpi’s (2004) results that ranged from 0.79 to 0.91. Cronbach’s alpha is an
estimate of internal consistency reliability with results that could range from zero to one,
depending on if there is no internal reliability or if reliability is perfect (Cronbach, 1951).
Table 4

*Cronbach Alpha Comparison Between This Study and Meretoja, Isoaho, and Leino-Kilpi (2004)*

<table>
<thead>
<tr>
<th>Competency category</th>
<th>Items</th>
<th>Cronbach Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping role</td>
<td>7</td>
<td>0.82</td>
</tr>
<tr>
<td>Teaching-coaching</td>
<td>10</td>
<td>0.82</td>
</tr>
<tr>
<td>Diagnostic functions</td>
<td>6</td>
<td>0.86</td>
</tr>
<tr>
<td>Managing situations</td>
<td>8</td>
<td>0.87</td>
</tr>
<tr>
<td>Therapeutic interventions</td>
<td>10</td>
<td>0.91</td>
</tr>
<tr>
<td>Ensuring quality</td>
<td>6</td>
<td>0.81</td>
</tr>
<tr>
<td>Work role</td>
<td>26</td>
<td>0.96</td>
</tr>
</tbody>
</table>

The NCS translation to Spanish and the validation of this instrument for the DR context is valuable for the health care and academic community. This validated translation provides a useful framework for the comparison of nursing professional competencies with countries like Finland, Australia, Italy, Norway, Iran, Lithuania, Egypt, USA, Switzerland, Sweden, and Uruguay, which have validated the NCS instrument for their context (Bahreini, Moattari, et al., 2011; Cowin et al., 2008; Delaney et al., 2015; Dellai et al., 2009; De-Souza-Cruz & Mariscal-Crespo, 2016; Hamström et al., 2012; Hengstberger-Sims et al., 2008; Istomina et al., 2011; Kajander-unkuri et al., 2014, 2016; Kamel et al., 2011; Karlstedt et al., 2015; Kawther et al., 2011; Koskinen et al., 2014; Lima et al., 2014; Meretoja, Isoaho, & Leino-Kilpi, 2004; Meretoja & Koponen, 2012; Müller, 2013; O’Leary 2012; Salonen et al., 2007; Stobinski, 2011; Wangensteen, 2010; Wangensteen et al., 2012, 2015).
Research Question 1: How well do Dominican nursing students who are about to graduate believe they have mastered the NCS international nursing competencies?

To assess the perceived professional competency level of nursing students in the sample, I asked them to complete an online survey (with Spanish translation) of the Nurse Competence Scale (NCS) instrument developed by Meretoja, Isoaho, and Leino-Kilpi (2004) for the assessment of nursing competencies. Results indicate the Dominican nursing students just prior to graduation scored highest in the diagnostic functions, work role, and helping role competency categories. It also indicates that their lower scores were in the therapeutic interventions and ensuring quality competency categories. Table 5 shows the mean scores and standard deviation for each of the seven competency categories from the NCS and the overall competency level.

Table 5

Professional Nursing Competency Level by NCS Competency Category

<table>
<thead>
<tr>
<th>Competency category</th>
<th>Items</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping role</td>
<td>7</td>
<td>86.30</td>
<td>11.90</td>
</tr>
<tr>
<td>Teaching–coaching</td>
<td>16</td>
<td>85.30</td>
<td>11.00</td>
</tr>
<tr>
<td>Diagnostic functions</td>
<td>7</td>
<td>87.00</td>
<td>12.30</td>
</tr>
<tr>
<td>Managing situations</td>
<td>8</td>
<td>84.80</td>
<td>14.70</td>
</tr>
<tr>
<td>Therapeutic interventions</td>
<td>10</td>
<td>82.10</td>
<td>15.40</td>
</tr>
<tr>
<td>Ensuring quality</td>
<td>6</td>
<td>83.00</td>
<td>14.70</td>
</tr>
<tr>
<td>Work role</td>
<td>19</td>
<td>86.90</td>
<td>11.80</td>
</tr>
<tr>
<td>Overall</td>
<td>73</td>
<td>85.30</td>
<td>11.00</td>
</tr>
</tbody>
</table>


Table 6 presents the mean and the standard deviation for the first competency category, Helping Role. Students reported an overall competency level of \(M = 86.30, \ SD = 11.90\) in this
category. Competencies with higher scores were item No. 1 ($M = 88.00, SD = 14.40$), item No. 2 ($M = 86.60, SD = 16.90$), item No. 4 ($M = 90.40, SD = 15.10$), and item No. 7 ($M = 91.50, SD = 14.50$). These students indicated they make decisions guided by ethical values and adjust their care plans based on patients’ individual needs. Competencies with lower scores were items No. 3 ($M = 78.10, SD = 20.10$), and item No. 5 ($M = 83.50, SD = 20.10$). These competencies relate to their ability to evaluate critically their nursing philosophy and use research findings with patients.

Table 6

*NCS Competency Level for Category: Helping Role*

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Competency Level</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Planning patient care according to individual needs</td>
<td></td>
<td>88.00</td>
<td>14.40</td>
</tr>
<tr>
<td>2</td>
<td>Supporting patients’ coping strategies</td>
<td></td>
<td>86.60</td>
<td>16.90</td>
</tr>
<tr>
<td>3</td>
<td>Evaluating critically own philosophy in nursing</td>
<td></td>
<td>78.10</td>
<td>20.10</td>
</tr>
<tr>
<td>4</td>
<td>Modifying the care plan according to individual needs</td>
<td></td>
<td>90.40</td>
<td>15.10</td>
</tr>
<tr>
<td>5</td>
<td>Utilizing nursing research findings in relationships with patients</td>
<td></td>
<td>83.50</td>
<td>20.10</td>
</tr>
<tr>
<td>6</td>
<td>Developing the treatment culture of my unit</td>
<td></td>
<td>86.70</td>
<td>19.10</td>
</tr>
<tr>
<td>7</td>
<td>Decision-making guided by ethical values</td>
<td></td>
<td>91.50</td>
<td>14.50</td>
</tr>
</tbody>
</table>

Table 7 presents the mean and the standard deviation for the second competency category, *Teaching-Coaching*. Students reported an overall competency level of ($M = 85.30, SD = 11.00$) in this category. Competencies with higher scores were: item No. 11 ($M = 90.00, SD = 12.80$), item No. 16 ($M = 92.70, SD = 11.70$), and item No. 20 ($M = 92.00, SD = 11.60$). These students indicated they provide support to their peers so they can achieve their goals and provide
personalized orientation to patients while assuming an active role to maintain and improve their professional skills. Competencies with lower scores were: item No. 18 ($M = 80.30, SD = 20.50$), and item No. 22 ($M = 76.70, SD = 25.60$). These competencies relate to their ability to evaluate patient education outcomes with family and the development of orientation programs for new nurses in the unit.

Table 7

*NCS Competency Level for Category: Teaching–Coaching*

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Competency Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Mapping out patient education needs carefully</td>
<td>86.10 16.30</td>
</tr>
<tr>
<td>9</td>
<td>Finding optimal timing for patient education</td>
<td>88.10 14.40</td>
</tr>
<tr>
<td>10</td>
<td>Mastering the content of patient education</td>
<td>88.50 13.50</td>
</tr>
<tr>
<td>11</td>
<td>Providing individualized patient education</td>
<td>90.00 12.80</td>
</tr>
<tr>
<td>12</td>
<td>Coordinating patient education</td>
<td>83.40 17.40</td>
</tr>
<tr>
<td>13</td>
<td>Able to recognize family members’ needs for guidance</td>
<td>89.50 14.00</td>
</tr>
<tr>
<td>14</td>
<td>Acting autonomously in guiding family members</td>
<td>82.60 20.50</td>
</tr>
<tr>
<td>15</td>
<td>Taking student nurse’s level of skill acquisition into account in mentoring</td>
<td>83.70 17.10</td>
</tr>
<tr>
<td>16</td>
<td>Supporting student nurses in attaining goals</td>
<td>92.70 11.70</td>
</tr>
<tr>
<td>17</td>
<td>Evaluating patient education outcome together with patient</td>
<td>82.40 19.90</td>
</tr>
<tr>
<td>18</td>
<td>Evaluating patient education outcomes with family</td>
<td>80.30 20.50</td>
</tr>
<tr>
<td>19</td>
<td>Evaluating patient education outcome with care team</td>
<td>81.40 19.70</td>
</tr>
<tr>
<td>20</td>
<td>Taking active steps to maintain and improve my professional skills</td>
<td>92.00 11.60</td>
</tr>
<tr>
<td>21</td>
<td>Developing patient education in my unit</td>
<td>85.00 17.30</td>
</tr>
<tr>
<td>22</td>
<td>Developing orientation programmes for new nurses in my unit</td>
<td>76.70 25.60</td>
</tr>
<tr>
<td>23</td>
<td>Coaching others in duties within my responsibility area</td>
<td>83.80 19.50</td>
</tr>
</tbody>
</table>
Table 8 presents the means and standard deviations for the third competency category, *Diagnostic Functions*. Students reported an overall competency level of \((M = 87.00, SD = 12.30)\) in this category. Competencies with higher scores were: item No. 25 \((M = 89.90, SD = 15.10)\), and item No. 27 \((M = 88.90, SD = 14.60)\). These students reported they are able to identify patients needing emotional support and arrange expert help when needed. Competencies with lower scores were: item No. 29 \((M = 83.10, SD = 21.10)\), and item No. 30 \((M = 85.90, SD = 19.00)\). These competencies relate to their ability to coach other staff members in the use of diagnostic equipment and documentation development for patient care.

Table 8

*NCS Competency Level for Category: Diagnostic Functions*

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Competency Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Analysing patient’s well-being from many perspectives</td>
<td>Mean 87.50</td>
</tr>
<tr>
<td>25</td>
<td>Able to identify patient’s need for emotional support</td>
<td>Mean 89.90</td>
</tr>
<tr>
<td>26</td>
<td>Able to identify family members’ need for emotional support</td>
<td>Mean 87.90</td>
</tr>
<tr>
<td>27</td>
<td>Arranging expert help for patient when needed</td>
<td>Mean 88.90</td>
</tr>
<tr>
<td>28</td>
<td>Coaching other staff members in patient observation skills</td>
<td>Mean 86.20</td>
</tr>
<tr>
<td>29</td>
<td>Coaching other staff members in use of diagnostic equipment</td>
<td>Mean 83.10</td>
</tr>
<tr>
<td>30</td>
<td>Developing documentation of patient care</td>
<td>Mean 85.90</td>
</tr>
</tbody>
</table>

Table 9 presents the mean and standard deviations for the fourth competency category, *Managing Situations*. Students reported an overall competency level of \((M = 84.80, SD = 14.70)\) in this category. The competency with a higher score was item No. 37 \((M = 92.20, SD = 14.40)\). These students reported they are able to maintain the nursing care equipment in good condition. Competencies with lower scores were: item No. 34 \((M = 78.40, SD = 24.90)\), and item No. 35
These competencies relate to their ability to arrange debriefing sessions for the care team when needed and coaching other team members in mastering rapidly changing situations.

Table 9

*NCS Competency Level for Category: Managing Situations*

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Competency Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>31</td>
<td>Able to recognize situations posing a threat to life early</td>
<td>85.70</td>
</tr>
<tr>
<td>32</td>
<td>Prioritizing my activities flexibly according to changing situations</td>
<td>83.00</td>
</tr>
<tr>
<td>33</td>
<td>Acting appropriately in life-threatening situations</td>
<td>88.40</td>
</tr>
<tr>
<td>34</td>
<td>Arranging debriefing sessions for the care team when needed</td>
<td>78.40</td>
</tr>
<tr>
<td>35</td>
<td>Coaching other team members in mastering rapidly changing situations</td>
<td>80.00</td>
</tr>
<tr>
<td>36</td>
<td>Planning care consistently with resources available</td>
<td>85.20</td>
</tr>
<tr>
<td>37</td>
<td>Keeping nursing care equipment in good condition</td>
<td>92.20</td>
</tr>
<tr>
<td>38</td>
<td>Promoting flexible team co-operation in rapidly changing situations</td>
<td>86.00</td>
</tr>
</tbody>
</table>

Table 10 presents the mean and the standard deviation for the fifth competency category, *Therapeutic Interventions*. Students reported an overall competency level of \((M = 82.10, SD = 15.40)\) in this category. Competencies with higher scores were: item No. 39 \((M = 85.90, SD = 15.80)\), and item No. 46 \((M = 85.10, SD = 17.10)\). These students indicated they are competent in planning their activities flexibly according to the clinical situation and evaluate patients’ outcomes systematically. Competencies with lower scores were item No. 41 \((M = 79.80, SD = 23.10)\), and item No. 43 \((M = 79.80, SD = 22.90)\). These competencies relate to their ability to coordinate multidisciplinary team’s nursing activities and update written care guidelines.
Table 10

NCS Competency Level for Category: Therapeutic Interventions

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Competency Level</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>Planning own activities flexibly according to clinical situation</td>
<td></td>
<td>85.90</td>
<td>15.80</td>
</tr>
<tr>
<td>40</td>
<td>Making decisions concerning patient care taking the particular situation into account</td>
<td></td>
<td>84.00</td>
<td>19.50</td>
</tr>
<tr>
<td>41</td>
<td>Coordinating multidisciplinary team’s nursing activities</td>
<td></td>
<td>79.80</td>
<td>23.10</td>
</tr>
<tr>
<td>42</td>
<td>Coaching the care team in performance of nursing interventions</td>
<td></td>
<td>80.90</td>
<td>22.40</td>
</tr>
<tr>
<td>43</td>
<td>Updating written guidelines for care</td>
<td></td>
<td>79.80</td>
<td>22.90</td>
</tr>
<tr>
<td>44</td>
<td>Providing consultation for the care team</td>
<td></td>
<td>81.80</td>
<td>21.50</td>
</tr>
<tr>
<td>45</td>
<td>Utilizing research findings in nursing interventions</td>
<td></td>
<td>80.20</td>
<td>23.40</td>
</tr>
<tr>
<td>46</td>
<td>Evaluating systematically patient care outcomes</td>
<td></td>
<td>85.10</td>
<td>17.10</td>
</tr>
<tr>
<td>47</td>
<td>Incorporating relevant knowledge to provide optimal care</td>
<td></td>
<td>83.60</td>
<td>20.40</td>
</tr>
<tr>
<td>48</td>
<td>Contributing to further development of multidisciplinary</td>
<td></td>
<td>80.60</td>
<td>20.00</td>
</tr>
</tbody>
</table>

Table 11 presents the mean and the standard deviation for the sixth competency category, Ensuring Quality. Students reported an overall competency level of \( M = 83.00, SD = 14.70 \) in this category. Competencies with higher scores: were item No. 49 \( M = 86.90, SD = 17.40 \), and item No. 50 \( M = 86.20, SD = 16.80 \). These students indicated they are committed to the organization’s care philosophy and are able to identify areas needing further development and research. Competencies with lower scores were: item No. 51 \( M = 78.20, SD = 21.90 \), and item No. 54 \( M = 79.00, SD = 23.70 \). These competencies relate to their ability to evaluate critically their unit’s care philosophy and make proposals concerning further development and research.

Table 12 presents the mean and the standard deviation for the seventh competency category, Work Role. Students reported an overall competency level of \( M = 86.90, SD = 11.80 \) in this category. Competencies with higher scores were: item No. 55 \( M = 89.70, SD = 12.90 \), item
Table 11

*NCS Competency Level for Category: Ensuring Quality*

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Competency Level</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>49</td>
<td>Committed to my organization’s care philosophy</td>
<td></td>
<td>86.90</td>
<td>17.40</td>
</tr>
<tr>
<td>50</td>
<td>Able to identify areas in patient care needing further development and research</td>
<td></td>
<td>86.20</td>
<td>16.80</td>
</tr>
<tr>
<td>51</td>
<td>Evaluating critically my unit’s care philosophy</td>
<td></td>
<td>78.20</td>
<td>21.90</td>
</tr>
<tr>
<td>52</td>
<td>Evaluating systematically patients’ satisfaction with care</td>
<td></td>
<td>84.10</td>
<td>16.60</td>
</tr>
<tr>
<td>53</td>
<td>Utilizing research findings in further development of patient care</td>
<td></td>
<td>83.70</td>
<td>18.40</td>
</tr>
<tr>
<td>54</td>
<td>Making proposals concerning further development and research</td>
<td></td>
<td>79.00</td>
<td>23.70</td>
</tr>
</tbody>
</table>

No. 56 ($M = 90.20, SD = 13.80$), item No. 57 ($M = 91.80, SD = 10.70$), item No. 67 ($M = 90.00, SD = 14.40$), and item No. 73 ($M = 89.90, SD = 13.10$). These students indicated they are able to recognize colleagues’ need for support, be aware of the limits of their resources, consider their professional identity as a nursing resource, take care of themselves (in terms of not depleting their mental and physical resources), and contribute to the development of their work environment.

Competencies with lower scores were: item No. 62 ($M = 84.10, SD = 18.30$), item No. 64 ($M = 84.00, SD = 18.30$), item No. 65 ($M = 82.90, SD = 20.40$), and item No. 66 ($M = 84.20, SD = 17.80$). These competencies relate with their ability to provide expertise for the care team, to guide staff members according to their skill level, to incorporate new knowledge to optimize patient care, and to ensure a smooth flow of care in the unit by delegating tasks.

The overall highest reported competencies were:

-[No. 16] support nursing students to achieve their goals.
-[No. 20] take active measures to maintain and improve my professional skills.
-[No. 11] provide individualized instruction to patients.
Table 12

NCS Competency Level for Category: Work Role

<table>
<thead>
<tr>
<th>Item</th>
<th>Competency</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>Able to recognize colleagues’ need for support and help</td>
<td>89.70</td>
<td>12.90</td>
</tr>
<tr>
<td>56</td>
<td>Aware of the limits of my own resources</td>
<td>90.20</td>
<td>13.80</td>
</tr>
<tr>
<td>57</td>
<td>Professional identity serves as resource in nursing</td>
<td>91.80</td>
<td>10.70</td>
</tr>
<tr>
<td>58</td>
<td>Acting responsibly in terms of limited financial</td>
<td>88.00</td>
<td>16.90</td>
</tr>
<tr>
<td>59</td>
<td>Familiar with my organization’s policy concerning division of labor and coordination of duties</td>
<td>84.60</td>
<td>19.60</td>
</tr>
<tr>
<td>60</td>
<td>Coordinating student nurse mentoring in the unit</td>
<td>86.20</td>
<td>17.00</td>
</tr>
<tr>
<td>61</td>
<td>Mentoring novices and advanced beginners</td>
<td>84.70</td>
<td>18.70</td>
</tr>
<tr>
<td>62</td>
<td>Providing expertise for the care team</td>
<td>84.10</td>
<td>18.30</td>
</tr>
<tr>
<td>63</td>
<td>Acting autonomously</td>
<td>88.00</td>
<td>17.50</td>
</tr>
<tr>
<td>64</td>
<td>Guiding staff members to duties corresponding to their skill levels</td>
<td>84.00</td>
<td>18.30</td>
</tr>
<tr>
<td>65</td>
<td>Incorporating new knowledge to optimize patient care</td>
<td>82.90</td>
<td>20.40</td>
</tr>
<tr>
<td>66</td>
<td>Ensuring smooth flow of care in the unit by delegating</td>
<td>84.20</td>
<td>17.80</td>
</tr>
<tr>
<td>67</td>
<td>Taking care of myself in terms of not depleting my mental and physical resources</td>
<td>90.00</td>
<td>14.40</td>
</tr>
<tr>
<td>68</td>
<td>Utilizing information technology in my work</td>
<td>86.80</td>
<td>18.10</td>
</tr>
<tr>
<td>69</td>
<td>Coordinating patient’s overall care</td>
<td>87.40</td>
<td>14.40</td>
</tr>
<tr>
<td>70</td>
<td>Orchestrating the whole situation when needed</td>
<td>85.50</td>
<td>19.30</td>
</tr>
<tr>
<td>71</td>
<td>Giving feedback to colleagues in a constructive way</td>
<td>89.10</td>
<td>13.90</td>
</tr>
<tr>
<td>72</td>
<td>Developing patient care in multidisciplinary teams</td>
<td>85.80</td>
<td>16.30</td>
</tr>
<tr>
<td>73</td>
<td>Developing work environment</td>
<td>89.90</td>
<td>13.10</td>
</tr>
</tbody>
</table>


[No. 57] Professional identity as a resource in the nursing profession.

[No. 56] to be aware of the limits of my own resources.

[No. 7] Decision-making guided by ethical values.

[No. 4] to be able to modify the care plan according to individual needs.
The overall lowest reported competencies were:

[No. 22] developing orientation programs for the new nurses in my unit.

[No. 3] Critically evaluate your own philosophy in nursing.

[No. 51] Evaluating critically my units’ care philosophy.

[No. 54] formulating proposals to promote development and research.

[No. 34] Organize informative sessions for the care team when necessary.

[No. 35] support, guide, and train other team members to master rapidly changing situations.

[No. 43] Update written protocols and guidelines for care.

[No. 41] coordinating nursing activities with multidisciplinary teams.

**Research Question 2: Is there a significant difference in these self-assessed competencies attainment based on whether students completed their internship at public health care centers or not?**

The analysis of variance indicates that there is no statistical difference in the overall nursing competencies between the students that completed their internship at health care centers from the public sector and students that completed their internship at health care centers from the non-public sector. Additionally, a deeper analysis of variance confirms that there is no statistically significant difference for any of the seven NCS nursing competencies categories between the students that completed their internship at health care centers from the public sector and those students that did not.

A detailed mean analysis for each of the 73 nursing competencies in the NCS, based on the type of entity administering the health care center where students completed their nursing internship, reveals slightly higher nursing competency scores from students that completed their internships at health care centers administered by NGOs and private entities than the other type
of entities administering health care centers. This small difference may be related to the higher availability of resources and stability at health care centers administered by NGOs and private entities. Health care centers administered by public entities (MSP, IDSS, PN and FFAA) have suffered ups and downs as the Dominican economy and leadership has changed throughout history. The limited autonomy level and limited source of income and the past may have contributed to the establishment of an even more mature professional culture in those types of health care centers.

The similar nursing competencies attainment among the nursing students in the sample—regardless of completing their nursing internship at the health care centers administered by different types of entities—may refer to the existence of a common nursing practice culture in DR health care centers. This may relate to the origins of the nursing profession in the DR, the similar work conditions, and limited training alternatives for these professionals. The origins of nursing at a professional level are related to the first Dominican nursing school, which was founded at the Universidad Autónoma de Santo Domingo (UASD University) in 1934, and which passed some of its essences to the other nursing schools that were founded between 1900 and 2007. This could be analyzed in detail by studying the evolution of the nursing curriculum at the different nursing schools and the training background of the teaching staff from different nursing schools.

Nursing professionals have access to similar work opportunities and similar training opportunities. Work conditions in the DR are similar in most health care centers. Nursing professionals are exposed to long hours of service and multiple jobs due to low wages. Regarding training opportunities, there are only 11 nursing schools offering nursing degrees at the bachelor level and only UASD University offers master’s degrees focused on the nursing practice since a
few years ago. Nursing specialization was limited to those few nurses with possibilities to travel abroad and those few participating in short trainings with the collaboration of international entities. All this refers to the limited opportunities to get specialized training for Dominican nurses. Despite these possible explanations of the slight competency level difference, the ANOVA confirms that there is no statistically significant difference in the nursing competencies between the students completing their internship at health care centers from different sectors.

Research Question 3: To what extent does work background, academic background and demographic variables predict nursing students’ competencies self-assessment?

This research question seeks to explore how the independent variables predicted nursing students’ competency self-assessment. For the analysis variables, I originally intended to use participants’ work background, academic background, demographics, and the type of entity administrating the health care center where they completed their internship. Unfortunately, there was little variance in the type of health care centers where students completed their internships. The low variance in the type of entity administrating the health care center where they completed their internship forced me to conduct the multiple regression analysis without this variable.

I continued the analysis with the second version of this research question, which intended to explore to what extent do work background, academic background, and demographic variables predict nursing students’ competencies self-assessment. Here I present the second version of the multiple regression model to predict nursing students’ competency self-assessment and explain its variables in Table 13: NC-SA (Y) = \beta_0 + \beta_1 \text{(Sex)} + \beta_2 \text{(Age)} + \beta_3 \text{(HS-AcadLevel)} + \beta_4 \text{(WorkExpYrs)} + \beta_5 \text{(HCDip)}.
Table 13

Multiple Regression Variable List

<table>
<thead>
<tr>
<th>Variable Code</th>
<th>Variable Name</th>
<th>Variable Type</th>
<th>Variable Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC-SA</td>
<td>Dominican nursing students’ competency self-assessment</td>
<td>Continuous interval</td>
<td>0-100</td>
</tr>
<tr>
<td>Sex</td>
<td>Sex</td>
<td>Dichotomous categorical</td>
<td>0=Male / 1=Female</td>
</tr>
<tr>
<td>Age</td>
<td>Age</td>
<td>Continuous interval</td>
<td>20 to 80 years</td>
</tr>
<tr>
<td>HS-AcadLevel</td>
<td>High schools academic level</td>
<td>Dichotomous categorical</td>
<td>0=Upper Academic Level / 1=Lower Academic Level</td>
</tr>
<tr>
<td>WorkExpYrs</td>
<td>Number of years working in nursing related activities before starting internship</td>
<td>Continuous interval</td>
<td>zero to 50</td>
</tr>
<tr>
<td>HCDip</td>
<td>Number of diplomas received from trainings or studies related to the health care area</td>
<td>Continuous interval</td>
<td>zero to 20</td>
</tr>
<tr>
<td>β0</td>
<td>Constant</td>
<td>Coefficient</td>
<td>0-1000</td>
</tr>
<tr>
<td>β1</td>
<td>Sex coefficient</td>
<td>Coefficient</td>
<td>0-1000</td>
</tr>
<tr>
<td>β2</td>
<td>Age coefficient</td>
<td>Coefficient</td>
<td>0-1000</td>
</tr>
<tr>
<td>β3</td>
<td>High schools academic level from where students graduated</td>
<td>Coefficient</td>
<td>0-1000</td>
</tr>
<tr>
<td>β4</td>
<td>Number of years working in nursing related activities before starting internship</td>
<td>Coefficient</td>
<td>0-1000</td>
</tr>
<tr>
<td>β5</td>
<td>Number of diplomas received from trainings or studies related to the health care area</td>
<td>Coefficient</td>
<td>0-1000</td>
</tr>
</tbody>
</table>

Predictors in this model explain a small, but statistically significant amount of variance in the nursing students’ competencies self-assessment outcome variable $R^2 = .073$ $F(5, 199)=10.79043$, $p = .009$. Some of the multiple regression assumptions were met, while others were not. The assumptions met were independence of residuals—as assessed by a Durbin-Watson statistic of
1.70—and having no multicollinearity problems, as suggested by a VIF = 1.50. The normality assumption and the outlier assumption were not met in this model.

Despite these assumptions not being met and the limited prediction power suggested by an $R^2 = .073$ $F(5, 199) = 10.79043, p = .009$, the results from this model resonate with results found on the nursing competencies literature. Results from the model in Table 14 suggest that high school academic level $0.139 \, p = 0.046$ and the number of continuing education programs $0.190 \, p = 0.010$ are important nursing students’ competencies self-assessment predictors. The non-statistically significant predictors were sex $0.021 \, p = 0.760$, age $0.008 \, p = 0.923$, and work experience years $0.080 \, p = 0.330$.

### Table 14

*Adjusted Multiple Regression Model to Predict Nursing Students’ Self-assessed Competencies*

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Dev. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>77.802</td>
<td>5.486</td>
<td>14.181</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>1.289</td>
<td>4.210</td>
<td>0.021</td>
<td>0.306</td>
<td>0.972</td>
</tr>
<tr>
<td>Age</td>
<td>0.011</td>
<td>0.119</td>
<td>0.008</td>
<td>0.097</td>
<td>0.760</td>
</tr>
<tr>
<td>High School Academic Level</td>
<td>3.551</td>
<td>1.766</td>
<td>0.139</td>
<td>2.010</td>
<td>0.046*</td>
</tr>
<tr>
<td>Work Experience Years</td>
<td>0.209</td>
<td>0.214</td>
<td>0.080</td>
<td>0.977</td>
<td>0.330</td>
</tr>
<tr>
<td>Number of Health Care Diplomas</td>
<td>1.714</td>
<td>0.660</td>
<td>0.190</td>
<td>2.597</td>
<td>0.010*</td>
</tr>
</tbody>
</table>

Several measures could be considered in future studies to attempt to improve the model: increasing the sample (by integrating other nursing schools or nursing students from several academic periods), or considering other variables related to health care centers administration.
efficiency or variables related to their operational performance. In summary, sex, age, high school academic level, work experience years, and the number of healthcare-related diplomas can help predict around 7.3% of nursing students’ competencies self-assessment. From these variables, the strongest predictors are high school academic level and the number of healthcare-related diplomas.

**Summary of Results and Seeds for Discussion**

This study consisted of 205 students who completed their final career nursing internship at one of the seven participating nursing schools during the September–December 2019 semester in the Dominican Republic. Participants in the study were mostly females 198 (96.60%) from a broad age range and graduated mostly (75.10%) from lower academic level schools. Most participants have less than three diplomas or certificates from trainings in the health care area. The majority (95.12%) of participants in the sample completed their internship at public hospitals. The Nurse Competence Scale (NCS) Spanish version used in this study is a valid instrument for the self-assessment of nursing professional competencies among nursing students that are about to graduate from Dominican nursing schools and its internal consistency reliability is confirmed by its Cronbach alpha that ranged from 0.81 to 0.96.

Results indicate the Dominican nursing students just prior to graduation scored highest in the diagnostic functions, work role, and helping role competency categories. It also indicates that their lower scores were in the therapeutic interventions and ensuring quality competency categories. There is no statistical difference in the overall or by category nursing competencies between the students that completed their internship at health care centers from the public sector and students that completed their internship at health care centers from the non-public sector. The high school academic level and the number of healthcare-related diplomas are the strongest
predictors for nursing students’ competency self-assessment according to our model. Results from this study suggest further exploration of reasons for the predominance of females from lower academic level schools studying nursing and the reasons for the homogeneity of variance in nursing students’ competency level despite the internship at health care centers.
CHAPTER V

DISCUSSION

In this final chapter, I provide an overview of the key elements of this study, highlight my findings’ relationship with previously cited literature, provide a set of implications for practice, propose a roadmap to improve nursing competencies in the DR, and mention several topics for further research. In the study overview section, I present the practical problem, purpose, research questions, and methodology details of this study. This section intends to provide the context for the literature contributions and recommendations. In the connection to related literature section, I describe how my findings are consistent with the literature, how they differ, and how they add to the nursing competencies literature. The purpose of this section is to put this study’s contributions in context with previous related literature.

In the implications for practice section, I summarize the key contributions of this study to better understand and address the Dominican nursing competencies situation. This section serves to better understand the DR nursing students’ population and their nursing competency level by category. Also, it provides interesting information to nursing school directors and policymakers to inform their decision-making process. Then, I present a roadmap to improve nursing competencies in the DR, which integrates literature and this study’s findings to contribute to the significant and constant improvement of the nursing professionals’ competency in the DR. I close the chapter suggesting several topics for further research to continue enriching the understanding of nursing competencies levels and development needs by area.
Study Overview

The Dominican health care system faces many challenges. Improving health care infrastructure and increasing the budget could easily solve some of these challenges. However, there are other significant improvements in healthcare personnel that require more time, resources, and a systems thinking approach, due to the size and complexity of these unique challenges.

In this research, I focused on the persistent challenge of improving Dominican nursing competencies by providing a snapshot of the perceived competency level of Dominican nursing students just prior to graduation. Improving nursing competencies is important because nurses are the health care professionals who spend the most time with patients and who are expected to play a critical role administering doctors’ orders, monitoring patients’ conditions, and taking action in case of changes in the patient status (Hamric et al., 2013). Therefore, this study focuses on nursing students who are about to enter their professional nursing career, where they are expected to begin the much-needed improvement process among Dominican healthcare personnel.

The purpose of this study was to evaluate how well Dominican nursing students, who have completed their internship but not yet defended their final career project, assessed themselves against a set of international nursing competencies. In addition, the purpose was to explore any differences in their self-assessments based on whether these students completed their internship at public health care centers or not. Finally, the goal was to determine to what extent do work background, academic background, and demographic variables predict nursing students’ competency self-assessment. I addressed the purpose of this study through the following research questions:
1. How well do Dominican nursing students who are about to graduate believe they have mastered the NCS international nursing competencies?

2. Is there a significant difference in these self-assessed competencies attainment based on whether students completed their internship at public health care centers or not?

3. To what extent does work background, academic background, and demographic variables predict nursing students’ competencies self-assessment?

The research design of this study was non-experimental quantitative, using a structured online survey. For this study, I collected data from Dominican nursing students just prior to graduation in the DR regarding their perception of competency attainment. The sample was drawn from seven nursing schools at universities in the DR. Of the approximate 500 nursing students completing their internships in the DR during the last semester of 2019, 205 fully completed the survey. I used the Nurse Competence Scale (NCS) instrument, developed by Meretoja, Isoaho, and Leino-Kilpi (2004) in Finland, for the assessment of Dominican nursing students’ competencies. The data were analyzed using descriptive statistics, one-way between-subject ANOVA, and backward multiple regressions.

**Connection to Related Literature**

The findings of my study are consistent with some literature, different from others, and expand the understanding of a couple nursing competencies aspects. My findings are consistent with the literature in several ways. First, my NCS instrument Spanish version has similar internal validity as the original NCS version for the self-assessment of nursing professional competencies among nursing students that are about to graduate. The Cronbach’s alpha from my study ranged from 0.81 to 0.96, which is very good, and resonates with Meretoja, Isoaho, and Leino-Kilpi’s (2004) results that ranged from 0.79 to 0.91. This means that the NCS Spanish version is a
validated standard instrument to measure and compare the competency level of Dominican nursing students with the nursing competency level of nurses from countries cited in previous chapters.

Second, my results are consistent with some other studies on the competency categories where students scored higher and lower. My results are similar to Istomina et al.’s (2011) study in Lithuania on having the work role category among the highest competencies and ensuring quality among the lowest. Also, the formulation and development of a research proposal seem to be a challenge for newly graduated nurses from Australia, as well as for my sample group (Hengstberger-Sims et al., 2008). This reinforces the validity of the NCS instrument and the methodology I used in this study for the self-assessment of nursing students’ competencies in the DR.

Third, my findings are consistent with the studies presenting continuous education and academic background as good predictors of nursing competencies. Jackson (2004) indicated that continuous education through nurse competence development programs can help build clinical skills and keep nurses up-to-date on professional, ethical, and legal concerns. Chang et al. (2011) found that clinical nurses with a master’s degree were significantly better than those with a bachelor’s degree or a diploma. Jiang et al. (2015) found that nurses’ experience, previous training, current position of employment, and attitudes contribute to better nursing performance. These findings reinforce the importance of background schooling and continuous education for the achievement of higher levels of competencies among nurses serving in different contexts.

The findings of my study were different from other studies in the work experience influence over nursing competency level. In my study, nursing students’ years of work experience did not appear as a significant predictor for competency level, while in other studies it was a
significant predictor (Chang et al., 2011; Jackson, 2004; Jiang et al., 2015). The work experience of students in my sample could have not been significant if their work experience were at health care settings, but with the basic functions associated with non-professional nurses, or if the nature of the experience was significantly different to the nurse in other studies. This result difference represents an interesting opportunity to explore in further studies the influence of work experience on competency level.

This study expands the understanding of nursing competencies in three ways. First, it offers a validated standard instrument to measure and compare the competency level of Dominican nursing students with the nursing competency level of nurses from countries like Finland, Australia, Italy, Norway, Iran, Lithuania, Egypt, USA, Switzerland, Sweden, and Uruguay. This common nursing competency standard could be the opportunity to foster collaboration among nursing schools from different countries and with different strengths areas. Also, Appendix A relates the 73 NCS competencies with the 121 competencies that the MESCyT requires that DR nursing schools develop in their academic curricula. This comparative analysis helps to identify the related competencies in both lists, and also the competencies without equivalencies in the NCS instrument. This means that Dominican nursing schools could use the comparative analysis from Appendix A as a tool to help them integrate the NCS international nursing competencies in their nursing academic programs.

Second, this study describes the characteristics of new nursing professionals in the DR. Understanding that most of them are females coming from lower academic level schools may help nursing school directors and authorities to design their plans considering the potential challenges that this group of students may present to the academic setting. Students from those types of schools may struggle with finding time to focus on their academic duties due to
responsibilities often related to having multiple jobs, academic background limitations, family issues, or other situations. The success of implementation plans often relates to the understanding of the target group and their circumstances.

Third, this study documents the nursing competency level for Dominican nursing students just prior to graduation and proposes it as a baseline reference to monitor the competency improvements of our nurses. Dominican nursing students scored highest in the diagnostic functions, work role, and helping role competency categories, but they could improve their therapeutic interventions and ensuring quality competencies. This provides information for academicians to discuss how these competencies might be addressed across the country to improve these outcomes for graduates. It would be interesting to monitor their progress in these competency areas after some measures to address this situation is implemented at the government and nursing school’s level.

**Implications for Practice**

This research has significant implications to help face the challenge of improving nursing competencies in the DR. First, this research provides an optimal tool for the assessment of nursing competencies in the DR, which is the Nurse Competence Scale (NCS) instrument Spanish version. This instrument has been translated into Spanish and validated for the DR context with very good and comparable reliability results (see Table 4). It represents a useful framework for the comparison of nursing competencies within the DR and with other countries. Also, the NCS 73 competencies are matched with the 121 competencies that the Dominican government, through the MESCyT, expects from new nurses (see Appendix A). In general, the NCS Spanish version represents a valuable resource to address nursing competencies in the DR with an international perspective.
Second, this research provides a detailed guide for nursing schools’ directors regarding the critical competencies that need to be reinforced in the Dominican nursing schools’ curricula from an international perspective. This information serves as a baseline to guide improvement plans at Dominican nursing schools, helping them to focus their efforts and resources on the improvements of the critical competency areas. Specifically, nursing schools should assist their students to cultivate leadership and communication skills to help them in the coordination of nursing activities with multidisciplinary teams, the organization of informative sessions for the care team, and the development of orientation programs for new nurses in the unit. Nursing schools should encourage their students to develop critical thinking to help them evaluate their own nursing philosophy and their units’ care philosophy. Additionally, they should train them to improve their planning and technical skills for the management of rapidly changing situations and support other team members to manage those situations. Finally, they should improve nursing students’ research competencies, so they could formulate and develop research proposals based on their practice. A focused development plan in this area could have a significant effect on the nursing care offered in the DR and could help the country prepare nurses better aligned with international expectations.

Third, this research provides a guide to address the persistent challenge of improving Dominican nursing competencies by considering their self-reported competency levels. This information may serve to make the data-driven decision and optimal resource investment to maximize the long-term effect over the general population. The resources provided in this study could help authorities at different levels focus their improvement plan on critical competency areas. For example, tourists visiting the DR expect world-class health care when needed and the country should make the necessary nursing competency adjustments to meet their expectations in
order to take good care of our visitors and contribute to the sustainability of this industry. In the next section, I recommend a roadmap to address the persistent challenge of improving nursing competencies in the DR.

**Roadmap Recommendation to Improve Nursing Competencies in the DR**

In this section, I propose a roadmap to produce significant and constant improvement of nursing professionals’ competency level in the DR. I make this proposal based on my nursing competencies knowledge, my understanding of the DR context, and outcomes from this study. Each step in this roadmap represents a simplified guide to address a complex situation with an integrated systemic approach intended to produce long-term results based on a series of short-term—but focused—initiatives.

**Step One:** Make a detailed diagnosis of nurses at service competency level with an internationally validated instrument such as the NCS, which has been validated for the DR. It will be an assessment similar to the one presented in this study about nursing students in the DR, but with nurses at service. It will describe the nursing competency level of nurses at service in the DR depending on their location, area of service, academic level, and years of experience. In short, this proposed study will answer the research question: How well do nurses serving in the DR self-assess their professional competency level according to their background and work setting, based on international nursing competencies standards?

**Step Two:** Make a detailed analysis of nursing directors’ and doctors’ competency expectations by level and care area. This analysis should consider the job descriptions and the competency requirements from each nursing position according to nursing supervisors and doctors related to each area, based on an international standard. This is very important since it will complement the knowledge of the competency level of nurses at service from the perspective
of their supervisors and the doctors they interact with. The methodology for this proposed study could be similar to the one I performed at the Robert Reid Cabral Child Hospital’s ICU exploring the perspective of ICU nursing supervisors regarding the profile and key competencies of nurses working with them (Ramirez, 2018). In short, this proposed study will answer the research question: What is the ideal nurse profile according to the nursing supervisors and other healthcare professionals from each hospital setting, based on the international nursing competency standards?

Step Three: Design and develop a continuous education catalog to train nurses on their specific nursing competencies needs, based on the nursing competencies assessment and expectations described in the previous two steps. This continuous education catalog should be composed of individual courses designed to develop or reinforce specific nursing competencies. These courses could help nurses at service to become more competent, in a short period of time, on specific areas required at their current position or related to the position to which they aspire. The use of this catalog could represent the DR opportunity to obtain the nursing competency improvements that other countries have achieved through continuous education programs for nurses (Chang et al., 2011; Jackson, 2004; Jiang et al., 2015).

Step Four: Design and implement a nursing competency development platform for the systematical assessment and continuous development of nursing competencies. This online platform should keep a detailed profile of all the nurses at service in the country and track their academic studies, courses, and certifications, along with their yearly competency self-assessment report and their supervisors’ periodic assessment report. Nurses should be required to log into the platform every year to update their information and self-assess their nursing competencies with an internationally validated instrument, such as the NCS. The platform could recommend a
personalized training plan for the year, based on their self-assessment and current nursing role. Nurses would be able to request and sign up for the courses they need on the platform. The platform could keep track of the nursing competency self-assessment level evolution, their training progress and work roles over time. This information will be validated by their supervisors, who will perform their competency assessment.

**Step Five:** Establish a competency recognition system where nursing professionals could improve on their nursing competency category based on their merits evolution, and receive the corresponding incentives and recognition for their development. Nurses should request their professional competency and performance evaluation periodically. Based on the external validation of their competency self-assessment, their training progress, and supervisor’s recommendation, they could be considered to climb in their nursing competency category. This means that new nursing professionals and nurses at service would have the opportunity—and incentives—to excel in a clear professional category path.

In summary, the recommended steps in this roadmap to improve nursing competencies are intended to gather precise training requirement information, to create the necessary tools to assist nurses in their competency development process, and to develop a system to empower them to continuously seek to improve their nursing competencies. I close this dissertation hoping that my findings and recommendations could help nursing directors and policymakers to articulate efforts to improve nursing professionals’ competencies. I am convinced of the relevance of this cause and encourage other researchers to join and continue developing this research area. In the final section, I propose research topics that could help complement the findings of this research to help address nursing competencies.
Topics for Further Research

Several topics could be considered for further research. First, it could be interesting to study the impact of new curricula at specific nursing schools on nursing students’ self-assessed competencies. Analyzing the adjustments to nursing academic programs and their impact on nursing students’ self-assessment could encourage other nursing schools to update their curricula with the available resources. This topic is relevant to the nursing competency literature since it represents an opportunity to document and share good practices among nursing schools.

Second, it could be interesting to consider nurses at service competency level according to their personal, academic, and work background. This study would meet the requirements from step one in my proposed roadmap to improve nursing competencies in the DR. It would be interesting because it represents the nursing competency diagnosis from the perspective of nurses. It adds to the current knowledge base since this would inform the community about the nursing competency levels by each hospital department and this could guide decisions related to the establishment of nursing training programs for specific care areas.

Third, it could be interesting to consider nursing directors’ and doctors’ expectations regarding nurses’ and nursing supervisors’ competencies at each nursing area. This study would meet the requirements from step two in my proposed roadmap to improve nursing competencies in the DR. It would document the nursing supervisors’ and medical staff expectations regarding the nursing performance at each area. It adds to the current knowledge base since this would inform the community about the nursing competency expectations in each area.
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Ministerio de Educación Superior Ciencia y Tecnología, MESCyT. (2014). Competencias propuestas acordes con el perfil del egresado [Proposed competencies according to the alumni profile]. Santo Domingo, DR: Khoury, S.


Appendix A

NCS and MESCyT Competencies Comparison
### NCS and MESCyT Competencies Comparison – English Version

<table>
<thead>
<tr>
<th>No.</th>
<th>NCS Competencies</th>
<th>No.</th>
<th>MESCyT Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Planning patient care according to individual needs</td>
<td>B27</td>
<td>Ability to identify the basic needs of the human being according to the life cycle</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ability to assess health needs and take actions to satisfy them within the framework of the health team and the established policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P4</td>
<td>Ability to assess health needs and take actions to satisfy them within the framework of the health team and the established policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E23</td>
<td>Ability to individualize integral and humanized care</td>
</tr>
<tr>
<td>2</td>
<td>Support for patient management strategies</td>
<td>B12</td>
<td>Acts with a humanistic and solidary attitude, empathetic and respectful of diversity</td>
</tr>
<tr>
<td>3</td>
<td>Critically evaluate your own philosophy in nursing</td>
<td>E2</td>
<td>Knowledge of yourself, your skills, your skills, and your values</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E22</td>
<td>Ability to promote the quality of care using evidence</td>
</tr>
<tr>
<td>4</td>
<td>Modification of the care plan according to individual needs</td>
<td>E41</td>
<td>Ability to elaborate scheme and content of a work plan</td>
</tr>
<tr>
<td>5</td>
<td>Use of nursing research findings in relationships with patients</td>
<td>B30</td>
<td>Ability to link the theoretical concepts of scientific research with knowledge of the problems that surround it</td>
</tr>
<tr>
<td>6</td>
<td>I develop the treatment culture of my unit</td>
<td>E37</td>
<td>Ability to assume training in values and transmit it to other nurses</td>
</tr>
<tr>
<td>7</td>
<td>Decision-making guided by ethical values</td>
<td></td>
<td>Acts with a humanistic and solidary attitude, empathetic and respectful of diversity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A permanent attitude of respect for the rights of patients, family members and social groups with whom they interact</td>
</tr>
</tbody>
</table>

99
B19 Ability to live in society while respecting cultural, social and economic diversity

B33 Ability to assume an ethical behavior based on philosophy principles, to exercise their rights and obligations in different social scenarios

P1 Ability to understand and maintain ethical, bioethical, political and moral principles, and handle ethical dilemmas

E25 Skills and skills to develop, apply and evaluate nursing care plans in different stages of life applying scientific, ethical, biotic and humanization principles

8 Carefully determine the teaching needs to be performed with patients

E29 Ability to assess responsibly the needs of the individual, family, and community through nursing diagnosis

9 Find the right moment to teach patients

x x

B1 Ability to understand texts from different areas

B5 Permanent capacity for learning and transmitting knowledge to other individuals, families, and groups

B18 Ability to collect and transmit information in health and nursing
Ability to maintain a permanent attitude of learning, and manage pedagogical competencies to be facilitators of the teaching-learning process

Ability to assume the habit of reading and writing as an important element to develop cognitive skills, critical thinking, the study of modern techniques and adequate to effective and technological communication

Knowledge and skills to teach, educate, guide and motivate the change of aptitude and attitude in the processes of learning of learning

Provide individualized instruction to patients
Coordinate the teaching of patients
Able to recognize the orientation needs of family members
Act autonomously when orienting family members
Consider the level of skills acquired by nursing students during the process of accompaniment and mentoring
Support nursing students to achieve their goals
Evaluate the results of the teaching offered to patients, together with them.
Evaluate the results of teaching given to patients jointly with families
Evaluate the result of the teaching given to the patients together with the care team
Take active measures to maintain and improve my professional skills

Ability to train technicians and nursing assistants. Participate, organize activities, academic and social events

Ability to train technicians and nursing assistants. Participate, organize activities, academic and social events

Shows willingness to learn new technologies
21 Develop patient education in my unit
   - Ability to collect and transmit information in health and nursing
   - Ability to maintain a permanent attitude of learning and manage pedagogical competencies to be facilitators of the teaching-learning process
   - Ability to express ideas and concepts in coherent and creative compositions, with introductions, development and clear conclusions
   - Knowledge and skills to teach, educate, guide and motivate the change of aptitude and attitude in the processes of learning
   - Ability to train technicians and nursing assistants. Participate, organize activities, academic and social events
   - Ability to assume training in values and transmit it to other nurses

22 Develop orientation programs for the new nurses in my unit
   - Ability to coordinate the work of the Health Team, involved in the Care Process

23 Support, guide and train others to perform tasks within my area of responsibility
   - Acts with a humanistic and solidary attitude, empathetic and respectful of diversity
   - A permanent attitude of respect for the rights of patients, family members and social groups with whom they interact
   - Ability to communicate with people of different backgrounds, beliefs, and cultures
   - Ability to assess responsibly the needs of the individual, family, and community through nursing diagnosis
   - Ability to offer holistic care at the three levels of care and the three levels of prevention; applying the nursing process
   - Ability to act in a planned manner to respond to the needs identified in the users of the services

24 Analyze the well-being of patients from various perspectives
   - A permanent attitude of respect for the rights of patients, family members and social groups with whom they interact

25 Be able to identify the need for emotional support from patients
   - Ability to act in a planned manner to respond to the needs identified in the users of the services

26 Be able to identify the emotional support needs of family members
   - A permanent attitude of respect for the rights of patients, family members and social groups with whom they interact
| 27 | Organizing expert help for the patient when necessary |
| 28 | Supporting, guiding and training other staff members in patient observation skills |
| 29 | Supporting, guiding and training other staff members in the use of diagnostic equipment |
| 30 | Develop documentation regarding the care offered to the patient |
| 31 | Being able to recognize early situations that pose a threat to life |
| 32 | Prioritize my activities in a flexible way according to changing situations |
| 33 | Acting appropriately in situations that threaten life |
| 34 | Organize information sessions for the care team when necessary |
| 35 | Support, guide, and train other team members to master rapidly changing situations |
| 36 | Plan care in a manner consistent with the available resources |

- Ability to assess responsibly the needs of the individual, family, and community through nursing diagnosis
- Ability to manage nursing services at any of the three levels of care
- Proactive attitude to identify health problems and make decisions
- Ability to detect signs and symptoms of danger and complications in critical patients
- Proactive attitude to identify health problems and make decisions
- Ability to understand changing environmental trends, threats, opportunities, weaknesses, and strengths in their field of work
- Ability to maintain a permanent attitude of learning, and manage pedagogical competencies to be facilitators of the teaching-learning process
- Leadership skills and teamwork
- Skills to execute the care making clinical judgments and ensuring the quality based on evidence
- Ability to elaborate scheme and content of a work plan
<p>| No. | Task Description                                                                 | B3   | B4       | B7   | E35   | E36   | P2   | P4   | P7   | E10  | E21  |
|-----|---------------------------------------------------------------------------------|------|----------|------|-------|-------|------|------|------|------|------|------|
| 37  | Maintain nursing care teams in good condition                                   |      |          |      |       |       |      |      |      |      |      |      |
| 38  | Promote cooperation in the work team, in a flexible way, so that they are able to act in situations of rapid change |      |          |      |       |       |      |      |      |      |      |      |
| 39  | Flexibly plan my own activities according to clinical situations                 |      |          |      |       |       |      |      |      |      |      |      |
| 40  | Make decisions about patient care considering the particular situation           |      |          |      |       |       |      |      |      |      |      |      |
| 41  | Coordination of nursing activities with the multidisciplinary team               |      |          |      |       |       |      |      |      |      |      |      |
| 42  | Support, guide and train the care team in the performance of nursing interventions |      |          |      |       |       |      |      |      |      |      |      |
| 43  | Update written protocols and guidelines for care                                 |      |          |      |       |       |      |      |      |      |      |      |
| 44  | Provide consultation for the care team                                          |      |          |      |       |       |      |      |      |      |      |      |
| 45  | Use research findings in nursing interventions                                   |      |          |      |       |       |      |      |      |      |      |      |</p>
<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>Systematic evaluation of the results of patient care</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>47</td>
<td>Incorporate relevant knowledge to provide optimal care</td>
<td>B29</td>
<td>Ability to integrate critical thinking and knowledge of science into your daily life</td>
</tr>
<tr>
<td>48</td>
<td>Contribute to further development of the multidisciplinary clinical trajectory</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>49</td>
<td>Committed to the philosophy of patient care of my organization</td>
<td>E57</td>
<td>Ability to apply existing regulations in health and nursing work</td>
</tr>
<tr>
<td>50</td>
<td>Be able to identify areas of patient care that need further development and research</td>
<td>E25</td>
<td>Skills and skills to develop, apply and evaluate nursing care plans in different stages of life applying scientific, ethical, biotic and humanization principles</td>
</tr>
<tr>
<td>51</td>
<td>Critically, the patient care philosophy of my unit</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>52</td>
<td>Systematically assess the satisfaction of patients with the care received</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>53</td>
<td>Use the results of research to promote the development of patient care</td>
<td>B30</td>
<td>Ability to link the theoretical concepts of scientific research with knowledge of the problems that surround it</td>
</tr>
<tr>
<td>54</td>
<td>Formulate proposals to promote development and research</td>
<td>B13</td>
<td>Ability to elaborate and develop sexological research projects</td>
</tr>
<tr>
<td>55</td>
<td>Be able to recognize the needs of help and support from colleagues</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>56</td>
<td>Be aware of the limits of my own resources</td>
<td>B9</td>
<td>Knowledge of yourself, your skills, your skills, and your values</td>
</tr>
<tr>
<td>57</td>
<td>Professional identity serves as a resource in the nursing profession</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
Act responsibly in relation to the availability of limited financial resources

Familiar with my organization's policy regarding the division of the work and the coordination of tasks

Coordinate the support, guidance and training of nursing students who perform services in my unit

Advice for beginners and advanced beginners

Provide experience for the patient care team

Act autonomously

Guide team members to tasks that correspond to their level of competence

Incorporate new knowledge to optimize patient care

Ensure a smooth flow in the care of patients unit by delegating tasks

Take care not to exhaust my mental and physical resources

Use information technology in my work

Coordinate the general care of patients

Ability to handle the administrative process

Knowledge of health economics applied to nursing

Ability to train technicians and nursing assistants. Participate, organize activities, academic and social events

Responsively assume assignments and delegated assignments

Leadership skills and teamwork

Ability to understand texts from different areas

Ability to maintain a permanent attitude of learning, and manage pedagogical competencies to be facilitators of the teaching-learning process

Shows willingness to learn new technologies

Ability to direct health and nursing services

Ability to lead and execute the nursing care process
<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Code</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Coordinating the whole situation when necessary</td>
<td></td>
<td>Ability to manage nursing services at any of the three levels of care</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E9</td>
<td>Ability to coordinate the work of the Health Team, involved in the Care Process</td>
</tr>
<tr>
<td>71</td>
<td>Give feedback to colleagues in a constructive way</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>72</td>
<td>Develop the care offered to patients in multidisciplinary teams</td>
<td></td>
<td>Ability and attitude to work in a multidisciplinary and transdisciplinary team</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P7</td>
<td>x</td>
</tr>
<tr>
<td>73</td>
<td>Develop the work environment</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

|
### NCS and MESCyT Competencies Comparison – Spanish Version

<table>
<thead>
<tr>
<th>No.</th>
<th>Competencias NCS</th>
<th>No.</th>
<th>Competencias MESCyT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Planificación del cuidado del paciente de acuerdo con las necesidades individuales</td>
<td>B27</td>
<td>Capacidad para identificar las necesidades básicas del ser humano según ciclo de vida</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Capacidad para valorar las necesidades de salud y tomar acciones para satisfacerlas en el marco del equipo de salud y las políticas establecidas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P4</td>
<td>Habilidad para individualizar el cuidado integral y humanizado</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E23</td>
<td>Actúa con una actitud humanística y solidaria, empática y respetuosa de la diversidad</td>
</tr>
<tr>
<td>2</td>
<td>Apoyo a las estrategias de manejo de los pacientes</td>
<td>B12</td>
<td>Conocimiento de sí mismo, sus competencias, sus habilidades y sus valores</td>
</tr>
<tr>
<td>3</td>
<td>Evaluar críticamente la filosofía propia en enfermería</td>
<td>E2</td>
<td>Habilidad para promover la calidad del cuidado usando las evidencias</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E22</td>
<td>Habilidad para elaborar esquema y contenido de un plan de trabajo</td>
</tr>
<tr>
<td>4</td>
<td>Modificación del plan de cuidado según las necesidades individuales</td>
<td>E41</td>
<td>Capacidad para vincular los conceptos teóricos de la investigación científica con el conocimiento de los problemas que le rodean</td>
</tr>
<tr>
<td>5</td>
<td>Utilización de hallazgos de investigaciones de enfermería en las relaciones con los pacientes</td>
<td>B30</td>
<td></td>
</tr>
</tbody>
</table>

108
Desarrollo la cultura de tratamiento de mi unidad

Capacidad para asumir la formación en valores y transmitirla a otras enfermeras

Actúa con una actitud humanística y solidaria, empática y respetuosa de la diversidad

Actitud permanente de respeto a los derechos de los pacientes, familiares y grupos sociales con los que interactúa

Capacidad para convivir en sociedad respetando la diversidad cultural, social y económica

Capacidad para asumir un comportamiento ético sustentado en principios de filosofía, para el ejercicio de sus derechos y obligaciones en diferentes escenarios sociales

Habilidad para comprender y mantener principios éticos, bioéticos, políticos y morales. y manejar dilemas éticos

Destrezas y habilidades para elaborar, aplicar y evaluar planes de cuidados de enfermería en las diferentes etapas de la vida aplicando principios científicos, éticos, bióticos y de humanización
Determinar cuidadosamente las necesidades de enseñanza a realizar con los pacientes

Encontrar el momento oportuno para enseñar a los pacientes

Dominar el contenido de lo que se va a enseñar a los pacientes

Habilidad para valorar en forma responsable las necesidades del individuo, familia y comunidad a través del diagnóstico de enfermería

Capacidad de comprender textos de diferentes áreas

Capacidad permanente de aprendizaje y de transmisión del conocimiento a otros individuos, familias y grupos

Habilidad para recolectar y transmitir informaciones en salud y enfermería

Capacidad para mantener una actitud permanente de aprendizaje, y manejar las competencias pedagógicas para ser facilitadores del proceso enseñanza-aprendizaje

Habilidad para asumir el hábito de la delectoescritura como un elemento importante para desarrollar habilidades cognitivas, pensamiento crítico, estudio de las técnicas moderna y adecuada a la comunicación efectiva y tecnológica
Conocimientos y habilidades para enseñar, educar, orientar y motivar el cambio de aptitud y actitud en los procesos de enseñanzas de aprendizaje

11 Proporcionar enseñanza individualizada a los pacientes x x

12 Coordinar la enseñanza de los pacientes x x

Habilidad para valorar en forma responsable las necesidades del individuo, familia y comunidad a través del diagnóstico de enfermería

13 Capaz de reconocer las necesidades de orientación de los miembros de la familia

14 Actuar de manera autónoma al orientar a los miembros de la familia x x

Capacidad para formar técnicos y auxiliares de enfermería. Participar, organizar actividades, eventos académicos y sociales

15 Tener en cuenta el nivel de habilidades adquiridas por los estudiantes de enfermería durante el proceso de acompañamiento y tutoría

16 Apoyo a los estudiantes de enfermería para el logro de sus objetivos

Capacidad para formar técnicos y auxiliares de enfermería. Participar, organizar actividades, eventos académicos y sociales

17 Evaluar los resultados de la enseñanza ofrecida a los pacientes, conjuntamente con los mismos. x x

35E
Evaluar los resultados de la enseñanza
dada a los pacientes conjuntamente con
las familias

18 Evaluar el resultado de la enseñanza
dada a los pacientes conjuntamente con
el equipo de atención

19 Tomar medidas activas para mantener y
mejorar mis habilidades profesionales

20 Desarrollar la educación del paciente en
mi unidad

21 Desarrollar programas de orientación
para las nuevas enfermeras de mi unidad

Habilidad para asumir el hábito de la de-
lectescritura como un elemento importante
para desarrollar habilidades cognitivas,
pensamiento crítico, estudio de las técnicas
moderna y adecuada a la comunicación
efectiva y tecnológica

Muestra disposición por aprender nuevas
tecnologías

Habilidad para recolectar y transmitir
informaciones en salud y enfermería

Capacidad para mantener una actitud
permanente de aprendizaje, y manejar las
competencias pedagógicas para ser
facilitadores del proceso enseñanza-
aprendizaje

Habilidad para expresar ideas y conceptos en
composiciones coherentes y creativas, con
Conocimientos y habilidades para enseñar, educar, orientar y motivar el cambio de aptitud y actitud en los procesos de enseñanzas de aprendizaje.

Capacidad para formar técnicos y auxiliares de enfermería. Participar, organizar actividades, eventos académicos y sociales.

Capacidad para asumir la formación en valores y transmitirla a otras enfermeras.

Habilidad para coordinar el trabajo del equipo de salud implicado en el proceso asistencial.

Actúa con una actitud humanística y solidaria, empática y respetuosa de la diversidad.

Actitud permanente de respeto a los derechos de los pacientes, familiares y grupos sociales con los que interactúa.

Habilidad para comunicarse con personas de diferentes orígenes, creencias y culturas.

Apoyar, orientar y entrenar a otros para realizar tareas dentro de mi área de responsabilidad.

Analizar el bienestar de los pacientes desde varias perspectivas.

Ser capaz de identificar la necesidad de apoyo emocional de los pacientes.
Habilidad para valorar en forma responsable las necesidades del individuo, familia y comunidad a través del diagnóstico de enfermería

Habilidad para ofrecer cuidados holísticos en los tres niveles de atención y los tres niveles de prevención; aplicando el proceso de enfermería

Habilidad para actuar de manera planificada para dar respuestas a las necesidades identificadas en los usuarios de los servicios

Actitud permanente de respeto a los derechos de los pacientes, familiares y grupos sociales con los que interactúa

Ser capaz de identificar las necesidades de apoyo emocional de los familiares

Organizando ayuda experta para el paciente cuando sea necesario

Apoyando, orientando y entrenando a otros miembros del personal en la habilidad de observación del paciente

Habilidad para gestionar servicios de enfermería en cualquiera de los tres niveles de atención

26 Ser capaz de identificar las necesidades de apoyo emocional de los familiares

27 Organizando ayuda experta para el paciente cuando sea necesario

28 Apoyando, orientando y entrenando a otros miembros del personal en la habilidad de observación del paciente

x x
Apoyando, orientando y entrenando a otros miembros del personal en el uso de equipos de diagnóstico

Desarrollar documentación relativas al cuidado ofrecido al paciente

Ser capaz de reconocer temprano situaciones que representan una amenaza para la vida

Priorizar mis actividades de forma flexible de acuerdo con las situaciones cambiantes

Actuando apropiadamente en situaciones que amenazan la vida

Organizar sesiones de información para el equipo de atención cuando sea necesario

Actitud proactiva para identificar problemas de salud y tomar decisiones

Habilidad para detectar signos y síntomas de peligro y complicaciones en pacientes críticos

Habilidad para proceder de forma correcta y protocolar en los diversos escenarios y situaciones de trabajo

Actitud proactiva para identificar problemas de salud y tomar decisiones

Capacidad para entender las tendencias cambiantes del entorno, las amenazas, oportunidades, debilidades y fortalezas de su ámbito de trabajo

Capacidad para mantener una actitud permanente de aprendizaje. y manejar las competencias pedagógicas para ser
Habilidades de liderazgo y trabajo en equipo

- Apoyar, orientar y entrenar a otros miembros del equipo para dominar situaciones que cambian rápidamente.
- Planificar los cuidados de forma coherente con los recursos disponibles.
- Mantener los equipos de cuidado de enfermería en buenas condiciones.
- Promover la cooperación en el equipo de trabajo, de forma flexible, para que sean capaces de actuar en situaciones de cambios rápidos.
- Planificar con flexibilidad mis actividades propias según las situaciones clínicas.

Destrezas para ejecutar los cuidados

- Haciendo valer los juicios clínicos y asegurando la calidad basada en la evidencia.
- Habilidad para elaborar esquema y contenido de un plan de trabajo.
- Capacidad para valorar las necesidades de salud y tomar acciones para satisfacerlas en el marco del equipo de salud y las políticas establecidas.
- Capacidad y actitud de trabajar en equipo multidisciplinario y transdisciplinario.

facilitadores del proceso enseñanza-aprendizaje
Tomar decisiones sobre el cuidado del paciente teniendo en cuenta la situación particular.

Coordinación de las actividades de enfermería con el equipo multidisciplinar.

Actitud proactiva para identificar problemas de salud y tomar decisiones.

Capacidad y actitud de trabajar en equipo multidisciplinario y transdisciplinario.

Habilidad para usar el lenguaje en forma oral, gestual y escrita en situaciones comunicativas personales y/o virtuales referidas a su área de estudio.

Actitud positiva para establecer diálogos con interlocutores variados.

Capacidad para formar técnicos y auxiliares de enfermería.

Participar, organizar actividades, eventos académicos y sociales.

Habilidades de liderazgo y trabajo en equipo.

Habilidad para elaborar y aplicar guías y protocolos de atención de Enfermería.

Habilidades para generar ideas nuevas y estilos diferentes de realizar el trabajo asignado.

Actualizar los protocolos y pautas escritas para el cuidado.

Proporcionar consulta para el equipo de cuidado.
Utilizar hallazgos de investigaciones en las intervenciones de enfermería

Capacidad para vincular los conceptos teóricos de la investigación científica con el conocimiento de los problemas que le rodean

B30

Habilidad para utilizar las tecnologías de la información y la comunicación para investigar, resolver problemas, producir materiales y transmitir información

B35

Evaluar sistemáticamente los resultados del cuidado a los pacientes

Habilidad para integrar el pensamiento crítico y los conocimientos de las ciencias a su diario vivir

B29

Incorporar conocimientos relevantes para proporcionar una atención óptima

Contribuir a un mayor desarrollo de la trayectoria clínica multidisciplinar

Habilidad para aplicar las regulaciones existentes en el trabajo de salud y enfermería

E57

Comprometido con la filosofía de atención al paciente de mi organización

Destrezas y habilidades para elaborar, aplicar y evaluar planes de cuidados de enfermería en las diferentes etapas de la vida aplicando principios científicos, éticos, bióticos y de humanización

E25

Ser capaz de identificar áreas de atención al paciente que necesitan mayor desarrollo e investigación

Evaluar críticamente la filosofía de atención al paciente de mi unidad

E25

Evaluar sistemáticamente la satisfacción de los pacientes con la atención recibida
Utilizar los resultados de la investigación para promover el desarrollo de la atención del paciente

Capacidad para vincular los conceptos teóricos de la investigación científica con el conocimiento de los problemas que le rodean

Habilidad para interpretar informaciones epidemiológicas y analizar posibles soluciones a problemas de salud

Destrezas para ejecutar los cuidados haciendo valer los juicios clínicos y asegurando la calidad basada en la evidencia

Formular propuestas para promover el desarrollo y la investigación

Capacidad para elaborar y desarrollar proyectos de investigación sexológica

Ser capaz de reconocer las necesidades de ayuda y apoyo de los colegas

Conocimiento de sí mismo, sus competencias, sus habilidades y sus valores

Estar consciente de los límites de mis propios recursos

Habilidad para manejar el proceso administrativo

La identidad profesional sirve como recurso en la profesión de enfermería

Conocimiento sobre economía de la salud aplicada a enfermería

Actuar de manera responsable en relación a la disponibilidad de recursos financieros limitados

Familiarizado con la política de mi organización en relación con la división del trabajo y la coordinación de tareas
<table>
<thead>
<tr>
<th>Nro.</th>
<th>Descripción</th>
<th>Código</th>
<th>Complemento</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>Coordinar el apoyo, la orientación y el entrenamiento de los estudiantes de enfermería que realizan servicios en mi unidad</td>
<td></td>
<td>Capacidad para formar técnicos y auxiliares de enfermería. Participar, organizar actividades, eventos académicos y sociales</td>
</tr>
<tr>
<td>61</td>
<td>Asesoramiento a principiantes y principiantes avanzados</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>62</td>
<td>Proporcionar experiencia para el equipo de cuidado al paciente</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>63</td>
<td>Actuar de forma autónoma</td>
<td></td>
<td>Asume con responsabilidad las tareas y asignaciones delegadas</td>
</tr>
<tr>
<td>64</td>
<td>Guiar a los miembros del equipo hacia tareas que correspondan a su nivel de competencia</td>
<td></td>
<td>E44 Habilidades de liderazgo y trabajo en equipo</td>
</tr>
<tr>
<td>65</td>
<td>Incorporar nuevos conocimientos para optimizar el cuidado del paciente</td>
<td></td>
<td>B1 Capacidad de comprender textos de diferentes áreas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B23 Capacidad para mantener una actitud permanente de aprendizaje, y manejar las competencias pedagógicas para ser facilitadores del proceso enseñanza-aprendizaje</td>
</tr>
<tr>
<td>66</td>
<td>Garantizar un flujo sin problemas en el cuidado de los pacientes en la unidad mediante la delegación de tareas</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>67</td>
<td>Cuidarme para no agotar mis recursos mentales y físicos</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>68</td>
<td>69</td>
<td>70</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Utilizar la tecnología de la información en mi trabajo</strong></td>
<td><strong>Muestra disposición por aprender nuevas tecnologías</strong></td>
<td><strong>B40</strong></td>
<td><strong>Habilidad para dirigir servicios de salud y de enfermería</strong></td>
</tr>
<tr>
<td><strong>Coordinar la atención general de los pacientes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dar retroalimentación a los colegas de una manera constructiva</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Desarrollar el ambiente de trabajo</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B

Data Collection Instrument
Data Collection Instrument

INFORMED CONSENT

Please read this consent information before you begin the survey.

The Dominican Public Health System faces great challenges to comply with the law and to provide health services that the population requires in both coverage and quality.

We all have friends or relatives who have required (and will require) health services.

When the government fulfills its responsibility to build and equip the hospitals that are necessary, the nursing professionals must be ready to play the role that corresponds to them in the improvement of the Dominican Public Health System.

In that sense, we request your collaboration by filling this survey in the most honest and objective way possible, regarding how well you understand that you master each of the nursing competencies that we are going to present to you, along with some questions from your academic, work, demographic background and the hospital where you performed your nursing internship.

This survey is anonymous and confidential, which means, we will not ask or share data that identifies any participant.

Participation is completely voluntary. There is no payment associated with the completion of this survey, but with your honest participation, you help the Dominican academic community to have a better understanding of how Dominican nursing students just prior graduation assess their level of competency. You can leave the survey at any time and you will not suffer any consequences. Participating in this online survey indicates your consent for the use of the answers you supply.

If you have any question before or during the survey, you can contact Dr. Donna Talbot at (269) 387-3891 or Wady Ramirez at 809-315-3140. You may also contact the Chair, Human Subjects Institutional Review Board at 269-387-8293 or the Vice President for Research at 269-387-8298 if questions arise during the study.

This consent document has been approved by the Western Michigan Human Subjects Institutional Review Board (HSIRB) on July 25th, 2019. Please, do not participate in this study after July 24th, 2020.

Link to access the online survey: https://www.surveymonkey.com/r/8PFQ5ZC

1- How well do you believe you have mastered each one of these nursing competencies?
<table>
<thead>
<tr>
<th>Competency</th>
<th>Student competency mastery level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Helping role</strong></td>
<td></td>
</tr>
<tr>
<td>1 Planning patient care according to individual needs</td>
<td>0 Very Low Level of Competence</td>
</tr>
<tr>
<td>2 Supporting patients’ coping strategies</td>
<td></td>
</tr>
<tr>
<td>3 Evaluating critically own philosophy in nursing</td>
<td></td>
</tr>
<tr>
<td>4 Modifying the care plan according to individual needs</td>
<td></td>
</tr>
<tr>
<td>5 Utilizing nursing research findings in relationships with patients</td>
<td></td>
</tr>
<tr>
<td>6 Developing the treatment culture of my unit</td>
<td></td>
</tr>
<tr>
<td>7 Decision-making guided by ethical values</td>
<td></td>
</tr>
<tr>
<td><strong>Teaching–coaching</strong></td>
<td></td>
</tr>
<tr>
<td>8 Mapping out patient education needs carefully</td>
<td></td>
</tr>
<tr>
<td>9 Finding optimal timing for patient education</td>
<td></td>
</tr>
<tr>
<td>10 Mastering the content of patient education</td>
<td></td>
</tr>
<tr>
<td>11 Providing individualized patient education</td>
<td></td>
</tr>
<tr>
<td>12 Coordinating patient education</td>
<td></td>
</tr>
<tr>
<td>13 Able to recognize family members’ needs for guidance</td>
<td></td>
</tr>
<tr>
<td>14 Acting autonomously in guiding family members</td>
<td></td>
</tr>
<tr>
<td>15 Taking student nurse’s level of skill acquisition into account in mentoring</td>
<td></td>
</tr>
<tr>
<td>16 Supporting student nurses in attaining goals</td>
<td></td>
</tr>
<tr>
<td>17 Evaluating patient education outcome together with patient</td>
<td></td>
</tr>
<tr>
<td>18 Evaluating patient education outcomes with family</td>
<td></td>
</tr>
<tr>
<td>19 Evaluating patient education outcome with care team</td>
<td></td>
</tr>
<tr>
<td>20 Taking active steps to maintain and improve my professional skills</td>
<td></td>
</tr>
<tr>
<td>21 Developing patient education in my unit</td>
<td></td>
</tr>
<tr>
<td>22 Developing orientation programmes for new nurses in my unit</td>
<td></td>
</tr>
<tr>
<td>23 Coaching others in duties within my responsibility area</td>
<td></td>
</tr>
<tr>
<td><strong>Diagnostic functions</strong></td>
<td></td>
</tr>
<tr>
<td>24 Analysing patient’s well-being from many perspectives</td>
<td></td>
</tr>
<tr>
<td>25 Able to identify patient’s need for emotional support</td>
<td></td>
</tr>
<tr>
<td>26 Able to identify family members’ need for emotional support</td>
<td></td>
</tr>
<tr>
<td>27 Arranging expert help for patient when needed</td>
<td></td>
</tr>
<tr>
<td>28 Coaching other staff members in patient observation skills</td>
<td></td>
</tr>
<tr>
<td>29 Coaching other staff members in use of diagnostic equipment</td>
<td></td>
</tr>
<tr>
<td>30 Developing documentation of patient care</td>
<td></td>
</tr>
<tr>
<td><strong>Managing situations</strong></td>
<td></td>
</tr>
<tr>
<td>31 Able to recognize situations posing a threat to life early</td>
<td></td>
</tr>
<tr>
<td>32 Prioritizing my activities flexibly according to changing situations</td>
<td></td>
</tr>
<tr>
<td>33 Acting appropriately in life-threatening situations</td>
<td></td>
</tr>
<tr>
<td>34 Arranging debriefing sessions for the care team when needed</td>
<td></td>
</tr>
<tr>
<td>35 Coaching other team members in mastering rapidly changing situations</td>
<td></td>
</tr>
<tr>
<td>36 Planning care consistently with resources available</td>
<td></td>
</tr>
<tr>
<td>37 Keeping nursing care equipment in good condition</td>
<td></td>
</tr>
<tr>
<td>38 Promoting flexible team co-operation in rapidly changing situations</td>
<td></td>
</tr>
<tr>
<td>Competency (Cont…)</td>
<td>0 Very Low Level of Competence</td>
</tr>
<tr>
<td>------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td><strong>Therapeutic interventions</strong></td>
<td></td>
</tr>
<tr>
<td>39 Planning own activities flexibly according to clinical situation</td>
<td></td>
</tr>
<tr>
<td>40 Making decisions concerning patient care taking the particular situation into account</td>
<td></td>
</tr>
<tr>
<td>41 Coordinating multidisciplinary team’s nursing activities</td>
<td></td>
</tr>
<tr>
<td>42 Coaching the care team in performance of nursing interventions</td>
<td></td>
</tr>
<tr>
<td>43 Updating written guidelines for care</td>
<td></td>
</tr>
<tr>
<td>44 Providing consultation for the care team</td>
<td></td>
</tr>
<tr>
<td>45 Utilizing research findings in nursing interventions</td>
<td></td>
</tr>
<tr>
<td>46 Evaluating systematically patient care outcomes</td>
<td></td>
</tr>
<tr>
<td>47 Incorporating relevant knowledge to provide optimal care</td>
<td></td>
</tr>
<tr>
<td>48 Contributing to further development of multidisciplinary clinical paths</td>
<td></td>
</tr>
<tr>
<td><strong>Ensuring quality</strong></td>
<td></td>
</tr>
<tr>
<td>49 Committed to my organization’s care philosophy</td>
<td></td>
</tr>
<tr>
<td>50 Able to identify areas in patient care needing further development and research</td>
<td></td>
</tr>
<tr>
<td>51 Evaluating critically my unit’s care philosophy</td>
<td></td>
</tr>
<tr>
<td>52 Evaluating systematically patients’ satisfaction with care</td>
<td></td>
</tr>
<tr>
<td>53 Utilizing research findings in further development of patient care</td>
<td></td>
</tr>
<tr>
<td>54 Making proposals concerning further development and research</td>
<td></td>
</tr>
<tr>
<td><strong>Work role</strong></td>
<td></td>
</tr>
<tr>
<td>55 Able to recognize colleagues’ need for support and help</td>
<td></td>
</tr>
<tr>
<td>56 Aware of the limits of my own resources</td>
<td></td>
</tr>
<tr>
<td>57 Professional identity serves as resource in nursing</td>
<td></td>
</tr>
<tr>
<td>58 Acting responsibly in terms of limited financial resources</td>
<td></td>
</tr>
<tr>
<td>59 Familiar with my organization’s policy concerning division of labour and co-ordination of duties</td>
<td></td>
</tr>
<tr>
<td>60 Coordinating student nurse mentoring in the unit</td>
<td></td>
</tr>
<tr>
<td>61 Mentoring novices and advanced beginners</td>
<td></td>
</tr>
<tr>
<td>62 Providing expertise for the care team</td>
<td></td>
</tr>
<tr>
<td>63 Acting autonomously</td>
<td></td>
</tr>
<tr>
<td>64 Guiding staff members to duties corresponding to their skill levels</td>
<td></td>
</tr>
<tr>
<td>65 Incorporating new knowledge to optimize patient care</td>
<td></td>
</tr>
<tr>
<td>66 Ensuring smooth flow of care in the unit by delegating tasks</td>
<td></td>
</tr>
<tr>
<td>67 Taking care of myself in terms of not depleting my mental and physical resources</td>
<td></td>
</tr>
<tr>
<td>68 Utilizing information technology in my work</td>
<td></td>
</tr>
<tr>
<td>69 Coordinating patient’s overall care</td>
<td></td>
</tr>
<tr>
<td>70 Orchestrating the whole situation when needed</td>
<td></td>
</tr>
<tr>
<td>71 Giving feedback to colleagues in a constructive way</td>
<td></td>
</tr>
<tr>
<td>72 Developing patient care in multidisciplinary teams</td>
<td></td>
</tr>
<tr>
<td>73 Developing work environment</td>
<td></td>
</tr>
</tbody>
</table>
2- Are you a nursing student who has completed the required nursing internship of your program?
   a. Yes
   b. No

3- Please, write the name of the health care center where you completed your nursing internship.
   ________________________________

4. For how many years have you been working in a health care related position before starting your nursing internship experience?
   ________ years

5. How many diplomas or certificates from trainings or studies have you earned related to the health care area?
   ________ diplomas / certificates

6. In what type of high school you graduated?
   a. Private school
   b. Polytechnic
   c. Lyceum
   d. Public school
   e. Adult accelerated high school program (CENAPEC, Prepara, etc…)

7. What is your Sex?
   a. Male
   b. Female

8. What is your age?
   ________ years old

9. Is there anything else you would like to add regarding your academic or work background?
   Please specify
   ________________________________

10. Is there anything else you would like to add regarding your nursing competencies self-assessment? Please specify
    ________________________________
CONSENTIMIENTO INFORMADO

El sistema de Salud Pública Dominicano enfrenta grandes retos para cumplir la ley y lograr proveer los servicios de salud requiere la población tanto en cobertura como en mejora de la calidad.

Todos tenemos familiares, amigos o relacionados que han requerido (y que van a requerir) servicios de salud.

Cuando el gobierno cumpla con su responsabilidad de construir y equipar los hospitales que sean necesarios, los profesionales de enfermería deben estar listos para desempeñar el rol que les corresponde en la mejora del Sistema de Salud Pública Dominicana.

En ese sentido, solicitamos su colaboración completando la siguiente encuesta de la manera más honesta y objetiva posible, respecto qué tan bien cada uno de ustedes entiende que domina cada una de las competencias de enfermería que les vamos a presentar, junto con algunas preguntas de su trasfondo académico, laboral, demográfico y del hospital donde realizó su internado de enfermería.

Esta encuesta es anónima y confidencial, por lo tanto, no preguntaremos ni compartiremos datos que les identifiquen.

La participación es completamente voluntaria. No hay ningún pago asociado al llenado de esta encuesta, pero con tu honesta participación ayudas a la comunidad académica dominicana a tener un mejor entendimiento de cómo evalúan su nivel de competencias los estudiantes de enfermería de República Dominicana que están a punto de graduarse. Usted puede abandonar la encuesta en cualquier momento y no sufrirá ninguna consecuencia. Al continuar con el llenado de esta encuesta, está aceptando participar en el estudio con la información que provea. La participación en esta encuesta en línea indica su consentimiento para el uso de las respuestas que proporcione.


Este documento de consentimiento ha sido aprobado por la Junta de Revisión Institucional de Asuntos Humanos de Western Michigan (HSIRB) el 25 de Julio de 2019. Por favor, no participe en este estudio después de 24 de Julio de 2020.

Enlace para acceder a la encuesta online: https://www.surveymonkey.com/r/8PFQ5ZC
Appendix C

NCS Copyright Permission
Dear Wady,


Thank you for your email.

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Sincerely,

Sheik Safdar
Sales Specialist – Permissions
Global Sales Partnerships
Wiley

ssafdar@wiley.com
T +1 201-748-6512

111 River Street
Hoboken, NJ 07030-5774
U.S.
permissions@wiley.com
Appendix D

Participants’ Access Permission Request Letter
Participants’ Access Permission Request Letter

12 de Julio de 2019

Dra. Lily Rodríguez
Rectora
Universidad UTESA
Su despacho.-

Estimada Doctora Rodríguez,

Por medio de la presente tengo a bien hacer de su conocimiento que me encuentro en la fase de recopilación de datos para mi disertación correspondiente al Doctorado en Liderazgo de Educación Superior que actualmente realicé en la Western Michigan University.

En ese sentido, solicito su autorización y colaboración para tener acceso a los estudiantes de último cuatrimestre de la carrera de enfermería de su universidad para que participen en el estudio “Competencias Profesionales de los Estudiantes de Enfermería en la República Dominicana: Una Autoevaluación a la luz de estándares internacionales” llenando la encuesta electrónica que hemos preparado con un instrumento validado en el ámbito internacional para la evaluación y autoevaluación de competencias de enfermería.

Este estudio pretende que los estudiantes de término de las 11 universidades que ofrecen la licenciatura en enfermería en el país reporten su nivel de dominio de cada una de las 73 competencias del Nurse Competence Scale y que provean algunos datos demográfico. Esta encuesta es confidencial y anónima. No solicita ningún dato que pueda ser usado para identificar a un individuo de manera particular o a la universidad a la que pertenece.

Nos comprometemos a poner los resultados del estudio a la disposición de las instituciones participantes de manera global. Este estudio no tiene intención de evaluar escuelas de enfermería, mas bien, proporcionar un marco de referencia apropiado para seguir avanzando en elevar la calidad de los servicios de salud en el país. Entendemos que disponer de estos resultados ayudará a los gestores académicos a tener un mejor entendimiento del nivel de competencias de los estudiantes de enfermería y en función de esto, orientar los procesos de mejora continua para alinear el perfil de nuestros egresados a las expectativas internacionales en el área.

En caso de autorizar la participación de sus estudiantes en el estudio, solicitamos que nos indique el nombre y teléfono de la persona de contacto que usted designe para coordinar los detalles logísticos para la recolección de los datos.

Agradeciendo la atención a esta solicitud, se despide de usted.

Ing. Wady Ramírez
Appendix E

Video Data Collection Instruction Script
Hi, my name is Wady Ramirez. I am a doctoral student from the Higher Education Leadership from Western Michigan University and a researcher in the field of nursing competencies evaluation and development.

The Dominican Public Health System faces great challenges to comply with the law and to provide health services that the population requires in both coverage and quality.

We all have friends or relatives who have required (and will require) health services.

When the government fulfills its responsibility to build and equip the hospitals that are necessary, the nursing professionals must be ready to play the role that corresponds to them in the improvement of the Dominican Public Health System.

In that sense, we request your collaboration by filling this survey in the most honest and objective way possible, regarding how well you understand that you master each of the nursing competencies that we are going to present to you, along with some questions from your academic, work, demographic background and the hospital where you performed your nursing internship.

This survey is confidential, which means, we will not ask or share data that identifies any participant.

Participation is completely voluntary. There is no payment associated with the completion of this survey, but with your honest participation, you help the Dominican academic community to have a better understanding of how Dominican nursing students just prior graduation assess their level of competency. You can leave the survey at any time and you will not suffer any consequences. Participating in this online survey indicates your consent for the use of the answers you supply.

If you have any question before or during the survey you can ask the facilitator of this session or contact these numbers: (Show on screen)
- Dr. Donna Talbot at (269) 387-3891
- Wady Ramirez at 809-315-3140
- Chair, Human Subjects Institutional Review Board at 269-387-8293
- Vice President for Research at 269-387-8298

Thank you very much!
SCRIPT PARA VIDEO INFORMATIVO COLECCIÓN DE DATOS

Hola, soy Wady Ramírez. Me presento ante ustedes como estudiante del doctorado en Liderazgo de Educación Superior de la Western Michigan University e investigador en el área de evaluación y desarrollo de competencias de enfermería.

El sistema de Salud Pública Dominicano enfrenta grandes retos para cumplir la ley y lograr proveer los servicios de salud que requiere la población tanto en cobertura como en mejora de la calidad.

Todos tenemos familiares, amigos o relacionados que han requerido (y que van a requerir) servicios de salud.

Cuando el gobierno cumpla con su responsabilidad de construir y equipar los hospitales que sean necesarios, los profesionales de enfermería deben estar listos para desempeñar el rol que les corresponde en la mejora del Sistema de Salud Pública Dominicana.

En ese sentido, solicitamos su colaboración completando la siguiente encuesta de la manera más honesta y objetiva posible, respecto qué tan bien cada uno de ustedes entiende que domina cada una de las competencias de enfermería que les vamos a presentar, junto con algunas preguntas de su trasfondo académico, laboral, demográfico y del hospital donde realizó su internado de enfermería.

Esta encuesta es confidencial, por lo tanto, no preguntaremos ni compartiremos datos que les identifiquen.

La participación es completamente voluntaria. No hay ningún pago asociado al llenado de esta encuesta, pero con tu honesta participación ayudas a la comunidad académica dominicana a tener un mejor entendimiento de cómo evalúan su nivel de competencias los estudiantes de enfermería de República Dominicana que están a punto de graduarse.

Usted puede abandonar la encuesta en cualquier momento y no sufrirá ninguna consecuencia.

Al continuar con el llenado de esta encuesta, está aceptando participar en el estudio con la información que provea.

Si tiene alguna pregunta antes o durante la encuesta, puede preguntarle al facilitador de esta sesión o contactar los siguientes números: (Mostrar en pantalla los números)

- Dr. Donna Talbot at (269) 387-3891
- Wady Ramirez at 809-315-3140
- Chair, Human Subjects Institutional Review Board at 269-387-8293
- Vice President for Research at 269-387-8298

¡Muchas gracias!
Appendix F

Reminder Participants’ Access Permission Request Letter
Reminder Participants’ Access Permission Request Letter

19 de Julio de 2019

Dra. Lily Rodríguez
Rectora
Universidad UTESA
Su despacho.-

Estimada Doctora Rodríguez,

Por medio de la presente tengo a bien reiterar mi solicitud de autorización y colaboración para tener acceso a los estudiantes de último cuatrimestre de la carrera de enfermería de su universidad para que participen en el estudio “Competencias Profesionales de los Estudiantes de Enfermería en la República Dominicana: Una Autoevaluación a la luz de estándares internacionales” llenando la encuesta electrónica que hemos preparado con un instrumento validado en el ámbito internacional para la evaluación y autoevaluación de competencias de enfermería.

Tal como le indicamos en la comunicación anterior, este estudio pretende que los estudiantes de término de las 11 universidades que ofrecen la licenciatura en enfermería en el país reporten su nivel de dominio de cada una de las 73 competencias del Nurse Competence Scale y que provean algunos datos demográficos. Esta encuesta es confidencial y anónima. No solicita ningún dato que pueda ser usado para identificar a un individuo de manera particular o a la universidad a la que pertenece.

Nos comprometemos a poner los resultados del estudio a la disposición de las instituciones participantes de manera global. Este estudio no tiene intención de evaluar escuelas de enfermería, mas bien, proporcionar un marco de referencia apropiado para seguir avanzando en elevar la calidad de los servicios de salud en el país. Entendemos que disponer de estos resultados ayudará a los gestores académicos a tener un mejor entendimiento del nivel de competencias de los estudiantes de enfermería y en función de esto, orientar los procesos de mejora continua para alinear el perfil de nuestros egresados a las expectativas internacionales en el área.

En caso de autorizar la participación de sus estudiantes en el estudio, le solicito que antes del 20 de Julio de 2019 nos indique el nombre y teléfono de la persona de contacto que usted designe para coordinar los detalles logísticos para la recolección de los datos, para poder ser incluidos en el estudio.

Agradecido la atención a esta solicitud, se despide de usted.

Ing. Wady Ramírez
Appendix G

Western Michigan University HSIRB Approval
Date: July 25, 2019

To: Donna Talbot, Principal Investigator
Wady Ramirez, Student Investigator for dissertation

From: Amy Naugle, Ph.D., Chair

Re: IRB Project Number 19-07-24

This letter will serve as confirmation that your research project titled “Dominican Nursing Students' Self-Reported Mastery of International Nursing Competencies” has been approved under the exempt category of review by the Western Michigan University Institutional Review Board (IRB). The conditions and duration of this approval are specified in the policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note: This research may only be conducted exactly in the form it was approved. You must seek specific board approval for any changes to this project (e.g., add an investigator, increase number of subjects beyond the number stated in your application, etc.). Failure to obtain approval for changes will result in a protocol deviation.

In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the IRB for consultation.

The Board wishes you success in the pursuit of your research goals.

A status report is required on or prior to (no more than 30 days) July 24, 2020 and each year thereafter until closing of the study. The IRB will send a request.

When this study closes, submit the required Final Report found at https://wmich.edu/research/forms.

Note: All research data must be kept in a secure location on the WMU campus for at least three (3) years after the study closes.