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A Comparison of the Effects of Simulation Training and Non-Simulation Training On Self-Efficacy in Providing Women's Health Care

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Disclaimer

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ABSTRACT

A Comparison of the Effects of Simulation Training and Non-Simulation Training on Self-Efficacy in Providing Women's Health Care.

The Veterans Administration (VA) recognizes that proficiency in the core concepts of primary care women's health is required to provide comprehensive primary care for women. A potentially superior form of training that has been recently used for care providers is simulation. The examination of the relationship between simulation training through the Mini-Residency Course and increased self-efficacy among Women's Health Primary Care Providers (WH-PCP) is important, as the Mini-Residency Course is designed specifically to fill knowledge gaps and enhance the participant's knowledge and skill.

A single post-test only, two group design was used for this study. The experimental group included those who completed simulation training on how to provide effective, essential healthcare to women veterans. The simulation-based training occurred July, 2012. The study gathered survey data designed to determine the level of self-efficacy of practitioners from a sample who had participated in the Mini-Residency program (Part I, or Parts I and II) and compared the levels of self-efficacy to a sample of practitioners who did not participate in simulations. Limited by a low response rate, the study sample included 23 practitioners. A self-efficacy survey was constructed using Bandura's self-efficacy theory. The self-efficacy score for this analysis used the mean of six discrete skill items. The reliability of this self-efficacy scale was examined using Cronbach's alpha. Results indicated reliability at $\alpha = .71$. The results failed to demonstrate any statistically significant differences between groups. However, it was noted that a significant result ($p = .10$ level) was evident in the differences in mean self-efficacy scores

based on standardized patient experience, which suggests the need for future research using a larger sample size.

Executive Summary

A Comparison of the Effects of Simulation Training and Non-Simulation Traditional Training on Self-Efficacy in Providing Women's Health Care.

Problem: The Veterans Health Administration (VHA) handbook 1330.01(2010) stipulates Women's Health Primary Care Providers (WH PCP) must be fully proficient in providing the complete range of women's primary care. Nevertheless, not all of the VA systems are equipped to address such comprehensive and specific needs of women veterans. This discrepancy is being addressed by the VA by offering online Talent Management System (TMS) training modules to help increase the knowledge-base of WH PCPs, but such training does not facilitate the application of this new knowledge in a way that is optimally beneficial to the WH PCP and women veterans. A potentially superior form of training that has been recently used is simulations. In an effort to address this questions and practice evidenced based medicine, a properly formulated question about the population, intervention, comparison, and outcome was developed: Is there a relationship to an increase in self-efficacy for providers who provide women's healthcare for veterans after attending a Mini-Residency Course with simulation training, compared to provider's self-efficacy not receiving simulation training?

Purpose: The purpose of this study was to measure outcomes, in terms of self-efficacy of providers, associated with simulation training in women Veterans' healthcare to inform discussion and decision making about future training of WH PCPs.

Goal: This study was designed to help to discriminate best practice approaches for using simulation technology to increase provider self-efficacy and offer justification for continuation of this type of pedagogy and its related expense.

Objective: The objective of the study was to evaluate the effect of simulation training on practitioner self-efficacy. If shown to be successful, simulation training could be duplicated in other healthcare areas within the VA and used for training, practice, evaluation, and annual competency purposes.

Plan: Self-efficacy data were gathered using a tool that measures respondents' confidence in their ability to provide services listed as "Basic/Minimal" competency essentials by the Women Veterans Health Strategic health Care Group (2012), VHA 1330.01 and a Booz Allen Hamilton Survey (2010). The skill areas measured on the self-efficacy tool included confidence scale in performing 6 identified essentials for womens health exams. Mini-Residency Course July 2012 was the initial offering, with a choice to attend Mini-Residency I and II or just one session. Not all providers stayed for Mini-Residency II, but were considered in this survey because the data gathered for those WH PCP attending both sessions could lend to a need for further study in the future.

Outcome and Results: The findings of the analysis of survey data highlighted the continued lower self-efficacy scores of participants. Respondents demonstrated an overall self-efficacy mean score of 2.21, remaining at a "slightly to moderately confident" level of self-efficacy for these women's health issues. Using an alpha significance level of .05, results of the study failed to identify statistically significant differences in self-efficacy scores based on which mini residency program was attended, completion of the TMS course, experience with a patient simulator or with a standardized patient, or professional title. It was noted that the results of the study related to the standardized patient and simulator experience approached significance, suggesting the possibility of the significance of these variables in an examination of a larger population. Thus, although this result remains non-significant to this study, the findings support the need for further analysis using a larger sample size.

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I love you all and thank you for always believing in me.

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A report "Caring for Women Veterans" stated that the number of women veterans seeking care from the Veterans Administration (VA) has doubled in the past 10 years from nearly 160,000 in Fiscal Year (FY) 2000 to 315,000 in FY 2010 (Women's Veteran Task Force Report [WVTF], 2012). Women veterans underutilize VA healthcare relative to male veterans, where there is a 15% overall market penetration among women veterans, in contrast to 22% market penetration in male veterans, (Washington, Bean-Mayberry, Riopelle, & Yano, 2011). The recognition of gender disparity and the growing number of women veterans entering into VA care shaped the motivation for focusing on women veterans as one of the high priority groups for the VA strategic initiative to expand healthcare access (VA, 2008). Through expanded training modalities and care-based learning, the VA goals are to fill knowledge gaps and enhance clinical knowledge on gender-specific issues related to women veterans (WVHSHG, 2012).

Concerned about fulfilling their promise to care for all veterans, the VA, developed plans to prepare providers to give comprehensive care to all veterans. Concurrently, Women's Health Program Leadership was asked to ensure the development and oversight of coordinated consistent planning, education, and clinical services for the comprehensive primary care programs at facilities in each Veterans Integrated Service Network (VISN). This includes the training, understanding and responsibility to address the healthcare needs and preferences of women veterans.

The purposes of this study are to better understand the simulation pedagogy as it is being used in the VA within the Mini-Residency Course, and to determine if there is a relationship between simulation training and an increase in self-efficacy in providing women's health care.

Problem Recognition and Definition

Women in the U.S. military represent about 15% of active military personnel, 17% of reserve and National Guard forces, and 20% of new military recruits (Bean-Mayberry, et al., 2011). Simultaneously, women are one of the fastest growing groups of new users in the VA Healthcare System, with particularly high rates of utilization among veterans of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) (Bean-Mayberry et al). Of the more than 100,000 OEF/OIF women veterans, over 44% have enrolled for health care (Bean-Mayberry et al; Hayes & Krauthamer, 2009).

The VA recognizes that while women veterans may constitute a minority of veterans, they represent a critical mass deserving the same level of services provided to male veterans (WVTF, 2012, p. 2). Bean-Mayberry et al.'s (2011) systematic review of veteran women's health included 195 studies, five trials and one randomized trial that examined treatment outcomes for women with posttraumatic stress disorder (PTSD). Most articles focused on OEF/OIF soldiers' health issues. Recent post-deployment literature underscored the need for repeated PTSD/mental health screening in returning veterans, and pointed to continuity of care needs for psychiatric and gynecological problems which occur in the field. According to Bean-Mayberry et al, "Psychiatric and access/utilization literature confirmed the positive relationship between military sexual trauma and PTSD and the associated negative health effects" (p. 84).

Based on public comments to their 2012 draft, the WVTF proposed to finalize its recommendations and develop a detailed action plan for implementation (WVTF, 2012). The

task forced expressed its concern labeling the effort as an "urgency"… [and]… "acute, given the rapid growth of the women veteran population" (p. 4). The mission of the Women's Veterans Health Strategic Healthcare Group (WVHSHG) became the assurance to all women veterans that they receive equitable, high quality, and comprehensive health care in a sensitive and safe environment (VA, 2010).

In her presentation to the U.S. Senate Committee on Veteran's Affairs Sub Hearing, Patricia Hayes, PhD, Chief Consultant for WVHSHG (2010), expressed that general primary care and gender-specific care needs of women veterans are currently provided through a multi-visit, multi-provider model may not achieve the continuity of care desired. In addition, some VA facilities count on outside providers for gender-specific primary care and specialty gynecological care through the use of fee-basis care (Hayes, 2009). This approach to women's health delivery has unfortunately provided for challenges in the sustainment of continuity of care.

Eric K. Shinseki, Secretary of Veteran Affairs, tells of the goals that, "The 21_{st} century Veterans Administration will be built around three principles: we will be people-centric, results-driven and forward-looking" (VA Refresh, 2011,p.5). The VA will be an advocate and preemptively meet the needs of those the VA serves and their families. This strategic well drafted plan has become the cornerstone of the VA's *Refresh 2011-2015*. Contained in the initiative is the appeal to empower women veterans by promoting recognition of their contributions, to confirm that VA programs are responsive to the needs of women, and to educate women about VA benefits and services, enabling them to make informed decisions about applying for, and using VA benefits and services (VA Refresh).

As a result of Secretary Shinseki's initiative, a Department of Veterans Affairs Women Veterans Task Force (WVTF) was formed in order to prepare a background on the as is state of

services and benefits for women veterans in the fall of 2011. The task force reiterated the influx of women veterans seeking care in the VA system was promoted and welcomed, heightening the need to address the knowledge gap.

The *VHA 1330.01 Handbook* (2010) defines the scope of health care services to Women Veteran. Written in the handbook, provider proficiency is defined as, "Proficiency in the core concepts of primary care, and include essential components including: pelvic/breast exams; contraception counseling, and management; management of osteoporosis, menopause, pelvic pain, abnormal uterine bleeding, and sexually transmitted diseases; in addition to screening for breast and cervical cancer or, a history of sexual trauma (p. 11).

The handbook stipulates the designated WH PCP must be fully proficient in providing the complete range of primary care. In order to maintain proficiency in women's health, each site is accountable to ensure that the patient panel of every designated WH PCP is comprised of at least 10% female patients. Moreover, each designated WH PCP will spend at least one-half day every week practicing or precepting in a women's health practice. The problems lie in areas where there are an insufficient number of female patients currently to maintain a panel inclusive of 10% women, and there are no providers being precepted at a VA women's clinic on a regularly scheduled basis. Each facility must then participate in and support an ongoing staff and provider education plan to promote, improve and maintain skills and proficiency in women's health to all interested primary care providers

Statement of Purpose

A collaborative outreach led by the Committee on Women Veterans (CWV) to build awareness among women veterans of the benefits and services provided by VA has been successful. Of the more than 100,000 OEF/OIF women veterans, over 44% have enrolled for

health care (Bean-Mayberry et al., 2011; Hayes & Krauthamer, 2009). In response, the VA has implemented a comprehensive plan of primary care for women veterans, training of VA providers in basic and advanced women's health care, launching of the Women's Health Evaluation Initiative, and installation of Women Veterans Program Managers (WVPM) at VA facilities nationwide (WVTF Report, 2012). The *VHA Handbook 1330.01*(2010) stipulates WH PCP must be fully proficient in providing the complete range of primary care. Nevertheless, not all of the VA systems are equipped to address such comprehensive and specific needs of women veterans. Historically, women have played a minor role in the case loads of WH PCP, resulting in lower levels of proficiency among healthcare providers at a time when numbers of women seeking services are increasing.

This discrepancy is being addressed by the VA by offering online Talent Management System (TMS) training modules to help increase the knowledge-base of WH PCP, but such training does not facilitate the application of this new knowledge in a way that is optimally beneficial to the WH PCP and women veterans. A potentially superior form of training that has seen recently used is simulations. Simulation training is defined as the re-enactment of a condition or situation or the representation of the behavior or characteristics through the use of another system (Ravert, 2002, p. 203). Furthermore, simulation is available in a variety of forms, and many use static human models, high fidelity computer-based human patient simulators, that allow students to assess changeable heart sounds, breath sounds, and chest movement, experience cardiac monitoring; and observe the physiologic effects (Ravert). Ravert explains the many advantages of simulation, like the ability to focus on the intended aspects of the situation, presenting serious and/or uncommon situations, learning in a self-paced manner, developing higher order thinking sills, and student erring without repercussions to learner or

patient. Such training provides a social constructivist leaning environment that nurtures engagement in peer collaboration and simple-to-complex manipulative psychomotor skill development that builds self-confidence (Cardoza & Hood, 2012). The advantages of simulation training are the abilities to apply new knowledge, role-play, and debrief after training for these types of situations.

According to Dr. Haru Okuda, National Medical Director for the Veterans Health Administration Simulation Learning Education and Research Network (SimLEARN) program, medical simulation training provides learning conditions that imitate real-life situations without putting patients at risk and lets VA medical staff develop sharper diagnostic, team training, and surgical skills. The new SimLEARN National Center will be located on the campus of the new Orlando VA Medical Center, which is part of the exciting new "Medical City" campus. The center is scheduled to open in 2013; providers will work with high-tech mannequins, which breathe and speak — complete with mock veins and intricate sensors and mock-ups of emergency rooms where medical experts can hone their skills. As an example of the necessity of simulation learning, Dr. Okuda (2009, para 18) pointed out, “Ten years ago, if a woman walked into a VA clinic requiring a pelvic or breast exam, the staff would probably have said, “Well, I haven’t done that in quite some time”.

The VHA’s Women Veterans Health Strategic Health Care Group (WVHSHG) developed the Mini-Residency Program event for nearly 300 providers incorporating pelvic and breast exam instruction using several types of simulation, including simulation training equipment and gynecological training associates. More than 1,200 VHA providers have received training through this program. Simulation training increases confidence and elevates competence by providing a safer and more supportive environment for learning skills and using

critical decision-making skills. SimLEARN serves as a valuable resource to VHA health care providers and educators on the operational strategies, simulation technologies and training methods needed to address local training priorities. Dr. Okuda (2009,para 24) believed, "In the next five years, this will be the standard of care for most hospitals and academic centers. And it's important to emphasize the team work of the entire approach. Nurses and other health professionals are crucial to the success of the training process". Despite simulation use, the effects of such training are rarely studied at six months, nine months, or even a year and have not been implemented at this time for this type of training with the WH PCP using simulation.

In an effort to improve services to women veterans the WVTF recommendations for continuously improving services for women veterans across the entire department included the formation of the Women's Health Training programs via the Training Management System (TMS) and a comprehensive course delivered at the local level that include facilitated small groups and hands on training sessions using simulation equipment (Department of Affairs, Women Veterans Task Force, 2012).

The VA recognizes that proficiency in the core concepts of primary care women's health is required to provide comprehensive primary care for women. In addition, the designated WH PCP must be fully proficient in providing the complete range of primary care essential components including: pelvic/breast exams, contraception counseling and management; management of osteoporosis, menopause, pelvic pain, abnormal uterine bleeding, and sexually transmitted disease; in addition to screening for breast and cervical cancer, or a history of sexual trauma (WVTF, 2012). Because the Mini-Residency Course is designed specifically to fill knowledge gaps and enhance the participant's knowledge and skill using simulation training, determining a relationship of simulation training to increased self-efficacy can be significant in

decisions for future training plans within the VA health care system and individual VISN facilities, where competency training will be conducted.

Problem Statement

Chism (2010) stated that it is not enough to have knowledge about evidenced based practice (EBP); one must believe that the EBP actually has an effect on outcomes. In an effort to simultaneously address these questions and practice evidenced based medicine, a properly formulated question about the population, intervention, comparison, and outcome (PICO) should be developed (Schadewald, 2011). The question for this Capstone Project is: Is there a relationship to an increase in self-efficacy for providers who provide women's healthcare for veterans after attending a Mini-Residency Course with simulation training, compared to provider's self-efficacy not receiving simulation training.

PICO

P (Population)	Providers who provide women's healthcare for veterans.
I (Implementation)	VA Mini-Residency Course with simulation.
C (Comparison)	Providers self-efficacy who did not attend the VA Mini-Residency Course.
O (Outcome)	An increase in self-efficacy after attending the Mini-Residency Course with simulation training

The self-efficacy score was then used to examine the following five research questions:

1. Is there a statistically significant difference in self-efficacy based on which Mini Residency respondents attended?

2. Is there a statistically significant difference in self-efficacy based on completion of a TMS course?
3. Is there a statistically significant difference in self-efficacy based on experience with a patient simulator?
4. Is there a statistically significant difference in self-efficacy based on experience with a standardized patient?
5. Is there a statistically significant difference in self-efficacy based on professional title?

Project Significance

Understanding the pedagogy of simulation use as a training tool, will help those directed to ensure competency and satisfaction among providers and customers of the VA with a sustainable pathway to improve outcomes with the VA healthcare system. If this training proposal is successful, the simulation training model can then be duplicated in other healthcare areas within the VA and used for training, practice, evaluation, and annual competency purposes.

As presented previously, the WVTF reported the urgency as acute, given the rapid growth of the women veteran population (Hayes, 2012). Reports reveal an increase in the number of female veterans using VA health care had doubled since 2000, from nearly 160,000 to more than 337,000 (WVHSHG, 2012). In addition, the same report revealed women comprise approximately 14.5% of all active duty military, 18% of all National Guard and Reserves, and 6% of VA health care users.

Moreover, the nature of warfare places women in hostile battle space in ever-increasing numbers, with ever-increasing opportunity for direct-fire combat with armed enemies. Women are sustaining injuries similar to their male counterparts, both in severity and complexity.

Perceptions about VA healthcare quality, gender appropriateness, the VA environment, and their knowledge of VA eligibility were found to be determinants of delayed healthcare and unmet need (Washington et al., 2011).

The WVTF 2012 report expressed confidence that the VA has the opportunity to become a national model for service delivers. Two overriding questions shaped the work of the WVTF: What is the nature of gaps that persist, and what do we need to do differently across VA to eliminate them? VA strategic priorities include a focus on pillars designed to deliver the best health care services. One of those pillars focuses on women's health education. Women Veterans Health Care partners with VA Employee Education Services (EES) through the provisions of grants released to the field have enabled the implementation of Mini-Residencies. These trainings provide additional facilities and recruit new providers attracted and skilled in women's health.

To enhance similarity in objectives and attitudes with WH PCPs, the VA offers waves of mini-residencies opportunities in women's health across the country in strategic geographic locations. Each Mini-Residency lasts two and a half days and is taught by national women's health experts. The clinical staff receives presentations on contraception, cervical cancer screening and sexually transmitted infections, abnormal uterine bleeding, chronic abdominal and pelvic pain, post-deployment readjustment issues for women veterans, and other women's health topics. The Mini-Residency Course is specifically designed on principles of adult education and Continuing Medical Education (CME) literature, which now includes a SimLEARN (low and high fidelity simulation mannequins) partnership, task trainers, and the vision of dissemination that will shape future training initiatives.

Statement of Purpose and Appropriateness for EBP

This prevailing motivation towards strengthening how the VA prepares providers to care for women veterans creates this opportunity to propose a study that will examine the relationship between The National Women's Health Mini-Residency Program with simulation models and a growth in self-efficacy for those practitioners attending the course. Connecting how the VA can effectively propose how to address the acute need to provide equitable and competent services for women veterans via the VA Mini-Residency Program including simulation training, and growth in provider self-efficacy, is important. This study provides a benefit to the VA to discriminate best practice approaches for using simulation training to increase provider self-efficacy and offer justification for the continuation of this type of pedagogy and its related expense. This is an appropriate DNP project, which incorporates EBP, and has been primed in the spirit of the words of Houser and Oman (2011), who encourage EBP writing, "Without leaders who set expectation, provide support, and demonstrate commitment to promote an ongoing culture, EBP will not happen nor will it be sustained" (p.32).

Simulation is an effective strategy for both teaching and evaluating (Bearnson & Wiker, 2005). The burden to strengthen the case for utilizing simulation in training is one that is easily defended by EBP articles evaluating simulation training use in various areas of nursing. Maran and Glavin (2003) wrote, "Any simulator device can only ever be as good as the educational programme in which it is embedded and many simulators are purchased every year and then under-utilized due to lack of educational goals to underpin their use" (p. 27).

High-fidelity simulation centers provide social constructivist leaning environments that nurture engagement in peer collaboration and simple-to-complex manipulative psychomotor skill development that build self-confidence (Cardoza & Hood, 2012). The VA has already purchased

simulation models, which are currently not utilized. Investigating the outcome of simulation training and the relationship of an increase in self-efficacy in those providers that participate in the Mini-Residency Course will offer a useful discourse over simulation value and utility as a sustainable pedagogy.

Theoretical Foundation

Partnering Bandura's Social Cognitive Theory(1977) and Jeffries Simulation Model (2006) as the frameworks that guide the underpinnings of this project is consistent with the desired outcome because confidence and self-efficacy are crucial practice elements in nursing education and practice (Perry, 2011). Self-efficacy offers the foundation for human motivation, well-being, and personal accomplishments (Bandura); while the simulation framework promotes best practices for implementing simulation technology that delivers self-confidence (Jeffries) See Figures 1 and 2.

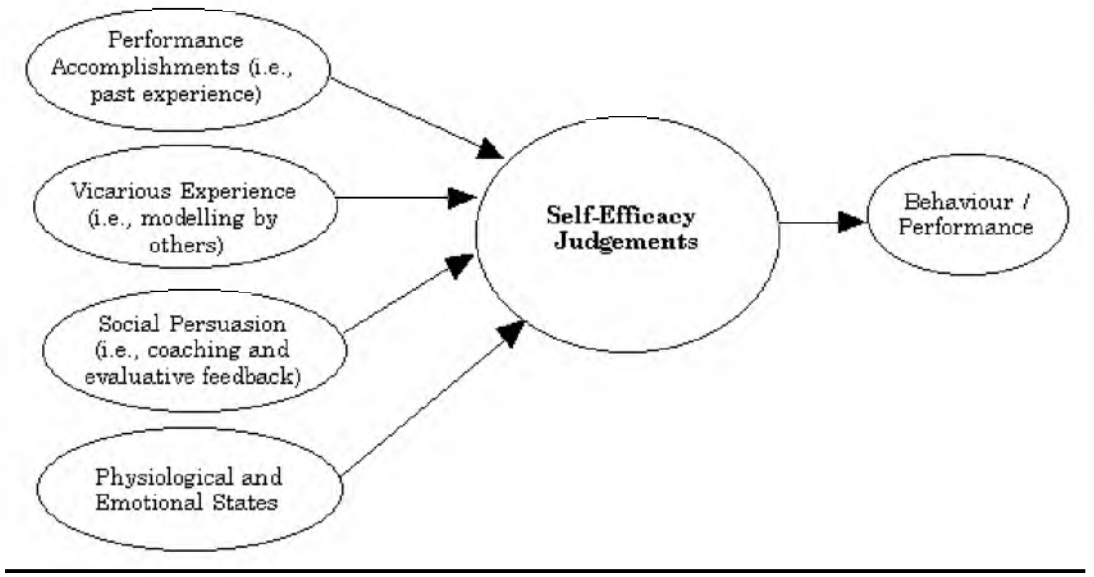

Figure 1. Albert Bandura: Social Learning Theory and The Self-Efficacy Model (1977,p.195)

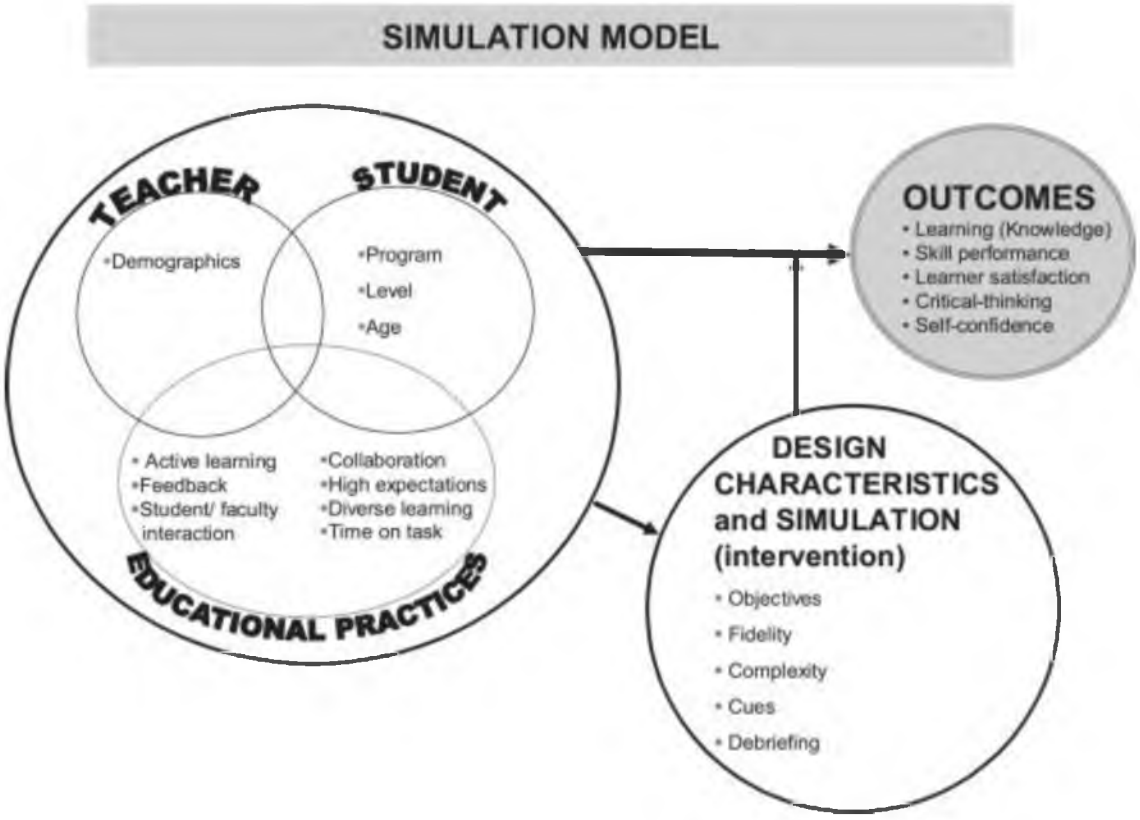

Figure 2. Jeffries Simulation Model (2006, p.165).

As noted by Bultas (2011), simulation has been shown to increase confidence levels as well as provide opportunities to practice skills necessary in caring for patients and families. Simulated settings provide a risk-free environment in which learners can incorporate theory and practice without the fear of harming patients (Birkhoff & Donner, 2010,p.419). Guimon, Sole, and Salas (2009) stated that structured training that included knowledge, skills, and effective outcomes brought about improvement in self-efficacy, and meta-cognition leading to improved resilience when confronted by challenges in the work environment.

According to Perry (2011), nursing is a service profession by which those in its care must feel they are safe and reassured. Low self-confidence makes others uncomfortable of trusted

experts when receiving their service, especially in the context of health care. Bandura (1977) wrote, "People with high perceived self-efficacy, by contrast, approach difficult tasks as challenges to be mastered rather than threats to be avoided" (p.204).

Incorporating Bandura's (1977) theory to demonstrate a relationship between simulation training as an effective method of increasing self-efficacy in women's health care providers, one would need to ensure a way of measuring performance outcomes, ensure vicarious experiences through instructor lead classes with demonstration, produce verbal persuasion by providing immediate positive feedback, and provide statistical evidence that demonstrates physiological feedback that draws a compelling conclusion on the what their contribution to the advancement of women health care means. Cardoza and Hood (2012) stated that the reports of self-efficacy in nursing education support the benefits of using social cognitive theory; specifically, the integration of simulation into nursing curriculum courses is thought to build self-efficacy, a construct of social cognitive theory, and confidence in student preparation for all healthcare settings.

According to Jeffries (2006), as the number of nurse educators use clinical simulations, more research will be needed to identify the hallmarks of a good simulation and the teacher role in the development and implementation of simulations. When designing simulations, using key design features and the four steps outlined in the framework, the development of an effective simulation that can improve learning outcomes and prepare nurses for real-world clinical practice can be achieved (Jeffries). A well designed simulation scenario has the potential to support students' transition from nursing in the laboratory to the patient care environment, while promoting more safe and competent practice in the health care environment (Jeffries).

This investigator believes, as Maran and Glavin (2003) acknowledged, that technology must not drive the educational agenda; but rather, educators should pursue the development of technology which will assist in developing areas of identified training need. By using simulation models, the VA has positioned itself as an exemplary representative for service delivery that successfully addresses gender-specific needs. The incorporation of simulation has been used in educating health professionals for years (Bearnson & Wiker, 2005). Simulation training has been found to not only improve outcomes in the delivery and management of patients, but also has increased ability and confidence to perform necessary procedures (Bearnson & Wiker). Evaluating the outcome of those attending the Mini-Residency Course curriculum allows stakeholders to streamline areas and tailor the instruction to the particular domain of functioning that is the object of interest (Bandura, 2005).

Review of Evidence

Axford and Bennett -Woods (2003) asserted that a literature review helps the investigator become informed about the topic, identifies key people who are interested in the topic, and gives an indication of what is accepted as known and whether or not there are alternative or even conflicting views among researchers. A more thoughtful part of the literature review contribution was whether the research query is appropriate in light of current research, and in addition, the presented knowledge base informs the course of the investigation (Axford & Bennett-Woods). Multiple databases were used to obtain the research, which included: Academic Search Premiere; ERIC; Cumulative Index to Nursing and Allied Health Literature (CINAHL); and PubMed. The key words used included: nursing education; simulation training; high-fidelity simulation; self-efficacy and simulation; simulation pedagogy; self-efficacy; and confidence.

Self-efficacy and self-confidence will be used interchangeably. Leigh (2008) explained confidence and self-confidence as large components of the cognitive mechanism of self-efficacy. Articles based on simulation use, self-efficacy, and how students' self-efficacy could be heightened and anxieties reduced when students were able to gain experience in working with simulated patients in a clinical environment, as well as the important contributions for nursing educators were included for better understanding of terminology and use within an educational and practice setting. Other search terms included: Low, medium, and high-fidelity simulation; patient- simulation; computer-based simulation; teaching methods; and simulation.

Leigh (2008) asserted that students graduating from colleges of nursing were in a state of crisis because of the demands put on them by employers expecting them to both think critically and make sound decisions in a clinical setting. New graduates were apprehensive about expectations in the workplace and the ability to meet those expectations (Leigh). Furthermore, 50% of intensive care nurses believed that their orientation was inadequate, and with a continual decrease of orientation days, estimates indicate that 30-50% of new graduates leave their first job within one year of employment (Leigh).

Conversely, graduates who believe they are prepared and have confidence in the clinical setting were better prepared and able to care for their patients and will make an easier transition into the workforce (Leigh, 2008). Meretoja, Leino-Kilpi, and Kaira (2004) reported that there was a direct relational effect of job satisfaction and retention of nurses to the confidence they have in the clinical setting. Therefore, more pressure was put on schools of nursing and their faculty to produce better prepared graduates to meet the demands of today's clinical environment (Meretoja et al).

Self-Efficacy

The paradigm of self-efficacy, an underpinning of Bandura's Social Cognitive Theory, is the suggestion "that expectations of personal efficacy determine whether coping behavior will be initiated, how much energy will be expended, and how long it will be sustained in the face of obstacles and aversive experiences"(Bandura, 1977, p.191). Social cognitive theory was developed by Bandura in 1977. Bandura believed an individual's perceived performance of a behavior, not success, influenced the decision to take on the task. If the person felt the behavior extended beyond the self-efficacy range, the behavior was avoided. Self-efficacy is what an individual believes he or she can accomplish with his or her own set of skills under certain circumstances (Snyder & Lopez, 2007).

Because self-efficacy evaluations reflect one's belief in the ability to conquer a task at different levels of difficulty, in essence, a provider of women's health, familiar with procedures and confident in their ability to provide a given task, will easily fit into a highly efficacious category. However, if the provider does not believe they have the ability to provide a given task, they will have low self-efficacy results. The difference is the individual with high levels of self-efficacy perceives a challenge to master, rather than a task to be avoided (Williams& Williams, 2010).

With self-efficacy, the perceived belief that one is capable of carrying out a specific action or activity is the motivating incentive to persevere even in the face of difficulty (Bandura & Locke, 2003). Unlike self-esteem, self-efficacy can differ greatly from one subject or skill to another and is dynamic in that it can change over time as a new experience or new information is acquired (Leigh, 2008). Strong self-efficacy tends to predict achievement of a task, while low self-efficacy diminishes the ability to perform a certain activity (Schunk, & Pajares, 2009). This

construct is frequently used as the theoretical foundation for health education and health promotion program development, and is a core component of behavioral health theories, such as social cognitive theory and the health belief model.

Bandura (1995, 1997) described perceived efficacy as an important role in human functioning because of how it affects behavior by its impact on other determinants, such as goals and objectives, outcome expectations, affective inclinations, and perception of weaknesses and opportunities in the social environment. However Bandura was careful to point out that the expectation is not the sole determinant of behavior. Expectation will not produce desired performances if the component capabilities are lacking and if there is no persuasive initiative to do so (Bandura, 1995, 1997). Outlined in Bandura's theory are four components of information that individuals use to judge their efficacy: performance outcomes (performance accomplishments), vicarious experiences, verbal persuasion, and physiological feedback (emotional arousal).

Polit and Beck (2007) defined a theory as "an abstract generalization that presents a systematic explanation about the relationships among phenomena" (734). Theoretical frameworks knit disparate observations and accumulated facts into an orderly scheme (Rourke, Schmidt, & Garga, 2010). The concept behind self-efficacy theory is that enactment and motivation are in part determined by how effective people believe they can be. Rourke et al. (2010) quoted Gioiella writing, "Only if data are linked to a theoretical framework can the activity be considered research and good science" (p. 2).

Simulation

Ravert (2002) contended that today's healthcare workers are faced with rapidly changing technology, where the challenge for health educators preparing students and ensuring

competency is increasingly more difficult. Simulation is defined as the re-enactment of a condition or situation or the representation of the behavior or characteristics through the use of another system (Ravert, p. 203). Furthermore, simulation is available in a variety of forms; many use static human models, high fidelity computer-based human patient simulators that allow students to assess changeable heart sounds, breath sounds and chest movement; experience cardiac monitoring; and observe the physiologic effects (Ravert). Ravert explained the many advantages of simulation, like the ability to focus on the intended aspects of the situation, presenting serious and/or uncommon situations, learning in a self-paced manner, developing higher order thinking sills, and student erring without repercussions to learner or patient.

Simulation training has a long legacy of use for education and personnel evaluation in a variety of disciplines and professions (Issenberg, McGaghie, Petrusa, Gordon, &Scalese, 2005). Some examples of simulation technology used in training include flight simulators for pilots and astronauts, war games and training exercises for the military, management games for business executive, and technical operations for nuclear power plant personnel (Issenberg et al). According to Issenberg et al. the Institute of Medicine report emphasized, "Health care organizations should establish team training programs for personnel in critical care areas…using proven methods such as crew resource management techniques employed in aviation, including simulation" (p.13).

Further support for simulation training was given by Maran and Glavin, who stated that the advantages of using simulators in training assessment are that simulation produces a risk-free environment in which learners can successfully master the skills relevant to clinical practice. In addition, simulation allows for errors of either diagnosis or management to be acceptable to develop and followed through to their natural conclusion (Maran & Glavin, 2003).

Eaves and Flagg (2001) pointed out that military nurses have traditionally perfected their clinical skills in Department of Defense hospitals, but with the downsizing in the military and an increase in the number of ambulatory care patients, military components had to find different training modalities to maintain nursing education competencies. Sheppard Air Force Base in Wichita Falls, Texas, created a Simulated Medical Unit (SMU) in 2000, in order to evaluate a new graduate nurse's ability to manage a nursing team by utilizing mannequins and live actors to mirror real-life patients. Five graduate nurses were evaluated on skills in leading a nursing team that cared for a total of eight patients over a four-hour period. The report offered by the researchers reveal that the SMU allowed new nurse graduates the ability to learn in an environment similar to the experiences they would have in the field (Eaves & Flagg).

Yuan, William, and Fang (2012) described three types of simulation with each having different abilities to simulate reality. Low-fidelity simulation uses manikins, which are less similar to reality. Examples of low-fidelity or part-task trainers simulation models are: an intravenous (IV) training arm and intramuscular (IM) injection hip. Part task trainers are designed to replicate only part of the environment. They often resemble anatomical areas of the body and are most commonly used to train basic psychomotor skills, such as cannulation or venipuncture. The appeal of this type of trainer is they are relatively inexpensive; therefore, training centers will usually have multiple models (Maran & Glavin, 2003).

Intermediate-fidelity uses manikins that offer breath sounds, heart sounds, and bowel sounds, and allow for initiation of IV therapy but are thought to lack the complexity and realism of patient scenarios (Yuan et al., 2012, p.27). High-fidelity simulation (HFS) is an approach to experiential learning using life-size manikins with actual physiological and pharmacological responses, and sophisticated interactive capability in realistic scenarios (Yuan et al.). Fidelity

refers to how authentic or life-like the manikin and/or simulation experience is (Lapkin & Levett-Jones, 2011).

Jeffries (2006) explained, "High-fidelity patient simulation (HPS) is a teaching method that reproduces realistic clinical situations in a protected environment" (p.161). With HPS training, students may not only become more confident, but also safer and more efficient practitioners (Leigh). Students who participated in HPS reported improvement in critical thinking skills, leadership skills, decision making, problem solving and prioritization (Leigh, 2008). High-fidelity patient simulation comprises an environment that accurately reflects a clinical setting. The center-piece of the environment is an interactive full size mannequin with the capacity to respond verbally and physiologically to nursing interventions.

Lapkin and Levett-Jones (2011) referred to human patient simulation manikins (HPSMs), writing "Simulation experiences provide authentic and clinically relevant opportunities for experiential learning. HPSMs also provide an effective teaching and learning approach allowing students to become active and fully participative learners" (p. 3544). Human patient simulation manikins are being used to teach physical assessments, therapeutic communication, clinical psychomotor skills, clinical reasoning/decision making and teamwork (Lapkin & Levett-Jones).

Standardized Patients (SPs) have been used for a number of years as a means of simulating the clinical encounter and enabling a valid and reliable assessment of clinical competencies (Curran et al., 2012). SP individuals, who have been trained to portray a patient problem in a way that does not vary from learner to learner, provide opportunities for assessments that are "uncued, open-ended, standardized and more objective"(Curran et al.p.100) than traditional paper-based assessments. Using SPs technique has been reported as a useful tool

for assessing, physical examination skills, and basic interviewing techniques, and may be able to detect performance deficits not evident in traditional exams (Curran et al., 2012).

According to Leigh (2008), essential to the simulation experience are patient scenarios, which are innovative learning activities that teach students about real patients and their complex problems. Yuan, Williams and Fang (2011) stated that although simulation-based training is becoming more common, outcomes research on the use and usefulness of simulation is inconsistent and varies in methodological rigor and applicable focus. Issenberg et al. (2005) stated the weight of the best available evidence proposes that high-fidelity medical simulation facilitates learning under the right conditions, which include: repetitive practice; curriculum integration; multiple learning strategies; capture clinical variation; controlled environment; individualized learning; defined outcomes; simulator validity; and providing feedback.

Simulation and Self-Efficacy

Guimon et al. (2011) stated that pre-training analysis when planning simulation activities informs us that two key features of any learner analysis must be an assessment of individual motivation and self-efficacy, as these variables are known predictors of training success. In addition, training that was structured to include knowledge, skills, and effective outcomes brought about improvements in self-efficacy and meta-cognition, leading to improved resilience when confronted by challenges in their work environment (Guimon et al.).

Similarly, HFS centers offer social constructivist learning environments that foster student engagement in peer cooperation and simple-to complex manipulative psychomotor skill development that builds self-confidence in students (Cardoza & Hood, 2012). Further support shows that qualitative studies demonstrate that clinical simulation increased participant's confidence in dealing with critical situations, promoting active learning and allowing

interdisciplinary discussions among the students, which enhance the acquisition and development of clinical skills (Yuan et al., 2011).

Feingold, Calaluce, and Kallen (2003) pointed out in their study that performance testing with simulated clinical experiences increased student confidence in their ability to make clinical decisions and that simulation experiences provide an opportunity to use critical thinking and reinforce prior learning. In a similar study, where a comparison of results using two advance cardia life support (ACLS) classes on measures of knowledge and resuscitation skills, using low and high-fidelity simulation, HFS not only provided a safe environment for nurses to practice leadership skills, nurses also improved skill versatility as well as increasing self-confidence (Hoadley,2009).

In a study by Bambini, Washburn, and Perkins (2009), simulated clinical experiences were evaluated as a teaching/learning method to increase the self-efficacy of nursing students using a quasi-experimental, repeated measures design. Results indicated that students experienced a significant increase an overall self-efficacy ($p<.01$). Students also experienced an increase in confidence ($p<.001$), in assessing vital signs, breasts, the fundus, and lochia, and in providing patient education (Bambini et al.).

After allowing students the opportunity to have hands-on learning in pre-term labor experience, as they refined clinical skills using simulation and practiced nursing intervention in a structured learning environment, students in a simulated clinical experience study by Schoening, Sittner, and Todd (2006) reported gaining confidence, self-efficacy and the opportunity to learn in a nonthreatening environment. Simulation permitted the students to go into the client's room being more confident and become more comfortable with tasks because "I know it is something we will do over and over."(Schoening et al.,p. 255).

Simulation training can also increase self-efficacy in teamwork attitudes as demonstrated by a study using high-fidelity simulation at the point of care in operating room personnel (Paige et al., 2009). This study demonstrated that distributed team training using HFS at the point of care in the actual OR can benefit not only one discipline, but the entire OR team by positively impacting self-efficacy related to complex skills. The improvement correlated to at least a change in knowledge, skills, and attitudes (Paige et al.,p. 588).

Neary's (1997) research of clinical competency in nursing reported students feared they would do harm to the patient and that students lacked skills and confidence because of uncontrolled variables in the real world of nursing. Simulation provides an alternative to chance exposure in the hospital to a medical and or nursing problem in a safe environment. Nursing students need more than knowledge and skills to effectively care for patients, and real-life.

Simulation and Satisfaction

A study by Fountain and Alfred (2009) exploring how learning styles correlated with student satisfaction when HFS is used, explained how technology can be used to engage students in satisfactory learning activities while supporting their learning style. The use of HFS with case scenarios provides students with different learning styles opportunities to internalize and apply new information. Utilizing learning styles information increases the potential for student success and learning satisfaction (Fountain &Alfred).

In studies using Low and High-Fidelity simulation training participants indicated satisfaction with their forms of simulation experiences and course design (Hoadley, 2009). Another study comparing the effectiveness of two educational delivery methods on senior level nursing students' self-efficacy revealed that students responded favorably to the simulation experience, with the highest item being that they viewed the simulation as a valuable learning

experience (Kameg, Clochesy, Mitchell, & Suresky, 2010). Students also felt that simulation should be included in the curriculum and that the knowledge gained can be transferred to the clinical setting (Kameg et al.,p. 320).

The Partin, Payne, and Slemmons (2011) study used a sample of 60 students attending computer-based scenarios using a high-fidelity manikin who were introduced to maternal-child experiences in obstetrics using varying levels of complexity. Forty-nine of the 60 students responded with overwhelmingly positive responses toward the simulation experience. No negative responses were found with regard to the learning experience, except when the simulation group exceeded six students (Partin et al.). Equally, Garrett, MacPhee, and Jackson (2010) described that student feedback reflected that real-time patient status changes were very valuable to them. Students valued clear cut learning goals, basic preparation and orientation, and minimal faculty intervention during the scenarios(p.309). Students least appreciated the teamwork aspect, preferring working alone or with a partner (Partin et al)

Project Plan and Evaluation

Market/Risk Analyses

Although simulation training is increasing in use in nursing education, little is known with regard to the effects simulation training and one's belief in their ability to transfer this gained knowledge to practice. To suggest simulation training increases self-efficacy providing women's health is bold; however, to validate such an assumption will be valuable for the sustainment of the current training pedagogy. It is said that those with high self-efficacy, when faced with a difficult task will face the challenge as something to be learned and mastered. Their interest and motivation in mastering the task will drive them to succeed in their difficult, yet approachable goal (Pajares & Schunk, 2001).

This project examined the effects on self–efficacy in providing women's health based on the guiding competencies in VHA Handbook 1330.01(2010). This project created an opportunity to gather data, which can inform the development of future training and competency needs in providing comprehensive women's healthcare. The evidence is provided as to how simulation can increase self-efficacy, an outcome the VA is seeking in providers of women's healthcare. This Capstone Project provided benefit for student nurses, who will soon obtain a Doctor of Nursing Practice degree, serving as a member in the Army Nurse Corps, as well as the thousands who are now or in the future will be women veterans serviced by the VA Healthcare system.

Project Strengths, Weaknesses, Opportunities and Threats

Balamuralikrishna and Duggar,(1995) described SWOT analysis as the examination of an organization's internal strengths and weaknesses, and its environments, opportunities, and threats. It is a general tool designed to be used in the preliminary stages of decision-making and as a precursor to strategic planning in various kinds of applications (Balamuralikrishna & Duggar). Strengths were identified for the participants as well as educators: All phases of the project were supported by the VA VISN; simulation training was accredited; a variety of simulation training was used; and a validated collection tool was used.

A potential weakness identified is the lack of pre-training assessment of the learner to evaluate his/her self-efficacy and prior level of knowledge. There was a high faculty to student ratio, which is not the optimal setting in a simulated environment. Another weakness identified was the possibility of participants not accurately or honestly completing the demographic questionnaire or the evaluation due to a lapse of time from completion of the program to the survey. Threats seem to be those items, which are generally out of the control of organizers or

facilitators such as travel time and cost, reliability on simulation equipment working correctly and the cost to replace parts or repair, and the logistics of practitioners time spent away from patient care and the needed staffing to fill in for those days in training. Opportunities for the participants and the stakeholders of the project were identified as increased self-efficacy for those attending the conference in providing women's health, future use of purchased manikins in all VISNs, closure of gaps within healthcare needs for women veterans, and a transfer of knowledge gained during simulation training to the clinical environment. (See Appendix A) for the SWOT table.

Driving and Restraining Forces

The driving forces encouraging this Capstone Project were the acknowledgements of VHA clinical providers (i.e., physicians, physician assistants, and nurses) experiencing a knowledge gap on how to render effective care to a growing population of female patients. An article by Washington et al. (2011) stated that the VA in 2010, embarked on a system wide transformation that aimed to provide veterans with timely access to quality healthcare in a veteran-centered manner. Expanding healthcare access for veterans with a focus on women veterans was one of the top three strategic initiatives to achieve this transformation (Washington et al.).

Women veterans with delayed care or unmet need were more likely to be those of Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF), a high priority group for VA enrollment, who had experienced military sexual assault (Washington et al.,2011, p. s659). These veterans were less likely to have positive perceptions or attitudes about VA care, implying a need to improve VA care (by tailoring it to women's needs and preferences for example) (Washington et al.).

Because simulation training is supported by the VA and most VISN's now have SIMLEARN manikins both LFS and HFS within their reach, cost was not a restraining force. A continuing sustainable program that can be taught by qualified staff at local VISN's and a long term follow up plan to reexamine competency. Restraining forces continue to be the logistics and bureaucracy to meet requirements of the agencies within the VA system. Preparing practitioners to participate in simulation training and preparing educators to instruct on a quarterly or yearly basis continues to meet with some opposition and, therefore, was explored. Not all practitioners were committed to the time it took to attend the simulation course. As mentioned above, another restraining force was the cost of the simulators and financial commitment and responsibility for the maintenance of the mannequins.

Need, Resources, and Sustainability

Guimond et al. (2011) cautioned that little attention is given to the organization in which simulation occurs. The assumption is that the academic environment facilitates learning. Individual VA VISN centers do not have simulation training facilities. Training effectiveness is positively influenced if the organization's culture values simulation based training (SBT). However, it is advisable to first thoroughly examine the institution. Assessing whether the institution can provide the staffing, facilities, and financial resources to support a sustainable SBT program can impact the most well-intentioned SBT.

The VA is actively engaged in research and awarding grant money to those who can sufficiently address the answers to gaps in women's healthcare. The VA Mini-Residency Course is an example of an initiative to address the knowledge gap. The course was specifically designed to address gender-specific health care issues that enhance participant's knowledge and skill through care-based learning on gender specific health care and hands on training for issues

related to women veterans. By evaluating the outcome of the course as it relates to self-efficacy in providing women's health to veterans, the necessity for training clinical educators and sustaining the program models such as the Mini-Residency Course with simulation for duplication at local VISN centers can be justified.

Stakeholders and Project Team

The stakeholders for this capstone project included the nursing student investigator, nursing faculty, nursing program, VA VISN 2 Director Denise Koutrouba, and VA Women's HealthCare Program. The author is honored to have a team of individuals who supported the successful completion of this project. The Capstone Chair from Regis University and the DNP student's mentor Denise Koutrouba VA WHNP VISN manager, Bedford, Massachusetts, and the Department of Veterans Affairs and those Department of VA members who will participate in the survey were members of the project team. Denise Koutrouba served a key role in presenting this project and receiving Institutional Research Board (IRB) approval from the Research and Development Committee of the Department of VA.

Working with Denise Koutrouba for over five months on this project has benefited this investigator by fully understanding the importance of this project and its findings to the development of a simulation program that will possibly be replicated nationwide. A statistics expert was consulted and participated in various stages of this project in the selection of an appropriate analysis instrument and understanding of the survey process. The statistician reviewed the data collected and advised this student investigator on reliability/validity and correct analysis interpretation. This paper was completed in partial fulfillment of a Capstone Project for the Doctor of Nursing Practice degree.

Cost-Benefit Analysis

According to Zaccagnini and White (2011), the point of the analysis is to demonstrate that the benefit of solving the problem is worth the costs experienced. The VA is in a unique situation in that most of the resources are made available through purchased or contracted government facilities. The cost to the project for mentor, investigator, and statistician can be approximated based on salary. The Department of Veterans Affairs, Employee Education system and the WVHSHG was responsible for the initiation of reservations and live activity at the Florida Mini-Residency Course. Individual VISN paid for airfare and accommodations to include per diem funding for meals. An estimation of the cost for the VA to replicate the Mini-Residency Course at each VISN site was hard to quantify because the Department of Veterans Affairs used internal employees from the VA for instructors who are at different General Schedule (GS) levels.

The cost of this project was calculated mostly in hours of time and travel for the investigator. Numerous hours were spent in meetings with mentor, Denise Koutrouba at the Bedford, VA in order to meet requirements for submission to the VA, IRB, which took place in September of 2012. There were at least eight to ten meetings, which with gas prices would equate to approximately $500.00. The VA had previously purchased simulation equipment which could be estimated to run from $30,000 to $37,000 per SimMan© unit and $2,000 to $5,000 for lo-fidelity breast, PAP and GYN simulation parts (Laerdal, 2012). The pay for live models was $650 per day. The value of the simulation equipment was not disclosed to this student, so a comparison from outside resources was used (See Table 1 for total expenses).

Table 1

Cost Analysis

Expenses:	**Total Expenses:**
Project Team	
Mentor	$70/hr. x 30 hrs = $2,100.00
Statistical Consultant	$95/hr. x 8 hrs = $760.00
Researcher	$50/hr. x 280 hrs = $14,000.00
Expenses:	
SPSS Software	$100
Internet Service	$180
Color Laser Printer Toner	$150
Printer Paper	$200
Copy and Print	$200
Survey Monkey©	$100
Gas	$500
3G Phone with Internet Service	$300
Total Expenses for post-test only	**$18,590.00**
HF-SimMan© Cost	$30,000 to $37,000
LF-Breast, PAP and GYN Sim	$2,000 to $5,000
Live Models	$650 per day

The benefit of this Capstone Project to the future of the VA is immeasurable, as the impact of well-trained confident healthcare providers is respected and desired by the community. The sustainability of the program will be determined by the emphasis the VA places on training the trainers who deliver the instruction to local VISN centers and the continual evaluation of such programs.

Project Objectives

Mission and Vision

The mission of this project was to obtain credible data through a post-test survey to determine whether the Mini-Residency Course increased provider's self-efficacy in delivering women's healthcare. From the information gathered by the survey, the VA will conclude if

future plans will be progress to replicate the curriculum and produce education courses via simulation pedagogies for future training throughout VA VISNs.

It is the vision of this student investigator that there will be forthcoming local VA simulation training facilities all over the United States that will continually improve and train women veterans' healthcare providers to deliver safe and competent care, today and provide opportunities for evaluating competencies annually.

Goals

Zaccagnini and White (2011) suggested that project ideas typically emanate from a nurse who has critical thinking skills, who can step back from clinical practice and analyze "what is" and ask "what could be." The Women's Health 2012 Mini-Residency Course incorporated a variety of simulation models to include a standardized patient care model to train clinical health care professionals who provide primary care to women veterans. This project evaluated the increase in self-efficacy of health care professionals after training in a clinical setting using simulation scenarios and compared the results to those providers training without simulation to determine if there is a relationship of increased self-efficacy with simulated training.

The concerns and gaps in veteran women's healthcare are not limited to one person or area; there is an integral systematic approach to addressing how the VA can address competencies in caring for women veterans'. By incorporating simulation training as a standard competency tool for training and evaluating new providers and providing a competency measurement tool for providers in positions of providing care for women veterans, they will meet indicators (outcomes) listed as "Basic/Minimal" competency essentials by the Women Veterans Health Strategic health Care Group, and VHA Handbook 1330.01 (2010) objectives.

As a change agent, this student investigator's vision was to evaluate areas that are frequently seen in the VA as having gaps and need change. As this project related to a growing female patient population with its own unique needs and health issues, the hope was to also scrutinize why VA providers continued to do what they do, and encourage participation in simulation training to produce higher self-efficacy in providing care for women veterans. Ultimately, the objectives were to offer evidence that through simulation training, providers will meet the needs of today's Veteran Women, and educators being good stewards of financial resources with which tax payers and veterans entrust the VHA.

Objectives

The objective of this project at its core was the impetus towards strengthening how the VA prepares providers to care for women veterans. The project examined the effects of simulation training on providers' self–efficacy in providing women's health based on the guiding competencies in *VHA Handbook 1330.01*. This project created an opportunity to gather data, which can contribute to the development of future training and competency needs in providing this care. The VISN manager will be notified of the evaluation plan and tool via telephone conference with the WHPM, along with the investigating student after approval from Regis University IRB, approximately December1, 2012. The following process objectives were identified:

1. Participants of the Mini-Residency Course attended and completed the course by July 25, 2012.
2. Permission to begin IRB process was accepted by the WHPM, Bedford, MA, in conjunction with VISN director, research committee chair. August, 2012.

3. Capstone Project discussed with Regis University Chair, Dr.Lora Claywell regarding need for VHA IRB approval. Expectation was a long process August 13, 2012.
4. Determination of necessary resources for the implementation of the project was discussed in several meetings with mentor at Bedford, MA VISN. It was determined that we would need very little resources, as the Mini-Residency Course was not our project and the simulation training equipment was government property. All correspondence was within the jurisdiction of the WHPM, and would add to the knowledge of WVHSHCG and EES. September, 2012
5. Selection of the members of the team who would be involved in the implementation and evaluation of the Capstone Project. Student investigator, Mentor- WHVPM, statistician and Capstone Chair. September 2012.
6. Developed pilot evaluation survey form and sent for evaluation by WHPM, research chair, VISN director and statistician for approval. September 2012.
7. Obtained Institution Review Board approval from the Department of Veterans Affairs Research and Development Committee. October 9, 2012. Notified October 17, 2012.
8. Obtained IRB approval from Regis University. Submitted by November and obtained approval by December 1, 2012.
9. Upon approval from IRB at Regis University, reviewed survey and letter to all VISN managers with, WHPM Denise Kotoraubas.

10. Completed any changes to the Self-Efficacy Questionnaire and began the survey throughout the VHA. July 2013.
11. Began analysis of data from the Self-efficacy survey and demographic questionnaire, completed by the investigator and the consulting statistician. Complete by Sept 2013.

Evaluation Plan

Logic Model

The conceptual model used for this project was a logic model, based The *W.K. Kellogg Foundation Logic Model Development Guide (2001),* stated that the purpose of a logic model is to offer stakeholders a road map describing a structure of related events connecting the need for the planned program with the program's desired results. Mapping a proposed program helps to visualize and understand how human and financial investments can contribute to achieving your intended program goals and can lead to program improvements (Logic Model Development Guide, 2004) See Appendix B for the Logic Model table.

As Zaccagnini and White (2011) pointed out, "We are often puzzled by the underlying causes of current problems within our organization, unable to look at underlying structures or patterns of behavior that may have resulted in less than stellar outcomes" (p.452). Using the Logic Model in conjunction with Jeffries' (2007) simulation training framework, one is able to take a better approach to answering important question, such as What is the first step? What teaching/learning practices should be incorporated into the simulation design? How will we provide them with interactive, practice-based, instructional strategies?; and How will the experience best implemented and evaluated ?(Jeffries, 2007).

Research Design

A single post-test only, two group design was used for this study. The experimental group included those who completed simulation training on how to provide effective, essential healthcare to women veterans. The simulation-based training occurred July, 2012. The sample population size of those providers who attended the Mini-Residency Course was approximately 300. There was a population of approximately 1100 providers for the control group who were included as those WH PCP's who did not attend the Mini-Residency simulation training course, but who are required to perform "Basic/Minimal" competency essentials as defined by the WVHSHG, and who would have opted for the traditional training using the Talent Management System (TMS) modules.

Although a pre-post design would have been stronger, delays in study approval from the VA made this impossible. However, this post-only design still maintained significant value, particularly in its ability to detect potential sustained or long-term effects of the training on self-efficacy, such as whether the effects of self-efficacy derived from simulation training were sustained after nine months after training. As such, this study is similar to other studies of long-term effects of education that have contributed to better understanding of needs to sustain items learned. The dependent variable for this study was WH PCP self-efficacy related to providing healthcare to women veterans. The independent variable was the type of training received—simulation or TMS. The analysis also used covariates to control for personal characteristics. Covariates included the WH PCP Veterans Integrated Service Network (VISN), years of experience, gender, and age.

Self-efficacy is defined as the perceived belief that one is capable of carrying out a specific action or activity, and is the motivating incentive to persevere even in the face of

difficulty (Bandura & Locke, 2003). Unlike self-esteem, self-efficacy can differ greatly from one subject or skill to another and is dynamic in that it can change over time as a new experience or new information is acquired (Leigh, 2008). Strong self-efficacy tends to predict achievement of a task, while low self-efficacy diminishes the ability to perform a certain activity (Schunk & Pajares, 2009). This construct is frequently used as the theoretical foundation for health education and health promotion program development, and is a core component of behavioral health theories such as Social Cognitive Theory and Health Belief Model. Self-efficacy data was gathered using a tool that measures respondents' confidence in their ability to provide services listed as "Basic/Minimal" competency essentials by the Women Veterans Health Strategic health Care Group (2012), *VHA Handbook1330.01* (2010) and a Booz Allen Hamilton Survey (2010). The skill areas measured on the self efficacy tool include confidence scale in performing: breast examination, pelvic examination, rectal exam, a PAP smear, wet mount and removal of foreign body from vagina.

Simulation training occurred as part of a Mini-Residency Course. The Mini-Residency Course July 2012 was the initial offering during the month of July, with a choice to attend Mini-Residency I and II or just one session. Mini-Residency Part I included: breast cancer screening/ breast mass workup using simulation, contraception, cervical cancer screening with simulation, sexually transmitted infections, abnormal uterine bleeding, chronic abdominal pelvic pain, MST - post deployment /reintegration with role-play, implementing institutional change, routine pelvic examination, routine breast examination. Mini-Residency II training sessions included: osteoporosis, UTI, menopause, cardiovascular disease, sexual dysfunction, depression, substance abuse, rheumatologic issues, fibromyalgia, anemia, and infertility. Not all providers stayed for Mini-Residency II, but were considered in this survey because the data gathered for those WH

PCP attending both sessions could lend to a need for further study in the future. The exact offering of future courses has not yet been established.

The TMS training consisted of on-line modules and videos of the Mini-Residency Course. These particular modules and videos used for WH PCP are titled "Treating the Women Veteran." The specific modules include: (a) A Tribute to Military Women; (b) "Still Serving", a tribute to those veterans still working within the VA system; (c) VA Childcare; (d) Acute Pelvic Exam; (e) Routine Pelvic Exam and Pap Testing; (e) Homelessness Among Women Veterans; (f) Hysterectomy; (g) Clinical Breast Exam; and (h) Abnormal Uterine Bleeding Parts 1&2. Some of the videos are from Mini-Residency Courses regarding breast masses, chronic abdominal and pelvic pain, a Gynecology Panel "Ask The Experts," post-deployment issues for women veterans, cervical cancer screening and sexually transmitted infections, and intimate partner violence, MST. The TMS version of the WH PCP does not include all aspects of face to face courses such as facilitated small groups and hands on training, nor any type of simulation experience. Analysis used nonparametric statistics of the Kruskall-Wallis and Mann-Whitney tests to examine differences between the groups after controlling for personal and professional characteristics.

Data Collection

By way of procedures, emails were sent out through WVPM of the VHA to all the Providers. One set of emails was sent to WH PCP who participated in the Mini-ResidencyI, July 23 through the 25, 2012, and may have participated in Mini-Residency II. A second set of emails was sent to WH PCP who were unable to participate in the Mini-Residency I course, but may or may not have participated in the TMS course. The emails included information explaining participation as contributing to a study comparing the effects of simulation training

and non-simulation traditional training on self-efficacy in providing women's health care. It was stated that their participation was optional and anonymous. They were then given a highlighted uniform resource locator (URL) to click on and complete an anonymous questionnaire through a commonly used software application, Survey Monkey® which collects and summarizes answers to the questionnaire. SurveyMonkey® has an encryption feature.

Respondents were given an introduction in email and repeated in the introduction to the questionnaire when they accessed the link. The introduction informed participants that completion of the survey is considered "consent to participate." All data were stored in a password protected electronic format and results were reported only in aggregate or summary format and used for scholarly and program planning purposes. Any questions about the program or evaluation were referred to a contact number for Denise Koutrouba, Women Veteran Program Manager, Bedford VAMC, or Cindy D. Heden, DNPc, RN.

Participants

Participants were defined as clinical health care professionals or designated WH PCP, who provide primary care services to women veterans. This population was inclusive of primary care physicians, physician assistants, nurse practitioners, and advance practice nurses who care for women veterans. Providers in the simulation group were drawn from the registered participants in Women's Health 2012 Mini-Residency Program ending July 25th. Approximately 250 participants were anticipated.

Protection of Human Rights

Permission to conduct this study was received with IRB approval from the Research and Development Committee, Department of Veteran Affairs. The investigator completed the Human Research Curriculum Basic Collaborative Institutional Training Initiative (CITI) course.

All participants were encouraged to participate in the Mini-Residency Course as part of their continueing medical education (CME) hours and competency as described by WVHSHG. Each participant was informed their responses are anonymous, identifying information such as name, email address or IP address would not be collected. All data are stored in a password protected electronic format and results are reported only in aggregate or summary format and used for scholarly and program planning purposes. Participants were informed that their participation in the survey implied consent to freely assist in the survey.

Instrumentation of Reliability/Validity and Intended Statistics

The data were analyzed with the help of a volunteer statistician, using nonparametric statistical tests (Kruskall-Wallis and Mann-Whitney). This method of analysis facilitated an examination of between group differences in self-efficacy. More specifically, this analysis indicated if there was a statistically significant difference in mean self-efficacy scores based on the different factors analyzed in the study.

The demographic variables examined in this study for comparison of self-efficacy scores included gender, professional title, simulation training experience, years of standardized patient experience, years having worked in the VA, frequency of treating women at the VA, and participation in TMS or Mini-residency training. The demographic data were retrieved from the demographic questionnaire and included in the analysis to control for their confounding effects. The demographic variables were reported using descriptive statistics.

Assumptions of self-efficacy expectancy play a key role in determining whether to perform the behavior, the quantity of effort individuals invest, and the sustainability in given activity. The more robust the individuals' perceived self-efficacy expectations, the more strongly their efforts are said to be (Bandura, 1986; Bandura & Adams, 1977). As explained earlier,

Bandura recognized four sources of information that influence the individual's cognitive judgment of efficacy expectations: (a) enactive mastery experience; (b) verbal persuasion; (c) vicarious experience; and (d) physiologic and affective cues. One instrument survey and a demographic questionnaire were used in the study.

Bandura (2006) wrote that scales of perceived self-efficacy must be designed to the particular domain of functioning that is the object of interest. Because Bandura explained that the construction of sound efficacy scales relies on a good conceptual analysis of relevant domain of functioning, the investigators were careful to make sure the efficacy scales are linked to factors that determine quality of functioning in the domain of perceived self-efficacy following simulation training on the "basic/minimal" competencies set out by *VHA Handbook 1330.01* (2010). Self-efficacy is concerned with perceived capability (Bandura, 2006, p.308).

The self-efficacy score for these analyses used the mean of the six discrete skill items. The reliability of this self-efficacy scale was examined using Cronbach's alpha. Results indicated good reliability at $\alpha = .71$. Table 1 includes inter-item correlations and item-to-total correlations. Results indicate moderate to strong correlations between many of the variables, although a few evidence weaker relationships. Similarly, four of the size items demonstrate moderate to strong correlations with the total scale.

Table 1

Inter-item and Item-to-Total Correlations

	pelvic exam	rectal exam	pap smear	wet mount	object from vagina	item to total correlation
breast exam	0.52	0.05	0.43	0.17	0.07	0.29
pelvic exam		0.53	0.53	0.41	0.25	0.62
rectal exam			0.02	0.14	0.04	0.17
pap smear				0.55	0.77	0.76
wet mount					0.47	0.55

object from vagina	0.53

Validity

Lynn (1986) stated, "The arbitrary assertion of two of three experts does not establish content validity" (para. 1). She suggested that an application of a two-stage process that incorporates rigorous instrument development practices and quantifies the aspects of content validity is required. In the first stage of this process, the content domain or dimensions are identified and items are generated to reflect the scope of the content domain of a cognitive variable or each of the dimensions of an affective variable.

Bandura's self-efficacy theory (1989) was used as a basis for constructing the scale. See Appendix C for the survey questions. A principle of the theory is that the more confident a person is about his/her ability to perform a task, the higher the self-efficacy. The investigator created a self-efficacy instrument that consisted of a 6-item, 4-point Likert scale: *1 Not at all confident*, *2 Slightly confident*, *3 Moderately confident*, and *4- Highly confident*. The ordinal range for responses is from 1 (not at all confident) to 4 (highly confident). The six items of the 4-point tool were scenario objectives developed by the Women's Health 2012 Mini-Residency Program faculty in conjunction with the *VHA Handbook*1330.01 (2010).

Lynn (1986) told us that once generated, the items are brought together in a usable, testable format. The instrument and domain or dimension specifications were presented to a panel of experts, the size of which is an a priori decision, for their judgment of the items using a 4-point ordinal rating scale. Experts were asked as a part of the content validity assessment, to identify areas of omission and to suggest areas of item improvement or needed modification. The survey instrument reviewed by a Women's Veterans Program Manager WVPM-NP with

expertise in women's health, a research writer for the VA and 5 VISN managers, was passed and concurred to be in line with the project question. Even though such rigor for validity is not always warranted, Lynn (1986) noted that by its nature and definition, content validity demands rigor in its assessment, and its assessment is, in fact, critical.

Project Findinags and Results

Description of the Sample: Demographic Variables

A sample of 23 participants was obtained for the study. The demographic characteristics of participants were collected from the demographic questionnaire and included gender, professional title, simulation training experience, years of standardized patient experience, years having worked in the VA, frequency of treating women at the VA, and participation in TMS or Mini-residency training. These variables were reported using descriptive statistics.

See Appendix D for the demographic questions. Most of the respondents were females working under the title of Advanced Practiced Nurse. Years of professional experience were diverse, ranging from 0-5 to 25 years or more, but the greatest percentage of respondents had worked for the VA for less than 5 years. In their capacity with the VA, most respondents saw anywhere from one to five women veterans per week. As for their training, most had experience with simulated and standardized patients. In addition, most had completed the TMS course and Mini-Rsidency I and II. Tables 2-7 illustrate the frequencies and percentages for the nominal and ordinal demographic variables used in the analysis.

Table 2

Frequencies for Gender Variable

Gender	Frequency	Percent

Female	19	82.61
Male	3	13.04
Missing	1	4.35

Table 3

Frequencies for Professional Title Variable

Professional Title	Frequency	Percent
PA	2	8.70
Advanced Practiced Nurse	12	52.17
Physician	9	39.13

Table 4

Frequencies for Simulator and Standardized Patient Experience Variables

	Frequency	Percent
Simulator Experience		
No	4	17.39
Yes	19	82.61
Standardized Patient Experience		
No	6	26.09
Yes	17	73.91
Years Worked		
0-5 years	6	26.09
5-10 years	3	13.04
10-15 years	4	17.39
15-20 years	4	17.39
20-25 years	2	8.70
25 or more years	3	13.04
Missing	1	4.35

Table 5

Frequencies for Years Worked and Years with VA Variables

	Frequency	Percent
Years Worked		
0-5 years	6	26.09
5-10 years	3	13.04
10-15 years	4	17.39
15-20 years	4	17.39
20-25 years	2	8.70
25 or more years	3	13.04
Missing	1	4.35
Years with VA		
0-5 years	10	43.48
5-10 years	4	17.39
10-15 years	5	21.74
15-20 years	1	4.35
20-25 years	1	4.35
25 or more years	2	8.70

Table 6

Frequencies for Number of Women Vets Served Variable

Number of Women Vets Served	Frequency	Percent
1-5	11	47.83
5-10	4	17.39
10 or more	7	30.43
Missing	1	4.35

Table 7

Frequencies for Training Participation Variables

	Frequency	Percent
Took a TMS Course?		
No	8	34.78
Yes	15	65.22
Participation in Mini-Residency		
Mini 1 only	5	21.74
Mini 1 and 2	16	69.57
Mini 2 only	2	8.70

Analysis and Survey Findings

Participants in the survey were asked to indicate their level of confidence with six different procedures relevant to treating women veterans: breast exams, pelvic exams, rectal exams, pap smears, wet mounts, and removing foreign objects from a vagina. Confidence was indicated on a scale ranging from not at all confident (1) to highly confident (4). Scores on these six skills were then averaged to create a mean self-efficacy score. As Table 8 indicates, respondents demonstrated the highest mean score (i.e., were most confident) in performing breast exams and the lowest mean score (i.e., were least confident) in completing a wet mount procedure. The overall self-efficacy mean score was 2.21, which corresponds to slightly to moderately confident self-efficacy level finding according to the original scale.

Table 8

Descriptive Statistics for Skill Areas and Overall Self-Efficacy

	Mean	SD
Breast Exam	2.57	0.51
Pelvic Exam	2.39	0.50
Rectal Exam	2.55	0.67
Pap Smear	2.35	0.83
Wet Mount	1.35	1.27
Object from Vagina	1.95	1.13
Self-efficacy	2.21	0.58

Because of the small sample size ($n = 23$) and the demonstrated non-normality of the data distribution, statistical differences were examined using non-parametric tests. Specifically, research questions one and five used the Kruskal-Wallis test, and the remaining research questions used the Mann Whitney test. The Kruskal-Wallis accommodates comparisons between more than two groups, while Mann Whitney analyzes differences only between two groups.

Research Question 1. The first research question asked: Is there a statistically significant difference in self-efficacy based on which Mini Residency respondents attended? Beginning with this first research question, results of the descriptive statistics and Kruskall-Wallis nonparametric test indicated that those who attended the Mini-Residency 1 reported the lowest mean self-efficacy score, while the difference between those who attended Mini-Residency 1 and II and those who attended only Mini-Residency II was non-significant. The results of the statistical testing indicated no statistically significant difference between the three groups (χ^2=.09, p=.95). Therefore, the results sugges that there are no statistically significant differences in self-efficacy score based on which mini residency program was attended. Table 9

provides the levels of self-efficacy disaggregated by sub-group of participation in the Mini-Residency Program.

Table 9

Levels of Self-Efficacy by Sub-group of Participation in Mini-Residency

Participation in Mini-Residency	Mean	SD
Mini 1 only	2.17	0.55
Mini 1 and 2	2.22	0.60
Mini 2 only	2.23	0.80

Research Question 2. The second research question asked: Is there a statistically significant difference in self-efficacy based on completion of a TMS course? Results of the Mann-Whitney nonparametric statistical analysis for the second research question and associated hypothesis indicated that although those who completed the TMS course reported a lower mean self-efficacy, the difference was not significant (U=48.5, p=.47). Therefore,there were no statistically significant differences in self-efficacy based on completion of a TMS course. Table 10 provides the levels of self-efficacy disaggregated by sub-group of TMS course completion status.

Table 10

Levels of Self-Efficacy by Sub-group of TMS Course Completion

Took a TMS Course?	Mean	SD
No	2.37	0.42
Yes	2.12	0.64

Research Questions 3 and 4. The third and fourth research questions asked if there is a statistically significant difference in self-efficacy based on experience with a patient simulator

(RQ3), and based on experience with a standardized patient (RQ4). The results from the Mann-Whitney nonparametric statistical tests used for questions three and four produced similar results. Those reporting experience with patient simulators and standardized patients demonstrated higher mean scores than those without such experiences. The differences, however, were not significant (simulator: U=20.0, p=.16; standardized patient: U=27.0, p=.10). The results of the analysis support that no statistically significant differences in self-efficacy are evident based on experience with a patient simulator or with a standardized patient. Table 11 provides the levels of self-efficacy disaggregated by sub-group for each question. However, it is noted that although the findings fail to show differences at the designated alpha level of .05 result suggests the need for further analysis of these variables in a larger sample.

Table 11

Levels of Self-Efficacy by Sub-group of Simulator and Standardized Patient Experience

	Mean	SD
Simulator Experience		
No	1.78	0.70
Yes	2.30	0.53
Standardized Patient Experience		
No	1.83	0.61
Yes	2.34	0.52

Research Question 5. Finally, the fifth research question asked: Is there a statistically significant difference in self-efficacy based on professional title? Examination of the mean self-efficacy scores relevant to question five indicated that advanced practiced nurses reported greater self-efficacy, followed by physicians and then physician assistants. As with the previous analyses, the findings from the Kruskall-Wallis nonparametric test of the differences revealed a

non-significant result (χ^2=1.06, p=.59). Therefore, the results suggest that there are no statistically significant differences in self-efficacy based on professional title. Table 12 provides the levels of self-efficacy disaggregated by sub-group of professional title.

Table 12

Levels of Self-Efficacy by Sub-group of Professional Title

Professional Title	Mean	SD
PA	1.92	0.59
Advanced Practiced Nurse	2.29	0.66
Physician	2.17	0.49

Conclusions

The findings of the analysis of survey data highlight the continued lower self-efficacy scores of participants. Respondents demonstrated an overall self-efficacy mean score of 2.21, remaining at a "slightly to moderately confident" level of self-efficacy for these women's health issues. Using an alpha significance level of .05, no statistically significant differences in self-efficacy scores were noted based on which Mini Residency Program was attended, completion of the TMS course, experience with a patient simulator or with a standardized patient, or professional title. Given the small sample size, the results of the study related to the standardized patient and simulator experience, which met or approached significance at a .10 alpha level (simulator: U=20.0, p=.16; standardized patient: U=27.0, p=.10) suggests the possibility of the significance of these variables in an examination of a larger population. Thus, although this result remains non-significant to this study, the findings support the need for further analysis using a larger sample size.

Limitations, Recommendations, Implications for Change

Limitations

The study was limited to a sample of clinical health care professionals, defined as designated WH PCP drawn from practitioners from the WVPM of VHA. The simulation group was limited to a group of registered participants in the Women's Health 2012 Mini-Residency Program in July, 2012. These practitioners included primary care physicians, physician assistants, nurse practitioners, and advance practice nurses who care for women veterans. The study was limited by the use of self-report data, which was dependent on participants' open and honest responses.

The study was also limited by difficulties with data collection. The survey implementation and survey data collection did not occur until one year after the Mini-Residency training due to research approval delays. In addition, the email recruitment was unknowingly sent during a heavy vacation period for the VA. The combination of these circumstances likely contributed to the limited survey responses obtained, resulting in the final sample size of only 23participants. The results were limited by the small sample size, which failed to demonstrate normal distribution and required the use of nonparametric analyses.

Recommendations

The results of this study support the need for further evaluation of the use of simulation training, such as the Mini-Residency Course, particularly for WH PCPs at the VA. Women veterans represent a growing patient population and the VA and its practitioners must strive to meet the health care needs of this population. Yet, the descriptive findings of this study demonstrate a continued lower level of self-efficacy for women's health issues among practitioners with mean scores failing to reach the "moderately confident" level, suggesting the

need to support development of greater self-efficacy among practitioners. Continued research is needed to identify and validate effective mechanisms for achieving this goal.

Recommendations for future research include conducting a similar study to the present research, utilizing a much larger sample in order to examine the differences in self-efficacy gain achieved through participation in the course. Another study conducted using a qualitative methodology to explore the perceptions and experiences of WH PCPs could shed light on areas in need of focus to support quality care for women veterans. The results of the qualitative study can be used to inform the further development of training and professional development as well as to identify factors to examine in a quantitative evaluation and/or measure the efficacy of the programs at meeting the expressed training needs of practitioners.

Implications and Discussion

In response to the increased enrollment of women veterans (Bean-Mayberry et al., 2011, Hayes & Krauthamer, 2009), the VA has implemented a comprehensive plan of primary care for women Veterans, training of VA providers in basic and advanced women's health care, the launching of the Women's Health Evaluation Initiative and installation of Women Veterans Program Managers (WVPM) at VA facilities nationwide (WVTF Report, 2012). As a result, Women's Health Primary Care Providers (WH PCP) must be fully proficient in providing the complete range of primary care specific to the needs of women veterans. However, due to the historically low case loads of WH PCP, lower levels of proficiency exist among healthcare providers at a time when numbers of women seeking services are increasing.

To address this discrepancy, the VA is offering online TMS training modules and a newer form of training, simulation training through the Mini-Residency Program, to help increase the knowledge-base of WH PCPs. The advantage of adding simulation training is the

ability to apply new knowledge, role-play, and debrief after training for these types of situations. This study was designed to examine the relationship between simulation training through the Mini-Residency Course and increased self-efficacy among care providers, as the Mini-Residency Course is designed specifically to fill knowledge gaps and enhance the participant's knowledge and skill.

To address this question, the study gathered survey data designed to determine the level of self-efficacy of practitioners from a sample who had participated in the Mini-Residency Program (Part I, or Parts I and II) and compared the levels of self-efficacy to a sample of practitioners who did not participate. Limited by a low response rate, the study sample included 23 practitioners. The results failed to demonstrate any statistically significant differences between groups. However, it was noted that a $p = .10$ level result was evident in the differences in mean self-efficacy scores based on standardized patient experience, which suggests the need for future research using a larger sample size.

Although this study failed to demonstrate differences in practitioner self-efficacy, given the limted sample size used, the results suggest a difference may be evident if the study were conducted using a much larger sample size. The findings highlight the possible effect of simulation and standardized patient experience on self-efficacy. Given this result and the findings of previous research supporting increased self-efficacy beliefs among practitioners related to simulated clinical experiences (Bambini et al., 2009; Schoening et al., 2006), the conclusion of this study supports continued research with regard to the impact of simulation training on practitioner self-efficacy and the associated benefits to both practitioners and women veterans participating in VA health benefits. Continued training is necessary to meet the needs of the women Veteran population at the VA and the use of simulation training may serve to

increase practitioner efficacy to meet those needs. However, additional research is needed to identify the specific contributions of the training, and how best to utilize the training to support practitioners.

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Appendix A. Capstone SWOT Analysis

Strengths	**Weakness**
1. Accredited by: • Accreditation Council for Continuing Medical Education (ACCME) • American Nurses Credentialing Center (ANCC) 2. Variety of Simulation Training Scenarios delivered by expert faculty 3. Relaxed environment 4. Education meets needs stated in VA guiding competencies, VHA 1330.01. 5. Facilities will be reimbursed for travel by Women's Health 6. Supports VHA's Transformational initiatives and funding will be processed within VISN 7. Committed Capstone Chair, Mentor and VA VISN Managers, Employee Education System (EES) and WVHSHG **8.** Validated data collection tool	1. No pre-training assessment of the learner to evaluate his/her self-efficacy and prior level of knowledge 2. Large group practice, not desirable for simulation training 3. High Faculty to student ratio 4. Administration of survey over 8 weeks after simulation course 5. No long term follow up plan

Opportunities	**Threats**
1. Increased self-efficacy for those attending the conference in providing women's health 2. Future use of already purchased manikins in all VISN's 3. Closure of gaps within healthcare needs for women veterans 4. Transfer of knowledge gained during simulation training to the clinical environment 5. Improved meta-cognition 6. Meeting education requirements	1. Participants must travel to Lake Buena Vista, Florida – delay in flights 2. Reliability on simulation/computers working 3. Time to get all participants in all scenario case studies 4. Cost to replace parts of simulators 5. Cost of simulation training 6. Government regulations 7. Time from patient care 8. Staffing issues

Appendix B: Logic Model

Problem: The VHA has historically provided care for a predominately male population. VHA clinical providers now experience a knowledge gap on how to render effective care to a growing female patient population.

Solution: A Mini-Residency Course designed to fill knowledge gaps and enhance participant's knowledge and skills through care based learning on gender-specific health care and hands on training for issues related to Women Veterans.

Inputs	**Outputs**		**Outcomes -- Impact**	
	Activities	*Participation*	*Short*	*Long*
Women Veterans Health Strategic Health care Group Employee Education System VA VISN Bedford, MA Primary Care Providers for Women Veterans Denise Koutrouba VA WHNP VISN manager, Bedford, Massachusetts, The Department of Veterans Affairs	Initiation of conversations regarding contraception Initialing oral contraception Managing an atypical pap smear Initiating the workup for abnormal uterine bleeding Management of abnormal/pelvic pain Performing a breast, pelvic exam on a woman veteran Managing a breast mass Id of normal and common	VHA Clinical Professionals who provide primary care to Women Veterans: • Physicians • Physician Assistants • Nurses Expert Trainers Human Patient Models	VHA Clinical Professionals will be able to: Perform • Breast and Pelvic Examinations • Breast mass/Screening • Address • Gynecologic Emergencies • Chronic Abdominal/Pelvic Pain • Contraception • STD • Breast pain and mammograms • Military Sexual Trauma • Violence Menopause	VHA Clinical Professionals will increase in self-efficacy performing gender-specific health care in issues related to Women Veterans. VHA Clinical Professionals close knowledge gap relating to growing female patient population.

Mini-Residency Course including – HFS, Task Trainers, live models. Location: U of Central Florida, Orlando, FL	abnormal pathologies of the breast and pelvic Didactic- Live broadcast			

Appendix C:Self-Efficacy Survey

Directions: This is a questionnaire designed to determine how confident you are that you can perform each of the following behaviors/statements. Read each statement and then check the number to the right of the statement to indicate how confident you are that you can do what the question asks. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer that seems to describe how you generally feel.

Not at all Confident	Slightly Confident	Moderately Confident	Highly Confident
1	2	3	4

	1	2	3	4
Appropriately perform a breast examination				
Appropriately perform a pelvic examination				
Appropriately perform a rectal exam				
Perform a pap smear				
Wet mount				
Removal of Foreign Body from Vagina				

Appendix D:Demographic Information

1. Please circle your age range

a. 20 -30

b. 31-40

c.41-50

d. 51-60

e. over age 60

2. Please circle your gender

a. Female

b. Male

3. Which of the following best describes your professional title?

a. Physician

b. Registered Nurse

c. Physician Assistant

d. Other

4. Have you previously worked with or practiced a skill using a human-patient simulator?

a. Yes

b. No

5. Have you previously worked with or practiced a skill using a standardized patient?

a. Yes

b. No

6. How many years have you worked under this professional title? _

7. How many years have you worked with the VA? _

8. How many times per week do you see women veterans in your clinical area? _

9. Did you participate in the TMS online course?

If so, what month and year was that?

10. Which of the following are you participating in?

Mini-Residency I

a. Yes

b. No

Mini Residency II

a. Yes

b. No

Appendix E:

Department of Veterans Affairs **Memorandum**

Date: October 17, 2012

From: Kathy J. Horvath, PhD, RN

Subj: Determination of Research

To: Denise Koutrouba, MS, BSN, PHN, WHNP-BC

1. At the October 9, 2012 meeting of the Research& Development Committee the committee reviewed the proposal regarding a capstone project of Cindy Heden titled **A Comparison of the Effects of Simulation training and non Simulation training on Self-Efficacy in Providing Women's Health Care,** an evaluation of education that is provided to VHA women health managers and primary care providers.

2. After reviewing the information you have provided to the Human Subjects sub-committee and the Research and Development Committee, we have determined that the project is not research. Although it is designed as a student research project, the information gathered will not advance a field of scholarly study. It involves individuals taking a survey on-line after they have taken training in the VA mini residency program or through a web-based training program. No personal identifiers are being collected so it does not meet the definition of human subject's research. The data gathered will not advance a field of study because it is not clear there is generalizable information that will be gained from the project.

3. The R&D Committee supports your work as Woman Veteran Program Manager and the collaborating doctoral candidate and advises that privacy and data security considerations be reviewed by the appropriate facility staff.

Kathy J. Horvath, PhD, RN
Chair Research & Development Committee

Cc Cynthia Heden

Appendix F:

REGIS UNIVERSITY

Academic Affairs
Academic Grants

3333 Regis Boulevard
Denver, Colorado 802

303-458-4206
303-964-3647 FAX
www.regis.edu

IRB – REGIS UNIVERSITY

July 8, 2013

Cindy Heden
1 Stone Ridge Lane
Exeter, NH 03833

RE: IRB #: 13-189

Dear Ms. Heden:

Your application to the Regis IRB for your project, "A Comparison of the Effects of Simulation Training and Non-Simulation Traditional Training on Self-Efficacy in Providing Women's Health Care," was approved as an exempt study on July 4, 2013. This study was approved per exempt study category 45CFR46.101.b(#1).

The designation of "exempt" means no further IRB review of this project, as it is currently designed, is needed.

If changes are made in the research plan that significantly alter the involvement of human subjects from that which was approved in the named application, the new research plan must be resubmitted to the Regis IRB for approval.

Sincerely,

Patsy McGuire Cullen

Patsy McGuire Cullen, PhD, CPNP
Chair, Institutional Review Board
Associate Professor and Director
Department of Accelerated Nursing
Loretto Heights School of Nursing
Rueckert-Hartman College for Health Professions
Regis University

cc: Dr. Barbara Berg

Human Research Curriculum Completion Report
Printed on 6/28/2011

Learner: Cindy Heden (username: Heden464)
Institution: Regis University
Contact Information Department: Nursing
Email: heden464@regis.edu

IRB Reference Resource:

Stage 1. Basic Course Passed on 06/28/11 (Ref # 6227665)

Required Modules	**Date Completed**	
Introduction	06/12/11	no quiz
Regis University	06/28/11	no quiz
Elective Modules	**Date Completed**	
History and Ethical Principles - SBR	06/12/11	4/4 (100%)
History and Ethical Principles	06/20/11	6/6 (100%)
Defining Research with Human Subjects - SBR	06/28/11	5/5 (100%)
The Regulations and The Social and Behavioral Sciences - SBR	06/12/11	4/5 (80%)
Basic Institutional Review Board (IRB) Regulations and Review Process	06/28/11	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	06/12/11	5/5 (100%)
Informed Consent - SBR	06/12/11	4/5 (80%)
Informed Consent	06/28/11	4/4 (100%)
Privacy and Confidentiality - SBR	06/12/11	5/5 (100%)
Social and Behavioral Research for Biomedical Researchers	06/28/11	4/4 (100%)
Records-Based Research	06/28/11	2/2 (100%)
Genetic Research in Human Populations	06/28/11	2/2 (100%)
Research With Protected Populations - Vulnerable Subjects:	06/28/11	4/4 (100%)

An Overview		
Research with Prisoners - SBR	06/28/11	4/4 (100%)
Vulnerable Subjects - Research with Prisoners	06/28/11	4/4 (100%)
Research with Children - SBR	06/28/11	4/4 (100%)
Vulnerable Subjects - Research Involving Minors	06/28/11	3/3 (100%)
Research in Public Elementary and Secondary Schools - SBR	06/28/11	4/4 (100%)
Vulnerable Subjects - Research Involving Pregnant Women and Fetuses in Utero	06/28/11	3/3 (100%)
International Research - SBR	06/28/11	3/3 (100%)
International Studies	06/28/11	1/1 (100%)
Internet Research - SBR	06/28/11	4/4 (100%)
Group Harms: Research With Culturally or Medically Vulnerable Groups	06/28/11	3/3 (100%)
FDA-Regulated Research	06/28/11	5/5 (100%)
Human Subjects Research at the VA	06/20/11	3/3 (100%)
Research and HIPAA Privacy Protections	06/28/11	9/11 (82%)
Workers as Research Subjects-A Vulnerable Population	06/28/11	4/4 (100%)
Hot Topics	06/20/11	no quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

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