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Warmth and Competence Traits: Perceptions of Female and Male Nurse Stereotypes

Randolph E. Gross
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WARMTH AND COMPETENCE TRAITS:
PERCEPTIONS OF FEMALE AND MALE NURSE STEREOTYPES

by
Randy E. Gross MS, RN, NP, CNS
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A dissertation submitted to the Graduate Faculty in Nursing Science in partial fulfillment of the requirements for the Degree of Philosophy, The City University of New York

2017
PERCEPTIONS OF NURSE STEREOTYPES

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This manuscript has been read and accepted for the Graduate Faculty in Nursing Science in satisfaction of the dissertation requirement for the Doctor of Philosophy.

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ABSTRACT

WARMTH AND COMPETENCE TRAITS:
PERCEPTIONS OF FEMALE AND MALE NURSE STEREOTYPES

by

Randy E. Gross MS, RN, NP, CNS
WHNP-BC, ACNS-BC, AOCNP®, AOCNS®

Advisor: Donna Nickitas PhD, RN, NEA-BC, CNE, FAAN

A nursing shortage looms ahead; 1.03 million new nurses will be needed by 2022 to meet society's healthcare needs. A major barrier to recruitment of women and men are nurse stereotypes. The literature suggests four female and four male stereotypes exist; however, no quantitative research exists that explores perceptions of non-nursing undergraduate students. Approximately, 90% of college students do not consider nursing as a career option, and 72% have misconceptions of what nurses do in reality.

According to social cognitive theory's Stereotype Content Model (SCM), perceptions are viewed through a combination of two dimensions: warmth and competence. The author devised a survey instrument that contained eight separate nurse stereotype images, four female and four male, with face and content validity testing passing threshold with mean CVI-Index score >0.80. The study sample was comprised of 318 undergraduate non-nursing students who completed the instrument. The participants, 63% between the ages of 18 to 29, rated nurses in general (no imagery provided) highly competent (mean 5.82) and highly warm (5.28). Each of the eight nurse stereotypes scored lower in both dimensions than nurses in general. Three of the eight stereotypes rated highly warm and highly competent, the highest was the angel (warmth mean
score = 5.60, competence mean score = 5.13), followed by hypermasculinized womanizer and handmaiden. The battleaxe was ascribed high competence and low warmth. The remaining four stereotypes, effete homosexual, not smart enough for medical school, whore, and miscreant, were perceived as low warmth and low competence.

The results of this study suggested nurse stereotypes remain entrenched in societal perception. Despite more than four decades of editorial efforts to counter the angel’s imagery, the iconic nurse stereotype angel remains a persistent image of nurses even in a young demographic.

Therefore, a recommendation from the results of the study is to use the persistent image of the angel nurse stereotype, capitalize on the strength in the perceived warmth (high trust), and foster a positive and contemporary nurse image, perhaps one of both genders, e.g. Angela and Angelo. A fresh lens is needed, and the angel nurse stereotype restyled and given a makeover emphasizing first warmth and then competence, both requisite for nursing, may be just the image needed for profession in the 21st century.
Acknowledgements

Without Martha Whetsell PhD, APRN this study would never have been possible. From her unwavering faith, support, and encouragement in my capabilities, I was able to transcend personal and professional challenges to bring this study and resulting dissertation to fruition. My heartfelt gratitude to her cannot be translated into words. Her knowledge, sage guidance, and dedication to students’ education facilitate forward movement. Her gentle nudges encouraged me step by step to create and follow through with this study, a rugged but surmountable challenge. Thanks to her succor, I was able to complete this academic exercise focused on learning the research process. Dr. Whetsell is a gift to nursing education.

I would like to thank the Dissertation Committee for their support and guidance during this journey. Dr. Kevin Frederickson saw this topic in its infancy; as my presentation for one of her classes early in the program, lurking under the campy covers of nurse romance novels from mid-20th century, she saw potential. Her statement that my observations were worthy of scholarly academic inquiry gave me initial permission to pursue and develop my ideas. Tacitly, her mentorship allowed for the evolution and development that became the research questions in this study. Also appreciated was Dr. Barbara Montero’s keen interest and approval to move forward. Dr. Diana Mason challenged me to think differently, not just methodology, but towards the bigger picture of the research that lays ahead, beyond the completion of this dissertation. Dr. Donna Nickitas was the problem solver through this dissertation journey, not that many arose. However, when one arose, it was dramatic. Aren’t they all? Meeting with her would bring me down, leaving her office with a new outlook and several tasks to address the issue, as if she waved her magic wand like Cinderella’s fairy godmother. When Dr. Whetsell needed to take an unavoidable leave, Dr. Nickitas took out that magic wand in a period of 48 hours, all was fixed
with her saying to me reassuringly, “we are going to get you finished.” She made sure just like Cinderella that I would make it to the ball. I did. Lastly, Dr. Michael Chattalas is a challenge to conjure up words that capture his impact on this project. From a glimmer of an idea taken from Dr. Frederickson’s class, in one night at the Rodeo Restaurant the two of us had plotted out a tentative template for the dissertation, the instrument, using Fiske’s Stereotype Content Model, the moderator variables, and some research questions that would take shape in Dr. Whetsell’s class several months later. We did it all on cocktail napkins that I later transferred to a WORD file. Dr. Whetsell always called him the “theorist.” Its Fiske’s, but Dr. Chattalas breathes, talks and walks the model, and he sold me on it. Without his “dictation” to me ensconced in first class seats zooming from Venice to Milan, in about two hours, we had revised and refined the instrument to sync with the redrawn images. At that time, especially at that time in my life, I wouldn’t have been able to develop the instrument used on my own. An undeniable synergy has always existed in our friendship, whether late night indulgences at Jackie 60, poolside in Mykonos, or at a cabaret table in Buenos Aires – “que rico.” Thirty one years ago we met at Tracks in D.C. through my college roommate Jeremy whom he tutored in economics. Now the personal has spilled over and evolved into a new professional partnership in the world of research and academia. I believe tremendous potential exists to impact both our respective professions. Now to quote an old friend of ours, Patricia Field, the queen of apropos one liners, “with that, I would like to thank the Graduate Center for their hospitality, but I’m on to my next stop.”

Christopher Darling MFA created the images for this study. As he was the illustrator of the nurse stereotype images, I thank him for his artistic skills, craft, and patience. Inspired by my extensive collection of mid-20th century nurse romance pulp novel covers, Christopher took the
names and definitions I found in the literature and created the eight nurse stereotype images. Commissioned for his work, these images of mine have an unknown future- my eight friends, the nurse stereotypes with whom I spent more time these past several years than any of my human ones. His wife, Nurse Elaine Darling, was my professional colleague for years before they both moved to Ohio. I had the opportunity to watch her grow, develop, and evolve into the professional nurse that in my perception is the exemplar of a nurse with high perceived warmth and high perceived competence.

Mr. Stephen Cassidy Jones. How can I put into words the gratitude for his presence? As my research assistant, he appeared at a time when I needed his organizational skills, motivational words, and calm demeanor. He enabled me to move forward at a time I was frozen, and through his patient persistence we were able to progress piece by piece and push forward to completion. This study would not have come to fruition at this time point had it not been for his assistance. Thank you. He possesses potential not truly fathomable, and he has a bright brilliant future ahead. For now, his work with me is done, and I wish him success in his endeavors as he pursues a career as an academic and researcher.

Dr. Miguel Villegas-Pantoja was invaluable to this study; he talked and walked me through the process of first testing for face validity then the content validity of the eight nurse stereotype images. With a quiet demeanor, he would expound on the statistics needed to make sure the images were indeed representative of the stereotypes I culled from the literature. I am so grateful for his patience and simple explanations of the formulas. In time, I did finally get the gist of the statistical tests used. Like a savvy business leader, I know what my deficits are so I then know whom to ask to help me. Miguel was the person I asked for help for testing the images used in
the instrument. Without him and Christopher Darling the instrument would not be what it is now and soon to be copyrighted!

Dr. Bill Gallo was the right statistician for me. He didn’t complicate the data for me, but actually made me understand it better. He too was patient while I first dipped my toe in the cold water, but then once I had jumped in full body, I realized the water actually wasn’t as cold as I thought. Thank you Bill, your patience while I learned swimming with statistics was just perfect for me.

Tricia Plummer, our PhD Program’s Administrator, helped me at the times just when I needed some magical intervention. Dr. Nickitas may have been the fairy godmother who made it possible for me to attend the ball, but Tricia was completely different. She was more like my familiar; she was Pyewacket to my Gillian Holroyd. Without her, the magic couldn’t have happened. I am thankful and grateful to her for making it happen. “Pay no attention to that woman behind the curtain!”

And now for Cathy Finlayson MA, RN, OCN®, my professional colleague and fellow doctoral candidate, though she is of a sister coven just nearby. We have been on parallel journeys together, from working nights on Memorial 10, me a brand new NP off orientation, and she a brand new RN also just off orientation. Though neither of us was really alone, it sounds so much more cinematic to say it that way. In reality, Cathy and I were the peer support for one another throughout our doctoral education journeys. Dr. Nickitas talks of peer support that enables doctoral students to be more resilient as they face the challenges and successes of this rigorous educational process. Cathy was there for me, my Lamaze partner, and I for her when she asked; we accomplished a lot in our afternoon five to seven minute “clinical conferences” on 66th Street. Doctoral education I have likened to a pregnancy of three plus years and then an agonizing labor with a transition that lasts months and months, until the dissertation has been
PERCEPTIONS OF NURSE STEREOTYPES

pushed out just like a newborn and orally defended. With the paper signed by all five Committee members, a whole new journey begins. Neither of us want any part of heteronormative reproduction, but both of us have discussed how this PhD has been the right choice for each us- a newborn of a completely different genre. A final nod to Cathy, since if not for her, I would have lived my life without having an in depth and scholarly discussion with the legendary nurse scholar Jackie Fawcett about the enduring glamor and undisputed power of the cape.

Lastly, I must thank my 7 Nurse Practitioner colleagues from the Gynecologic Medical Oncology Service at Memorial Sloan Kettering Cancer Center. For four years, they listened to all my idiosyncratic ideas, my fantastical frustrations, my tragic turmoils, and my tiny triumphs. I love my work with the patients- or the ladies as I call them, but my workplace is a place I love because of my colleagues. I must thank each individually: first of course is wife #1 Dr. Cheryl Barnes, then the always forthright and feisty Joan Hartnett NP, and delivering a snappy “vamonos” Idania Olmeda NP, to my like-minded civic activist Denise Dasti NP, followed by the one and only comedienne Maureen Reidy NP, to a clinician I truly regard and respect Dr. Rosanne Sharp, and never least though last in this list, my fellow Oz-phile, who showed me “you had the power all along, my dear.” Thank you for bearing with me through my final bow with “I’m Ph-inshe-D!”

With that, I can hear the tinkling of the orchestra cuing me time to wrap up my Oscar speech, as I have exceeded my time limit. Quickly, I thank the five experts who provided me face validity with their no holds barred critique of the eight nurse stereotype images; I needed such frank feedback to even begin revising and refining them. I thank each member of my Cohort- Cohort #7. We will walk together at Lincoln Center, just like we said that first semester in 2012. Ending
with a touch of seriousness, I must acknowledge, thank, and express my gratitude to three sources of funding for the conduct of this study: 1) the Dissertation Scholarship Grant from the PhD in Nursing Science Program here at the CUNY Graduate Center, 2) the Scholarship Grant from the NYC Chapter of Men in Nursing, and 3) the Fellowship Grant from the Nursing and Public Health Globalization Program also here at the CUNY Graduate Center. Lastly, without the participation of the 318 non-nursing students, this study would not have been possible, and I thank each of them for the generosity of the time given to complete the instrument.
Dedication

This dissertation is dedicated to my grandparents, Malvern and Martha Gross. In my senior year of college, thinking I wanted to be a teacher and almost done with my education degree, I switched directions. When I told them I wanted to become a nurse, immediately both said, “that’s perfect for you.”

Additionally I want to dedicate this work to my parents, Malvern and Inge Gross, who throughout my life have provided encouragement, guidance, and support. During his lifetime my father offered me many suggestions, but the most sage was “education is the one thing you can never lose.”

“What research really does is to give us more power. This can be liberating or exceedingly dangerous. The challenge we face is how to use it wisely.”

Malvern J. Gross, 1988
Table of Contents

Chapter 1, Problem Statement. ................................................................. 1

Chapter 2, Review of the Literature. ....................................................... 16

Chapter 3, Methodology. ................................................................. 30

Chapter 4, Results and Findings. ......................................................... 38

Chapter 5, Discussion. ................................................................. 62

Appendices. ................................................................. 82

References. ................................................................. 122
List of Appendices

Appendix I. Revised Female and Male Stereotype Images. ........................................ 82

Appendix II. Summary Tables: Review of Recent Relevant Literature. ......................... 84

Appendix III. Invitation to Participate in Nurse Stereotypes Study. .......................... 90

Appendix IV. Consent to Participate. ........................................................................... 91

Appendix V. Survey Instrument. .................................................................................. 95

Appendix VI. Nurse Stereotypes Face Validity Determination Survey. ......................... 106

Appendix VIIa. Nurse Stereotype Content Expert Face Validity Scores. ....................... 115

Appendix VIIb. Expert Commentary on Nurse Stereotype Images. ............................... 116

Appendix VIII. Nurse Stereotype Item Content Validity Index (I-CVI) by Gender. ............. 118

Appendix XIX. Nurse Stereotype I-CVI with Combined Gender. .................................. 119

Appendix X. I-CVI of Revised Male Gender Nurse Stereotypes. ................................. 120

Appendix XI. Data Coding for Perceptions of Nurse Stereotypes in Non-Nursing Undergraduate Students. ................................................................. 121
List of Tables and Figures

Tables

Table 4.1. Gender and Age of Non-nursing Undergraduate Students. .......................... 39
Table 4.2. Race and Ethnicity of Non-nursing Undergraduate Students. .................. 40
Table 4.3. Degree Pursuit & Year of Study in 3.18 Non-Nursing Undergraduate Students. .... 41
Table 4.4. Moderator Variables: Exposure, Familiarity, and Importance. .................... 43
Table 4.5. Perceptions of Nurses’ Warmth and Competence by Individual Trait. ............ 45
Table 4.6. Differences in Warmth and Competence by Nurse Stereotype. .................... 47
Table 4.7. Differences in Warmth and Competence by Stereotype: Males. ................. 51
Table 4.8. Differences in Warmth and Competence by Stereotype: Females. ............... 53
Table 4.9. Differences Between the Angel Nurse Stereotype and Nurses in General. ....... 56
Table 4.10. Impact of Moderator Variables on Warmth and Competence. ...................... 58
Table 4.11. Summary of Study Results and Findings. ............................................. 60

Figures

Figure 1.1. Stereotype Content Model. ................................................................. 10
Figure 4.1. Perceptual Map of Nurse Stereotypes’ Warmth & Competence. ............... 49
Figure 4.2. Males: Perceptual Map of Nurse Stereotypes’ Warmth & Competence. ........ 52
Figure 4.3. Females: Perceptual Map of Nurse Stereotypes’ Warmth & Competence. .... 54
Chapter One. Problem Statement

A major shortage of registered nurses looms ahead for the US healthcare system and society overall (Davidson, 2016). By 2022, 1.05 million nursing positions will need to be filled (American Association of Colleges of Nursing, 2014; Human Resources and Services Administration, 2014). The current nursing workforce is aging rapidly; the average age for 2.71 million practicing registered nurses is 47 years of age. By 2020, estimates suggest more than 1 million - more than one-third of the present nursing workforce - will be of retirement age (Snavely, 2016). In fact, the need goes beyond replacing those aging nurses who will leave the field as the population expands and the healthcare landscape further increases in complexity, An additional 525,000 nursing positions will be required (U.S. Department of Health & Human Services, 2010). According to Buerhaus, Auerbach and Staiger (2014), the projected demand may be significantly underestimated. The increasing longevity in the general population and the cohort of aging baby boomers will increase demand for nursing services as well as strain the healthcare system as a whole. The ability to meet the demand for nursing services is also related to the pipeline and preparation of the next generation of nurses. Nursing school enrollment is the linchpin to ensuring a well prepared and adequate supply of registered professional nurses.

The shortage of nursing school faculty limits nursing school enrollment. According to data compiled by the American Association of Colleges of Nursing, a national faculty vacancy rate of 7.6% exists with most positions requiring a doctoral degree (AACN, 2014). Despite more than doubling the numbers of new nursing graduates from 2001 to 2013 (AACN, 2015), nursing shortages remain cyclical and chronic (Ledbetter, 2015). Attrition represents another challenge. Nurses who choose to leave the profession tend to be younger, 30-50% changes jobs or leave entirely in their first three years of clinical practice (MacKusick & Minick,
Furthermore, male gendered nurses are more likely to leave nursing due to perceived stereotypes and gendering of nursing work. Nurses with a greater education level are also more likely to leave the profession seeking opportunities outside of direct patient care or outside of the healthcare system entirely (Flinkman, Leino-Kilp & Salentera 2010).

One significant factor is inadequate nurse staffing which is highly detrimental to the health care system and nurses themselves. In hospitals with insufficient staffing primary a lack of baccalaureate prepared registered nurses, mortality increases dramatically (Needleman, et al. 2011; Robbins, 2015). Registered nurses who practice in settings without sufficient staffing experience higher stress, greater burnout and have an increased likelihood of attrition (Rajapaksa & Rothstein 2009). Nurses are an indispensable component in the healthcare system especially as its complexity increases (IOM, 2010). As the largest group of healthcare providers and the ones that are closest to the patients due to the nature of their work, they are necessary participants along with other health care providers in health care reform. For these reasons, recruitment and retention of nurses attention and research are warranted.

One of the major barriers to recruitment of intelligent women and men into the nursing profession is persistence of nurse stereotypes (Campbell-Heider, Sackett & Whistler, 2008; McLaughlin & Muldoon, 2010; Meadus, 2000; Rezai-Adaryani, Salsali & Mohammadi, 2012; Takase, Kershaw & Burt, 2002). Familiar and enduring, the female gendered nurse stereotypes of the angel, whore, handmaiden, and battle-axe remain in the public’s perception of nurses (Darbyshire & Gordon 2005; Jinks & Bradley, 2004; Kalisch & Kalisch 1983; Muff, 1982; Summers & Summers 2014). Despite the paradox that society continues to perceive nurses remain s the most trusted healthcare providers (Gallup, 2015), these stereotypes perpetuate and
perpetuate. Despite this rhetorical conundrum, research is limited regarding such stereotyped imagery.

**Problem Statement**

Central to the issue of nurse stereotypes is nursing’s “image”. Image is antecedent to stereotype (Rezai-Adaryani, Salsali & Mohammadi, 2012). Nursing’s image exists on a spectrum: at one end, invisible (Buresh & Gordon, 2013) and the other, stereotyped (ten Hoeve, Jansen & Roodbol, 2013; Price & McGillis Hall, 2013). “Invisibility” refers to the tendency for nursing labor and health care outcomes to be attributed to other professions, especially medicine. This happens frequently when the physician is solely credited for an individual’s recovery from an illness or surgery; this elevates the physician’s status and leaves the nurses without any presence or acknowledgement of their work. The other end of the spectrum consists of stereotypes. “Stereotypes” are generally negative thus framing nursing as hierarchically inferior and subordinate to other health care professions, especially medicine (Price, Douce & McGillis Hall, 2014). Both ends of the spectrum shape nurses’ expectations and perceptions of a career in nursing (ten Hoeve, Jansen & Roodbol, 2013).

While "image" refers to a range of cultural and historical knowledge (roughly parallel to the "status" of a group in society), stereotypes are beliefs, usually oversimplified or generalized, about members of a given group that become activated or available in conscious or unconscious memory when one encounters another individual or group (Fiske 1998; Bean, et al. 2013; McDonald, 1990; Quadflieg, et al. 2011). The stereotyping of nurses has a long history. In the 15th and 16th centuries, women healers and midwives were labeled witches; many women who had health knowledge and cared for other men and women were perceived as evil or
engaged in communion with the devil (Ehrenreich & English, 2010). The history of nursing stereotypes traced in more depth in Chapter 2.

Today, four stereotype categories for women in nursing have been identified in the literature: *angel, handmaiden, battleaxe, and whore* (Darbyshire & Gordon, 2005; Jinks & Bradley, 2004; Muff 1982; Summers & Summers, 2014). The nurse as an *angel* is a self-sacrificing, honest, and noble woman living out her Godly vocation to nursing (Nelson, 2001; Gordon & Nelson, 2005). The *handmaiden* is subservient to the physician; docile and patient, she cannot think or act for herself without instruction from her superior (Gordon, 2002; Summers & Summers, 2014). The *battleaxe* is an intimidating and officious woman who uses her position of power to coerce, through pain and humiliation, others into compliance (Jinks & Bradley, 2004; Kesey, 1962; Muff, 1982; Summers, 2010). The *whore* is promiscuous, coquettish, sexual, unintelligent, and usually the object of a male physician’s conquest (Bishop, 2009; Ferns & Chojnacka, 2005; Kalisch, Begeny & Neumann, 2007; Kalisch & Kalisch, 1982; Kalisch & Kalisch, 1983).

Four stereotypes have been identified for men in nursing, although research is lacking in their perception. They are as follows: *not smart enough to get into medical school, effeminate homosexual, the miscreant hiding in nursing, and the hypermasculinized womanizer* or man who enters nursing to live out his sexual pursuit of women (Burton & Misener, 2008).

Nursing’s gendered and racialized image presents a formidable barrier to recruitment and retention. Since Nightingale wrote “all women are nurses”, the work of nurses has consistently been ascribed to feminine character traits (Karaback, Usluosy, Alpar & Baheccik 2012; Jinks & Bradley 2004; Rezai-Adaryani, Salsali & Mohammadi 2012; Seago, et al. 2006). Nursing is often stereotyped as just “women’s work” or worse as labor that lacks independent thought.
and action (Seago, et al. 2006; Summers & Summers 2014). While true that approximately 90% of nurses are female (HRSA, 2013), significant is the persistent stereotypical portrayal of nursing as subordinate existing in a hierarchal healthcare system. In addition to being pejorative, the common perception of nursing demographics is inaccurate. Women in nursing are stereotyped as Caucasian, single, under the age of 35, and looking for a male physician as a husband (Karabacak, Usluosy, Alpar & Bahcecik, 2012; Porter, 1992). In reality, 80% of nurses are Caucasian and the majority are married but not to physicians; however, the most concerning is that the average age of a working nurse is 47 (USDHHS, 2010). The nursing workforce has almost 50% of its entirety moving towards retirement age.

In part because of negative and gendered stereotypes, men in nursing experience many difficulties. The label “male nurse” is universally disliked by male gendered nurses (Rajacich, Kane & Cameron, 2013); emblematic of this is the reality that in no other profession does gender also become an adjective that differentiates and simultaneously emphasizes deviance. Although the recruitment of male gendered nurses has improved, with males now representing 13% of nursing baccalaureate students (AACN 2014), nursing image has yet to shed its female gender posing significant problems for the retention of men. Males who matriculate into nursing programs are more likely to withdraw than women due to lack of male faculty as role models and mentors, the inadvertent use of she in reference to the nurse whether in textbooks, lectures, or colloquial use, and nursing education programs geared to the majority of students as females (Bartfay, Bartfay, Clow & Wu, 2010; Brown, 2009; McLaughlin, Muldoon & Moutray, 2010; Meadus & Twomey, 2011; Muldoon & Reilly, 2003; O’Lynn, 2004; Roth & Coleman, 2008; Wang, Li, Hu et al, 2010; White & White, 2006).
In clinical practice, males experience higher rates of stress and job dissatisfaction than their female counterparts, usually due to persistent gendering of nursing work along and workplace interactions built on an infrastructure of strongly entrenched nurse stereotypes (Clow & Ricciardelli, 2011; Harding, 2007; Loughrey, 2007; MacWilliams, Schmidt, & Bleich, 2013; McKinley, Cowan, McVittie, Ion, 2010; Meadus, 2000; Meadus & Twomey, 2007; Rajacich, Kane, Willeston & Cameron, 2013; Twomey & Meadus, 2016; White & White, 2006). Nevertheless, the majority of men in nursing report overall satisfaction with their work; for most, the rewards of patient care outweigh negative stereotypes (Harris, 2013; Rajacich, Kane & Cameron 2013; Williams, 1995).

The problem of retention is most apparent the millennial generation, those born between 1980 and 2000, who have the highest rate of attrition (Rajapaksa & Rothstein 2009; Price & McGillis-Hall, 2013). These nurses have just entered the profession and are meant to be replacement supply line for the nurses retiring; however, many leave within their first three years of entry into clinical practice with estimates ranging from 17% to nearly 50% (MacKusick & Minick, 2010). This generation raised within the context that violence is a part of the real world emerges from a variety of contemporary experiences, including September 11th, the Columbine school shooting, and the Iraq War. As much as they are the global generation raised along with the Internet with an understanding of multiculturalism, millennials’ family units and school systems fostered their view of the world outside themselves. Those in authority urged equality and rewarded participation equally across the board while parents encouraged a shield of protective nurturance by “helicopter parenting” (Padilla-Walker & Nelson, 2012). Used to constant praise and feedback, those millennials that enter nursing may well feel very dissatisfied in the workforce, as supervisors, administrators, and physicians do not
see them as equals. Furthermore, healthcare delivery system demands more from millennials than rewards for just showing up to work. They must be ready to confront the realities of care delivery that often consist of increased patient acuity and inadequate nurse staffing ratios. Lack of mentorships also is apparent as the older generations of nurses view the Millennials as entitled and not willing to work hard. In reality, Millennials highly value a life/work balance in contrast to the generations that have preceded them (Sherman, 2006). From these unmet expectations, Millennial nurses frequently experience stress, workplace dissatisfaction, compassion fatigue, and burnout result; thus, this generation is the quickest to move on to other venues. Unfortunately, as the need for new nurses increases each year, both the recruitment and retention of intelligent yet compassionate women and men remains a primary concern of the nursing profession, the healthcare system, and society as a whole. Stereotyped imagery of nursing is propagated through various forms of media such as television, the Internet, advertisements, movies, books, art, greeting cards, and pornography. Such imagery can be detrimental to nursing’s professional image.

Need for the Study

Ninety percent of the variance in both social and professional interactions is linked to stereotyping (Abel & Wojciske, 2007; Cuddy, Fiske & Glick, 2008; Cuddy, Kohut & Neffinger, 2013). Stereotyping is a social cognitive process present in all individuals (Fiske, Cuddy & Glick, 2006). The Stereotype Content Model purports that all perceptions are viewed through the combined dimensions of warmth and competence, e.g. high warmth/low competence, low warmth/low competence (Fiske, 1998; Fiske, Cuddy & Glick, 2006; Fiske, Cuddy, Glick & Xu, 2002). Ideally, nurses should be perceived as both highly warm and highly competent.
In order to meet the need for 1.05 million new nurses by 2020, the nursing profession must develop persuasive and accurate images for successful recruitment strategies. Most critical, at present, is a focus on how millennials’ perception of stereotypes impacts their recruitment into nursing. Kovner, Brewer, Fatehi & Jun (2014) found that 17.5% of new nurses from the millennial generation leave their first position within the first year, and 6% leave the profession entirely within their first year (Lavoie-Tremblay, O’Brien-Pallas, Gelinas, Desforges & Marchionni, 2008; Wieck, Dols & Landrum, 2010). Millennial registered nurses report higher levels of job strain, more physical and psychosomatic symptoms, greater job dissatisfaction and higher levels of depression than other generations of registered nurses (Price, et al. 2013). Male gendered Millennial nurses report higher job dissatisfaction and depression with less perceived social support and job control than their female counterparts (Gotschall, 2010). A significant portion of work stress, job dissatisfaction, and the desire to leave the nursing profession are attributed to stereotypes. Considering these and other factors, an understanding of how stereotypes affect nursing image is paramount.

Significance of the Study

The findings of this study of the perceptions of nurse stereotypes in non-nursing undergraduate students may guide the development of more successful, evidence-based recruitment and retention strategies. Nursing undergraduate and graduate curricula may need to incorporate content that brings awareness to the history and persistence of stereotypes and their detrimental effects. Negative stereotypes affect health policy in the major areas such as mandated staffing ratios, registered professional nurses’ involvement in long-term care, funding for nurse education, and allocations for funded nursing research. The results this study may contribute to the knowledge that facilitates necessary actions to address and attenuate the
harmful impact caused by negative nurse imagery. Furthermore, the results of this study may also lead to the development of new research instruments, enhance conceptual models, or move towards a middle-range theory that could address questions regarding perceptions of media imagery.

**Study Aims**

The major aim of this study is to measure and describe the perceptions of nurse stereotypes in undergraduate non-nursing students using the Stereotype Content Model (Fiske, 2002; Chattalas, Kramer & Takada, 2008; Chattalas & Takada, 2013). The second aim of this study is to explore the effect of gender on the participants’ perceptions of warmth and competence, the two dimensions of the Stereotype Content Model. Of interest is whether the gender of the eight nurse stereotypes and the gender of the study participants have any impact on these perceptions.

**Theoretical Framework**

This study uses the Stereotype Content Model (SCM) as its theoretical framework. Figure 1.1 provides a visual representation of the SCM. The SCM hypothesizes that 1) stereotypes are primarily characterized by the two dimensions warmth and competence; 2) perceptions of stereotypes are determined by the combination of high and/or low warmth and competence (e.g. high warmth and low competence = paternalistic, concerning a group disrespected but pitied; high competence and low warmth = envious, with respect to a group too competent, too ambitious, too hardworking, and simultaneously not sociable); 3) each perceived combination is correlated with distinct emotions: pity, envy, admiration, contempt; and 4) a given social/professional group’s perceived status predicts high competence and low warmth, whereas a particular group’s perceived competitive strength predicts low warmth with high
competence (Fiske, et al. 2002; Cuddy, et al. 2008; Chattalas, Kramer & Takada, 2008). The SCM has never been used to look at stereotypes of nurses.

Figure 1.1

Stereotype Content Model

<table>
<thead>
<tr>
<th>Warmth</th>
<th>Competence</th>
<th>Paternalistic stereotype</th>
<th>Admiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Low</td>
<td>low status, not competitive (e.g., housewives, elderly people, disabled people)</td>
<td>high status, not competitive (e.g., ingroup, close allies)</td>
</tr>
<tr>
<td>Low</td>
<td>High</td>
<td>Contemptuous stereotype</td>
<td>Envious stereotype</td>
</tr>
<tr>
<td></td>
<td></td>
<td>low status, competitive (e.g., welfare recipients, poor people)</td>
<td>high status, competitive (e.g., Asians, Jews, rich people, feminists)</td>
</tr>
</tbody>
</table>

From: Fiske, Cuddy, Glick & Xu (2002)

The SCM is a pragmatic perspective, purporting that social perception reflects evolutionary pressures (Fiske, Cuddy & Glick 2007). In social encounters, individuals must immediately determine whether the other has friendly or harmful intentions and whether the other can enact those intentions (Fiske, Cuddy & Glick 2007). An individual’s perceptions of the other’s intention and capability correspond to warmth and competence, respectively (Fiske, et al. 2002). Stereotypes, generalized and oversimplified, are useful formulas for the categorization of others, guiding our behavior toward them (Bandura, 2002; Fiske, 1998). Depending on reward
or punishment in social interactions, a given behavior toward another individual or group may be repeated or discarded.

After determining the “primacy of three” which are first gender, then age, then ethnicity of an individual, stereotypes modulate social perception (Fiske et al. 2002). Stereotypes are stored in memory from multiples sources such as experiences, exposures, family values, educational influences, a variety of media, and ultimately societal impact. In addition to being a social cognitive process that modulates perception, stereotyping is also a neurobiological process and happens within a millisecond (Bean, Stone, Moskowitz & Focella, 2013; Fiske, Ames, Cikara & Harris, 2014; Quadflieg, Flanigan, Waite et al., 2011). The process of stereotyping is programmed in the brain and is an evolutionary process to aid survival thus the determination of warmth and competence in others.

Ninety percent of the variance in professional interactions is linked to stereotypes (Abel & Wojciske, 2007; Cuddy, Fiske & Glick, 2008; Cuddy, Kohut & Neffinger, 2013). By determining an individual’s or group’s SCM categorization within one of the four quartiles (i.e. high competence and low warmth; or, low competence and low warmth), behavior toward those individuals/groups may be predicted (Chattalas & Takada, 2013; Eckes, 2002; Fiske 2012). High warmth with low competence generates pity; low warmth with low competence generates contempt; high competence with low warmth generates envy; and high competence with high warmth generates admiration (Eckes, 2002). The SCM dimensions and patterns are generalizable to time (20th to 21st century), culture (every populated continents), analysis level (individuals, subgroups, subtypes, groups, and nations), and measures (neurological, self-report to social and psychologic measures) (Fiske, 2015).
Research Question and Variables

This study had two primary research questions: 1) How did undergraduate non-nursing students perceive nurse stereotypes regarding perceived warmth and perceived competence, the two dimensions of the Stereotype Content Model? 2) What were the effect of gender, that of the eight nurse stereotypes and that of the study participant on the perceptions of perceived warmth and perceived competence of the nurse stereotypes?

The eight stereotype images consisted of four female and four male gendered nurses. The female gendered stereotype images were the angel, handmaiden, battleaxe, and whore. The male gendered stereotype images were not smart enough for medical school, effete homosexual, hypermasculinized womanizer, and miscreant hiding in nursing. Appendix I displays all eight images.

In addition to the two primary research questions, three moderator variables were explored for their impact on perceived warmth and perceived competence. The variables were: 1) exposure, whether the participant has been cared for by a nurse within the past five years and whether the participant has had a friend or family member that has received nursing care within the past five years, 2) familiarity, the portrayal of nurses in the media and with the history of nursing, and 3) importance, nurses’ participation in health care reform and nurses position in regard to the nation’s health

Participants were asked to self-identify their demographic information regarding identified age group, gender identification, race/ethnicity, choice of degree, and year of study.
Operational Terms

- *Social perceptions* were defined by the two dimensions of the Stereotype Content Model, perceived warmth and perceived competence.
- *Nurse stereotype* was an oversimplified and generalized view of a nurse.
- Female gendered nurse stereotypes were *angel, handmaiden, battleaxe,* and *whore.*
- Male gendered male nurse stereotypes were *not smart enough for medical school, effete homosexual, hypermasculinized womanizer,* and *miscreant hiding in nursing.*
- Non-nursing undergraduate baccalaureate student was a self-identified student matriculated in a large metropolitan university pursuing any degree of study that was not nursing.

Assumptions

- After gender, age, and ethnicity, stereotypes became the next and dominant perception by an individual which then determines behavior in social and professional interactions.
- Stereotyping was a both a social cognitive-perceptual process and a neurobiological perceptual process that occurs within milliseconds.
- Nursing's professional image was influenced by stereotypes persistent in media, its history, nurses’ self-perceptions, and society's perceptions.
- *Exposure, familiarity,* and *importance* moderate social cognitive perceptions of nurse stereotypes.
Delimitations

This descriptive correlational study was delimited to undergraduate non-nursing baccalaureate students enrolled in a large metropolitan public university. The students were at least 18 years of age and proficient in reading and writing English.

Limitations

The results of this study included the limitations to a single public university located in a large metropolitan city and non-nursing undergraduate students. Therefore the results may not be generalizable to all students. Also, the study was limited to students 18 years of age and older. High school students were not included in this study and the study may not be generalizable to all populations.

Summary

Stereotypes remain a persistent barrier to recruitment of women and men into the nursing profession. The stereotyped perceptions of nursing also impact the retention of nurses already in the profession, especially young nurses from the millennial generation. The Stereotype Content Model was a robust conceptual framework for examining non-nursing undergraduate students' perceptions of perceived warmth and perceived competence of the eight nurse stereotypes. The literature provided the four female gendered nurse stereotypes angel, handmaiden, battleaxe, and whore and the four male gendered nurse stereotypes not smart enough for medical school, effete homosexual, hypermasculinized womanizer, and miscreant hiding in nursing. Understanding how perceptions of nurse stereotypes create and foster an image of the nursing profession may lead to more evidence-based recruitment and retention strategies. An additional 1.2 million nurses are necessary by the end of this decade. Thus, recruitment and retention of nurses are critical issues, and the influence of stereotypes on this
issue is an area ripe for research. This chapter addressed the problem, significance, study aims, theoretical framework, research questions, the definition of terms, and assumptions. The following chapter reviews the relevant literature.
Chapter Two. Review of the Literature

This chapter summarizes relevant literature from the past five years. The following topic areas reviewed include: recruitment into the nursing profession; nurse stereotypes as barriers to recruitment into the profession; gender in nursing; perceptions of the nursing image; and the Stereotype Content Model.

Nurse Stereotypes: Women in Nursing

Nurse stereotypes were first described by Muff (1982), using the terms *angel*, *handmaiden*, *battleaxe*, and *whore*. Florence Nightingale, the pioneer of modern, professionalized nursing, has herself portrayed alternatively as *angel*, *battleaxe*, and *whore*. Nineteenth-century media sugarcoated Nightingale’s professional contributions, transforming her into a heroine and secular saint. Like the *angel* nurse stereotype, she was called by God to be a nurse at age 17 instead of pursuing a proper marriage as family and society expected of good women such as her. In contrast to the hagiography that surrounded her moniker “The Lady with the Lamp” with imagery of her literally floating through the barracks of her hospital in the Crimea, Nightingale was extremely driven and skillful. Using whatever means necessary to accomplish her goals (Darbyshire & Gordon, 2005), Nightingale was perhaps more *battleaxe* than *angel*. She may even have been the *whore* as well; the Florence Nightingale Museum at St. Thomas’ Hospital in London has a plaque with a posted story about her close personal relationship with Queen Victoria touting an age old rumor they were lovers. This unconfirmed relationship supposedly enabled significant financial gifting thus helping fund her nursing school, its library, and faculty salaries. Queen Victoria’s letters to her were filled with veneration uncommon in mid-19th century Victorian England (Benson & Esher, 2009). The following sections below discuss the in greater depth each of the four female nurse stereotypes.
The Angel

Muff (1982) defined the angel as the virtuous woman who came to nursing by spiritual vocation, and who therefore needed a little education, resources, rest, or security. Hallam (2002) subsequently criticized the angel stereotype as the “ideal” definition of a nurse – a standard to which all nurses were supposed to aspire, and expected to follow. Hallam went further to implicate healthcare’s patriarchal structure in giving preference to this vision of nurses. Through this patriarchal lens, female gendered nurses are expected to perform their labors without expression of opinions or offering ideas of their own (Ashley, 1976). Following nursing’s secularization in the mid-19th century, male religious and political leaders sought to feminize nursing, emphasizing virtue as a trait all women could possess, to limit its power (Nelson, 2001). Summers and Summers (2014) argued that the angel nurse stereotype is rooted in a sympathetic image of the nurse – one who is driven by emotion and who lacks education or training. The angel, accordingly, is selfless in her service and does not require credit or validation for her work.

The angel stereotype is deeply rooted in the history of nursing. Historically, nurses were nuns associated with churches. Their perceived moral purity gave them social license to provide special care to others, from birth through death and in locations no ‘proper’ woman would have been allowed to enter, but as the nurse she could (Bunting, 1990). The angel’s symbolic purity and virginity, corroborated by her white clothing, becomes more important than her practical labors (Muff, 1982). Florence Nightingale, who professionalized nursing, perpetuated this original gendered version of nursing, stating that “every woman is a nurse” (1880/1940). The angelic nurse’s ability to care was an extension of a woman’s natural role in the family as mother.
The Handmaiden

If the *angel* nurse stereotype was conceptualized to be mother-like, then the *handmaiden* nurse stereotype perhaps is more like a wife. However, evolution of the *handmaiden* stereotype may have stemmed from Nightingale’s nurses in Crimea, who, it was said, would not act without an order from one of the surgeons (Gordon, 2002). The *handmaiden* stereotype continues within the gendered dichotomy (male physician, female nurse) of healthcare, as a majority of the public now views nursing as an extension of the doctor’s hand (Summers & Summers, 2014). Muff (1982, p. 120) suggests that the *handmaiden* stereotype is an outcome of the paternalistic healthcare systems where the woman (nurse) needs to be subservient to the man (physician).

The Battleaxe

Unlike the *angel* or *handmaiden* stereotypes, the *battleaxe* nurse controls and oppresses those around her, especially men (Muff, 1982, p.135). The *battleaxe* may also viewed as someone who causes pain to patients, during procedures such as shaving before surgery, enemas, or injections. The most enduring depiction of the *battleaxe* is Nurse Ratchet from Ken Kesey’s 1962 novel *One Flew Over the Cuckoo’s Nest* and the film adaptation from 1975. In both, the Nurse Ratchet represents the negative and fearful aspects of institutions, power, and authority. She also sent a strong message to readers and viewers about what happens when nurses, and women in general, have power (Summers & Summers 2014, p.246).

The Whore

In sharp contrast to the *battleaxe*, the *whore*, object of male fantasy, portrays nurses as sexually promiscuous and acquiescent (Muff, 1982). The *whore* stereotype may endure because of the intimate work of nursing. But there is some historical basis, as seen with the *angel* stereotype. A historical permutation of nursing work was the “camp follower” or prostitute who...
followed armies as they waged war (Bunting, 1990). Hallam (2000, p.72) has suggested that nurses were sexualized as early as the Victorian era.

As Summers and Summers have noted (2014), the objectification of nurses lessens perceptions of their competence and intelligence. The perception of nurses as less then supports the notion that nurse stereotypes function to undermine female power and/or to assimilate difference. Unfortunately, this harmful stereotype is perpetuated by present day media (Bishop, 2009; Cullen, 2012; Heilemann, 2012; Kalisch & Kalisch, 1986; Strickland, 2006; Turow, 2012).

Prior Research on Stereotypes for Women in Nursing

Jinks and Bradley (2004) used a “researcher developed questionnaire” that measured two groups of nursing students’ attitudes about gender and nurse stereotypes over a ten year period. Their 12 item questionnaire consisted of “attitude statements”: four items on gender stereotyping, two items on nursing as feminine, three items on female nursing stereotypes, one item on male nursing stereotypes, one item on the influence of nurses’ uniforms on perceptions of stereotyping, and one item on gender discrimination in nursing. The first group, in 1992, consisted of 100 nursing students. The 2002 cohort consisted of 96 nursing students. The authors used a t-test analysis to compare the results. Gender stereotypes and the feminization of nursing were perceived to be less evident in 2002 than 1992; the later group was older and had more exposure to the healthcare system, however, which may have moderated negative perceptions of nursing. Both study groups perceived nurses as “indecisive”. The assumption that nurses do not “think” is consistent with the stereotype categories angel, handmaiden, and whore. The results from Jinks and Bradley’s study suggest that nursing students’ perceptions of the education and skill required for professional nursing were at odds with the education that they were themselves receiving. The reliability and validity scores from Jinks’s (1993) first researcher developed
questionnaire were not published; consequently, no other studies have been performed using the instrument.

Ferns and Chojnacka (2005) examined the sexual stereotyping of nurses in newspapers over a five-year period in the United Kingdom. The authors found 173 mentions of the “sexy nurse,””,” the “kinky nurse,””,” the “saucy nurse,” and the “naughty nurse” – bolstering the *whore* stereotype. No other healthcare profession's their professionals in this manner. When nurses received positive portrayals, words such as “caring,” “dedicated,” and “hard working” were used – in line with the *angel* stereotype. One such story focused on a nurse who rode her bicycle a long distance in the rain to visit a sick man who could not take his medication.

A cross-sectional study in Australia (Eley & Eley, 2011) compared 212 nurses’ and 214 physicians’ self-reported personality traits. Results from the validated Temperament and Character Inventory (TCI-R 140) showed statistically significant differences between the two groups’ self-reported personality traits in the areas of self-directedness (P<0.001) and cooperativeness (P<0.001). Less self-directedness in nurses lends support to the *handmaiden* stereotype, whereas less cooperativeness is suggestive of the *battleaxe* stereotype.

The female nurse stereotypes remain consistent across results from personality research to content analysis of social media. Kelly, Fealy & Watson (2013) critically analyzed ten videos posted to YouTube. From their data, three categories emerged regarding nursing’s identities that help to elucidate the persistence of nurse stereotypes in contemporary society. The nursing identities were “skilled doer”, “sexual plaything”, or “witless incompetent”. The “skilled doer” represented in videos produced by nurses; the “sexual plaything” (i.e. *whore*) and the “witless competent” (i.e. *handmaiden*) were represented by producers of entertainment content. These findings illustrate the nurse profession attempts to produce positive images of nurses as highly
educated and skilled healthcare professionals, faced with negative representations of nursing from many laypersons.

The persistence of nurse stereotypes in media of all kinds can have dramatic consequences for healthcare. Brown (2009), Summers and Summers (2014), and Fagin (2015) have argued that stereotypes devalue the work that nurses perform. The promotion of negative stereotypes results in fewer resources and less attention paid to policy issues such as nurse staffing, education, recruitment and attrition (Heillman, 2012).

**Nurse Stereotypes: Men in Nursing**

Stereotypes regarding men in nursing are much less understood, despite extensive qualitative research (Bishop, 2009; Ferguson, Wilbourn, & Salamonson, 2013; Karabacak, Usluosy, Alpar, & Bahcecik, 2012; Rajacich, Kane, Williston, & Cameron, 2013; Weaver, Ferguson, Wilbourn, & Salamonson, 2013). Burton and Misener (2008) coined four distinct male gendered nurse stereotypes: *not smart enough for medical school*, *hypermasculinized womanizer*, *effete homosexual*, and *miscreant hiding in nursing*. No quantitative research has been carried out to explore perceptions of these four male gendered nurse stereotypes.

*The Effete Homosexual*

The *effete homosexual* is the best-researched of the four male stereotypes. Consistent perception of men in nursing as homosexual is a significant barrier for recruitment, attrition, and satisfaction of men in nursing (Harding, 2007; McKinlay, Cowan, McVittie, & Ion, 2010; Meadus & Twoney, 2011; Sayman, 2009; Simpson, 2004; Stanley, 2012; Rajacich, Kane, Williston, & Cameron, 2013; Rowlinson, 2013; Weaver, Ferguson, Wilbourn, & Salamonson, 2013; Whittock & Leonard, 2003). Sex-role stereotyping, such as the *effete homosexual* stereotype, can cause increase professional strain and lessen self-esteem (Harris, 2012).
Not Smart Enough for Medical School

For men in nursing a prevailing stereotype is that they were smart enough to attend medical school and therefore settled for nursing. The 2001 film, Meet the Parents offers a common representation of this stereotype. As the title suggests, the protagonist Greg Focker (Ben Stiller) meets his fiancé’s family for the first time. Focker’s career in nursing is consistently used as a comedic prop to undermine his manhood and highlight his goofiness.

This stereotype may originate from the idea (explored above) that women are inherently predisposed for nursing work and do not require education. This hierarchical, gendered dichotomy ascribes brains to men and emotions to women. (Male) physicians as highly trained professional, while (female) nurses as empathetic, innate caregivers. Currently, no research exists around this stereotype.

The Hypermasculinized Womanizer and The Miscreant Hiding in Nursing

Even less research exists on Burton and Misenor’s (2007) remaining two stereotypes. The hypermasculinized womanizer is represented in Korngol’s 1968 out-of-print memoir The Amorous Adventures of a Very Male Nurse. The miscreant hiding in a nursing stereotype is perhaps best described in Graber’s 2013 book about Charles Cullen (“The Angel of Death”), the registered nurse who killed more than 300 patients in nine hospitals over a 16 year period.

Nursing Image and Gender

Nurse stereotypes are antecedent to nursing image (Rezai-Adaryani, Salsali, & Mohammadi, 2012). Studies examining specific nurse stereotypes are few; much more have focused on nursing image.
In a focus group of nurses (N=22) conducted by Morris-Thompson, Shepard, Plato & Marks-Marash (2012), participants described as a career of diversity, fulfillment, and privilege. A separate focus group of professionals, teachers and parents (N=20) related very different perceptions of nursing: participants professed respect for nurses but overwhelmingly would not choose the career themselves nor recommend it for their children or students. Based on their responses, the non-nurse participants were ill-informed about the realities of nursing and relied on myths, misperceptions, and stereotypes to form ideas about nursing work. These results lend further evidence that public perception of nursing’s image is incongruent with nurses’ self-image, as we saw above with Kelly, Fealy & Watson’s (2012) analysis of YouTube videos.

While it is true that those within the profession have a more positive perception of nursing’s image, Emeghebo (2012) found that senior nurses had a less positive impression than new nurses. Emeghebo conducted in-depth interviews with 13 female nurses with experience spanning six months to 21 years. The results suggested that the longer a nurse had been practicing, the more negative her perception was, due to negative factors such as stereotypes and contentious interactions with other healthcare professionals.

The gendered stereotyping of nursing has significant negative consequences for male gendered nurses. In a recent qualitative study, Harris (2012) administered an instrument containing three validated scales to 56 male gendered nurses from six different states. The results suggested that positive sex role stereotyping in the work environment correlated (R=0.65, P=0.0001) with increased role-strain and decreased self-esteem. In a qualitative descriptive study of 16 male gendered nurses, Rajacich, Kane, Williston & Cameron (2013) found the term “male nurse” to be universally disliked.
Attention to entertainment media is important for understanding the promulgation of Burton and Misener's four male gendered nurse stereotypes. In a case study analysis of feature films from 1900 to 2007, male gendered nurses were variously depicted as effeminate and/or homosexual (*effete homosexual*), homicidal and/or corrupt (*miscreant*), or incompetent (*not smart enough for medical school*). Weaver, Salamonson, Koch & Jackson (2013) found that television programs fared no better in their portrayal of male gendered nurses. The authors administered surveys regarding ethical issues and representation of nurses in six contemporary U.S. medical entertainment programs to 484 nursing students at an Australian university. Story lines related to the ethical issues around confidentiality (65%), informed consent (63%), and death and dying (61%) were rated by students as "okay." Responses to the qualitative component of the surveys, however, revealed that students felt television portrayed nurses as sycophants (e.g. "Yes, doctor!") - akin to the *handmaiden* stereotype. The students felt that television could have done better to promote nursing in a more positive and professional light. Weaver, Salamonson, Koch & Jackson (2013) also performed a content analysis of the television programs, finding that male-gendered nurses were alternatively spokespersons for a minority group or comedic foils for more major characters. Several times, the authors found, male physician characters would make jokes regarding the male gendered nurse characters' sexuality (promoting the *effete homosexual* stereotype). In a focus group and 11 phone interviews with undergraduate nursing students, Cullen (2012) found students perceived portrayals of nurses on television negatively. They reported that nurses were portrayed as sex objects/gender stereotypes (*whore/effeminate homosexual*), mindless drones or invisible (*handmaiden/not smart enough for medical school*). Students voiced their concerns over how laypeople's perception of nurses and
nurses may be influenced by television programs; much work performed by MDs on television is, in fact, nursing work.

Although male gendered nurses are subject to extensive negative stereotyping, much evidence suggests they hold a position of privilege within the profession. Through twenty-two qualitative grounded theory interviews with beginning and advanced nursing students at a Chilean university, Ayala, Holmquist, Messing & Browne (2014) uncovered paradoxical results of nursing education and its ineffectiveness in preventing gender-based inequalities. While participants reported experiencing stereotypes of male gendered nurses as gay or not masculine, the authors also found that although nursing is a female-dominated profession, it is not immune to gender-based inequalities that engender greater professional success for men. Male participants reported better treatment from authority figures and their female classmates than their female counterparts. A quantitative study using Schein's Descriptive Index (Cronbach's alpha 0.896) examined essential managerial characteristics and gender role stereotypes in nursing (Berkery, Tiernan, & Morley, 2012). The results from this study support claims made by male respondents in Ayala, Holmquist, Messing & Browne's (2014) study. From a sample of 239 undergraduate nursing students and 131 graduated students in Great Britain, female respondents did not type manager positions as either male or female (R=0.161), whereas male respondents typed managerial roles with stereotypically masculine traits (R=0.665, P<0.001). The results suggest that men may consciously or unconsciously view themselves as groom for positions of authority and leadership in nursing. Unfortunately, the statistics would support this assumption: in 2010 approximately 33% of leadership positions in nursing were held by males even though only 10% of nurses were male (Hader, 2010). In addition to this, male gendered nurses, as a whole, are paid more than female gendered nurses (US Census Bureau, 2013).
Recruitment into Nursing

Why do so few students choose to study nursing? Stereotypes may be largely to blame. Karabacek, et al. (2012) found that, of the students in their study who did choose nursing, the desire to be helpful (*handmaiden*) was a predominant reason. For many male participants, their families pushed them toward nursing due to low academic achievement (*not smart enough for medical school*). Nielson and Jones (2012) looked at what predictors lead high school students in Scotland to choose a nursing career. Of the 702 students who identified a career choice on the quantitative survey, 71.2% would never consider nursing while 28.3% would consider nursing as a career. The identified predictors for choosing nursing were female, having a positive attitude, and below average grades, whereas parental views and guidance counselor choices were not predictive. Thus, we see again that nursing's image is not positive in the minds of students within and without nursing. The same goes for recent graduates, like Price, McGillis, Angus and Peter (2012) found in a qualitative study of 12 recently graduated Canadian nursing students. The students struggled to fit in the healthcare hierarchy and had come to see their choice of a career in nursing as settling for a where they "belonged." Misinformation about nursing may also be a contributor to career choice. In a cross-sectional quantitative study, 89.2% did not know of nursing opportunities, but 88.2% did understand the scope of nursing’s practice. For 71% of the students, personal experience or relatives provided the perception of nursing as a career choice, though 47.2% of those students expressed a lack of interest. The 17.5% who wanted no contact with ill people or the 14.2% who feared exposure to human and biological materials would not be good students for a nursing program. Interestingly, 8.8% of the students did not think nursing was worthwhile at all (Price, McGillis, Angus, & Peter, 2012). Qualitative data would have enriched the descriptive data in this study for better understanding of the responses. Regardless,
the image of nursing could be enhanced to improve recruitment into nursing or nursing as a career choice.

**Stereotype Content Model**

Social perception and stereotyping are deeply rooted neurobiological processes. In an experiment by Quadflieg, et al. (2011), participants' neural activity was shown to increase when presented with men or women portrayed in unexpected occupations (e.g., female airline pilots or male nurses). Bean, et al. (2013), through a sequential priming experiment, found nursing and medical students exhibited nonconscious activation of noncompliance and health risk stereotypes about Hispanic patients compared with White patients.

The Stereotype Content Model (SCM) postulates that all individuals and social groups are perceived through the lens of two dimensions: warmth and competence (Fiske, Cuddy, Glick, & Xu, 2002). According to Cuddy, Kohut, & Neffinger (2013), 90% of the variance in social perceptions and interactions is related to stereotypes. The SCM can be used to predict behavior responses such as passivity, facility, or harmfulness. In the above examples, Quadflieg, et al.'s (2011) findings related to the perceived competence of, say, women to be airline pilots; whereas, Bean, et al.'s (2013) findings related to the perceived warmth of Hispanic patients compared with White patients. Perceived warmth is rooted in trustworthiness related to competition for resources; while perceived competence is related to higher status and possession of resources. Most often, the perception of the two dimensions is mixed or ambivalent - a combination of high/low or low/high perceived competence/warmth (Cuddy, Fiske, & Glick, 2008).

Chattalas, Kramer, and Takada (2008) developed a comprehensive model for the effects of stereotypes on consumer evaluations of a service or produced offered by a particular social or professional group. The authors suggested that such a group's perceived warmth mediates higher
evaluations of high-customer contact services (such as nursing), whereas perceived competence mediates higher evaluations of low-customer contact services (such as journalism). Crucial for nursing, they proposed that higher consumer familiarity with a group lowers the relative effects of stereotypes on service evaluation.

In an experimental study, Chattalas and Takada (2013) demonstrated that higher perceived warmth mediated consumer expectations of hedonic (i.e. more emotional) service expectations; higher perceived competence mediated consumer expectations of utilitarian (i.e. more rational) service providers. Ideally, service providers such as nurses should project the expectation that their service provides both hedonic and utilitarian attributes (predicted by warmth and competence).

In a related study of nursing, Brown, Nolan & Davies (2008) did not use the SCM in their research on student focus and attention during clinical placements; they used, instead, the terms caring (analogous to warmth) and competence. The authors conducted a total of 57 focus groups over three years, their finding revealed that the students' focus of attention and effort changed over time. The extent to which students were able to achieve and maintain focus was dependent on input from their mentor and their environments of care.

Sollami, Caricati & Mancini (2015) used the SCM in online surveys sent to 205 nursing students and 151 medical students in Italy. Both groups of respondents believed nurses were warmer but less competent than physicians. Nurses were perceived as more "communal" while physicians were seen as more "autonomous" and less socially competent. These ambivalent perceptions influenced the participants' attitudes around interprofessional educational collaboration.
Summary

This chapter reviewed the literature related to perceptions of nurse stereotypes. Based on a review of contemporary literature, several knowledge gaps become apparent. The lack of studies that examine nurse stereotypes is concerning, particularly in the context of our nursing shortage. As noted, the existence of nurse stereotypes affects recruitment, interprofessional collaboration, self-image, and self-esteem. Stereotypes have also been shown to be related to insufficient staffing levels that, in turn, negatively affect the quality of patient care.

The most recent quantitative study into nurse stereotypes was conducted over a decade ago (Jinks and Bradley 2004). It is necessary to continue from where this important research left off. The SCM provides a relevant and rigorous framework to study the perceptions of nurse stereotypes in undergraduate students.
Chapter 3. Methodology

Methodology

The present descriptive comparative study design examines non-nursing undergraduate students’ perceptions of nurse stereotypes. This chapter describes the methodology for this study including population, sampling procedure, instrument and images, and data analysis plan.

Population and Sampling

A convenience sample of 318 non-nursing undergraduate students of a large metropolitan public university were selected to participate in the study. To determine the suitable number of potential participants an a priori G-Power 3.1 calculation using an alpha probability of 0.1, a power of 0.095, and a medium effect size of 0.5 were used. Permission was sought from course faculty to present the study to students and ask them to fill out the survey instrument at the end of class. The sample represents a variety of classes from the Arts and Humanities, Education, Health Sciences, and Natural and Social Sciences departments. Participants were not actively studying nursing, nor had they taken any specific nursing classes.

Participation was voluntary, and students who chose not to participate did not bear any penalty or loss of benefits. Those who did choose to participate received an envelope containing the invitation letter (see Appendix III), the consent to participate (see Appendix IV), and the survey instrument (see Appendix V); after reviewing each component, signing the consent, and completing the survey, participants returned all materials to the envelope and returned the envelope to a box near the classroom door. A research assistant removed the signed consent forms from the completed surveys, which did not otherwise contain identifiers of the subject, thereby ensuring anonymity.
Instrument

The study used an original instrument developed by the author, adapted from several sources (see Appendix II). The survey begins with the eight nurse stereotype images (see Appendix I), coupled with three questions. For each stereotype, participants are asked to rate, on a Likert scale of 1 Low - 7 High, how representative the image is of actual nurses. The participant is requested to rate, again on a Likert scale of 1 Low – 7 High, whether the image portrays warmth and competence. The warmth and competence items for these images may be compared with the warmth and competence measurements of question one, described below.

The reader will recall from Chapter 2 that perception of warmth is associated with trustworthiness or lack of competition for resources, and perception of competence is associated with status such as a high level of education or economic resources. The two dimensions are often (but not always) mixed or ambivalent - meaning individuals or groups are perceived highly in one dimension and low in the other. Specific emotional responses toward an individual or group can be correlated by their perceived combination of competence/warmth (Cuddy, Fiske, & Glick, 2008). For example, high warmth and low competence elicits envy, high warmth and high competence elicits admiration (Chattalas and Takada, 2013; Eckes, 2002; Fiske, 2012). According to the SCM, specific emotional responses may lead to predictably active or passive helping or harming behaviors.

Following the eight images, question #1 of the survey is derived from the Stereotype Content Model Instrument (SCMI), which measures perceptions of stereotypes using the dimensions of warmth and competence. The SCMI contains Likert scales ranging from 1-Low to 7-High to measure warmth and competence (Fiske, Cuddy, Glick, & Xu, 2002). It consists of twelve alternating items – six pertaining competence, six to warmth. The six competence items
are “competent”, “confident”, “capable”, “efficient”, “intelligent”, and “skillful”. The six warmth items are “good-natured”, “well-intentioned”, “warm”, “trustworthy”, “sincere”, and “friendly” (see Appendix V). By combining each of the two interval scales, warmth and competence receive a score ranging from 6 to 42.

The SCMI has been evaluated for internal consistency and test-retest validity. For internal consistency, the Cronbach’s alpha coefficient has been reported as .86 (Fiske, Cuddy, Glick, & Xu, 2002). Bergsieker, Lesli, Constantine & Fiske (2012) demonstrated that dimensions of warmth and competence remain stable in testing over time. Cuddy, Kohut, and Nettinger (2013) have shown that 90% of the variance in social interactions is linked to stereotypes. This predictability supports the reliability of the SCMI in measuring stereotype constructs. Cuddy, Fiske, Kwan, et al. (2009) demonstrated that the various dimensions of warmth and competence as correlated to different stereotype constructs. Kervyn, Fiske, & Yazerbyt (2015), compared social constructs of status and competition, showing that warmth was inversely correlated with competition ($r=0.77$, $p=0.05$), and competence was highly correlated with status ($r=0.80$, $p=0.05$). These convergences further support the validity of the SCMI.

Questions #2 and #3 identify a participant’s exposure or non-exposure to nursing. Exposure or non-exposure to nursing is an antecedent to the nursing image (Rezai-Adaryani, Salsali, & Mohammadi, 2012), which important, in turn, for understanding the perception of stereotypes. If a participant, or her/his loved one(s), has/have received care from a nurse s/he would be considered as having exposure to nursing. Conversely, those without in-person, professional contact with nursing are qualified as having non-exposure.

Questions #4, #5, #6, and #7 cover familiarity with the history of nursing, perception of media portrayal of nurses and nursing, perception of the importance of nursing’s role in
healthcare reform, and perception of the importance of nursing’s contribution to the nation’s health, respectively. Each of these is antecedents of nursing’s image (Rezai-Adaryani, Salsali, & Mohammadi, 2012).

Finally, question #8 is an open-ended question, giving the participant space to write if s/he disagreed with any or all of the nurse stereotype images s/he saw at the beginning of the survey. This commentary provided a check for the face validity.

**Designing the Stereotype Images**

A graphic artist was commissioned for this study to illustrate the eight images based on the four female (angel, handmaiden, battleaxe, whore) and the four male (not smart enough for medical school, effete homosexual, hypermasculinized womanizer, miscreant) nurse stereotype labels. As we saw in Chapter 2, the female nurse stereotypes were first described by Muff (1982) and more recently by Darbyshire and Gordon (2005) and Ferns and Chojnacka (2005). Burton and Misener (2007) described the male nurse stereotypes, supported by qualitative research from Bishop (2009); Ferguson, Wilbourn & Salamonson (2013); Karabacak, Usluosy, Alpar & Bahcecik (2012); Rajacich, Kane, Williston & Cameron (2013); Weaver, Ferguson, Wilbourn & Salamonson, 2013).

Ten experts in the field of nursing, healthcare, social psychology, and stereotypes reviewed the images for face validity. They were asked to identify to what degree (0 = none to 10 = extremely) each of the eight images was representative of the nurse stereotypes (see Appendix VIa). Each expert provided written, open-ended feedback for the images. An Item Content Validity Index (I-CVI) score was calculated to ensure that each image scored higher than the 0.8 threshold for validity. Five experts responded, which according to Polit & Beck (2006) was a sufficient number to determine content validity. Only the battleaxe image passed the
threshold with an I-CVI score of 0.92. See Appendix V for the tool used for face validity
determination of the original eight nurse stereotype images.

Using the experts’ qualitative feedback (see Appendix VIb) and the author’s guidance,
the images were redrawn by the graphic artist. It was also determined that one female nurse
stereotype and one male nurse stereotype be depicted as a person of color. Although the variables
of race and ethnicity are not the focus of this study, to make the images representative of the
nursing workforce (which is 80% Caucasian [USDHHS, 2010]), 25% of the images should be
non-white. The female angel and the male hypermasculinized womanizer were randomly chosen
to be a person of color.

The revised illustrations were then reviewed by a convenience sample of ten female and
ten male registered nurses (RNs). The female RNs’ results validated all eight stereotype images,
with mean scores ranging from 8.3 to 9.8 (Polit & Beck, 2006). The male RNs’ mean scores
agreed with four of the eight nurse stereotypes (angel = 8.9, battleaxe = 9.5, whore = 9.8,
miscreant = 8.7); however, their scores did not meet the threshold for validity (Polit & Beck,
2006) for the other four (handmaiden = 7.6, not smart enough for medical school = 6.6,
hypermasculinized womanizer = 6.3, effete homosexual = 6.4). In the aggregate, seven of the
eight images passed the threshold, with combined I-CVI scores averaging greater than 0.8. Only
the effete homosexual, with a score of 0.75, did not meet the threshold for validity.

Using the experts’ written feedback once again, the author had the graphic illustrator
revise the four male images a second time. The four revised images were then viewed by a
different convenience sample of 11 male RNs, and all four male nurse stereotypes passed the
threshold for validity with a mean I-CVI score of 0.86.
Data Collection

Following Institutional Review Board approval, the researcher contacted the individual schools and departments at the large metropolitan public university to obtain a class schedule for one semester and faculty contact information. The researcher received permission to attend some classes to solicit participation in the study from non-nursing students. The study was briefly described to the class and the researcher asked for volunteers to participate. Those who agreed were given a survey packet in an envelope that included the participation letter (see Appendix III), the consent form (see Appendix IV), the eight nurse stereotype images each on a separate page (see Appendix I) followed by the eight survey questions (see Appendix V). Participants were asked to return the completed surveys in the envelope to the researcher waiting either outside or in front of the class. A research assistant removed the consent forms from the surveys, which otherwise did not contain any identifying information, thus protecting the participants’ anonymity. Confidentiality was further ensured by keeping the surveys and signed consent forms in separate folders in a locked drawer in the researcher’s office. The data once entered in SPSS, was coded and password protected in a secure university computer drive.

Data Analysis

Univariate analyses were performed to describe the socio-demographic characteristics of the sample of non-nursing students. Nominal variables were described by frequencies and percentages; Likert-scaled and summary variables were described by measures of central tendency and dispersion.

Question 1, which sought to place nurse stereotypes in the context of the SCM model, was investigated by comparing perceptions of warmth and competence for each of the 8 stereotype images. Mean differences between warmth and competence were evaluated by a two-
sample t-test. As the Likert-scaled perceptions variables were judged to be non-normal, the signed-rank test, a non-parametric alternative, was generated as a robustness check. Question 2, which evaluated gender differences in assessments of warmth and competence, was approached by applying the equivalent statistical tests within the sex-specific subsamples. To determine whether gender differences in stereotype ratings were statistically significant, warmth-competence differences were regressed on sex in a bivariate regression model, and a t-statistic was generated.

Additional analyses examined the association between aggregate SCMI measures and moderator variables. Summary measures of warmth and competence (range: 6 - 42) were created by separately summing Likert-scaled (1-7) responses to the six SCMI warmth and competence items. These variables were then separately tested for bivariate association with the following five variables: participant exposed to nurse in the last 5 years; participant or family/friend exposed to nurse in the last 5 years; familiarity with media depiction of nurses; familiar with history of nursing; importance of nursing in healthcare reform; importance of nursing to the nation’s health. The bivariate models were fitted with linear regression techniques, and statistical associations were evaluated with t-tests. Robustness checks were performed by fitting ordinal logistic regression models, once again because distribution of summary variables (i.e., warmth, competence) was non-normal. Cronbach’s Alpha Coefficient was generated to assess the internal consistency of the summary variables. Normality of outcome variables was determined by graphical methods and the Kolmogorov-Smirnov test. Data analyses were performed using the Statistical Program for the Social Sciences (SPSS) version 21 and SAS version 9.4.
Ethics

Approval for this study was obtained from the Institutional Review Board of Lehman College, City University of New York. Study participants were informed that their anonymity would be protected throughout the study. Confidentiality was ensured by keeping all paper and pencil data in a locked drawer and all digital data password-protected.

Summary

This chapter presented a description of the design of the study, the population and sample, the instrument, and the data analysis to test the two research questions. The chapter completed by explaining the methods to gather and analyze the information along with the ethical components of the study.
Chapter Four

Results and Findings

This chapter summarizes the collected data and the statistical treatment analysis. The study’s intent was to explore two research questions. The first question sought to examine the perceptions of nurse stereotypes in 318 non-nursing undergraduate students by placing their perceptions within the framework of the Stereotype Content Model which consists of two dimensions, warmth and competence. The second question sought to describe the effect of gender on their perceptions, both the gender of the nurse stereotype and the gender of the participant. Additional data collected on the three moderating variables of exposure, familiarity, and importance are also presented.

Power and Descriptive Statistics

To obtain the desired power of 0.80 or greater, an a priori G-Power 3.1 calculation was determined based on an alpha probability of .01, a power of .095, and a medium effect size of 0.5. This calculation identified 302 participants was the minimum number required for this study. The sample of 318 non-nursing undergraduate students culled from a large metropolitan public university in the northeastern United States was sufficient power for this study. Descriptive statistics from the completed surveys of the 318 participants follow. Fifty-seven percent identified as female, 40% as male, 1% identified as transgender, and the remaining 2% were missing gender identification. The majority of the sample (63%) fell between the ages of 18 and 29, with just less than a quarter (22%) between 30 and 39, and the remainder aged 40 or older (15%) or the age identification was missing (2%). Table 4.1 summarizes the gender and age groups for this study sample.
Table 4.1

Gender and Age of Non-nursing Undergraduate Students (n = 318)

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>182 (57)</td>
</tr>
<tr>
<td>Male</td>
<td>128 (40)</td>
</tr>
<tr>
<td>Transgender</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Missing</td>
<td>6 (2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>200 (63)</td>
</tr>
<tr>
<td>30-39</td>
<td>69 (22)</td>
</tr>
<tr>
<td>40+</td>
<td>42 (13)</td>
</tr>
<tr>
<td>Missing</td>
<td>7 (2)</td>
</tr>
</tbody>
</table>

Demographic identification for race/ethnicity consisted of the majority being African Americans and Hispanics each representing 30% of the sample’s participants, followed by Asians (11%), Caucasians (10%), other races (10%) and missing (3%). This dispersion was representative of the overall population of urban public university students which is typically an urban mix, and like this sample, one in three commonly being Hispanic. Table 4.2 shows the groupings for race and ethnicity.
Table 4.2

Race and Ethnicity of Non-nursing Undergraduate Students (n = 318)

<table>
<thead>
<tr>
<th>Race</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>African American</strong></td>
<td>96 (30)</td>
</tr>
<tr>
<td><strong>Hispanic</strong></td>
<td>94 (30)</td>
</tr>
<tr>
<td><strong>Asian</strong></td>
<td>52 (16)</td>
</tr>
<tr>
<td><strong>Caucasian</strong></td>
<td>36 (11)</td>
</tr>
<tr>
<td><strong>Other racial identification</strong></td>
<td>31 (10)</td>
</tr>
<tr>
<td><strong>Missing</strong></td>
<td>9 (3)</td>
</tr>
</tbody>
</table>

The dominant major fields of study were Health Sciences (34%) and Business (18%); less prevalent were Human and Natural Sciences (13%), Social Sciences (10%), and Languages, Arts/Humanities, and Education (8%). Thirteen percent of participants had not declared a major at time of study participation. Three percent were missing identification of area of study. Two thirds of the sample identified their year of study as upper level (39% junior, 28% senior) while 30% identified as lower level with 11% identified as freshmen, and 19% identified as sophomores. Other categories and missing identification accounted for 3% of the total sample. Table 4.3 shows the groupings for degree pursuit and year of study.
Table 4.3

Degree Pursuit and Year of Study in 318 Non-nursing Undergraduate Students

<table>
<thead>
<tr>
<th>College Major</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Sciences</td>
<td>109 (34)</td>
</tr>
<tr>
<td>Business</td>
<td>58 (18)</td>
</tr>
<tr>
<td>Human and Natural Sciences</td>
<td>42 (13)</td>
</tr>
<tr>
<td>Undeclared</td>
<td>40 (13)</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>33 (10)</td>
</tr>
<tr>
<td>Missing</td>
<td>10 (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior</td>
<td>123 (39)</td>
</tr>
<tr>
<td>Senior</td>
<td>88 (28)</td>
</tr>
<tr>
<td>Sophomore</td>
<td>60 (19)</td>
</tr>
<tr>
<td>Freshman</td>
<td>34 (11)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (2)</td>
</tr>
<tr>
<td>Missing</td>
<td>6 (2)</td>
</tr>
</tbody>
</table>

More than half of the sample identified having had an exposure to a nurse within the past five
years; 52% of participants had been taken care of by a nurse in the past five years, and 62% of participants had a friend or family member taken care of by a nurse within the past five years. This double exposure by more than half the sample supported further exploration of this variable as a potential moderator. Besides exposure, the two other variables familiarity and importance are also presented in Table 4.4. Unlike exposure which was measured in a binary fashion, familiarity and importance were measured by asking for a rating on Likert-scales, and the means scores are presented.

The sample’s mean score for the moderating variable familiarity in context of the media depiction was 4.49 on a 1-7 Likert-scale. Despite a lack of specific description as to type of media, e.g. television, novels, advertisements, pornography, etc., the mean score was above the median of four indicating more than half the sample had an awareness of some media’s portrayal of nurses. In contrast, the sample’s mean score of 2.29 for familiarity was far below the median score of four.

Also using 1-7 Likert-scale ratings, the participants rated the importance of nursing in two contexts, healthcare reform and the nation’s health. For healthcare reform, the sample’s mean score of 5.38 was well above the median of four. In regard to the nation’s health, the sample’s mean score of 5.45 was also above the median of four. Furthermore, the sample’s mean score of 5.45 regarding importance to the nation’s health was the highest of the four Likert-scale moderating variables items.
Table 4.4

Moderator Variables: Exposure, Familiarity, and Importance

<table>
<thead>
<tr>
<th>Moderator Variables</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant exposed to nurse in last 5 years</td>
<td>165 (52)</td>
</tr>
<tr>
<td>Participant’s family/friend exposed to nurse in last 5 years</td>
<td>196 (62)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moderator Variables</th>
<th>Mean (S.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Familiar with media depiction of nurses (1-7)</td>
<td>4.49 (1.43)</td>
</tr>
<tr>
<td>Familiar with history of nursing (1-7)</td>
<td>2.59 (1.80)</td>
</tr>
<tr>
<td>Importance of nursing in healthcare reform (1-7)</td>
<td>5.38 (1.59)</td>
</tr>
<tr>
<td>Importance of nursing to nation’s health (1-7)</td>
<td>5.45 (1.54)</td>
</tr>
</tbody>
</table>

Participants’ Perceptions of Warmth and Competence in Nurses

The 12 items from the Stereotype Content Model (SCM) were used for Question #1 on the instrument, and participants were asked to rate nurses in general on each of the characteristics on 1-7 Likert-scale ranging from not much to a lot. Derived from social cognitive theory’s concept of stereotypes, the SCM instrument measures the two dimensions of stereotyping which are warmth and competence, traits all individuals and groups are assumed to possess though to various levels ranging from low to high (Fiske, Cuddy, Glick & Xu, 2002). Regarding internal consistency, Fiske, Cuddy, Glick and Xu (2002) reported the SCM instrument’s Cronbach alpha coefficient as .86. In testing over time, the dimensions of warmth and competence remain stable (Bergsieker, Leslie, Constantine & Fiske, 2012). Additionally, 90% of the variance in social perceptions and interactions is directly linked to stereotypes (Abel & Wojciske, 2007; Cuddy, Fiske & Glick, 2008; Cuddy, Kohut & Neffinger, 2013). Such predictability is an indication of
the SCM’s reliability in measuring the construct of stereotypes. Furthermore, in comparison with two other social psychological constructs, status and competition, warmth was highly inversely correlated with competition (-.77, p = .05), and competence was highly correlated with status (.80, p = .05) (Kervyn, Fiske, & Yazerbyt, 2013).

Table 4.5 presents the mean scores for participants’ perceptions of nurses in general for each of the six warmth traits and each of the six competence traits. Mean scores for all 12 of the SCM’s items were above the median score of four indicating this sample had a positive perception of nurses in general. As a whole and when separated by gender, the female and male participants rated trustworthy as the highest trait. The sample’s mean score for friendly was the lowest within the warmth dimension; however, male participants rated warm as the overall lowest with friendly as the second lowest. Within the six items for the dimension of warmth, no statistically significantly differences were seen between the two genders.

For the dimension of competence, again the participants’ mean scores for each of the six traits were above the median of four on the 1-7 Likert-scale. The mean scores for the six competence traits were generally higher than the six items comprising the warmth dimension. The mean scores for each of the six traits in both dimensions were in the high range suggesting that the participants in the study sample perceived nurses in general having greater competence than warmth. This result can be seen better with the overall mean score for each dimension; for the sample in this study, the mean score for warmth was 5.28 versus the higher mean score for competence of 5.82. The two traits capable (mean female = 5.98, mean male = 5.72) and efficient (mean female = 5.87, mean male = 5.58) were statistically significantly different (p < .07, p < .05); thus, each gender saw these two traits of competence as different with the females scoring each higher than males did.
Table 4.5
Perceptions of Nurses’ Warmth and Competence by Individual Trait

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>Full Sample (n=318)</th>
<th>Females (n=182)</th>
<th>Males (n=128)</th>
<th>t-statistic (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth</td>
<td>Mean (S.D)</td>
<td>Mean (S.D)</td>
<td>Mean (S.D)</td>
<td>(p-value)</td>
</tr>
<tr>
<td>Trustworthy</td>
<td>5.82 (1.30)</td>
<td>5.86 (1.30)</td>
<td>5.80 (1.32)</td>
<td>0.45 (N.S)</td>
</tr>
<tr>
<td>Well-Intentioned</td>
<td>5.59 (1.21)</td>
<td>5.68 (1.14)</td>
<td>5.45 (1.32)</td>
<td>1.50 (N.S)</td>
</tr>
<tr>
<td>Good-Natured</td>
<td>5.32 (1.20)</td>
<td>5.36 (1.13)</td>
<td>5.25 (1.27)</td>
<td>0.87 (N.S)</td>
</tr>
<tr>
<td>Sincere</td>
<td>5.12 (1.35)</td>
<td>5.19 (1.24)</td>
<td>4.99 (1.50)</td>
<td>1.30 (N.S)</td>
</tr>
<tr>
<td>Warm</td>
<td>4.94 (1.39)</td>
<td>5.08 (1.37)</td>
<td>4.73 (1.40)</td>
<td>2.17 (N.S)</td>
</tr>
<tr>
<td>Friendly</td>
<td>4.90 (1.68)</td>
<td>4.99 (1.62)</td>
<td>4.80 (1.76)</td>
<td>0.87 (N.S)</td>
</tr>
<tr>
<td>Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intelligent</td>
<td>5.96 (1.25)</td>
<td>6.01 (1.18)</td>
<td>5.85 (1.36)</td>
<td>1.10 (N.S)</td>
</tr>
<tr>
<td>Capable</td>
<td>5.88 (1.11)</td>
<td>5.98 (1.00)</td>
<td>5.72 (1.24)</td>
<td>1.84 (p&lt;0.07)*</td>
</tr>
<tr>
<td>Competent</td>
<td>5.83 (1.19)</td>
<td>5.80 (1.19)</td>
<td>5.85 (1.22)</td>
<td>-0.38 (N.S)</td>
</tr>
<tr>
<td>Confident</td>
<td>5.78 (1.12)</td>
<td>5.82 (1.05)</td>
<td>5.70 (1.21)</td>
<td>0.83 (N.S)</td>
</tr>
<tr>
<td>Skillful</td>
<td>5.76 (1.21)</td>
<td>5.87 (1.08)</td>
<td>5.58 (1.38)</td>
<td>1.97 (p&lt;0.05)*</td>
</tr>
</tbody>
</table>

S.D = standard deviation; N.S = not significant; * = statistically significant

Overall, the perceptions of this sample of non-nursing students placed nurses in general in the high warmth and high competence quartile of the SCM, with competence definitively higher.
Research Question #1: Differences in Warmth and Competence by Nurse Stereotype

Each of the participants in this study completed the same instrument consisting of the same eight nurse stereotypes with each image on its own page consistently in the same order. The gender of the nurse stereotypes started first with a female then a male and alternated female and male for all eight images. On each page the participants were asked to rate on a Likert scale from 1-7 their disagreement/agreement that the image was representative of nurses. Consistent with the framework of the Stereotype Content Model (SCM), each participant was asked to rate their degree of agreement or disagreement for each of the nurse stereotype’s dimensions, first warmth and then competence. The SCM purports all social interactions consist of a combination of both perceived warmth and perceived competence, so the entire sample’s means for both dimensions appear in Table 4.6. The order of the nurse stereotypes in the first column of the table follows the order in the instrument which is the order the participants viewed each of the eight nurse stereotypes. Graphical representation of these mean scores with the nurse stereotypes’ positions on the SCM map are in Figure 4.1 in the next section of this chapter.

The second and third columns indicate the relative positions of warmth and competence for each given stereotype within the SCM. A cut point of 4.0 was used as the midpoint from the 1-7 Likert scale scores. The t-statistic in column four of the table shows the sample’s mean perceived warmth and mean perceived competence; these two dimensions were statistically significantly different for each of the given nurse stereotypes except the whore.

This sample consisting of 318 non-nursing undergraduate students rated the angel nurse stereotype highest in both warmth (mean = 5.60) and competence (mean = 5.13). Perceived warmth was statistically significantly higher than perceived competence for the angel nurse stereotype (t = 6.27; p<.001). In addition to the sample’s perception that the angel nurse
stereotype had greater perceived warmth than perceived competence, these two dimensions were perceived as statistically significantly different (p < .001).

Table 4.6

<table>
<thead>
<tr>
<th>Stereotype</th>
<th>Warmth mean (S.D.)</th>
<th>Competence mean (S.D.)</th>
<th>Difference (S.D.)</th>
<th>t-statistic (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Angel</em></td>
<td>5.60 (1.29)</td>
<td>5.13 (1.49)</td>
<td>0.47 (1.32)</td>
<td>6.27 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Not smart enough for medical school</em></td>
<td>3.31 (1.92)</td>
<td>3.66 (1.88)</td>
<td>-0.34 (1.20)</td>
<td>-5.08 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Handmaiden</em></td>
<td>4.31 (1.83)</td>
<td>4.56 (1.91)</td>
<td>-0.25 (1.23)</td>
<td>-3.65 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Hypermasculinized Womanizer</em></td>
<td>4.43 (1.86)</td>
<td>4.74 (1.82)</td>
<td>-0.31 (1.09)</td>
<td>-5.11 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Battleaxe</em></td>
<td>2.92 (2.02)</td>
<td>4.05 (1.98)</td>
<td>-1.13 (1.70)</td>
<td>-11.86 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Effete Homosexual</em></td>
<td>3.24 (1.89)</td>
<td>3.34 (1.94)</td>
<td>-0.10 (0.82)</td>
<td>-2.20 (p&lt;0.05)*</td>
</tr>
<tr>
<td><em>Whore</em></td>
<td>1.93 (1.69)</td>
<td>1.83 (1.55)</td>
<td>0.10 (1.15)</td>
<td>1.61 (p=.11)</td>
</tr>
<tr>
<td><em>Miscreant</em></td>
<td>1.52 (1.18)</td>
<td>1.82 (1.52)</td>
<td>-0.30 (1.02)</td>
<td>-4.99 (p&lt;0.001)*</td>
</tr>
</tbody>
</table>

S.D. = standard deviation; * = statistical significance
Wilcoxon signed rank test results (not shown) consistent with t-test results

Conversely, after the *angel* the next two stereotypes in the high warmth and high
competence quartile of the SCM were the *hypermasculinized womanizer* and *handmaiden* stereotypes, but both rated higher in perceived competence than perceived warmth, in contrast to the *angel* who was higher in warmth than competence. Statistically significant differences existed between the dimensions of warmth and competence for both the *hypermasculinized womanizer* \((t = -5.11; p < 0.001)\) and *handmaiden* \((t = -3.65, p < .001)\), just like the *angel* \((t = 6.27; p < .001)\). However, the *handmaiden* and *hypermasculinized womanizer* both had mean perceived competence scores that were statistically significantly higher than mean perceived warmth \((p\text{-values } < .001)\).

The other three male gendered nurse stereotypes in this study were *not smart enough for medical school*, *effete homosexual*, and *miscreant*. All three had mean scores for both dimensions placing them in the low warmth and low competence quartile of the SCM map. However, each of these three male gendered nurse stereotypes had mean perceived competence scores higher than mean perceived warmth. As with the other nurse stereotypes described previously, statistically significantly differences existed between mean perceived warmth and mean perceived competence \((p\text{-values } < .05)\).

Of the eight, the *battleaxe* nurse stereotype was the only one to cross the high-low boundary of the SCM placing her in the high competence and low warmth quartile of the SCM perceptual map. More specifically, the study participants rated the *battleaxe* higher in competence \((\text{mean } = 4.05, \text{S.D. } = 1.98)\) and lower in warmth \((\text{mean } = 2.92, \text{S.D. } = 2.02)\), also with a statistically significant difference existing between the two dimensions \((p < .001)\).

Notably, the *whore* was the only nurse stereotype for which the difference between mean perceived warmth and mean perceived competence was not statistically significant \((p > .05)\). For the *whore*, participants’ ratings for both warmth and competence were low, but the difference
between the mean scores was small (S.D. 1.0, 1.15) and not statistically significant (p=.11). This lack of a statistically significant difference between the dimensions of warmth and competence in the *whore*, unlike the other seven nurse stereotypes in this study, was an intriguing result which will be discussed further in Chapter 5.

**Nurse Stereotypes’ Placement within the Stereotype Content Model**

Figure 4.1 provides a graphical representation of the participants’ ratings of the nurse stereotypes’ warmth and competence from Table 4.5. The SCM proved quite robust in differentiating the perceived warmth and perceived competence across all eight images, as no image fell on overlapping positions with any other. Warmth values are depicted on the horizontal axis, and competence values are depicted on the vertical axis. The location of each nurse stereotype image indicates the absolute position of its mean pair (high or low warmth, high or low competence) as described in the second and third columns of the table. Also observable in Figure 4.1 is the relative relationship of the stereotypes in terms of high to low warmth and high to low competence. The relative differences between stereotypes were not evaluated for statistical difference.

**Figure 4.1**

Perceptual Map of Nurse Stereotypes’ Warmth and Competence
Research Question #2: Differences in Perceptions of Nurse Stereotypes by Gender

Male Participants

Table 4.6 provides results of tests of the differences in warmth and competence among the eight nurse stereotypes from the 128 male participants (40%); the nurse stereotypes were ranked from highest in warmth on down. The *angel*, *hypermasculinized womanizer*, and *handmaiden* nurse stereotypes had mean scores in both warmth and competence above the cut point of 4 thus placing these three in the high warmth high competence quartile of the SCM map. Like the mean scores for the entire sample, the male participants’ mean scores placed *angel* highest in both warmth and competence with mean warmth higher than mean competence and statistically significant differences between the two dimensions (p < .001). Also, like the entire sample, the male participants’ second and third highest mean scores were the nurse stereotypes *hypermasculinized womanizer* and *handmaiden*. However, different from the *angel*, mean competence was higher than mean warmth in both stereotypes, again with statistically significant different mean scores between warmth and competence (p < .001). For the males in this sample, perceptions of these three nurse stereotypes in the high warmth and high competence quartile of the SCM map were highly similar to the overall sample.

Like the mean scores for the entire sample, the male participants placed *effete homosexual*, *whore*, and *miscreant* in the low warmth low competence quartile of the SCM map. The *whore* and *miscreant* had statistically significant differences between warmth and competence (p = <.05, p = <.01), while the *effete homosexual* did not (p = 0.09). Like the scores for the entire sample suggested the *whore* was unidimensional, isolated from the females in the sample, the males’ scores lacking difference between the dimensions suggested the *effete homosexual* was perceived as unidimensional.
### Table 4.7

**Differences in Warmth and Competence by Nurse Stereotype: Males (n = 128)**

<table>
<thead>
<tr>
<th>Stereotype</th>
<th>Warmth mean (S.D.)</th>
<th>Competence mean (S.D.)</th>
<th>Difference (S.D.)</th>
<th>t-statistic (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td>5.56 (1.28)</td>
<td>5.14 (1.41)</td>
<td>0.42 (1.23)</td>
<td>3.87 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Hypermasculinized Womanizer</em></td>
<td>4.71 (1.85)</td>
<td>5.11 (1.72)</td>
<td>-0.40 (1.11)</td>
<td>-4.06 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Handmaiden</em></td>
<td>4.05 (1.87)</td>
<td>4.42 (1.91)</td>
<td>-0.38 (1.06)</td>
<td>-3.98 (p=0.001)*</td>
</tr>
<tr>
<td><em>Not smart enough for medical school</em></td>
<td>3.78 (1.97)</td>
<td>4.19 (1.80)</td>
<td>-0.41 (1.35)</td>
<td>-3.41 (p&lt;.001)*</td>
</tr>
<tr>
<td>Battleaxe</td>
<td>3.28 (2.06)</td>
<td>4.38 (1.79)</td>
<td>-1.09 (1.75)</td>
<td>-7.07 (p&lt;0.001)*</td>
</tr>
<tr>
<td><em>Effete Homosexual</em></td>
<td>3.12 (1.88)</td>
<td>3.24 (1.91)</td>
<td>-0.13 (0.84)</td>
<td>-1.68 (p=0.09)</td>
</tr>
<tr>
<td>Whore</td>
<td>2.39 (2.05)</td>
<td>2.11 (1.80)</td>
<td>0.28 (1.32)</td>
<td>2.42 (p&lt;.05)*</td>
</tr>
<tr>
<td><em>Miscreant</em></td>
<td>1.62 (1.29)</td>
<td>1.94 (1.58)</td>
<td>-0.32 (1.27)</td>
<td>-2.85 (p&lt;.01)*</td>
</tr>
</tbody>
</table>

Wilcoxon signed rank test results (not shown) consistent with t-test results. S.D. = standard deviation * = statistical significance

Another difference in the males’ mean scores from the entire samples’ was with the two stereotypes *not smart enough for medical school* and *battleaxe*. Each crossed the high/low median axis placing both in the high competence low warmth quartile of the SCM map. With a mean score for competence (mean = 4.19, S.D 1.80) higher than that of the entire sample (mean = 3.66, S.D 1.88), *not smart enough for medical school* joined *whore* in the next quartile of low warmth high competence. The males in this sample perceived the male gendered nurse stereotype *not smart enough for medical school* as much higher in competence when scores were combined with the female participants. For both nurse stereotypes, the males’ mean scores were lower in warmth and higher in competence with statistically significant differences between the two dimensions (p < .001, p <.05). Figure 4.2 provided a visual representation of the male
participants’ perceptions of the nurse stereotypes on the SCM map.

**Figure 4.2**

Males: Perceptual Map of Nurse Stereotypes’ Warmth and Competence

Table 4.8 provided results of differences in warmth and competence for female participants in this study, and the nurse stereotypes are in ranked order from highest mean score on down. The 182 female participants in the sample (57%) rated *angel*, *hypermasculinized womanizer*, and *handmaiden* highest in both the dimensions warmth and competence. Like the mean scores for the entire sample and the means scores for the male participants when isolated, the female participants’ mean scores placed these three nurse stereotypes in the high warmth high competence quartile of the SCM map. The *angel* had a mean competence score greater than
the mean warmth scores for hypermasculinized womanizer and handmaiden (p<.001). Mean differences between warmth and competence for angel and hypermasculinized womanizer were both statistically significant (p < .001). The difference for handmaiden was not found to be statistically significant in the t-test (p ~ .06), but was significant in the signed rank test (p < .02).

**Table 4.8**

**Differences in Warmth and Competence by Stereotype: Females (n = 182)**

<table>
<thead>
<tr>
<th>Stereotype</th>
<th>Warmth mean (S.D.)</th>
<th>Competence mean (S.D.)</th>
<th>Difference (S.D.)</th>
<th>t-statistic (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td>5.60 (1.30)</td>
<td>5.11 (1.56)</td>
<td>0.49 (1.41)</td>
<td>4.69 (p&lt;0.001)*</td>
</tr>
<tr>
<td>Handmaiden</td>
<td>4.48 (1.77)</td>
<td>4.67 (1.90)</td>
<td>-0.19 (1.35)</td>
<td>-1.87 (p=0.0627)</td>
</tr>
<tr>
<td>Hypermasculinized Womanizer</td>
<td>4.23 (1.85)</td>
<td>4.50 (1.85)</td>
<td>-0.27 (1.08)</td>
<td>-3.36 (p&lt;0.001)*</td>
</tr>
<tr>
<td>Effete Homosexual</td>
<td>3.29 (1.86)</td>
<td>3.37 (1.92)</td>
<td>-0.08 (0.81)</td>
<td>-1.37 (p=0.1734)</td>
</tr>
<tr>
<td>Not smart enough for medical school</td>
<td>2.96 (1.79)</td>
<td>3.27 (1.85)</td>
<td>-0.31 (1.09)</td>
<td>-3.79 (p&lt;0.001)*</td>
</tr>
<tr>
<td>Battleaxe</td>
<td>2.64 (1.96)</td>
<td>3.80 (2.08)</td>
<td>-1.16 (1.64)</td>
<td>-9.56 (p&lt;0.001)*</td>
</tr>
<tr>
<td>Whore</td>
<td>1.54 (1.13)</td>
<td>1.59 (1.24)</td>
<td>-0.04 (0.96)</td>
<td>-0.62 (p=0.5361)</td>
</tr>
<tr>
<td>Miscreant</td>
<td>1.40 (0.99)</td>
<td>1.70 (1.42)</td>
<td>-0.30 (0.94)</td>
<td>-4.28 (p&lt;0.001)*</td>
</tr>
</tbody>
</table>

Wilcoxon signed rank test results (not shown) consistent with t-test results except handmaiden (Wilcoxon p = .02); S.D. = standard deviation.

Female participants’ scores for the remaining five stereotypes demonstrated consistently
lower warmth and competence, with all of them falling into the low warmth and low competence quarter of the SCM. Differences between mean warmth and competence for the *not smart enough for medical school, battleaxe, and miscreant* stereotypes were statistically significant (p < .001). Differences between warmth and competence were not significant (p > .05) for *effete homosexual* and *whore*. Similar to the scores for the entire sample, the *whore* nurse stereotypes’ lack of statistical significance between warmth and competence was suggestive of a unidimensional perception by the female participants. However, the female study participants’ scores suggested a unidimensional perception of both the *whore* and *effete homosexual*.

**Figure 4.3**

**Females: Perceptual Map of Nurse Stereotypes’ Warmth and Competence**
Comparison of Males and Females in Warmth and Competence Ratings

Within the high warmth high competence quartile of the SCM map, trailing after the *angel* nurse stereotype, each gender rated as second highest the stereotype consistent with their own gender. Males scored *hypermasculinized womanizer* as higher than *handmaiden*. Females scored *handmaiden* as higher than *hypermasculinized womanizer*. Of all eight nurse stereotypes, only in the low warmth low competence quartile of the SCM did statistically significant differences between male and female mean scores for warmth and mean scores competence exist. Male participants’ scores for *whore* (mean warmth = 2.39; mean competence = 2.11) were higher than female ratings (mean warmth = 1.54; mean competence = 1.59). Despite differences in certain mean scores between male participants and female participants as seen in Table 4.6 and Table 4.7, only *whore* had a difference that was statistically significant (p < .001).

Consistent for the entire sample, males in isolation, and females in isolation, the *angel* nurse stereotype scored the highest in both dimensions. The *angel* had mean warmth scores higher than mean competence scores. The *angel*, consistently the nurse stereotype with the highest warmth and highest competence, was different from the participants’ mean scores for nurses in general where competence was higher (mean = 5.82) than warmth (mean = 5.28). The male participants’ scores for *angel* in the warmth dimension was higher (mean = 5.56) than the scores for the nurses in general. The female participants’ mean warmth scores for *angel* were also higher (mean = 5.60) than the mean warmth scores for nurses in general (mean = 5.28). The participants’ mean score for competence for nurses in general (mean = 5.82) was higher than any of the mean scores for *angel* whose mean competence was 5.56 for entire sample, 5.56 for the males, and 5.60 for the females. Table 4.8 provides a visual representation for contrasting these scores between the *angel* nurse stereotype and *nurses in general*. 
### Table 4.9

**Differences Between the Angel Nurse Stereotype and Nurses in General (n = 318)**

<table>
<thead>
<tr>
<th>Angel Nurse Stereotype</th>
<th>Nurses in General</th>
<th>Entire sample:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean warmth = 5.28 ¯</td>
</tr>
<tr>
<td>Males:</td>
<td></td>
<td>Mean warmth = 5.56 †</td>
</tr>
<tr>
<td>Females:</td>
<td></td>
<td>Mean warmth = 5.60 †</td>
</tr>
<tr>
<td>Entire sample:</td>
<td></td>
<td>Mean warmth = 5.60 †</td>
</tr>
</tbody>
</table>

**Moderating Variables and Nurses’ Warmth and Competence**

After viewing the eight nurse stereotypes each on their own page and rating the characteristic of nurses in general, the participants were asked eight additional questions which focused on exposure, familiarity, and importance. Table 4.9 contains results of analyses of the relationship between the mean scores for warmth and competence of nurses in general and the moderating variables. In this study, the Cronbach’s alpha for the dimension of warmth was 0.87 and for competence 0.91, which suggested high internal consistency of the six warm and six competence traits from the SCM placed in the first question on the instrument used. The values in the second column of the table represent a mean summary score whose attribution varies according to the distribution of the explanatory variable. On the instrument, questions 2 and 3
were binary, while questions 4, 5, 6, and 7 were on Likert scales. For binary explanatory variables such as *participant exposed to nurse in the last 5 years* and *participant or family/friend exposed to nurse in the last 5 years*, the second column values indicate the mean combined warmth and competence score for participants who were *not* exposed to a nurse. For the Likert-scaled explanatory variables such as *familiarity with media depiction of nurses*, *familiar with history of nursing*, *importance of nursing in healthcare reform*, and *importance of nursing to the nation’s health*, the second column’s values indicate the mean warmth or competence score for the average sample member.

The third column’s values indicate the marginal effect of the explanatory variable. These values suggest the effect of a one-unit change in the explanatory variable on the mean warmth or competency score. For the binary explanatory variables, a one-unit change is the difference between non-exposure and exposure, whereas for the Likert-scaled variables, a one-unit change suggests greater agreement with the proposed statement. The results suggested that all the moderator variables are associated with higher warmth, but not competence. To elaborate on the marginal effect seen, those identifying personal exposure to a nurse in the last 5 years, their mean scores for warmth were 1.78 units higher than another participant who had not been exposed to a nurse in the last 5 years (*p = < .05*). Similarly, mean warmth scores were 1.66 units higher for a participant indirectly exposed to a nurse providing care to a friend or family member (*p = < .05*).

The interpretation of the marginal effects on the remaining four moderator variables was slightly different. These values indicated how the mean warmth and mean competence scores changed as the Likert scale response scaled up by one unit. Thus, the 0.91 marginal effect for *familiar with media depiction of nursing* indicated that if one increased familiarity by one unit on the 1-7 Likert scale, the mean warmth score increased by 0.91, a statistically significant change
from a mean of 27.62 (p < .001).

Table 4.10

Impact of Moderator Variables on Warmth and Competence

<table>
<thead>
<tr>
<th>MODERATOR VARIABLE</th>
<th>Sample</th>
<th>Marginal</th>
<th>t-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Warmth (Range: 6-42)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant exposed to nurse in</td>
<td>30.80 (0.51)</td>
<td>1.78 (0.71)</td>
<td>2.50 (p&lt;.05)*</td>
</tr>
<tr>
<td>Participant’s family/friend</td>
<td>30.70 (0.58)</td>
<td>1.66 (0.73)</td>
<td>2.27 (p&lt;.05)*</td>
</tr>
<tr>
<td>Familiar with media depiction</td>
<td>27.62 (1.16)</td>
<td>0.91 (0.25)</td>
<td>3.70 (p&lt;0.001)*</td>
</tr>
<tr>
<td>Familiar with history of</td>
<td>30.21 (0.62)</td>
<td>0.58 (0.20)</td>
<td>2.96 (p&lt;.001)*</td>
</tr>
<tr>
<td>Importance of nursing in</td>
<td>27.89 (1.25)</td>
<td>0.71 (0.22)</td>
<td>3.18 (p&lt;.01)*</td>
</tr>
<tr>
<td>Importance of nursing to</td>
<td>25.65 (1.28)</td>
<td>1.11 (0.23)</td>
<td>4.93 (p&lt;.0001)*</td>
</tr>
<tr>
<td><strong>Competence (Range: 6-42)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant exposed to nurse in</td>
<td>35.07 (0.47)</td>
<td>-0.19 (0.65)</td>
<td>-.29 (p=.78)</td>
</tr>
<tr>
<td>Participant or family/friend</td>
<td>35.21 (0.53)</td>
<td>-0.40 (0.67)</td>
<td>-.59 (p=.55)</td>
</tr>
<tr>
<td>Familiar with media depiction</td>
<td>33.92 (1.97)</td>
<td>0.23 (0.23)</td>
<td>1.02 (p=.31)</td>
</tr>
<tr>
<td>Familiar with history of</td>
<td>35.13 (0.57)</td>
<td>-0.06 (0.18)</td>
<td>-.35 (p=.73)</td>
</tr>
<tr>
<td>Importance of nursing in</td>
<td>35.40 (1.16)</td>
<td>-0.08 (0.21)</td>
<td>-.38 (p=.70)</td>
</tr>
<tr>
<td>Importance of nursing to</td>
<td>33.62 (1.20)</td>
<td>0.24 (0.21)</td>
<td>1.17 (p=.24)</td>
</tr>
</tbody>
</table>

* = statistically significant

However, this familiarity had no significant impact on competence (p = .31). Familiarity with nursing’s history had the least impact on the mean warmth scores with a marginal effect of .58 though statistically significantly different (p < .001). Like the other moderator variables, this familiarity had no significant impact on mean competence. Interestingly, importance of nursing
to nation’s health had a high mean score on the Likert scale 1-7 of 5.45 and importance of nursing in healthcare reform also had a high mean score of 5.38; however, both only had a statistically significant impact on mean warmth (p < .0001, p < .01), and no significant impact on competence (p = .24, p = .70). For the participants in this sample, exposure, familiarity, and importance were significant moderators for the perception of perceived warmth in the nurse stereotypes; however, these three moderator variables did not have a significant impact on the perceived competence.

Summary

This chapter presented the results from this study that examined the perceptions of non-nursing undergraduate students’ perceptions of nurse stereotypes. Table 4.10 provides a summary of the key results and findings from this study. The non-nursing undergraduate students’ mean SCM scores for nurses in general rated competence higher than warmth. In contrast, warmth was higher than competence for the angel nurse stereotype whose mean scores for both dimensions were consistently the highest. Also consistent was the statistically significant difference between higher mean warmth and lower mean competence scores for the angel, even when the sample was grouped by gender. For the majority of the eight nurse stereotypes, statistically significant differences were also seen between the mean scores for warmth and competence. The moderator variables of exposure, familiarity, and importance had a statistically significant positive impact on warmth, but not competence. The next chapter will discuss possible indications for the results from this study and then move into the practical applications for the nursing profession. Lastly, directions for future research will be identified.
Table 4.11
Summary of Study Results and Findings

<table>
<thead>
<tr>
<th>Perceptions of Nurses in General Using the SCM Instrument’s 12 Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Trait scored highest was intelligent with mean score of 5.92 (competence dimension)</td>
</tr>
<tr>
<td>• Second highest trait was trustworthy with mean score of 5.86 (warmth dimension)</td>
</tr>
<tr>
<td>• Traits statistically significantly different between males and females: capable, efficient</td>
</tr>
<tr>
<td>• Mean competence (5.28) higher than mean warmth (5.28)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Differences between Warmth and Competence in Nurse Stereotypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Angel nurse stereotype with highest mean scores for warmth and competence, with mean warmth (5.60) higher than mean competence (5.13)</td>
</tr>
<tr>
<td>• Other two nurse stereotypes in high warmth high competence quartile: hypermasculinized womanizer and handmaiden, but mean competence higher than mean warmth for both</td>
</tr>
<tr>
<td>• Battleaxe nurse stereotype perceived as highly competent but low in warmth (mean warmth = 2.92, mean competence = 4.06)</td>
</tr>
<tr>
<td>• With mean scores lower in warmth and lower in competence were not smart enough for medical school, effete homosexual, miscreant, and whore</td>
</tr>
<tr>
<td>• For the four nurse stereotypes in the low warmth low competence quartile of the SCM map, the three males were seen as more competent than warm while the lone female nurse stereotype whore more warm than competent</td>
</tr>
<tr>
<td>• For all the nurse stereotypes except whore, statistically significant differences existed between mean warmth and mean competence</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender Differences in Perception of Warmth and Competence in Nurse Stereotypes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Males perceived angel as highest in warmth and competence, but hypermasculinized womanizer second and was higher in competence and higher in warmth than the handmaiden</td>
</tr>
<tr>
<td>• Females perceived angel as highest in warmth and competence, but handmaiden was second and was higher in competence and higher in warmth than hypermasculinized womanizer</td>
</tr>
</tbody>
</table>
• Males saw the *battleaxe* and *not smart enough for medical school* as low warmth high competence

• Though still low warmth and low competence, males’ perceived the male gendered nurse stereotypes *effete homosexual* and *miscreant* as higher in competence and lower in warmth while the *whore* was higher in warmth than competence

• Males perceived *whore* to have statistically different warmth and competence, while their scores for *effete homosexual* had no statistical difference showed no difference between the two dimensions

• Females placed the remaining five nurse stereotypes in low warmth low competence quartile but all with higher competence than warmth, though *effete homosexual* and *whore* were without statistically significant differences between warmth and competence

**Impact of Moderator Variables of Exposure, Familiarity, and Importance**

• *Exposure, familiarity, and importance* each statistically significantly increased warmth perceptions positively but not competence
Chapter 5

Discussion

This chapter reviews the purpose of the study, research questions, results, findings, and implications as well as the study’s strengths and limitations. Directions for future research and recommendations for the nursing profession are presented and discussed. The purpose of this descriptive exploratory study was to examine how stereotypes of nurses were perceived by non-nursing undergraduate students. Despite a looming nursing shortage in a few short years, nursing is often not selected as a career choice by intelligent women and men on the verge of entering the workforce. In fact, approximately 90% of non-nursing college students have no interest in a career in nursing, and 76% have incorrect information about the realities of what a nurse does and the possibilities regarding a career in nursing (Dante, Rizzi, Ianderca & Palese, 2013).

For high schoolers, 72% of students report they would never consider a career in nursing (Nelson & Jones, 2012). Those who do choose nursing as a career offer a range of rationales for their career decision. These fall into three categories. First are those driven by pursuit of an altruistic and virtuous career; they state a desire to “help people” in a “caring” profession. Second are those directed by family or friends to choose nursing. The third group is those with positive perceptions of nursing due to exposure to nursing work (Beck, 2000; Mooney, Glacken & O’Brien, 2008; McLaughlin, Moutray & Moore, 2010). Ultimately, the nursing profession cannot expect to renew itself by these three narrow avenues; moreover, society’s imminent need for more nurses demands innovative and efficient ways to market the profession. Therefore, addressing the barriers that have hindered recruitment becomes necessary.

One of the major barriers to recruitment of both men and women remains stereotypes.
Stereotypes are generalized ideas with some thread of truth. Stereotyping of nurses is centuries old dating back to Europe when women healers were persecuted as witches for using herbs, applications of hot and cold, nutritional recommendations, and other methods for healing, while ‘real’ medicine, consisting of exorcisms, blood-letting, and leeches, was practiced by males in the universities or churches (Ehrenreich & English, 2010). Contemporary media has perpetuated stereotyped imagery of female nurses as either handmaidens, angels of mercy, or simple existence to be the love interests of male physicians (Bridges, 1990; Brown, 2009; Hallum, 2000; Heillman, 2012; Kalisch, Begeny & Neumann, 2007; Kalisch & Kalisch, 1982; Kalisch & Kalisch, 1982; Kalisch & Kalisch, 1986; Kelly, Fealy & Watson, 2012; Strickland, 2007; Turow, 2012). Male gendered nurses have done no better, usually portrayed in a manner where they are not taken seriously, ridiculed in the context of deviance from hegemonic masculinity (Simpson, 2004; Stanley, 2008; Weaver, Salamonson, Koch & Jackson, 2013), as comedic foils (Bishop, 2009; Weaver, Ferguson, Wilbourn & Salamonson, 2013; Whittock & Leonard, 2003), or worse as caricatures of either a homosexual (Harding, 2007; Rajacich, Kane, Williston, & Cameron, 2013) or just not smart enough to pursue a career as a physician (Harris, 2012; Stanley, 2012).

The literature has termed the four female stereotypes as the *angel*, *handmaiden*, *battleaxe*, and *whore* (Darbyshire & Gordon 2005; Jinks & Bradley, 2004; Kalisch & Kalisch 1983; Muff, 1982; Summers & Summers 2014). More verbose, less contemplated, but succinctly descriptive, the four stereotype labels for the male gendered nurse are *not smart enough for medical school*, *effete homosexual*, *hypermasculinized womanizer*, and *miscreant hiding in nursing* (Burton & Misener, 2007). Both historical and contemporary media provide a contrasting image to the intelligence, skills, and compassion required to be a nurse. As a result society’s need for nurses will continue to grow and fester into a larger problem.
New knowledge is required regarding the barriers of stereotypes and recruiting women and men into the nursing profession. Despite numerous editorials discussing stereotypical portrayals of nurses as a hindrance to recruitment, no quantitative research has been conducted for over a decade. Jinks and Bradley (2004) reported a positive change in nursing students’ perceptions of the nursing image and gender stereotypes over a ten year period from 1992 to 2002; however, despite improvement in perceptions of men in nursing, the female stereotypes remained relatively unchanged. The iconic stereotype of the female nurse remains entrenched and woven deeply into the collective conscious mind of society. The mind’s concious, subconcious, and unconcious components rely on an immediate perception of the environment, incorporation of the context leading to easily retrieved information, followed by retrieval of longstanding beliefs, perceptual patterns, and subjective perceptions (Epstein, 1994). That said, the term nurse conjures up the (stereotypical) image of a Caucasian female dressed in white, starched anglur cap adorning her head, accessorized by perhaps a clipboard in her hands or maybe a tray of medication cups and pitcher of water.

Social cognitive theory provided a practical framework for examining perceptions of stereotypes. The Stereotype Content Model (SCM) describes stereotypes as a universally perceived through two dimensions, 1) perceived warmth (trust, lack of direct threat, and lack of competition for resources) and 2) perceived competence (skill, capability, and status). According to the SCM, social perceptions exist in a combination of high or low warmth and high or low competence (Fiske, Cuddy, Glick & Xu, 2002). These perceptions, placed in one of the four quartiles of the SCM, are predictive of behavioral responses. Despite multitudes of studies using the SCM, only Jarosz and Biela (2009) mentioned nurses in their study on perceptions of occupations in Poland. Through this culturally specific lens, nurses were perceived with both
high warmth and high competence in comparison to other groups such as police officers, construction workers, and custodians, yet students and artists were perceived the highest of all in both dimensions. Not surprisingly, Polish physicians were higher in competence and lower in warmth in comparison to Polish nurses who were higher in warmth but lower in competence. The study was limited due to a small sample of 97 students with an average age of 28.85 years.

Given that society will need 1.05 million new nurses in addition to those departing because of retirement or attrition, a descriptive exploratory study regarding perceptions of nurse stereotypes was warranted. The results of this study are poised for significant contribution to knowledge regarding nurse stereotype perceptions; this study was the first quantitative study in over a decade on the topic and the first using the SCM to take more than a cursory look at the nursing profession through the lens of stereotypes. The valid and reliable SCM guided the two major research questions. The respondents’ results from the instrument developed for this study placed the nurse stereotypes in one of the four quartiles of the SCM. These positions provided an explanation of how nurse stereotypes were perceived regarding warmth and competence by a sample of 318 non-nursing undergraduate students. With better understanding, ameliorative steps towards overcoming existent stereotypes while simultaneously rebranding the nursing profession into a more desirable career for women and men.

**Findings and Interpretations**

**Nurses in General.**

In this study, each of the 318 non-nursing undergraduate students completed one instrument that consisted of eight nurse stereotype images and eight questions. The first question consisted of the 12 character traits from the SCM listed in alternating order. The two dimensions of the SCM, perceived warmth and perceived competence, were represented each by
six traits. Using a 1-7 Likert scale, study participants indicated to what degree each was characteristic of nurses in general. With a mean score of 5.82 for perceived competence and a mean score of 5.28 for perceived warmth, the study sample participants’ perceptions of nurses in general landed in the high warmth and high competence quartile of the SCM.

With competence higher than warmth, nurses in general were perceived by study participant’s as admirable and in a position of high status according the SCM (Fiske, 2015; Fiske, Cuddy, Glick & Xu, 2002). Sixty percent of the sample was comprised African American and Hispanic students attending an urban publicly funded university with the mission to make college education affordable thus accessible to those who would not otherwise be able to do so. Thus, viewed as a whole, the profession of nursing was looked as a status to aspire towards, that of a healthcare professional. In the metropolitan area where this study took place, the average annual registered nurse salary was $75,232 (glassdoor.com, 2016), indeed respectable and consistent with status and admiration. Unfortunately, socioeconomic status for the study participants was not included in demographic information as this might have added additional support for this interpretation. Sixty-two percent of the sample was aged 19 to 29, so this relatively young aged group may have seen professional nursing as a well compensated career. Additionally, with more than half the sample having had exposure to a nurse through direct care or that of a family member or close friend, this perception of higher competence could well be rooted in reality.

For nurses in general, the SCM’s other dimension of perceived warmth was lower than competence; perceived warmth correlates with trust which the SCM states is socioemotional and suggestive of a lack of competition for resources (Fiske, Cuddy, Glick & Xu, 2002). Interestingly enough, nurses in general were perceived as lower in warmth than competence in
this sample; nursing, a female dominated profession that synonymously and stereotypically implies “women’s work” would be more likely be higher in warmth when looking at nurses in general. In the SCM, warmth is commonly perceived as a feminine trait (Cuddy, Fiske & Glick, 2008; DeWall, Altermatt & Thompson, 2005), and warmth is reflective of trust which nurses have in society’s opinion for the 15th year in row (Gallup Organization, 2017). Since the majority of nurses are females, warmth would have been expected to be higher than competence. The mean score for perceived warmth in nurses in general was lower than perceived competence and counter to the expected since SCM research repeatedly reports competence as a stereotypical masculine trait while warmth as a stereotypically feminine trait (Ebert, Steffens & Kroth, 2014; Eckes, 2002; Fiske, Cuddy, Glick & Xu, 2002). Perhaps this sample of urban college students perceived nursing as a respected and challenging profession since the BSN degree is one of the hardest baccalaureate degrees to obtain due to the amount of work required (GuinessUpdates, 2011). That is one possible explanation to this finding. However, the moderator variables exposure, familiarity, and importance were statistically significantly correlated to positively increase warmth scores but not competence. Thus, of interest would be further study of nurses in general specifically without imagery that acts as both primer and prompt for social cognitive perceptions.

For nurses in general, the highest ranked trait was intelligent; this one of the six competence traits had a mean score of 5.96 which indicated this sample perceived nursing as requiring strong mental capacity, logical thought, sharp comprehension, and solid understanding of complex human functions. Unfortunately, the majority of research regarding intelligence in nursing has focused on emotional intelligence, which conceptually is different. Instead emotional intelligence is the ability to recognize, name, and reflect one’s own feelings or those
of another. In the SCM, emotional intelligence falls within the warmth dimension. On the other end of the competence spectrum, the lowest ranked trait was *skillful* with a mean of 5.76, though still high which possibly indicates though a nurse has to be smart, he or she does not require high level skills in their work as compared to being trustworthy. The reality of nursing work requires tremendous competence. Nursing consists of the application of scientific principles and evidence to patient care, the understanding and application of clinical guidelines and standards of care, and using assessment and judgement for optimal outcomes and quality care. Furthermore, the technological processes involved in nursing also require tremendous competence, e.g. understanding underlying pathophysiology in patient problems, management of various tubes, drains, catheters and intravenous lines, complex skin care, medication administration, monitors, pumps, ventilators, and devices suctioning various orifices and body inlets.

**Differences in Warmth and Competence by Nurse Stereotype.**

*Angel nurse stereotype.*

The *angel* was the nurse stereotype with mean scores highest in both warmth and competence, with a mean score for perceived warmth of 5.60 and mean score of 5.13 for competence. Given that the 63% of the sample was between 18 to 29 years of age, the *angel* had the highest ratings for warmth and competence consistently in the sample as a whole, and when divided by gender, this imagery remained persistent consistent with historically iconic imagery. The majority of the participants in this study were not born when Hughes (1980) described the synonymous perception of nurses as angels. Nursing history explains this entrenched perception since centuries before Nightingale, nuns were the nurses (Nelson, 2001). On the coattails of first wave feminism, the Nightingale era heralded in a time where women could respectably step out of the house and work as a professional nurse. As women of good social standing, presumed high
in moral standing, demonstrating prim Victorian affect and virtue clothed in a well-groomed and impeccably mannered demeanor, these women could go to places not proper for ladies of the time (Gross, 2012). Trained as professional nurses, these women were thrust into circumstances of disease, sadness, and poverty, thus the public perceived them as angels, just in finer clothing. Despite decades attempting to shed this angelic glow that clingingy haunts the profession, the respondents’ results from this study echo the persistent societal perception that nurses are angels.

Bridges (1990) provided sufficient documentation of how nursing has been attempting to cast off the angel image since early on in the 20th century. Gordon and Nelson (2005) issued another call to the profession to cease association with the angel nurse stereotype, five years later Summers and Summers (2010) also pleaded the case for ridding nursing of the angelic hagiography, yet seven years later this perception persists. This study provided quantitative evidence that the angel as a representation of nursing remains hard to shed. Perhaps the profession should reframe the angel and capitalize on her highly perceived warmth and highly perceived competence. Cuddy, Kohut, and Neffinger (2013) provided a cogent argument for emphasizing warmth first (connect) in social and professional interactions and then establish competence (lead) by demonstrating authority and knowledge, thus establishing status (power). Perhaps nursing should take a suggestion from the decades of social cognitive research and use the angel to its advantage. Bergseiker, Leslie, Constantine & Fiske (2012) suggested that results from stereotype research focus on accentuating the positive perceptions while methodically eliminating the negative. The SCM states that high warmth and high competence elicit admiration. Why would nursing want to throw away admiration? Stylize and emphasize the angel as the image of nursing but highlight her positives, such as Merriam-Webster’s definition (2016) which describes an angel as an influential power with intelligence superior to humans.
Like Gordon and Nelson (2005), Hughes (1982), Salvage (1980), and Summers and Summers (2014; 2010) argued that nursing rid itself of the angelic imagery while exchanging it for one that promoted nurses possessing three-dimensional characteristics that included psychosocial skills, mental toughness, and technical prowess. Adding to these authors, O’Lynn (2004), Rajacich, Kane, Williston & Cameron (2013), and Willbourne and Kee (2010) suggested that the stereotypical angelic imagery kept men from entering nursing. Perhaps the angel nurse stereotype doesn’t need to be perceived just as female or feminine, since angels come in male form complete with masculine traits; in fact, most historical angel characters are male such as the biblical archangels Raphael, Uriel, Gabriel, and Michael. Raphael was the healing angel caring for the humans, animals, and other creatures on earth.

Nurses are no longer expected to be symbols of purity and morality lacking independent thought and providing service derived solely from religious devotion. If Mattel can rebrand the iconic 57 year old Barbie doll, representative of a mid-twentieth century hyper-feminized female ideal (Greve, 2014; Myers, 2015), certainly nursing also could rebrand itself as educated and skilled healthcare professionals, highly competent but also possessing high warmth. The results from this study showed that non-nursing baccalaureate students already perceive the angel this way—highly competent and highly warm. The Gallup Poll (2017) each year reiterates the public’s perception of nursing as the highest rated in honesty and ethics thus the most trusted profession, which is recognized warmth in the SCM. Instead of repackaging the same message that nursing rid itself of the angel stereotype, nursing could accentuate the positive and eliminate the negative. Such an approach would be an expedient and efficient way to rebrand nursing’s image by keeping the good and trimming away what no longer fits in the 21st century. Instilling the idea that warmth be just as crucial as competence may be a bigger challenge in a rebranding
of the nursing profession. Emphasis on the nurse’s competence from a robust and rigorous baccalaureate education followed by clinical experience emphasizing the nurse’s warmth in dealing with the human condition in health and illness could be a fresh message so the public sees both dimensions of the nurse, high warmth and high competence. Anticipating arguments and such ideas as heresy, the counter comes from the bulk of behavioral and social psychologists who have shown that adding a new thought or behavior is easier to incorporate than the removal of an existing habit (Duhigg, 2014). The angel nurse stereotype was consistently the highest in warmth and highest in competence in this study; perhaps now is the time for a different approach and capitalize on the strong existence in societal perceptions of the nurse with a new make-over.

*Hypermasculinized womanizer and handmaiden nurse stereotypes.*

The other two nurse stereotypes the study participants perceived to have high warmth, and high competence were the hypermasculinized womanizer and the handmaiden. Like the angel, placement in this quartile of the SCM was predictive for admiration as the emotional response and deference as the behavioral response (Cuddy, Fisk & Glick, 2008; Sweetman, Spears, Livingstone & Manstead, 2013). Neither of these two nurse stereotypes was as powerful or iconic as the angel, but each suggests equal gender representation, one male and one female. This could be useful and advantageous in marketing recruitment into the nursing profession of intelligent women and men. Neither stereotype image is strongly striking or relatively powerful, just pleasing thus relatively non-threatening. An explanation for the higher competence scores of these two nurse stereotypes may be explained in their relatively pleasant imagery, since a significant body of research has shown that attractive people are perceived to be more successful, have higher status, and wield more power (Hamermesh, 2011). Unlike the angel with her unsurpassed mean scores for perceived warmth and her trustworthiness, both of these stereotypes
had higher perceived competence than perceived warmth. All three nurse stereotypes were in the same SCM quartile of high warmth and high competence. Perhaps their pleasing and rather benign appearance was indicative of their attractiveness compared to the other nurse stereotypes, since being considered attractive correlates to status and power thus highly correlated with competence according to the SCM is highly correlated with competence. A point worthy of exploration in future studies.

**Battleaxe nurse stereotype.**

Nurse Ratched was an unforgettable literary and film character from the second half of 20th century exemplifying the *battleaxe* nurse stereotype. The *battleaxe* was the sole occupant of high perceived competence and low perceived warmth quartile of the SCM; according to Fiske et al (2002) such ambivalent perceptions are highly predictive of envy and jealousy. The status of the *battleaxe* comes from her position on the other side of the counter in the nursing station. Typically, she demonstrates her competence to those she sees as of higher status, higher authority, or higher power. Colloquially, her behavior is both sycophantic and obsequious. Less than surprising were the results from this study that placed the *battleaxe* in the low warmth high competence quartile. This finding was reassuring suggesting that the participants’ mean scores of the other nurse stereotype were perhaps valid, though the battleaxe was not envisioned to serve this purpose. Of interest though was the movement the *battleaxe* experienced when only the female participants’ mean scores were considered; the female respondents literally stripped the *battleaxe* of her competence thus joining the other stereotypes considered contemptuous in the low warmth low competence quartile of the SCM. Perhaps through a 21st century lens, the *battleaxe* is not as relevant. Ironically similar to sociopathic psychiatric patient McMurphy’s neutralization of Nurse Ratched’s main weapon of intimidation and debasement – her voice - in
Kesey’s novel One Flew Over the Cuckoo’s Nest (1962), the female participants in this study were far more vicious and stripped her of her competence. Beyond the stereotypical explanation that women are more critical and judgmental in general, especially of other women, other factors most likely also affected her movement from one quartile to another. Such explorations are worthy of consideration for future study.

**Low warmth low competence nurse stereotypes.**

Perceived low warmth and perceived low competence stereotypes are seen as incompetent and cold. Such perceptions predict feelings of contempt within the SCM. In this study, the participants placed *effete homosexual, not smart enough for medical school, miscreant hiding in nursing,* and *whore* all in this quartile. Even though the three male gendered nurse stereotypes had mean competence scores higher than warmth, these stereotypes serve the nursing profession in an unfavorable way. As the lone female in this group (until the *battleaxe* joined quartile as above), *whore* also provides no positive purpose in promoting nursing as a career choice to women and men of caliber. Since all four of these stereotypes were derisive, the most efficacious approach would be to acknowledge their existence, perhaps elaborate on their origin, then succinctly state why not realistic or appropriate representations of contemporary nursing.

**Strengths and Limitations of the Study**

As the first empirical study that connected the Stereotype Content Model to perceptions of nurses’ perceived warmth and perceived competence, this study provided a fresh approach to a persistent problem, a shortage of nurses. Ledbetter (2015) suggested nursing shortages are cyclical and have been documented for the past five decades. Barriers to recruitment, especially for men, have not significantly changed over time in the realm of nursing. Nurse stereotypes are an obstacle entrenched in society’s social mind. The SCM has proved a strong theory with
universality in determining social perceptions and behaviors. Applicable to examinations over time, between individuals, among groups, and across cultures, the SCM has demonstrated consistent reliability and validity.

A major strength of this study was sufficient power. Another was established content validity of the eight nurse stereotype images which were revised and refined using feedback from a panel of experts then tested in a convenience sample of practicing registered nurses until sufficient face validity was determined. Also, the SCM instrument had well-established reliability and validity. Despite a less than normal distribution, data used for this study was robust, without any real outliers and only a few missing data points; furthermore, the results were relatively explainable and reasonable. The lack of familiarity with the nursing profession’s history was not surprising; additionally, the low mean score for this moderator lent credence to the assumption that participants in the sample were relying on stereotyping processes to rate nurses and nurse stereotypes. The consistent statistically significant differences between the dimensions of warmth and competence were another strength; furthermore, the effete homosexual and whore stereotypes lacked statistical significance between warmth and competence suggestive of unidimensional perceptions. Furthermore, future study questions arose from this study additional such as the inclusion of socioeconomic demographics, lack of a priming image resulted in higher competence than warmth, the impact of a seemingly pleasing appearance, and correlations between the battleaxe and female respondents. Lastly, another major strength was the high Cronbach’s alpha obtained for the two dimensions of perceived warmth (α ≥ 0.87) and perceived competence (α ≥ 0.91).
Limitations

The first limitation of this study was the ability of the results to be generalized beyond a population of non-nursing undergraduate students in a publicly funded university in a large metropolitan area. The sample was 30% African-American and 30% Hispanic with only 10% Caucasian, so generalizing the results to Caucasians may be limiting; however, 82% of the registered nurse workforce is Caucasian, with greater diversity in race and ethnicity needed, so less concerning. Socioeconomic status was not collected in this study, and this could have been a potential moderating variable in the status perception of a career in nursing, when looking at stereotypes since greater accessibility to resources correlates with higher socioeconomic status.

In this study, age was a categorical variable limiting more specifics on age; for example, 63% of the sample was between 18 to 29 years of age. Perceptions could have been affected by maturity; however, significant differences may not have been detected. A participant in his/her early twenties may have a different perception than a participant with more life experience in his/her later twenties, thirties, or older. Perhaps far more informative would have been measuring age as a continuous variable.

Another limitation was discovered at data analysis since the eight nurse stereotypes mean scores for warmth and competence were measured differently than the SCM 12 traits used for the nurses in general (without imagery) these two groups could not be compared statistically. The methodology focused on answering the two main research questions, so such a statistical comparison was not an objective. The moderator variables also had a measurement issue that provides a possible limitation since exposure was measured as binary while familiarity and importance were measured using 1-7 Likert scales, so additional statistical comparisons beyond their impact on the perceived warmth and perceived competence scores was not feasible. During
the face validity testing of the eight images, several experts pointed out that viewing the eight images categorically, first the four female then the four male was too “jarring” when gender shifted. Thus this could become a variable itself. The images then were alternated female than male for the instrument; however, the ordering could affect the perceptions. This could be explored further in a between-subjects design, unlike this study which was within subjects design so without experimental manipulations and each participant received the same instrument with images in same order. Despite these limitations, this study did have significant results from robust statistics.

Implications for the Nursing Profession

The results of this study offer nursing a new perspective on this persistent phenomenon of stereotypes. With quantitative evidence on the perceptions of nurse stereotypes in non-nursing students, this study adds new knowledge to formulate ameliorative actions. Changes in perceptions, perhaps from different angles, are needed both within the nursing workforce itself and then external to the profession in society. What was known before was that the persistence of nurse stereotypes remained a barrier to recruitment, especially for men (Nelson & Belcher, 2006; Price, Douce & McGillis Hall 2014; Roth & Coleman, 2008; Twomey & Meadus, 2016). The non-nursing undergraduate students perceived the angel nurse stereotype as the highest in warmth and highest in competence. For decades, nursing has tried to eradicate this image. However, the angel nurse stereotype endures as a powerful and iconic representation of nurses. Colloquially, nurse and angel can be synonymous. The decades of editorials pleading for the angel imagery to die have not worked, so a new approach is worthwhile. Nursing can embrace the angel nurse stereotype since it persists. The high perceived warmth that the angel radiates is equal to trust in the SCM. Cuddy, Kohut, and Neffinger (2013) show with their research that are
using warmth (connect) initially and then establish competence (lead) is a far more effective leadership approach. Nurses can follow Cuddy et al’s lead and use warmth followed with competence establishing themselves as trustworthy and reliable healthcare providers but also college educated healthcare professionals that save lives.

**Micro Level.**

The first step is on the micro level and how the nurse, regardless of gender, demonstrates warmth (trust) at first introduction. LeBlanc, Burke, and Henneman (2016) encourage the use of title and full name to promote open communication, trust, and respect, as well as establish the nurse as having expertise and skills. Using a business card is a simple and inexpensive method to share one’s title and reinforce the nurse’s competence. This is an individual approach and needs to be genuine, fitting the personality of the nurse. Historically, nurses have used just their first name instead of their title followed by a first and last name. Simply put, “I’m Jane (or Joe), and I’m your nurse today” may have established warmth by certainly not competence. Instead, “Good morning, I’m Nurse Joe (or Jane) Smith, and I’m your nurse today” clearly demonstrates competence.

Competence must be emphasized as warmth is inherent in societal perception. This study showed that without imagery an ideal for the nurse exists higher in competence. The public demands that nurses be capable, intelligent, and skillful. They already know the nurse is trustworthy as demonstrated repeatedly in annual Gallup poll results. The third avenue for nursing to approach is an appropriate use of social media; for example, LinkedIn remains the largest of sites, yet nurses do not use it correctly, or even know to put a professional picture with their profile. A bikini-clad photo on the beach is not an appropriate nor convincing image of competence (or warmth). Lastly, the image also consists of appearance. Patients want the nurse
to be neat, clean, and in clothes that fit well (not tightly provocative) or too loose (sloppy
smock), and a sense of personal style (Clavelle, Goodwin & Tivis, 2013). Though with the cap
long gone from nursing uniforms, patients, families, and other health care providers complain
that they do not know who the nurse is in a sea of people. Badges with RN clearly visible is the
simple solution to that issue.

Macro Level.

On a macro level, the results of this study can be used to capitalize on the angel nurse
stereotype strong imagery. Her image in this study had her in a nurse’s cap. Caps disappeared
from contemporary nurses uniform decades ago, but the cap’s universal symbolism is still seared
into society’s conscious (Gelinas, 2016). Like the repeated call to separate nursing’s image from
the angel, nursing might reconsider using the iconic cap. For example, many hospitals seek
Magnet ® recognition, the highest accolade a department of nursing in a hospital can achieve.
The recognition program requires a logo. Instead of hearts, ribbons, teddy bears, and other
images for that lack any specific relationship to nurses or nursing, the nursing cap should be
reintroduced as symbolic of nursing. For example, the hospital logo with a nurse’s cap ghosted
behind it would be far more powerful. The results of this study suggest that such imagery is far
more representative and more meaningful to the public. Though no longer part of the
contemporary uniform or image, using the cap honors its historical representation of nurses and
nursing.

Another significant action on a macro level is the eradication of the contemptuous nurse
stereotypes that occupied the low warmth and low competence quartile of the SCM perceptual
map. The effete homosexual, not smart enough for medical school, miscreant, and whore are
stereotypes that need to be acknowledged, dismissed by clarifying their misrepresentation of nurses, and then replaced by positive imagery from the high warmth high competence quartile.

The challenge nursing faces is a unified approach, one where each nurse is more aware of changes needed for a positive nursing image. This is an internal marketing plan. Another challenge is funding such a strategic and progressive campaign that works to transform how public perceives nurses. An external marketing plan starts with individuals promoting the services nurses provide by word of mouth and locally. Next is the organizational level, where nurses move to promote their contributions to hospitals, community centers, home care, ambulatory settings and so on. Finally, national level marketing must continue. The Johnson and Johnson campaign in the early 21st century was effective at the time (Buerhaus, Donelan, Norman & Dittus, 2005; Donelan, Buerhaus, Ulrich, Norman, & Dittus, 2005). Further funding is needed for such initiatives that continue awareness of the nursing shortage and also highlight the positive aspects of a career in nursing. However, the results of this study counter the researchers’ assertion of the public’s equating compassion and caring with expertise and skill (Beurhaus Donelan, Norman & Dittius, 2005). Through the lens of the SCM and the results of this study, warmth and compassion are two distinct dimensions and were not perceived as equitable in this study.

Savvy marketing professionals can sell the public almost anything, so why can’t nursing’s image also be transformed with the angel nurse stereotype sweeping away the contemptuous stereotypes. By demonstrating high warmth and high competence in a way that emphasizes education, how nurses save lives, their role in humanizing the healthcare system, and then how nurses are integral to quality, safety and positive patient outcomes.
Educational strategies include incorporating the stereotypes into clinical simulations while teaching the students how to 1) deal with them directly, and 2) demonstrate warmth and competence. Such an initiative would not be that costly. Also, nursing history content lacks significant emphasis in nursing programs, as such content is not incorporated into the NCLEX examination. To challenge stereotypes, students should have a knowledge of their profession’s origin which will hopefully move to discussion and motivations to change perceptions and address these stereotypes.

**Future Research**

From the results of this study, recommendations for future research arise. First, the instrument could be revised addressing the specific measurement issues in the limitations section. A crucial area to explore further is perceptions of the coming generations, future nurses, so high school age males and females, who may have very different perceptions of who nurses are and their traits. Gender roles become lodged in the social cognitive conscious between the ages of five to eleven, so understanding school age perceptions of nurse stereotypes may help to counter and overcome such imagery. *Intelligent* was the trait highest in the participants’ perceptions while *skillfull* was the lowest of the traits, but further insight could be of value. The *battleaxe* lost relevance from the results in this study, but has she really been muted? This question remains and would be of interest going forward. Further investigation of the moderator variables would be worth, since social desirability bias may have the high scores related to *importance* in the healthcare system and healthcare reform but also better understanding of *exposure* and *familiarity*. Also, cross-cultural research regarding nurse stereotypes in other populations of school age, high school, and additional colleges and universities. Geographic differences also may play a role as could socioeconomic status so a larger scale study may also
provide new insights to this persistent problem. Additionally, future research should extend the study across cultural, e.g. across nations, and subcultural groups, e.g. within the U.S, exploring such dimensions as individualism, power distance, uncertainty avoidance, masculinity index, long-term orientation, and indulgence. These are contextual cultural dimensions used in social psychology and marketing research (Hofstede, 2011).

Summary

This chapter reviewed the purpose of the study and the two main research questions examined. The results, findings, strengths, limitations and the implications for the nursing profession were presented. Directions for future research were formulated and presented. To address the looming nursing shortage ahead, nursing needs to shift gears, as the same approaches have had little impact on nurses stereotypes existence. The results of this study provided the groundwork for an ongoing body of new knowledge that may be helpful to recruitment into nursing in the 21st century.
Appendices

Appendix I. Revised Female and Male Stereotype Images

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<td><img src="image3.png" alt="Image" /></td>
<td><img src="image4.png" alt="Image" /></td>
</tr>
</tbody>
</table>

*Each survey will only have one image for the participant to view, and this will be random, as the consent will cover the image to the researcher*
## Summary Tables:

### Nurse Stereotypes Research 2011-2015

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Title</th>
<th>Method &amp; Instrument</th>
<th>Sample</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eley &amp; Eley, 2011</td>
<td>Personality traits of Australian nurses &amp; doctors</td>
<td>Quantitative</td>
<td>426 doctors and nurses</td>
<td>-Nurses higher in novelty seeking &amp; reward seeking</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Nurses lower self-directedness &amp; cooperativeness</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jinks &amp; Bradley, 2003</td>
<td>Angel, handmaiden, battleaxe or whore? A study which examines changes in newly recruited student nurses’ attitudes to gender and nursing stereotypes</td>
<td>Quantitative (questionnaire measuring attitudes)</td>
<td>196 students comparing 1992 to 2002</td>
<td>-2002 group older &amp; more healthcare experience</td>
</tr>
<tr>
<td>London</td>
<td></td>
<td></td>
<td></td>
<td>-2002 group showed more positive change in gender and nurse stereotypes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-more change in attitudes related to gender but to nursing as &quot;feminine&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-nurse as indecisive remained the same</td>
</tr>
<tr>
<td>Kelly, Fealy &amp; Watson, 2012</td>
<td>The image of you: constructing nursing identities in YouTube</td>
<td>Qualitative Critical discourse analysis</td>
<td>10 video clips</td>
<td>3 identities: skilled doer, sexual plaything, witless incompetent</td>
</tr>
<tr>
<td>Ireland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author &amp; Year</td>
<td>Title</td>
<td>Method &amp; Instrument</td>
<td>Sample</td>
<td>Results</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>-----------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ayala, Holmquist, Messing &amp; Browne, 2014</td>
<td>Blessed art thou among women: male nursing students and gender inequalities in Chile</td>
<td>Qualitative interviews</td>
<td>Male nursing students</td>
<td>- gender inequalities continue to exist in nursing education, but men are treated more positively in nursing education</td>
</tr>
<tr>
<td>Berkery, Tiernan &amp; Morley, 2012</td>
<td>The relationship between gender role stereotypes and requisite managerial characteristics: nursing and midwifery professionals</td>
<td></td>
<td>239 undergraduate nursing students, 171 post experience</td>
<td>- females respondents did not gender type the managerial role, while the men did</td>
</tr>
<tr>
<td>Cullen, 2012</td>
<td>Meaning perspectives and the effects of television portrayal of nurses on a sample of southern California generic baccalaureate nursing students</td>
<td>Qualitative Phenomenological inquiry</td>
<td>11 telephone interviews, 1 focus group</td>
<td>- negative perceptions of portrayal of nurses in entertainment - &gt; sex objects/gender stereotypes, mindless drones, MDs doing RNs work, incidental &amp; invisible nurses - difference between students creation meaning of nursing (personal values, exposure, education) from that of entertainment media which helps to forum public construction of image</td>
</tr>
<tr>
<td>Author(s), Year</td>
<td>Research Focus</td>
<td>Design</td>
<td>Sample Size</td>
<td>Findings</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------</td>
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</tr>
<tr>
<td>Harris, 2012</td>
<td>Men in nursing: internalized sex-role stereotypes and their relationship to role-strain and self-esteem</td>
<td>Quantitative</td>
<td>56 male RNs</td>
<td>Positive sex role stereotyping in nursing is correlated with role strain &amp; diminished esteem</td>
</tr>
<tr>
<td>Meadus &amp; Twomey, 2011</td>
<td>Men student nurses: the nursing education experience</td>
<td>Qualitative Phenomenological inquiry Focus groups</td>
<td>27 students</td>
<td>5 themes: choosing nursing, becoming a nurse, caring within the nursing role, gender based stereotypes, and visible-invisible</td>
</tr>
<tr>
<td>Rajacich, Kane, Williston &amp; Cameron, 2013</td>
<td>If they do call you a nurse, it is always a &quot;male nurse&quot;: experiences of men in the nursing profession</td>
<td>Qualitative Descriptive study</td>
<td>16 male gendered RNs</td>
<td>Work stress, lack of full time opportunities, &amp; gender-based stereotypes contributed to job dissatisfaction</td>
</tr>
<tr>
<td>Rowlinson, 2012</td>
<td>Lived experience of being a nurse from a male and female perspective</td>
<td>Qualitative Phenomenological inquiry</td>
<td>1 male &amp; 1 female</td>
<td>Intersubjectivity, job versus vocation, gender stereotyping</td>
</tr>
<tr>
<td>Stanley, 2012</td>
<td>Celluloid devils: a research study of male nurses in feature films</td>
<td>Qualitative Collective case studies</td>
<td>36,000 feature film synopses from 1900-2007 -&gt; 13 relevant cases</td>
<td>Male gendered nurses portrayed negatively in opposition to hegemonic masculinity, e.g. effeminate, homosexual, homicidal, corrupt, or incompetent</td>
</tr>
<tr>
<td>Weaver, Ferguson, Wilbourn &amp; Salamonson, 2013</td>
<td>Men in nursing on television: exposing and reinforcing stereotypes</td>
<td>Qualitative Content analysis</td>
<td>5 television programs</td>
<td>Male gendered nurses were subject to career choice questions, masculinity &amp; sexuality, &amp; role reduced to prop, minority spokesperson, or source of comedy</td>
</tr>
<tr>
<td>Author &amp; Year</td>
<td>Title</td>
<td>Method &amp; Instrument</td>
<td>Sample</td>
<td>Results</td>
</tr>
<tr>
<td>---------------</td>
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<td>--------------------------------------</td>
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<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sarna &amp; Bialous, 2012</td>
<td>A review of images of nurses and smoking on the World Wide Web</td>
<td>Qualitative Content analysis</td>
<td>10,000 images from internet</td>
<td>- 7 themes: nurses smoking, cig ads, helping people smoke, “naughty” nurse, teaching women to smoke, smoking in/out hospital, &amp; positive tobacco images</td>
</tr>
<tr>
<td>Emeghebo, 2012 New York</td>
<td>The image of nurses as perceived by nurses</td>
<td>Qualitative Descriptive exploratory Indepth interviews</td>
<td>13 nurses</td>
<td>- 3 categories: 1) role of nurses, 2) nursing knowledge, 3) attitudes negative perceptions increase in relation to progression through career d/t environment &amp; team interactions</td>
</tr>
<tr>
<td>Karabacak, Uslasoy, Alpar &amp; Bahcecik, 2012 Turkey</td>
<td>Image of nursing held by nursing students according to gender: a qualitative study</td>
<td>Qualitative Content analysis</td>
<td>20 male &amp; 20 female nursing students</td>
<td>-nursing concept: female &amp; job definition -choosing: desire of others, work, helpful, limited academic achievement gender: gendered approach</td>
</tr>
<tr>
<td>Morris-Thompson, Shepard, Plato &amp; Marks-Maran, 2011 London</td>
<td>Diversity, fulfillment and privilege: the image of nursing</td>
<td>Qualitative survey research</td>
<td>?</td>
<td>-diversity -fulfillment -privilege -public respect but would not choose or recommend career</td>
</tr>
<tr>
<td>Weaver, Salamonson, Koch &amp; Jackson, 2013 New Zealand</td>
<td>Nursing on television: student perceptions of television’s role in public image, recruitment &amp; education</td>
<td>Quantitative Convergent parallel mixed methods</td>
<td>484 undergraduate nursing students</td>
<td>-television had negative influence on nursing image but has potential as recruitment device</td>
</tr>
</tbody>
</table>
## Nursing as Career Choice Research 2011-2015

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Title</th>
<th>Method &amp; Instrument</th>
<th>Sample</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dante, Rizzi, Landerca &amp; Palese, 2012</td>
<td>Why do university students not choose nursing degree at matriculation?</td>
<td>Quantitative Cross-sectional study Structured questionnaire</td>
<td>580 students</td>
<td>47.2% lack of interest 17.5% no contact with ill people 14.2% fear of biological materials 8.8% lack of recognition of nursing work 71% personal experience or relatives defined nursing 89.2% did not know of nursing opportunities 88.2% knew scope of practice</td>
</tr>
<tr>
<td>Nelson &amp; Jones, 2012</td>
<td>What predicts the selection of nursing as a career choice in 5th &amp; 6th year students?</td>
<td>Quantitative Cross-sectional descriptive study Self administered questionnaires</td>
<td>702 students</td>
<td>71.2% would never consider nursing 28.3% would consider nursing as career nursing career choice was more likely in females with below avg grades but a positive attitude</td>
</tr>
<tr>
<td>Price, McGillis, Angus &amp; Peter, 2013</td>
<td>The social context of career choice among millennial nurses: implications for interprofessional practice</td>
<td>Qualitative Interpretative narrative inquiry</td>
<td>12 nurses</td>
<td>Career choice is part of social positioning Social hierarchy exists in healthcare Struggle to fit within hierarchy</td>
</tr>
</tbody>
</table>
## Research on Stereotype Content Model 2011-2015

<table>
<thead>
<tr>
<th>Author &amp; Year</th>
<th>Title</th>
<th>Method &amp; Instrument</th>
<th>Sample</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bean, Stone, Moskowitz, Badger &amp; Focella, 2013 Arizona</td>
<td>Evidence of nonconscious stereotyping of Hispanic patients by nursing and medical students</td>
<td>Quantitative experimental</td>
<td>22 nursing students 25 medical students (35 females/12 males)</td>
<td>-greater activation of noncompliance &amp; health risk associations when viewing Hispanic faces versus Caucasian -motivations to control prejudice did not moderate stereotype activation</td>
</tr>
<tr>
<td>Chattalas &amp; Takada, 2013 New York City</td>
<td>Warm versus competent countries: national stereotyping effects on expectations of hedonic versus utilitarian product properties</td>
<td>Quantitative experimental</td>
<td></td>
<td>-higher perceived warmth results in greater expectations of hedonic product properties - warmth &amp; competence mediate country of origin perceptions</td>
</tr>
<tr>
<td>Quadflieg, Flannigan, Rosslon et al., 2011</td>
<td>Stereotype-based modulation of person perception</td>
<td>Quantitative experimental</td>
<td></td>
<td>- categorization by social vs sex stereotypes formulate behavioral responses in perceptions to various people</td>
</tr>
<tr>
<td>Solami, Caricati &amp; Mancini Italy</td>
<td>Ambivalent stereotypes of nurses and physicians: impact on students’ attitude toward interprofessional education</td>
<td>Quantitative Online survey</td>
<td>205 nursing students 151 medical students</td>
<td>- both groups shared perception that MDs are more competent and RNs are warmer (nurses care, physicians cure) - RNs seen as less autonomous but more communal and social - MDs more autonomous, but less socially competent - Attitudes towards interprofessional education were affected by these stereotyped perceptions</td>
</tr>
</tbody>
</table>
Appendix III.

**Invitation to Participate in Nurse Stereotypes Study Letter**

September 2015  
Dear Potential Participant:  
You are being asked to participate in a study examining perceptions of nurse stereotypes in undergraduate baccalaureate students. If you agree to participate in this study, you will be asked to:

- Sign a consent form that is underneath this letter; your consent will be separated from the image and survey form to protect your anonymity
- View the nurse image underneath the consent form
- Complete **ALL** the survey questions to the best of your ability
- Identify your demographic categories on a sheet at the end of the survey

Total time to sign the consent, view the image, and complete the survey and demographic information will be no more than 10 minutes. Your participation will help nurse leaders and educators to understand how nurse stereotypes impact recruitment into the nursing profession. By 2020, 1.3 million new nurses will be needed to meet the healthcare needs of our nation.

For questions regarding this study, you may contact me at rgross@gradcenter.cuny.edu.
Thank you for considering participating in this study.

Sincerely,

Randy Gross MS, RN, NP, CNS  
Nurse Practitioner & Clinical Nurse Specialist  
Student – PhD in Nursing Science Program  
CUNY Graduate Center  
365 Fifth Avenue, Room 3317  
New York, New York 10016
Appendix IV.

THE CITY UNIVERSITY OF NEW YORK
Graduate Center
Nursing Science

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Title of Research Study: Perceptions of Nurse Stereotypes in Non-nursing and Nursing Students

Principal Investigator: Randolph E. Gross MS, RN, NP
Doctoral Student

Faculty Advisor: Martha Whetsell PhD, ARNP
Professor
Lehman College
Nursing

Research Sponsor: <enter name of research sponsor/funder, if applicable>

You are being asked to participate in a research study because you are a college student and your perceptions of images related to nurses is important for recruitment of future nursing professionals.

Purpose:
The purpose of this research study is to examine the perceptions of both non-nursing and nursing student's regarding specific female and male nurse images. These perceptions will help provide the researchers with understanding of how nurses are viewed in society. Such information will be helpful to recruitment of future nursing professionals.

Procedures:
If you volunteer to participate in this research study, we will ask you to do the following:

- Complete a survey consisting of one image on the front page and 13 related questions.
  - You will be asked to look at the image on top of the survey packet.
  - At the end of class, students will be asked for volunteers to participate.
  - After signing the informed consent, you will then proceed to the questions.
  - Total time for completion of the survey will take approximately 5 to 10 minutes.

- You will be asked to rate the image on 12 dimensions, whether you or a family member has been cared for by a nurse in the past 5 years, how much you agree/disagree that image displays warmth and/or competence, what the image
suggests to you in your own words, 3 questions on how you agree/disagree with participation and decision-making, and 5 demographic questions regarding whether you are a non-nursing or nursing student, your age, your self-identified gender, and your identified race/ethnicity.

**Time Commitment:**
Your participation in this research study is expected to last for a total of 10 minutes.

**Potential Risks or Discomforts:**

- Upon viewing the image and answering the questions, you may feel anger, disappointment, or anxiety.

- <Use of tables is strongly recommended for complex studies involving multiple procedures.>

- If the image or questions make you significantly uncomfortable, you may withdraw your agreement to participate in this study at any time.

- **FOR GREATER THAN MINIMAL RISK RESEARCH STUDIES ONLY:** Research procedures described above may involve risks that cannot be anticipated at this time. If we learn of anything that may affect your decision to participate, we will inform you as soon as possible. You will then have a chance to reconsider your continuing participation in the research.

**Potential Benefits:**

- You will not directly benefit from your participation in this research study

- Nurse educators and nurse leaders can benefit from understanding the perceptions of the nursing profession that perhaps prevents eligible women and men from choosing nursing as a professional career choice. Society is experiencing a shortage of nurses and recruiting women and men is a top priority for the overall health of the population.

**Alternatives to Participation:**
NOTE: This section is ONLY required for: i) research that involves treatment (behavioral, physical, or otherwise); OR ii) research for which participants are recruited from student subject pools.

**Costs**
NOTE: This section is ONLY required when subjects will bear some costs due to participation in research.

No costs are associated with participation in this research.
Payment for Participation:

You will not receive any payment for participating in this research study.

Research Related Injury

NOTE: This section is ONLY required for research studies that pose greater than minimal risk to participants.

<Provide an explanation as to the availability of medical treatment in the case of research-related injury, including who will pay for the treatment and whether other financial compensation is available.>

Confidentiality:

We will make our best efforts to maintain confidentiality of any information that is collected during this research study, and that can identify you. We will disclose this information only with your permission or as required by law.

We will protect your confidentiality by separating your signed consent from the completed survey packet as soon as you hand it to the researcher. No identifying information will be on the survey other than gender, age, and race/ethnicity demographic information. The signed consents will be stored separately from the completed surveys in a locked drawer in the researcher's office.

The research team, authorized CUNY staff, and government agencies that oversee this type of research may have access to research data and records in order to monitor the research. Research records provided to authorized, non-CUNY individuals will not contain identifiable information about you. Publications and/or presentations that result from this study will not identify you by name.

Participants’ Rights:

- Your participation in this research study is entirely voluntary. If you decide not to participate, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled.

- You can decide to withdraw your consent and stop participating in the research at any time, without any penalty.

Questions, Comments or Concerns:

If you have any questions, comments or concerns about the research, you can talk to one of the following researchers:

Randolph E. Gross MS, RN, NP
Doctoral Student
If you have questions about your rights as a research participant, or you have comments or concerns that you would like to discuss with someone other than the researchers, please call the CUNY Research Compliance Administrator at 646-664-8918. Alternately, you can write to:

CUNY Office of the Vice Chancellor for Research
Attn: Research Compliance Administrator
205 East 42nd Street
New York, NY 10017

**Signature of Participant:**
If you agree to participate in this research study, please sign and date below. You will be given a copy of this consent form to keep.

_____________________________________________________
Printed Name of Participant

_____________________________________________________
Signature of Participant  Date

**Signature of Individual Obtaining Consent**

_____________________________________________________
Printed Name of Individual Obtaining Consent

_____________________________________________________
Signature of Individual Obtaining Consent  Date
Appendix V.

Survey Instrument: Perception of Nurse Stereotypes

NURSE

Is this picture representative of nurses?

Disagree Agree
1-----2-----3-----4-----5-----6-----7

Rate this picture on the following two characteristics.

WARMTH

Disagree Agree
1-----2-----3-----4-----5-----6-----7

COMPETENCE

Disagree Agree
1----2-----3-----4-----5-----6-----7
NURSE

Is this picture representative of nurses?

Disagree  Agree

1-----2-----3-----4-----5-----6-----7

Rate this picture on the following two characteristics.

WARMTH

Disagree  Agree

1-----2-----3-----4-----5-----6-----7

COMPETENCE

Disagree  Agree

1-----2-----3-----4-----5-----6-----7
Is this picture representative of nurses?

Disagree

Agree

1-----2-----3-----4-----5-----6-----7

Rate this picture on the following two characteristics.

WARMTH

Disagree

Agree

1-----2-----3-----4-----5-----6-----7

COMPETENCE

Disagree

Agree

1-----2-----3-----4-----5-----6-----7
Is this picture representative of nurses?

Disagree                                        Agree
1-----2-----3-----4-----5-----6-----7

Rate this picture on the following two characteristics.

WARMTH

Disagree                                        Agree
1-----2-----3-----4-----5-----6-----7

COMPETENCE

Disagree                                        Agree
1-----2-----3-----4-----5-----6-----7
Is this picture representative of nurses?

Disagree                      Agree

1------2-----3------4------5-----6------7

Rate this picture on the following two characteristics.

WARMTH

Disagree                      Agree

1------2-----3------4------5------6------7

COMPETENCE

Disagree                      Agree

1------2-----3------4------5------6------7
Is this picture representative of nurses?

Disagree     Agree

1-----2-----3-----4-----5-----6-----7

Rate this picture on the following two characteristics.

WARMTH

Disagree     Agree

1-----2-----3-----4-----5-----6-----7

COMPETENCE

Disagree     Agree

1-----2-----3-----4-----5-----6-----7
Is this picture representative of nurses?

Disagree

1-----2-----3-----4-----5-----6-----7

Agree

Rate this picture on the following two characteristics.

WARMTH

Disagree

1-----2-----3-----4-----5-----6-----7

Agree

COMPETENCE

Disagree

1-----2-----3-----4-----5-----6-----7

Agree
Is this picture representative of nurses?

Disagree       Agree

1-----2-----3-----4-----5-----6-----7

Rate this picture on the following two characteristics.

WARMTH

Disagree       Agree

1-----2-----3-----4-----5-----6-----7

COMPETENCE

Disagree       Agree

1-----2-----3-----4-----5-----6-----7
1. How would you rate nurses on the following characteristics?

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Not much</th>
<th>A lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competent</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Good-natured</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Confident</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Well-intentioned</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Capable</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Warm</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Efficient</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Trustworthy</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Intelligent</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Sincere</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Skillful</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
<tr>
<td>Friendly</td>
<td>1------2--3-----4------5-----6-----7</td>
<td></td>
</tr>
</tbody>
</table>

2. I have been taken care of by a nurse within the past 5 years (circle one).
   
   Yes          No

3. A nurse has taken care of a family member or close friend within the past 5 years. (circle one).
   
   Yes          No

PLEASE GO TO NEXT PAGE
4. How familiar are you with the history of nursing?

<table>
<thead>
<tr>
<th>None</th>
<th>A lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-----------2-----3-----4-----5-----6-----7</td>
<td></td>
</tr>
</tbody>
</table>

5. How do you perceive the portrayal of nurses and nursing in the media?

<table>
<thead>
<tr>
<th>Negative</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-----------2-----3-----4-----5-----6-----7</td>
<td></td>
</tr>
</tbody>
</table>

6. What degree of importance does the nursing profession play in healthcare reform?

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-----------2-----3-----4-----5-----6-----7</td>
<td></td>
</tr>
</tbody>
</table>

7. What degree of importance is nursing in relation to the nation’s health?

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-----------2-----3-----4-----5-----6-----7</td>
<td></td>
</tr>
</tbody>
</table>

8. If you disagree with any or all of the pictures you have seen in the front of the survey, please state why.

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

PLEASE GO TO NEXT PAGE
Demographics

Mark your response as ☒ or ☐

I identify as: ☐ Male ☐ Female ☐ Transgender ☐ Other

My age group is: (choose one category)

☐ 18-29 ☐ 30-39 ☐ 40-49 ☐ 50-59 ☐ 60 or older

My identified race/ethnicity is: (choose one category)

☐ African American ☐ Asian ☐ Caucasian ☐ Hispanic
☐ Native American ☐ Pacific Islander ☐ Other

I am in college to get a degree in: (choose one category)

☐ Arts Humanities ☐ Education ☐ Health Sciences ☐ Human Sciences ☐ Languages
☐ Natural Sciences ☐ Social Sciences ☐ Business ☐ Other ☐ Undecided

My identified year of study is a: (choose one category)

☐ Freshman ☐ Sophomore ☐ Junior ☐ Senior
☐ Other
Appendix VI.

Nurse Stereotypes

Face Validity Determination Survey

Randy E. Gross MS, RN, NP, CNS
WHNP-BC, ACNS-BC, AOCNP, AOCNS
Student- PhD in Nursing Science Program
CUNY Graduate Center
New York, New York

May 2015
1) Please circle how much you agree that this image is representative of an ANGEL nurse stereotype.

\[0---1---2---3---4---5---6---7---8---9---10\]

None  Extremely
2) Please circle how much you agree that this image is representative of a HANDMAIDEN nurse stereotype.

0----1----2----3----4----5----6----7----8----9----10

None                     Extremely
3) Please circle how much you agree that this image is representative of a BATTLEAXE nurse stereotype.

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Extremely</th>
</tr>
</thead>
</table>

0---1---2---3---4---5---6---7---8---9---10
4) Please circle how much you agree that this image is representative of a WHORE nurse stereotype.

0---1---2---3---4---5---6---7---8---9---10

None

Extremely
5) Please circle how much you agree that this image is representative of the NOT SMART ENOUGH FOR MEDICAL SCHOOL nurse stereotype.

0----1----2----3----4----5----6----7----8----9----10

None

Extremely
6) Please circle how much you agree that this image is representative of the HYPERMASCUNLIZED WOMANIZER nurse stereotype.

0----1----2----3----4----5----6----7----8----9----10

None  Extremely
7) Please circle how much you agree that this image is representative of an EFFEMINATE HOMOSEXUAL nurse stereotype.
8) Please circle how much you agree that this image is representative of an MISCREANT HIDING IN NURSING nurse stereotype.

0----1----2----3----4----5----6----7----8----9----10

None                Extremely
Appendix VIIa.

### Nurse Stereotype Content Expert Face Validity Scores

<table>
<thead>
<tr>
<th>Stereotype</th>
<th>Expert #1</th>
<th>Expert #2</th>
<th>Expert #3</th>
<th>Expert #5</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td>10</td>
<td>8</td>
<td>5</td>
<td>7</td>
<td>32 = 64%</td>
</tr>
<tr>
<td>Handmaiden</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Battleaxe</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Whore</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Not Smart</td>
<td>x</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Womanizer</td>
<td>x</td>
<td>10</td>
<td>4</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Homosexual</td>
<td>x</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Miscreant</td>
<td>x</td>
<td>7</td>
<td>5</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>
### Expert Commentary on Nurse Stereotype Images

<table>
<thead>
<tr>
<th>Nurse Stereotype</th>
<th>Expert #1</th>
<th>Expert #2</th>
<th>Expert #3</th>
<th>Expert #4</th>
<th>Expert #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td>I might get rid of the cross</td>
<td>I think the rosary throws it off a bit. Many might see the angel as the angel of mercy but be put off by the reference to Catholicism. Otherwise I think it is spot on.</td>
<td>I’ve never seen a nurse angel with a rosary before. It seems like overkill. But the rest of it would be typical. You don’t usually see a halo, sometimes a glow like the one you identified yesterday. Also, you might consider her doing something unskilled like mopping a brow or holding a patient’s hand. I don’t think the angel gets manicures. The pen in her pocket suggest she writes things down, which might suggest an education, which not something angles have. They are unskilled, untrained.</td>
<td>I think there are strong angel elements, the halo, wings, praying hands, rosary, necklace cross, however the pen and apparent white coat imply some level of professionalism, and the facial expression is not really angelic; I think the makeup and the one eye suggest a certain knowingness—classic angel would be virtuous blankness and/or cuteness</td>
<td>Too much makeup; needs high collared shirt/dress or old fashioned uniform or bib; mouth needs to be closed with no teeth; no finger nail polish; use of wings</td>
</tr>
<tr>
<td>Handmaiden</td>
<td>Strange! I always thought of the “handmaiden” image as wiping the physicians brow and or bringing him supplies or cleaning up after he leaves a mess.</td>
<td>I think if anything, this image is of the unskilled stereotype. The handmaiden exists to serve the physician and there is no image of the physician in this drawing (must be a male!). even though he isn’t looking at her, Handmaidens just do whatever physicians order them to do, they have no education or responsibility for what happens because of their actions.</td>
<td>The custodial care elements are consistent with the handmaiden, but I think the most important element of the handmaiden is serving physicians, and there is no direct suggestion of that here. Maybe if she could hand something to a physician looking deferential, obedient?</td>
<td>Need uniform; old fashioned like “maid” starched and stiff; holding instruments not toothbrush item</td>
<td></td>
</tr>
<tr>
<td>Battleaxe</td>
<td>This one is spot on!! Great!!</td>
<td>Good, except she would not wear hoop earrings.</td>
<td>Of course, she be even more bitter, unattractive threatening, and ogreish, but keeping it within reason, this seems good.</td>
<td>This not be a person of color in my opinion; appears racist; no earrings</td>
<td></td>
</tr>
<tr>
<td>Whore</td>
<td>This may be way out there but what about an enema bag? Or could you show the short skirt and heels?</td>
<td>She certainly does look vapid, almost like a sex doll! Naughty nurses look at the viewer- with seduction.. They are you fantasy sex object. Naughty nurses also almost always have short skirts! The stethoscope suggests she does some work that is not sex, which is not the case.</td>
<td>Not bad, although the naughty nurse often has stronger sexual components- fewer outer clothes, more exposed lingerie, a more seductive facial expression and physical posture, phallic props, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Not Smart Enough for Medical School</strong></td>
<td>it’s not super</td>
<td>Switching to the male here threw me off a bit but in retrospect given the next sequence and assuming women aren’t smart enough for medicine, this may be okay.</td>
<td>This is a tough one to portray. You might consider having him look at a big fat chemistry book and being confused by it instead of looking off into space.</td>
<td>Tough to convey this in an image; he looks confused but it’s not clear why. And glasses make him seem more thoughtful. Maybe have him shrug and look blank when confronted with health treatise?</td>
<td></td>
</tr>
<tr>
<td><strong>Hypermasculized Womanizer</strong></td>
<td>don’t think this works at all, he doesn’t look hunky enough and also looks like he has lipstick on</td>
<td>This clearly portrays the stereotype but I haven’t heard of or run into this type.</td>
<td>I think you’d have to at least give this guy hair. The sexiest guys have bold hair. And you might consider adding definition to these muscles. Broader shoulders, slight more narrow waist (90% of shoulder width).</td>
<td>Not sure this is a common social or media stereotype, though it may be a thing for men in nursing. Taking image on its own terms, not sure facial expression, eyes, and lips say “womanizer”; maybe more arrogant leering?</td>
<td></td>
</tr>
<tr>
<td><strong>Effete Homosexual</strong></td>
<td>I think this is good but would lower the shirt, we don’t need the belly button, it’s confusing</td>
<td>Looks like Caitlyn Jenner</td>
<td>I’m not sure he needs a bare midriff, and he could use a bit more feminine figure- just a bit! Other than that- good.</td>
<td>Not bad but this seems challenging to convey in still image too, so much is about conduct. Could add more stereotypical accents, physical posture, etc. Bare midriff is nice touch. Remove long finger nails and exposed midriff; this is just too overtly unprofessional</td>
<td></td>
</tr>
<tr>
<td><strong>Miscreant</strong></td>
<td>I don’t get this at all</td>
<td>I had to look up the meaning of the word. It stated “It is somewhat old fashioned word popular with old ladies shocked at having their purses stolen at the opera” I think a better descriptor might be sadist… but I see how close that comes to battleaxe.</td>
<td>I have never heard of this stereotype. Where does it reside?</td>
<td>Not sure I’ve seen much of this as a stereotype. Are you thinking of the angel of death? This guy could just be an alternative groomer. Maybe have him more threatening/hurting someone.</td>
<td></td>
</tr>
</tbody>
</table>

This is not aligned with stereotypes common in nursing that I have encountered; therefore, I cannot comment
Appendix VIII.

**Nurse Stereotype Item Content Validity Index (I-CVI) By Gender**

A convenience sample of 20 Registered Nurses: 10 females & 10 males

<table>
<thead>
<tr>
<th>Nurse Stereotype</th>
<th>Female Registered Nurses</th>
<th>Male Registered Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Handmaiden</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Battleaxe</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Whore</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not Smart Enough for Medical School</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Hypermasculized Womanizer</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td>Effete Homosexual</td>
<td>0.9</td>
<td>0.6</td>
</tr>
<tr>
<td>Miscreant</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*when six or more judges are included, a rating of 0.8 or greater indicates content validity*
Appendix IX.

**Nurse Stereotype Item Content Validity Index (I-CVI) with Combined Genders**

Registered Nurses: \( n = 20 \)

<table>
<thead>
<tr>
<th>Nurse Stereotype</th>
<th>Image</th>
<th>I-CVI Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angel</td>
<td><img src="image1.png" alt="Image" /></td>
<td>1</td>
</tr>
<tr>
<td>Handmaiden</td>
<td><img src="image2.png" alt="Image" /></td>
<td>0.8</td>
</tr>
<tr>
<td>Battleaxe</td>
<td><img src="image3.png" alt="Image" /></td>
<td>1</td>
</tr>
<tr>
<td>Whore</td>
<td><img src="image4.png" alt="Image" /></td>
<td>0.8</td>
</tr>
<tr>
<td>Not Smart Enough for Medical School</td>
<td><img src="image5.png" alt="Image" /></td>
<td>0.8</td>
</tr>
<tr>
<td>Hypermasculized Womanizer</td>
<td><img src="image6.png" alt="Image" /></td>
<td>0.8</td>
</tr>
<tr>
<td>Effete Homosexual</td>
<td><img src="image7.png" alt="Image" /></td>
<td>0.75</td>
</tr>
<tr>
<td>Miscreant</td>
<td><img src="image8.png" alt="Image" /></td>
<td>1</td>
</tr>
</tbody>
</table>
Appendix X.

**Item Content Validity Index (I-CVI) of Revised Male Gender Nurse Stereotypes**

A convenience sample of 11 Registered Nurses: 11 males

<table>
<thead>
<tr>
<th>Nurse Stereotype</th>
<th>Male Registered Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Smart Enough for Medical School</td>
<td>0.87</td>
</tr>
<tr>
<td>Hypermasculized Womanizer</td>
<td>.87</td>
</tr>
<tr>
<td>Effete Homosexual</td>
<td>.81</td>
</tr>
<tr>
<td>Miscreant</td>
<td>.9</td>
</tr>
</tbody>
</table>
Appendix XI.
Data Coding for Perceptions of Nurse Stereotypes in Non-nursing Undergraduate Students

**Representation & perceptions of the NURSE STEREOTYPE IMAGES**

Picture 1 = Angel       (1= disagreement, 7=agreement)
Picture 2 = Not Smart Enough for Medical School  (1= disagreement, 7=agreement)
Picture 3 = Handmaiden     (1= disagreement, 7=agreement)
Picture 4 = Womanizer     (1= disagreement, 7=agreement)
Picture 5 = Battleaxe     (1= disagreement, 7=agreement)
Picture 6 = Homosexual     (1= disagreement, 7=agreement)
Picture 7 = Whore     (1= disagreement, 7=agreement)
Picture 8 = Miscreant     (1= disagreement, 7=agreement)

**1) NURSES' CHARACTERISTICS within the Stereotype Content Model**

W = warm item, C = competent item

SCM1 = competent (C)     (1= not much, 7=a lot)
SCM2 = good-natured (W)     (1= not much, 7=a lot)
SCM3 = confident (C)     (1= not much, 7=a lot)
SCM4 = well-intentioned (W)    (1= not much, 7=a lot)
SCM5 = capable (C)     (1= not much, 7=a lot)
SCM6 = warm (W)     (1= not much, 7=a lot)
SCM7 = efficient (C)     (1= not much, 7=a lot)
SCM8 = trustworthy (W)    (1= not much, 7=a lot)
SCM9 = intelligent (C)     (1= not much, 7=a lot)
SCM10 = sincere (W)     (1= not much, 7=a lot)
SCM11= skillful(C)     (1= not much, 7=a lot)
SCM12= friendly (W)     (1= not much, 7=a lot)

**2) Participant EXPOSURE (having been taken care of by a nurse within past 5 years)**

1 = Yes, 2 = No

**3) Participant's Family or Friend's EXPOSURE (having been taken care of by a nurse within past 5 years)**

1 = Yes, 2 = No

**4) FAMILIARITY with History of Nursing**

1 = none, 7 = a lot

**5) FAMILIARITY with Portrayal of Nurses in Media**

1 = negative, 7 = positive

**6) Degree of IMPORTANCE the Nursing Profession Plays in Healthcare Reform?**

1 = low, 2 = high

**7) Degree of IMPORTANCE of the Nursing Profession in Relation to the Nation's Health**

1 = low, 2 = high

**Demographics**

- **Gender**: 1 = male, 2 = female, 3 = transgender, 4 = other
- **Age group**: 1 = 18-29, 2 = 30-39, 3 = 40-49, 4 = 50-59, 5 = 60 or older
- **Race/ethnicity**: 1 = African American, 2 = Asian, 3 = Caucasian, 4 = Hispanic, 5 = Native American, 6 = Pacific Islander, 7 = Other
- **Degree pursuit**: 1 = Arts/Humanities, 2 = Education, 3 = Health Sciences, 4 = Human Sciences, 5 = Languages, 6 = Natural Sciences, 7 = Social Sciences, 8 = Business, 9 = Other, 10 = Undecided
- **Year of study**: 1 = freshman, 2 = sophomore, 3 = junior, 4 = senior, 5 = Other
References


Davidson, P. (2016). The face of nursing is changing. Personal communication.


Turow, J. (2012). Nurses and doctors in prime time series: the dynamics of depicting professional power. *Nursing Outlook*, 60(55), S4-S11.


