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Factors influencing the importance of incorporating competencies regarding mass casualty incidents into baccalaureate-degree nursing programs as perceived by currently employed faculty

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FACTORS INFLUENCING THE IMPORTANCE OF INCORPORATING COMPETENCIES
REGARDING MASS CASUALTY INCIDENTS INTO BACCALAUREATE-DEGREE
NURSING PROGRAMS AS PERCEIVED BY CURRENTLY EMPLOYED FACULTY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Human Resource Education
and Workforce Development

by
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December 2006

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I dedicate this study to health care professionals who have selflessly dedicated their time and expertise in providing care to others during mass casualty events. During crises of this magnitude these experts have been faced with the task of making critical decisions. In dedicating this study to such individuals it is my desire that professional nurse educators will become more proactive in receiving knowledge and training needed to teach mass casualty preparation competencies to nursing students.

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I would like to thank my father for teaching me the value of education. If he were here today, I know he would be very proud of my success. I would like to thank my three children, Wade, Andy, and Kaki who are presently in college and have learned to appreciate the value of education. I would like to thank my husband, Buddy, who has supported me in my time away from family obligations for my academic requirements. I would like to thank my “study buddies” Cathy Cormier and Elaine Hurme who have helped me learn while having fun. Also, thanks to Ken Tillman for your support and many words of wisdom and Jeannie Harper for leading the way. Many thanks to Mary Burke, who was always there, day and night, to answer statistical questions

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS	iv
LIST OF TABLES	vii
LIST OF FIGURES.....	xi
ABSTRACT	xii
CHAPTER I. INTRODUCTION	1
Rationale.....	1
Purpose.....	9
Research Objectives	9
Definition of Terms	11
Significance of the Study	12
CHAPTER II. REVIEW OF THE LITERATURE	14
Overview of Mass Casualty Incidents.....	14
Response at the Federal, State, and Local Levels	18
History of Nursing Related to Mass Casualty Incidents	25
Factors That Influence Nursing Curriculum Content.....	31
Preparing Nurses for Mass Casualty Incidents	36
CHAPTER III. METHODOLOGY	39
Population and Sample.....	39
Instrumentation.....	39
Data Collection.....	41
Non-Responders	43
CHAPTER IV. RESULTS AND FINDINGS.....	44
Objective One.....	46
Objective Two.....	55
Objective Three.....	60
Objective Four.....	69
Objective Five.....	80
Objective Six.....	91
Objective Seven.....	92
CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS.....	120
Purpose.....	120
Research Objectives	120
Sample and Procedures	122
Summary of Findings by Objective	124
Conclusions, Implications, and Recommendations	132
Recommendations for Future Research	139
REFERENCES.....	140

APPENDIX

A. PRE-NOTICE E-MAIL MESSAGE	146
B. THE COVER LETTER	148
C. DISASTER MANAGEMENT PREPARATION QUESTIONNAIRE	150
VITA	159

LIST OF TABLES

1.	Age as Reported by Louisiana Baccalaureate Nurse Educators	47
2.	Ethnic Background as Reported by Louisiana Baccalaureate Nurse Educators	48
3.	Number of Children Under the Age of 18 Living at Home as Reported by Louisiana Baccalaureate Nurse Educators	49
4.	Number of Adults Aged 18 and Over Other than Themselves Living at Home as Reported by Louisiana Baccalaureate Nurse Educators	50
5.	Highest Level of Education Completed as Reported by Louisiana Baccalaureate Nurse Educators	51
6.	Years of Nursing Employment as Reported by Louisiana Baccalaureate Nurse Educators	51
7.	Years of Employment as a Nurse Educator as Reported by Louisiana Baccalaureate Nurse Educators	52
8.	Primary Clinical Practice Area as Reported by Louisiana Baccalaureate Nurse Educators	53
9.	Primary Teaching Area as Reported by Louisiana Baccalaureate Nurse Educators.....	54
10.	Training Received and Life Experiences Regarding Mass Casualty Incidents as Reported by Louisiana Baccalaureate Nurse Educators	57
11.	Scoring System for Calculating Mass Casualty Experience Score Among Louisiana Baccalaureate Nurse Educators	58
12.	Mass Casualty Experience Scores Among Louisiana Baccalaureate Nurse Educators	59
13.	Self-Perceived Knowledge of Selected Core Competencies for Mass Casualty Incidents among Louisiana Baccalaureate Nurse Educators	61
14.	Factor Analysis of Louisiana Baccalaureate Nursing Educators' Perceptions of Knowledge of Selected Core Competencies for Mass Casualty Incidents	65
15.	Self-Perceived Knowledge of Sub-scale Scores of Selected Core Competencies for Mass Casualty Incidents of Louisiana Baccalaureate Nursing Educators	68
16.	Knowledge Constructs, Number of Items Reliability of Sub-scales Derived from the Three-Factor Solution	69
17.	Perceived Importance of Selected Core Competencies for Mass Casualty Incidents among Louisiana Baccalaureate Nurse Educators	70

18.	Factor Analysis of Louisiana Baccalaureate Nurse Educators’ Perceptions of the Importance of Core Competencies for Mass Casualty Incidents in the Knowledge of Ethical/Legal/Safety Issues Sub-scale	74
19.	Factor Analysis of Louisiana Baccalaureate Nurse Educators’ Perceptions of the Importance of Core Competencies for Mass Casualty Incidents in the Assessment of Psychosocial Concerns Sub-scale	77
20.	Factor Analysis of Louisiana Baccalaureate Nurse Educators’ Perceptions of the Importance of Core Competencies for Mass Casualty Incidents in the Implementation of Nursing Skills Sub-scale	78
21.	Perceived Importance Sub-scale Analysis of Selected Core Competencies for Mass Casualty Incidents among Louisiana Baccalaureate Nursing Educators	79
22.	Relationship Between Age of Louisiana Baccalaureate Nurse Educators and Perceived Importance Sub-scale Scores	80
23.	Relationship Between Age of Louisiana Baccalaureate Nurse Educators and Perceived Importance Sub-scale Scores.....	81
24.	Relationship Between Perceived Importance Sub-scale Scores and the Number of Children Under the Age of 18 years living at home with Louisiana Baccalaureate Nurse Educators	82
25.	Relationship Between Perceived Importance Sub-scale Scores and the Number of Adults Aged 18 and Older Living at Home with Louisiana Baccalaureate Nurse Educators.....	83
26.	Relationship Between Perceived Importance Sub-scale Scores and the Years Employed as a Nurse among Louisiana Baccalaureate Nurse Educators	83
27.	Relationship Between Perceived Importance Sub-scale Scores and the Years Employed as a Nurse Educator among Louisiana Baccalaureate Nurse Educators.....	84
28.	Comparison of Perceived Importance Sub-scale Scores by Gender among Louisiana Baccalaureate Nurse Educators.....	85
29.	Comparison of Perceived Importance Sub-scale Scores by Highest Level of Education Completed among Louisiana Baccalaureate Nurse Educators.....	86
30.	Comparison of Perceived Importance Sub-scale Scores by Ethnicity Among Louisiana Baccalaureate Nurse Educators.....	87
31.	Comparison of the “Knowledge of Ethical/Legal/Safety Issues” Perceived Importance Sub-scale Scores by Primary Clinical Practice Area of Louisiana Baccalaureate Nurse Educators	88

32.	Mean Perceived Importance Sub-scale Scores by Primary Clinical Practice Area of Louisiana Baccalaureate Nurse Educators	89
33.	Mean Perceived Importance Sub-scale Scores by Primary Teaching Area of Louisiana Baccalaureate Nurse Educators	90
34.	Correlations Between Perceived Knowledge and Perceived Importance of Sub-scales: Knowledge of Ethical/Legal/Safety Issues, Assessment of Psycho/Social Concerns, and Implementation of Nursing Skills	92
35.	Bivariate Correlations between the Knowledge Sub-Scale Score: Perceived Importance of Knowledge of Ethical/ Legal/Safety Issues and Selected Personal and Professional Characteristics of Louisiana Baccalaureate Nurse Educators	99
36.	Analysis of Variance Illustrating Significance of Knowledge of Ethical/Legal/Safety Issues and Woman’s Practice in Predicting Perceived Importance of Knowledge of Ethical/Legal/Safety Issues Among Baccalaureate-Degree Louisiana Nurse Educators	101
37.	Regression Findings Predicting Louisiana Baccalaureate Nurse Educators Perceived Importance of Knowledge of Ethical/Legal/Safety Issues	101
38.	Unstandardized and Corresponding Standard Errors, Standardized Coefficients, t Values and Corresponding Significance Levels.....	102
39.	Excluded Variables, Standardized Beta Values, t Values with Significance Levels, Partial Correlations and Tolerance Levels for the Regression Equation to Predict Importance of Knowledge of Ethical/legal/safety Issues	102
40.	Bivariate Correlations between the Knowledge Sub-Scale Score: Perceived Importance of Assessment of Psychosocial Concerns and Selected Personal and Professional Characteristics of Louisiana Baccalaureate Nurse Educators	106
41.	Analysis of Variance Illustrating Significance of Knowledge of Ethical/Legal/Safety Issues and Woman’s Practice in Predicting Perceived Importance of Assessment of Psychosocial Concerns Among Baccalaureate-Degree Louisiana Nurse Educators	108
42.	Regression Findings Predicting Louisiana Baccalaureate Nurse Educators Perceived Importance of Knowledge of Psychosocial Concerns.....	108
43.	Unstandardized and Corresponding Standard Errors, Standardized Coefficients, t Values and Corresponding Significance Levels.....	109
44.	Excluded Variables, Standardized Beta Values, T Values with Significance Levels, Partial Correlations and Tolerance Levels for the Regression Equation to Predict Importance of Assessment of Psychosocial Concerns	109

45.	Bivariate Correlations between the Knowledge Sub-Scale Score: Perceived Importance of Implementation of Nursing Skills and Selected Personal and Professional Characteristics of Louisiana Baccalaureate Nurse Educators	113
46.	Analysis of Variance Illustrating Significance of Implementation of Nursing Skills and Children at Home in Predicting Perceived Importance of Implementation of Nursing Skills Among Baccalaureate-Degree Louisiana Nurse Educators	115
47.	Regression Findings Predicting Louisiana Baccalaureate Nurse Educators Perceived Importance of Knowledge of Psychosocial Concerns.....	115
48.	Unstandardized and Corresponding Standard Errors, Standardized Coefficients, t Values and Corresponding Significance Levels.....	116
49.	Excluded Variables, Standardized Beta Values, t Values with Significance Levels, Partial Correlations and Tolerance Levels for the Regression Equation to Predict Importance of Implementation of Nursing Skills	116

LIST OF FIGURES

1. Histogram Depicting Standardized Residuals for the Dependent Variable Sub-scale
Score of Perceived Importance of Knowledge of Ethical/Legal/Safety Issues..... 98
2. Histogram Depicting Standardized Residuals for the Dependent Variable Sub-scale
Score of Perceived Importance of Assessment of Psychosocial Concerns..... 105
3. Histogram Depicting Standardized Residuals for the Dependent Variable Sub-scale
Score of Perceived Importance of Implementation of Nursing Skills..... 112

ABSTRACT

Whether they are naturally occurring, caused by environmental forces, or generated by humans, disasters have placed extraordinary stresses on society. Following September 11, 2001, the Department of Homeland Security was created to protect the nation and coordinate responses to future emergencies at the federal, state, and local levels. However, Governmental agencies can't handle all aspects of mass casualty events. Healthcare professionals, such as nurses, who are knowledgeable and trained in mass casualty incidents (MCIs) are needed to provide competent care to the victims.

Although others expect a knowledgeable nursing response, the majority of nurse educators have not received mass casualty preparation and they hesitate to incorporate disaster preparedness into nursing curricula. The purpose of this study was to identify factors that influence the importance of including educational competencies regarding MCIs into the existing curricula as perceived by faculty of baccalaureate degree nursing programs in Louisiana. A second purpose of this study was to describe the participants on selected personal and demographic characteristics.

A census of 285 Louisiana baccalaureate nurse educators was selected to participate in the study. The data collection process culminated in a total of 166 returned questionnaires (58% response rate). The researcher-designed instrument collected information measuring the training and experience of nurse educators regarding preparation for MCIs, information regarding the self-perceived knowledge and perceived importance of core competencies regarding MCIs, and information on personal and professional characteristics of the participants.

Findings revealed that Louisiana baccalaureate nursing educators are an older workforce with minimal training and/or life experiences regarding MCIs. Additional findings are that Louisiana baccalaureate nursing educators perceive themselves to have limited knowledge of

MCI core competencies, but perceive these same competencies as highly important for inclusion into current nursing curricula. Another finding of this study is that a positive relationship exists between knowledge and importance of MCI preparation. Results from this study support the need for Louisiana baccalaureate nursing educators to receive immediate knowledge and training of MCI core competencies in order to equip them with the knowledge and skills necessary to teach this information to students prior to graduation.

CHAPTER I

INTRODUCTION

Rationale

How would the medical community of today react to historical disasters such as the eruption of Vesuvius in 79 A.D. that buried the towns of Herculaneum and Pompeii, or the 1348 black plague that took as much as 50% of Europe's population, or the 1666 Great Fire of London in which more than 13,000 houses, 87 churches and the main buildings in the city were all destroyed? Disasters are nothing new to mankind. Disasters, destructive events that disrupt the normal functioning of a community, have occurred since the beginning of civilization. Whether they are naturally occurring, caused by environmental forces, or generated by humans, disasters have placed extraordinary stresses on society's ability to deal with the catastrophic effects.

Natural disasters, such as earthquakes, floods, hurricanes, tornados, wildfires, droughts, tsunamis, and temperature extremes, often result in catastrophic losses, physical, social, and economic destruction, human suffering, injury and death. An average of one disaster per week occurs globally requiring international assistance, and the number of federally declared disasters since 1976 average 34 per year (Veenema, 2003). Accompanied by technological and meteorological advancements, each disaster brings a learning experience that can be translated into a positive outcome in that it has allowed for the creation of and funding for task forces to specifically address those events. Information gained has led to development of advance-warning systems and preparation for natural disasters with an ultimate goal of reducing catastrophic losses by allowing time for evacuation, securing possessions, and obtaining emergency materials.

Man-made disasters can be accidental, such as the 1984 Bhopal toxic gas release and the 1989 Exxon Valdez oil spill, or may be deliberate, such as the 2001 World Trade Center attack. In comparison to natural disasters, the devastating effects resulting from man-made tragedies are

more uncertain, and the eventual health outcomes may take years to manifest. Adding the use of fear, with the intended use of chemical and biological warfare, acts of or even threats of terrorism can lead to mass psychological illnesses.

The potential for catastrophic disasters is increasing in number and complexity in response to “global instability, economic decay, political upheaval and collapse of government structures, violence and civil conflicts, famine, and mass population displacements” (Veenema, 2003, p. 2). And despite the fact that various sorts of truly horrific disasters have occurred frequently enough and recently enough to expose the limitations of current emergency management and medical education policies, it wasn’t until the concept of terrorism on American soil was introduced into the equation that substantial attention was brought into focus on resolving many of the more pressing problems. With the exception of Pearl Harbor, most stories of terrorism have been about far away places. That was the past.

The attacks in New York, Washington, DC and Pennsylvania on September 11, 2001, inspired Americans to assess the nation’s preparedness in dealing with mass casualty from terrorist attacks. People looked to the media for information via newspapers, television, radio, and the Internet for visual footage, important developments, and instructions following the disaster. The bioterrorism-related anthrax episodes that followed served as a wake up call to the American public that this nation is in need of an organized response to future biological and chemical threats. The United States has declared war on terrorism (Hilton & Allison, 2004).

In the aftermath of the terrorist attacks against America on September 11, 2001, President George W. Bush created the Department of Homeland Security (DHS) to coordinate domestic agencies into one department to protect the nation against further terrorist attacks and to coordinate the response of this nation to future emergencies (Veenema, 2003). Disaster relief efforts exist at the local level such as public health units and the American Red Cross (ARC), the

state level such as the state police and the National Guard, and the federal level such as the Center for Disease Control (CDC) and the Federal Emergency Management Agency (FEMA). In 2002, Congress passed the Public Health and Security and Bioterrorism Preparedness and Response Act (Wisniewski, Dennik-Champion & Peltier, 2004). Billions of dollars have been allocated to antiterrorism. In October 2005, the Health Resources and Services Administration (HRSA) under the U. S. Department of Health and Human Services (DHHS) awarded \$26.1 million in bioterrorism preparedness training for the health professions workforce (HRSA, 2005).

Contemporary disasters that would readily be analogous to weapons of mass destruction attacks by terrorism are easily researched. The Chernobyl Nuclear disaster in Russia (man-made, but unintentional), the Sarin Gas attack in the Tokyo subways (deliberate terrorist attack) and both the Severe Acute Respiratory Syndrome (SARS) outbreak and the looming pandemic of Avian Flu (natural, but easily simulated as intentional), could provide an exhaustive body of information in creating the nucleus of an ongoing education necessary to cope with the increasing likelihood of these events occurring in the United States. Such disasters would dictate coordination at all levels of government in both providing a rapid response to treating existing trauma and a phased plan to prevent the spread of additional adverse medical conditions.

Worldwide, modern terrorism has been wielded as a brutal instrument of change for decades, and in countries most affected a disaster response model should be available for adaptation. Unfortunately, most of the countries that have been most frequently attacked are also some of the most totalitarian regimes on the planet, and the extreme measures that are available to their governments (China and the 2004 SARS outbreak) would be considered intolerable in America. Data available from a number of other countries such as Israel (subject to constant terrorist attacks), Indonesia (2005 tsunami and 2006 earthquakes), and Great Britain (2005 subway bombings), compiled with recent terrorist experiences on U.S. soil, provided enough

data to devise a cohesive plan to deal with the disruption that may be caused within the three levels of the U.S. government in the event of a mass casualty incident (MCI). There is an immense knowledge base available that can be utilized by nurse educators to instruct the nursing community.

In the event of a bioterrorist attack, health care professionals will be first responders because victims require prophylaxis and treatment. Nurses, with a population of 2.7 million in the U.S., comprise the largest group of health care professionals; however, this number is not even enough today to provide routine patient care on a daily basis. The current national nursing shortage is projected to drastically increase. By the year 2020, the U.S. DHHS (2006), estimated the national deficit of full-time equivalent registered nurses to be 1,016,900. In the event of a disaster, the demand for nurses will increase, placing a burden on the current shortage.

Nurses are caring, courageous, compassionate professionals who have assumed the responsibility to be the first line of response in the event of any catastrophic health crisis. Historically, nurses have responded quickly during public health emergencies. On September 11, 2001, New York nurses immediately reported to work and the New York State Nurses Association reported that nurses from across the country volunteered to assist (American Nurses Association, 2002b). On August 29, 2005, Hurricane Katrina, declared as the most costly natural disaster in the history of the United States, devastated the Gulf Coast of Alabama, Florida, Louisiana, and Mississippi. As of January 24, 2006, the unofficial death toll caused by Katrina was 1,417, and this number did not account for the 3,200 that remained missing (Lindsay, 2006). Hurricane Rita, recorded as being the strongest measured hurricane to ever enter the Gulf of Mexico, compounded the devastation to the area on September 24, 2005 (Wikipedia, 2006). Many of the nurses of the Gulf Coast region worked numerous hours of overtime at their nursing

jobs, and others volunteered at shelters and other agencies responsible for coordinating the hurricane relief efforts. This taxed the already short supply of nurses in the area.

The major disasters occurring concurrently with the present nursing shortage are capable of devastating patient safety. To address this situation, the American Nurses Association (ANA) with DHHS's Office of Public Health Preparedness and the Public Health Service established a National Nurses Response Team (NNRT). The NNRT is dedicated to responding to a presidentially declared disaster to provide mass immunization or chemoprophylaxis to a population at risk (ANA, 2002a). This is just a beginning to address nursing roles during disasters. The roles of the professional nurse in a disaster setting vary because nurses have diverse educational backgrounds, varied experiences and practice in assorted settings.

Emergency Room nurses take continuing education courses, or they are provided with in-service training designed to address advances in the treatment of massive trauma to an individual, but there are few or no requirements to educate the 2.7 million practicing nurses on coping with the large-scale trauma in a community affected by a disaster. Not all nurses are expected to perform as First Responders. When disaster happens, all nurses, even those without MCI education or training, may be called to participate.

In the U.S., annual emergency preparedness education and drills are required by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) as part of their standards (2003) for hospital disaster preparedness in order to receive agency accreditation (Steed, Howe, Pruitt & Sherrill, 2004). Such training however is not part of the required undergraduate curricula in most U.S. nursing programs (Gebbie & Qureshi, 2002). Conway-Welch (2002) advocated that nursing students learn their role expectations and become educated in the skills needed to assist appropriately in all disasters prior to graduation. Rose and Larrimore (2002) reported that domestic terrorism knowledge and awareness is low among nurses and nursing

students, which supports the need for increased emphasis on terrorism education. Research suggested that communication among schools of nursing and clinical agencies is often inconsistent regarding expectations of faculty and students during disaster events (Langan, 2003). In response to these concerns, the International Nursing Coalition for Mass Casualty Education (INCMCE) was established in March 2001 to facilitate development of educational policies and competencies related to the impact of mass casualty events on nursing practice, education, research and regulation. Lanagan and James (2005) reported that in August 2003, the INCMCE published the *Educational Competencies for Registered Nurses Related to Mass Casualty Incidents*.

While some nursing programs have incorporated content and methods of instruction related to disaster preparation into the nursing curricula, many have not. Regarding MCIs, there are neither educational competencies mandated for existing nursing curricula nor any mandatory continuing educational courses that exist for the current nursing pool (Gebbie & Qureshi, 2002). Nursing educators are accountable to the student, the community, and society at large to prepare graduates to work in an environment where the potential for mass casualty disaster is no longer a low probability event by adjusting the curricula to include content regarding disaster preparation. Schools of nursing need to adapt existing curricula to provide nursing students with the knowledge and skills required to participate in a national emergency response in the event of chemical and biological warfare.

Nurse educators are challenged to develop relevant curriculum to equip the novice nurse for new roles and responsibilities needed for entry-level practice. Several factors that influence curriculum development and revision include: National Council Licensure Examination for Registered Nurses (NCLEX-RN) results and accreditation standards, school resources and technology, institutional regulations and faculty expertise, graduate and employer satisfaction,

and nursing paradigms and workforce (Iwasiw, Goldenberg & Andrusyszyn, 2005). While it is unpopular to think that nursing curricula build upon accreditation criteria or NCLEX-RN content, in truth, integrating these into curriculum development helps faculty to prepare for program approval and prepare graduates for success on the NCLEX-RN.

Some of the main forces and issues that influence nursing curriculum development in a rapidly changing and complex health care environment include: the growth of an ethnically diverse and older population, the explosion of technology and influence of globalization, increasing environmental hazards, and global violence and the threats of potential violence (Warner, 2005). While curriculum revisions have been made to incorporate population shifts and technology explosion, current issues that have not been adequately addressed in baccalaureate nursing curricula are the increasing environmental hazards and insurmountable global violence. Naturally occurring disasters or deliberately caused infections, chemical spills, radiological releases, or other calamitous events are challenging the U.S. health care system; however, mass casualty education preparation has not been incorporated into the curricula of many nursing programs. If global violence, the threats of potential violence, and environmental hazards are documented as major forces and issues that influence nursing curriculum development, why has mass casualty preparation not been incorporated into the curricula of many nursing programs?

Part of the problem is that nursing education is being faced with an aging workforce that did not receive adequate instruction or training for mass casualty preparation. In 2000, the average age of faculty in baccalaureate nursing programs was 50 years old (Trossman, 2002). If nursing educators are not knowledgeable about the subject, how will they prepare students? To find which nurse faculty members feel qualified to teach, self-perceived level of knowledge of educational competencies regarding MCIs needs to be measured.

An important responsibility of nursing faculty is to continually assess curriculum components, processes, and outcomes to ensure quality education in nursing. The nursing curriculum is developed by nursing faculty, evaluated by nursing faculty, and revised by nursing faculty. Several evaluation tools, such as surveys or test scores, provide insight as outcome measures; however, faculty have the most direct influence on curriculum development by virtue of their knowledge, experience, and decision-making power. Curriculum development, ongoing evaluation, and constant revision are faculty driven by nurse educators who are clinical specialists, experienced practitioners, experienced teachers, and professional role models (Johnson, 2006). Nursing faculty members, considered as experts, determine what essential content needs to be included in the curricula and how that material is to be disseminated to the learner.

Another reason that educational competencies regarding MCI preparation have not been added to the majority of existing curricula may be that many nursing faculty members currently employed do not rate the content to be essential. Therefore, in order to prepare for faculty resistance to curriculum change, self-perceived level of importance of incorporating educational competencies regarding MCIs into the current curricula of nursing programs as perceived by nurse educators needs to be measured.

Information obtained from this research will be beneficial to nurse educators in identifying their body of knowledge regarding core competencies for registered nurses related to MCIs. Nursing faculty who are knowledgeable may incorporate this content in current teaching workloads. Nursing faculty members who are ill prepared may take measures to receive instruction or training for mass casualty preparation, or Deans of nursing programs may recognize the need to hire faculty that have the knowledge and experience to teach the content. Information obtained from this research will also be beneficial to nurse educators in identifying

their perception of importance for core competencies related to MCIs to be included in nursing curricula. If a high level of importance is perceived among faculty, content may be added immediately. If a low level of importance is found, greater resistance to curriculum revision may occur among faculty members. Measures to decrease resistance to change need to be taken in order to add relevant content, and thus maintain a vibrant, meaningful curriculum.

Purpose

The primary purpose of this study was to identify factors that influenced the importance of including educational competencies regarding MCIs in the existing curricula as perceived by faculty of baccalaureate degree nursing programs in Louisiana. A second purpose of this study was to describe the participants on selected personal and demographic characteristics.

Research Objectives

1. To describe nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana on the following personal and professional characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
2. To determine training received and life experiences regarding MCIs of nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana.

3. To determine self-perceived level of knowledge of educational competencies regarding MCIs among nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana.
4. To determine the importance of incorporating educational competencies regarding MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana.
5. To determine if a relationship exists among currently employed nurse educators between the overall perceived level of importance of incorporating educational competencies regarding MCIs into the baccalaureate-degree nursing curriculum and the following selected personal and professional demographic characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
6. To determine if a relationship exists between the level of knowledge and the overall level of importance of incorporating educational competencies regarding MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana.

7. To determine if a model exists that explains a significant portion of the variance of the perception of importance to include educational competencies regarding MCIs into the existing curricula among current faculty of baccalaureate degree nursing programs in Louisiana from the following personal and professional characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
 - j. Experience score
 - k. Self-perceived level of knowledge

Definition of Terms

Bioterrorism: Bioterrorism is “the unlawful release of biologic agents with the intent to intimidate or coerce a government or population to further political or social objectives” (Veenema, 2003, p.504).

Disaster: A disaster is any event, usually sudden, that causes “damage, ecological disruption, loss of human life, deterioration of health and human services, and which exceeds the capability of the affected community on a scale sufficient to require outside assistance” (Veenema, 2003, p. 505).

Mass Casualty Incident: This is “a situation with 100 or more casualties and available emergency medical services, facilities, and resources are overwhelmed” (Lanagan & James, 2005, p. 2).

Nurse Educator: A faculty member with a master’s degree or higher who is currently teaching full-time in a baccalaureate nursing program accredited by the Louisiana State Board of Nursing.

Preparedness: This includes “all measures and policies taken before an event occurs that allow for prevention, mitigation, and readiness” (Veenema, 2003, p. 512).

Weapons of Mass Destruction: This includes “any device, material, or substance used in a manner, in a quantity or type, or under circumstances evidencing an intent to cause death or serious injury to persons or significant damage to property” (Veenema, 2003, p. 515).

Significance of the Study

Nursing educators must prepare graduates to work in an environment where the potential for mass casualty disaster is no longer a low probability event by adjusting the curricula to include content regarding disaster preparation. Regarding mass casualty preparation, there are neither educational competencies mandated for existing nursing curricula nor any mandatory continuing educational courses that exist for the current nursing pool (Gebbie & Qureshi, 2002). Nursing education is being faced with an aging workforce that did not receive adequate instruction or training for mass casualty preparation. In 2000, the average age of faculty in baccalaureate nursing programs was 50 years old (Trossman, 2002). If nursing educators are not prepared, how will they prepare students?

Nurses are accountable to the public to provide care to those individuals, groups, and communities affected by disaster. Therefore, it is increasingly important for current nursing educators to receive instruction and training regarding mass casualty preparation in order to disseminate this information adequately to the future nursing profession. Results from this study

will provide information about how adequately prepared the Louisiana nursing faculty feel regarding mass casualty preparation.

Additionally, information regarding the faculty's perception of importance of incorporating this instruction/ training will be found. If this study reveals that faculty members are ill prepared, measures must be taken to train the trainers. Such measures may include mandatory continuing education and mock mass casualty drills that incorporate nursing with local, state, and federal response efforts. If this study reveals that faculty members rate the inclusion of this material as important and faculty are knowledgeable, measures to incorporate mass casualty preparation into existing curricula must be taken immediately. Such measures may be to offer a course as an elective, to thread the content across all levels in several courses, or to incorporate the material as a requirement prior to graduation. If this study reveals that faculty members rate the inclusion of this material as unimportant, further research needs to be conducted to explore faculty perceptions of this topic in relation to other curriculum content. Reasons may stem from arguments that faculty workload is full, or that the curriculum is already over-saturated. If this is the case, nursing faculty must review the program to maintain a vibrant curriculum that responds to changes in society, health care needs of the population, and learners' needs. Factual information regarding deficiencies, such as lack of MCI preparation, in the current curriculum must be presented, and outdated content must be replaced.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter's purpose is to synthesize the existing literature, which serves as a foundation for this study. This chapter is organized in the following sections: overview of MCIs, response at the federal, state and local levels, history of nursing related to MCIs, factors that influence nursing curriculum content, and preparing nurses for MCIs.

Overview of Mass Casualty Incidents

Mass casualty incidents may be caused by natural events, environmental accidents, or purposeful, man-made disasters. Natural events include earthquakes, floods, hurricanes, tornados, wildfires, droughts, tsunamis, and temperature extremes. Man-made disasters, either accidental or deliberate, include: chemical, biological, and radiological terrorism; fire; explosions; transportation accidents; and acts of war. Whether natural or man-made, mass casualty disasters have the following characteristics: (1) the resulting illness, injury, death and damage to property cannot be effectively managed by routine procedures and resources; (2) successful response is dependent on coordination of persons and agencies across local, state, and federal levels; (3) victims will need to be distributed to different health care facilities; (4) individuals, families, and communities will need to be evacuated and sheltered; and (5) heightened security and curfews will be needed for crime control (Pattillo, 2003).

Natural disasters are events caused by nature or by disease processes and often result in catastrophic losses; physical, social, and economic destruction; human suffering; injury and death. More deadly natural disasters are occurring worldwide as global warming accelerates and population growth occurs (News24, 2005). More people are at risk for mass casualty during disaster events due to population expansion into hazardous areas around the globe. Examples of natural disasters that have resulted in mass casualty incidents in the recent past are the tsunami

and its aftermath in Southern Asia, the Pakistan earthquake, Hurricanes Katrina, Rita and Wilma, and heavy floods in Europe.

On December 26, 2004, a powerful earthquake with a magnitude of 9.1- 9.3 erupted under the Indian Ocean near Sumatra causing giant, deadly waves that may have been as high as 30 meters (100 feet) tall to crash ashore in nearly a dozen countries (Wikipedia, 2006b). Hundreds of thousands were killed and millions were left homeless. On October 8, 2005, a powerful earthquake devastated the Pakistan-India border region killing at least 86,000 and leaving millions more homeless (CBS News, 2005).

On August 29, 2005 Hurricane Katrina, declared as the most costly natural disaster in the history of the United States, devastated the Gulf Coast of Alabama, Florida, Louisiana, and Mississippi. As of January 24, 2006, the unofficial death toll caused by Katrina was 1,417 and this did not account for the 3,200 that remained missing (Lindsay, 2006). Hurricane Rita recorded as being the strongest measured hurricane to ever enter the Gulf of Mexico, compounded the devastation to the area on September 24, 2005 (Wikipedia, 2006a).

In Central Europe, flood risk and vulnerability have grown because of climate changes and also population growth with housing expansion into floodplains. Under future climate change, the frequency and intensity of floods are expected to increase in many regions of the world because of distorted patterns of precipitation and sea level rise (Kundzewicz, 2005).

Man-made disasters are attributed to chemical, biological, nuclear, or conventional explosions and acts of war. They sometimes result from environmental emergencies that involve the accidental or deliberate release of radioactive materials or hazardous chemicals into the environment. Depending on the type of toxic agent involved, the health of affected populations may need to be evaluated over many years. Man-made disasters that have resulted in MCIs are the chemical release in Bhopal, the Exxon Valdez oil spill, the nerve agent sarin used in the

attack in Tokyo, the SARS virus, the atom bombs dropped on Hiroshima and Nagasaki, and the Chernobyl nuclear accident (Langan & James, 2005).

Whether accidental or deliberately released, a MCI involving chemical agents is essentially a hazardous materials event. In responding to a chemical disaster, victims will usually require decontamination measures. Chemical events are generally quick acting, causing casualties within hours, and self-limiting; however, the number of exposed, worried, and panicked individuals seeking medical care will overpower the health care system.

In 1984 in Bhopal, India, the accidental release of the chemical gas methyl isocyanate at Union Carbide's pesticide plant accounted for 8,000 deaths and 150,000 injuries (Veenema, 2003). A positive outcome from this incident was that it led to worldwide regulation on chemicals and toxicity. On March 24, 1989, the vessel Exxon Valdez accidentally spilled 11 million gallons of crude oil into the Prince William Sound, Alaska. It endangered the commercial fishing industry, birds, waterfowl, sea otters, porpoises, and whales. In 1990 as a result of this incident, the U.S. Congress passed the Oil Pollution Act, requiring the Coast Guard to strengthen its regulations on the oil tank industry (Veenema, 2003).

Deliberate release of chemical agents may be an act of terrorism. Historically, chemicals used in this capacity include nerve agents, such as sarin gas; blood agents, such as cyanide; lung irritants, such as chlorine gas; vesicants, such as mustard; and pesticide compounds (Croddy & Ackerman, 2003). In the event of mass casualty from a chemical disaster, the health care system may become overwhelmed from the "worried well" population that have not been directly affected as they flood emergency departments out of a justifiable concern for their health.

Differing from the effect of chemical release, a biological event, which will likely involve the exposure to a pathogen, will not be quick acting or self-limiting. Instead of causing casualties within hours, the onset of symptoms in a biological event is insidious and may remain

unnoticed for hours to weeks. Attacks or even threats of bioterrorism are similar to those that involve chemicals in that both will result in negative outcomes on both the victims and the general population. Those not affected physically will suffer from psychogenic illness. Even after lengthy tests are performed to rule out possible toxins, no etiological agents are found in individuals suffering from psychogenic illness. Whatever the actual cause, heightened media attention or mass hysteria, long term effects of a chemical or biological incident will overpower the health care system with the mass crowd of exposed, worried, and panicked individuals seeking medical care. The 1995 sarin attack in the Tokyo subway system resulted in over 5,500 visits to local emergency departments (Sidell, 1996). Following the September 11th attacks, actual anthrax spores were deliberately sent through the mail to prominent politicians and media representatives in the U.S. Of the 22 people diagnosed with the disease, five died. Prompt diagnosis prevented an epidemic and saved many lives. Many concerned Americans purchased gas masks, firearms, and 32,000 took antibiotics in response to the anthrax attack (Croddy & Ackerman, 2003).

Steed, Howe, Pruitt, and Sherrill (2004) explained that Category A biological agents, classified by the CDC, are a major risk to national security because they are so simple to manufacture and they can be easily disseminated in the population. If Category A biological agents, such as anthrax, botulism, plague, smallpox, tularemia, and viral hemorrhagic fever, are dispersed into the community, the outcome will be public hysteria and high mortality. Some of these agents require special precautions such as isolation to reduce transmission. Instead of fire and rescue enforcement, the first responders will be the health care provider who first identifies and reports initial signs and symptoms of a disease process seen rarely, if ever, in the U.S. Veenema (2002) pointed out that because smallpox has been eradicated since 1980, most health care providers have never seen a real case of this disease. Persell et al. (2001) explained the

reasons that bioterrorist attacks may not be easily recognized are because the initial presentation of many of these diseases caused by biological agents may be vague and nonspecific. In its early stages, dreaded diseases such as anthrax and smallpox may be mistaken for the flu.

Consequences of a radiological incident, whether accidental or intentional, may be as simple as a mild skin irritation or as dramatic as radiation sickness. In terrorism, fissionable radioactive materials may be utilized, or an attack may incorporate use of conventional weapons against existing nuclear reactors (U.S. Department of State, 2006). Either method would result in release of radioactive matter into the atmosphere. A radiological dispersion device, a chemical explosive laced with radioactivity, will require patient decontamination. A deliberate nuclear attack, as was shown in Hiroshima and Nagasaki, resulted in devastation of a city's infrastructure and high mortality (Lifton & Mitchell, 1995). Compounding the effect, radioactive fall-out led to contamination of people in dangerous concentrations over many miles. On 26 April 1986, an explosion at the Chernobyl nuclear power station killed 31 people initially, but it has been blamed for an additional estimated 300,000 - 400,000 human deaths over time (Nardo, 1990). One hundred times more radiation was released than by the atom bombs dropped over Hiroshima and Nagasaki. Of the 18 million exposed, approximately 1,800 cases of thyroid cancer have been associated with this MCI.

Of all the man-made disasters, war is the most disruptive, destructive, and deadly. Just in the past century, over 170 million people were killed as a direct consequence of war (AllExperts, 2006). The European continent experienced massive destruction to infrastructures within almost every country.

Response at the Federal, State, and Local Levels

Mass casualty incidents are nothing new to mankind. Disasters, destructive events that disrupt the normal functioning of a community, have occurred since the beginning of

civilization. Whether they are naturally occurring, caused by environmental forces, or man-made, disasters have placed extraordinary stresses on society's ability to deal with the catastrophic effects. Globally affected nations receive aid from those not afflicted. "The potential for catastrophic disasters is increasing in number and complexity in response to global instability, economic decay, political upheaval and collapse of government structures, violence and civil conflicts, famine, and mass population displacements" (Veenema, 2003, p. 2). An average of one disaster per week occurs globally requiring international assistance, and the number of federally declared disasters since 1976 average 34 per year (Veenema, 2003).

Disasters, small or large, natural or man-made, can strike anytime and anywhere. With the exception of Pearl Harbor, most stories of terrorism have been about far away places, in other nations (Hilton & Allison, 2004). That was the past. Nationally, events such as the Oklahoma City bombing, the World Trade Center attack, the intentional salmonella poisoning in Oregon, and the deliberate spread of anthrax in the mail, has heightened concerns of terrorism to the American people and the government (Wetter, Daniell, & Treser, 2001). This researcher surmises through a search of the literature that the American people no longer feel invincible, as the U.S. is not immune from powerful natural disaster nor terrorist attacks within its borders.

Although no arrests have been made in the anthrax postal incident, Al Qaida members have been implicated in the September 11th attacks, the 1998 bombings of the U.S. consulates in Africa, and in 2000, the bombings on a U.S. warship in Yemen (Veenema, 2003). These incidents served as a wake-up call to the American public that this nation is not impregnable to future biological and chemical threats. The issue of debate should be concerned with when, where, and how large a bioterrorist event will be in the U.S., rather than if one will occur, because terrorists do exist, they have declared real threats, and have already deliberately caused mass casualty destruction on U.S. soil (Hilton & Allison, 2004). While there is speculation about

stockpiles of weapons of mass destruction and undetected terrorist cells, real threats are still being declared against the U.S. In fact, Abu Gheith, a spokesman for Al Qaida, published an article in London in 2002 stating, “We have the right to kill 4 million Americans- 2 million of the children- and to exile twice as many and wound and cripple hundreds of thousands. It is our right to fight them with chemical and biological weapons” (2002, ¶ 28).

Using fertilizer and a few other chemicals supplied legally from stores, chemical bombs can be made like the ones used to destroy the World Trade Center and the Oklahoma City federal building (Pohl, 1999). Perhaps terrorists have obtained some nuclear bombs that have been reported missing from the old Soviet nuclear arms depots. Bioweapons are cheaper and easier to make than nuclear bombs. Many experts debate over whether bioterrorism is media hype or a real potential nightmare. Osterholm (1999) expressed concern that a bioterrorism event of catastrophic proportion is highly likely based on three elements: highly motivated and experienced terrorists, available pathogens that are easily transmitted to large populations, and the method chosen for dissemination of such agents. Small amounts of biological weapons are all that is needed to produce large body counts.

In the aftermath of the terrorist attacks against America on September 11, 2001, President George W. Bush created the DHS to coordinate domestic agencies into one department to protect the nation against further terrorist attacks and to coordinate the response of this nation to future emergencies (Veenema, 2003). The Homeland Security Advisory System, in an attempt to broadcast the risk of terrorism to public officials and to the American people, provides color-coded warnings in graduated threat conditions. Since September 11th, the national threat level has remained elevated, yellow in color, indicating a significant risk of a terrorist attack (White House, 2002). The United States has declared war on terrorism (Hilton & Allison, 2004).

Disaster planning and management requires the cooperative efforts of agencies at the local, state and federal levels with clearly defined lines of authority and accountability. The first responders to a disaster are at the local level in the affected community. This was demonstrated after the September 11, 2001, attacks in which mobilization of volunteers from other areas was delayed due to a freeze of air traffic. Cyganik (2003) reported that an analysis of disaster plans after September 11, 2001, by the Emergency Preparedness Committee revealed that health care facilities need a strong framework that can function independently until state and federal resources arrive. The local community depends on assistance regionally and federally because disasters of mass casualty magnitude affect hospitals of all sizes and geographic locations.

The communication flow in a disaster response between local, state, and federal agencies typically begins at the local level (Veenema, 2003). The local agency, such as a hospital, will notify the necessary local public officials, the local Office of Emergency Management (OEM) and the local Health Unit. From the local level, the communication spreads to the Governor's Office, the State OEM, and the State Health Department. When the consequences of a disaster exceed local and state capabilities, the Governor will call upon the President of the U.S., the State OEM will contact FEMA, and the State Health Department will correspond with DHHS and CDC. The 1988 Stafford Act provides federal assistance to state and local governments during presidential declared disasters. On average, 34 disasters are declared per year, and the number of disasters is increasing for a number of reasons (FEMA, 2001).

Communication among agencies and coordination of their efforts is vital for a successful response. During times of disaster, utilities are often disabled or destroyed, resulting in loss of traditional communication. Coordinated exercises involving all agencies from all three levels should be practiced, evaluated, modified, and practiced again on a regular basis. Many experts blame all levels of government: federal, state, and local, for the botched evacuation of New

Orleans following the Katrina disaster (Basler, 2005). General Colin Powell, the former U.S. Secretary of State, agreed with many Americans in saying that “there were many failures at all three levels: local, state, and federal” in the response to Hurricane Katrina’s assault on the Gulf Coast (*Powell slams hurricane response*, 2005, ¶1).

As the list of U.S. disasters grew, so did the number of local and state programs and federal agencies offering various relief efforts. In order to merge many of the fragmented federal agencies, the FEMA agency was formed in 1979. Following the September 11, 2001 attacks, President Bush combined FEMA along with 22 other agencies into the newly formed DHS. The Office of Emergency Response (OER), within the DHS, directs and manages the National Disaster Medical System (NDMS), which directs medical services and resources to local communities post-disaster (Riley, 2003).

Although efforts to improve national preparedness, such as the formation and reorganization of many agencies and the increase in federal funding, the burden of producing a timely response to an event involving a biological or chemical weapon is critically dependent on resources at the local level (Wetter et al., 2001). By the time the federal response occurs, the population exposure would be too widespread. At the local level, hospitals and health agencies need to have policies and procedures for MCIs.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO, 2003), which accredits medical facilities for safety and quality standards, now requires annual emergency management drills and yearly education for its organizations to maintain accreditation. Totenhofer and Kierce (1999) reported that emergency departments are ill prepared to deal with chemical disasters because few disaster plans include a comprehensive decontamination component. In addition, nurses that have direct contact with contaminated patients will require adequate personal protective equipment and education regarding isolation

and decontamination. Wetter et al. (2001) examined hospital preparedness for incidents involving chemical or biological weapons by surveying 224 hospital emergency departments in four northwestern states. Findings indicated large deficiencies in local hospital preparedness. Less than 20% of hospital facilities had plans for biological or chemical weapons incidents, and most reported insufficient physical resources such as decontamination showers, isolated ventilated units, and self-contained breathing apparatuses. The conclusion of this study was that a tremendous gap exists between federal efforts and the state of preparedness at the level of individual hospitals. To improve domestic preparedness at the federal level, additional resources are needed at the local level.

Responsibilities of public health officials at the state and local level include the prevention, identification, and the control of infectious diseases. Bryan and Fields (1999) stated that these individuals should be the first to recognize the appearance of an unusual disease or the increase of ordinary disease occurrence. In the event of a bioterrorism incident, public health officials are assigned a critical role to prepare and react as first responders in functions of epidemiological surveillance, laboratory analysis, compilation of information, and coordination of essential equipment needed by treatment facilities. Henretig (2001) responded that “early recognition of a terrorist attack, local community-based response plans, and attainable stockpiles of drugs and vaccines can ameliorate some of the impact of an attack” (p. 719) by instituting careful cost-effective training in the medical communities.

Participants in a 2000 focus group conducted at the Association for Professionals in Infection Control (APIC) declared an expectation of local health departments to implement a well-designed plan of response to a bioterrorist event and for the public health professionals to provide direction, expertise, and educational interventions to physicians, nurses, and other infection control practitioners (Shadel, Clements, Arndt, Rebmann, & Evans, 2001). Therefore,

the focus group concluded that public health professionals should be the first subset of professionals targeted for bioterrorism education preparedness. In response, a national needs assessment was conducted to measure infection control practitioners' (ICP) perception of the risk of a bioterrorist occurrence in their community in the U.S., the extent of prior training in bioterrorism preparedness, and preferences for delivery media of future bioterrorism education (Shadel, Rebmann, Clements, Chen, & Evans, 2003). Findings revealed significant regional differences among the infection control practitioners' perception of the risk for bioterrorism in their community. ICPs from the South perceived a significantly greater potential threat of bioterrorism than did those in the Midwest, West, or Northeast. Roughly half of the participants from the South reported having received prior training, and this group reported a more likely belief of a bioterrorist occurrence. Those who reported no prior training declared barriers to be a lack of opportunity and not having dedicated work time for education and training.

In December 2001, Congress passed the Bioterrorism Preparedness Act, which provides funding to support local and state public health staffing and technology to improve response to bioterrorism. State health departments and the CDC in developing detailed bioterrorism response plans assisted local health departments. Morse (2002) published a guide for assessing local health departments' bioterrorism preparation. Recognizing the enormous amount of training needed, local health department personnel have partnered with other members of emergency response in the local community.

Akins, Williams, Silenas, and Edwards (2005) conducted a qualitative study on disease surveillance with public health officials in Texas at regional and local levels, both urban and rural settings. Findings revealed that many public health nurses lack formal education or training in public health because, to solve the nursing shortage, nurses are hired from a variety of backgrounds other than public health. Healthcare providers need to receive education and

training to recognize, report, and respond confidently in a variety of disaster situations. This training is not a requirement for accredited schools of nursing.

Historically, American nurses have traditionally responded selflessly to help in times of war, even without formal education or training (Hilton & Allison, 2004). The nursing profession is labeled as being committed to caring in that it demands courage, compassion and above all, composure. Many wartime stories have been documented to describe the horrific scenes and dangerous encounters that many nurses have experienced throughout numerous military conflicts (Langan & James, 2005). Whether on the battlefield, in military hospitals, or modern mobile surgical hospitals, nurses have labored ceaselessly to care for the wars' wounded.

History of Nursing Related To Mass Casualty Incidents

The military and the history of battlefield nursing have influenced modern day nursing, especially nursing during a disaster. In the Crimean War of 1854, Nightingale's implementation of sanitary reform resulted in a reduced mortality rate (Audain, 1995). Barton, dubbed "the angel of the battlefield" during the Civil War, was the leader of the ARC and was instrumental in bringing the Red Cross Treaty of Geneva to America (Burks, n.d.). This treaty, signed by 16 countries, recognized military hospitals and medical personnel as safe zones to be respected by all armies.

Nursing care provided in the 1898 Spanish-American War was so outstanding, that in 1901 Congress established a permanent Army Reserve Nurse Corps (Kalisch, 1975). Wald, a pioneer of public health nursing, dedicated her life's work to the tenement community and established the Visiting Nurses Service in 1893. During this time, nurses visited the homes of the poor to provide care for those with communicable disease outbreaks including typhoid fever, yellow fever, and malaria.

During World War I, 18,000 ARC nurses served as volunteers to the Voluntary Aid Detachment (VAD's) and First Aid Nursing Yeomanry (FANY's). They performed dressing changes and administered medications in military camps and base hospitals (“Women in World War One,” 2005).

During World War II, the roles of flight nursing, post-operative care nursing, and intensive care nursing emerged. Serving on battlefronts from North Africa to Italy to Normandy to Corregidor to Bataan, 57,000 nurses served in the Army Nurse Corps and 16,000 in the Navy Corps during World War II (Ferrell n.d.). Nurses provided care to the wounded under constant enemy artillery fire, slept in accommodations plagued with insects, scorpions, and rats, cared for prisoners of war, contributed to raising the morale of the troops, survived in concentration camps, and died from enemy fire.

During the Korean War, nurses served in mobile army surgical hospitals (MASH) units. These women far exceeded the normal scope of nursing practice as they independently triaged, started blood transfusions, initiated courses of penicillin, sutured wounds, and regularly cared for 200 or more critically wounded soldiers in 60-bed MASH units (Sarnecky, n.d.).

Air evacuation procedures were developed during the 1960s Vietnam War. The Army Nurse Corps developed trauma specialized nursing units. Hudson (1995) reported, “they worked in intensely crowded wards to care for adults and children, many of whom had dreadful wounds caused by exploding mines” (p. 27). The nurses worked during the day, took call every second night, and had two days off every three weeks. Biedermann (2001) investigated the experience of 17 Australian Army nurses that served in the Vietnam War, and found that the majority were clinically unprepared for their roles and the environment; however, as nurses they were expected to adapt to the nature of their work in the war zone.

Nurses have adapted in the battlefield, making critical decisions while doctors were busy in surgery. Nursing care during times of war has become more complex with the institution of expeditionary medical support teams. These 25-bed mobile hospitals have emergency rooms, operating rooms, intensive care units, pharmacies, wards for patients, and most equipment found in modern hospitals. They were used in disasters such as Hurricanes Andrew and Katrina. Haskell (2005) reported that ironically, a training exercise called TALON scheduled to test the expertise of Air National Guard medical personnel in FEMA Region 6: Texas, Arkansas, Louisiana, Oklahoma, and New Mexico, was interrupted to respond to Katrina.

The practice of military nursing is the basis of modern trauma nursing; however, in reality, disaster-nursing calls for practicing nurses from diverse roles. Nurses are relied upon and expected to fulfill responsible roles during disaster situations. Historically, American nurses have responded selflessly to help in times of disaster. The nursing profession is labeled as being committed to caring. Helping the helpless is part of nursing's creed, which in part states, "*With loyalty will I devote myself to the welfare of those committed to my care*" (ANA, 2006, ¶1).

"Caring is what the traumatized, weary, rescue workers needed at ground zero" on September 11, 2001, in New York (Charles, 2001, p. 44). Area nurses immediately reported to work, and the New York State Nurses Association reported that nurses from across the country volunteered to assist. Nurses reported that there were no policies or procedures, no routines or schedules, no instruction or direction (Gatto, 2002). Following September 11th, Orr (2002) reported that although many nurses receive training in first aid, outbreaks in infectious disease, and training related to fires, multiple vehicle accidents and plane/train crashes, most health care professionals lacked formal training to prepare to respond to mass casualty disasters and that few educational institutions or health care facilities provide courses on mass casualties or disasters of this scale.

Nursing interventions without instruction in disaster situations is not new. Nurses that volunteered in the 1985 Puerto Rico flooding reported a lack of clear direction of nursing roles. In this disaster, the spirit of cooperation was evident among nurses who teamed up to provide care to victims (Rivera, 1986). Following this experience, nurses recommended inclusion of basic guidelines for disaster nursing services in nursing curricula. Other recommendations were for the colleges of nursing to establish disaster plans for faculty roles and to coordinate these plans with local agencies.

Mitani, Kuboyama, and Shirakawa (2003) explored the issues and concerns that nurses faced when asked to respond to the 1995 Great Hanshin-Awaji Earthquake event in Japan. Most nursing personnel did not act as disaster responders during the acute phase; however, they were utilized heavily in the reconstruction phase of the disaster to provide hospital-based nursing support to care for victims. The nursing role was determined according to the nurse's ability, career, specialty, physical and mental stamina, and family situation (Mitani et al., 2003). Most nursing personnel reported that they needed direction because they were accustomed to working in an environment with clearly defined, expected duties such as carrying out specified physician orders.

A study compared the performance and psychological experiences of two groups of Swedish nurses involved in disaster nursing (Suserud & Haljamae, 1997). Disaster sites were a railway accident and a tram accident. Descriptive interviews using standardized questionnaires revealed differences between experienced and less experienced nurses in their ability to provide care in emergency situations. Nurses educated and trained for specific disaster situations, through previous experiences of trauma nursing, coped better mentally and consistently provided better care. Less experienced nurses often doubted their own competence and indicated a lack of confidence in their ability to perform adequate treatment to victims.

In response to 1999 Hurricane Floyd that devastated the east coast of Florida, French, Sole, and Byers (2002) researched the needs and concerns that nurses experienced as disaster responders. Primary concerns were with personal, family and pet safety. Many participants described their conflict in responding to disasters as professional obligation versus family commitment.

In the event of a bioterrorist attack, conflicting commitment will be more pronounced because of the increased risk of disease exposure that comes with weaponized biological agents. Health care professionals will be first responders because victims require prophylaxis and treatment. Nurses, with a population of 2.7 million in the U.S., comprise the largest group of health care professionals. Not all nurses are expected to perform as first responders. Roles for the professional nurse in a MCI vary because of the diverse educational backgrounds, skill specialty areas, and practical experience in the workforce. Every nurse should receive knowledge and skills to recognize the potential for a MCI, identify an event that has occurred, know how to protect oneself, know how to initiate immediate care, recognize their role and acknowledge their limitations, and communicate effectively with appropriate agencies. Participation by nurses is vital in disaster planning to ensure that nurses are aware of and prepared to deal with disaster aftermath. This cannot be accomplished without adequate education and training.

Baldwin, LaMantia, and Proziack (2005) described a program design for education of public health personnel, physicians, nurses, social workers, caseworkers, dietitians, translators, and secretaries in emergency preparedness and bioterrorism response. This information is useful to hospital employees because local emergency departments may be the first point of contact to those exposed to dangerous chemical or biological agents.

Prior to September 11, 2001, training for events related to weapons of mass destruction was basically nonexistent in the healthcare setting. Most of the disaster training had been

associated with disasters of natural or accidental cause. Nurses, the largest body of health care professionals, are recognized as essential to disaster response efforts (AACN, 2001) and are accountable to the public to function effectively in the event of a chemical or terrorist attack. Regardless of disaster type, most patients spend more time with nurses than other health care professionals. Nurses world-wide must have a minimal level of knowledge and skill to appropriately respond to a MCI, including those resulting from natural disaster or inflicted by chemical, biologic, radiological, nuclear, and explosive (CBRNE) events.

The American Nurse Association with the Office of Emergency Response (OEP), of DHHS, established the NNRT. Ten teams of 200 registered nurses (RNs) enrolled to respond to a presidentially declared disaster in efforts such as delivery of mass immunizations to a population at risk (ANA, 2002a). The CDC currently maintains a National Pharmaceutical Stockpile of vaccinations and antibiotics appropriate for treatment of probable agents used for bioterrorism (Glass & Schoch-Spana, 2002).

In an actual mass casualty event, nurses in all specialties and organizations would be expected to deliver care to a huge number of casualties in the midst of public chaos. The instantaneous effect of a mass casualty event is an immediate overwhelming mass flock of confused and panic-stricken people into the healthcare system. Although others expect a knowledgeable nursing response, research shows that most nurses are not prepared for this and their ill preparation is not their fault (Chaffee, Conway-Welch & Sabatier, 2001). Nurses are duty-bound to be proactive in seeking education on the topic of terrorism preparedness, usually in their time off of work.

Rose and Larrimore (2002) surveyed 291 health care staff on knowledge and awareness of chemical and biological terrorism. Findings included that 53% of the participants claimed a willingness to work during a terrorist event; however, only 23% answered knowledge questions

correctly and indicated feeling confident to render such care. French et al. (2002) discussed the importance of incorporating practice drills and providing education regarding employee disaster roles during initial hospital orientation and annually.

Nursing organizations recommended continuing education offerings that address nursing response to MCIs and for nurses to be proactive in gaining this knowledge and skill set on their own time. In a joint effort, the ARC and the Sigma Theta Tau International Honor Society of Nursing sponsored a free on-line educational offering titled “Disaster Preparedness and Response for Nurses” (Willshire, Hassmiller & Wodicka, 2003). Veenema (2002) professed that the leadership and faculty of U.S. schools of nursing must ensure that graduates enter entry-level practice with adequate knowledge and skill sets needed to function effectively in the event of a terrorist attack. Hilton and Allison (2004) proclaimed that nursing educators that are ill informed in education and training hesitate in incorporating disaster preparedness into the nursing curriculum.

Factors That Influence Nursing Curriculum Content

A curriculum constitutes the formal and informal plan of study that provides the “philosophical underpinnings, goals, and guidelines for the delivery of a specific educational program” (Keating, 2006, p. 2). Curriculum development in nursing education is an ongoing process “characterized by interaction, cooperation, change, and possibly conflict; comprised of overlapping, interactive, and iterative decisions; shaped by contextual realities and political timeliness; and influenced by personal interests, philosophies, judgments, and values (Iwasiw et al., 2005, p. 2). The curriculum components of the nursing program support and implement the mission and philosophy of its governing organization by considering teaching, research, and service goals of the institution; the population to be served; and the desired outcomes for its graduates (Johnson, 2006). The purpose of nursing programs is to graduate nurses equipped with

the basic knowledge and skill to contribute to the health and quality of life of the individual and the community in which they serve. Nurse educators are challenged to develop relevant curricula to equip the novice nurse for new roles and responsibilities needed for entry-level preparation. Several factors that influence curriculum development and revision include: NCLEX-RN results and accreditation standards, school resources and technology, institutional regulations and faculty expertise, graduate and employer satisfaction, and nursing paradigms and workforce (Iwasiw et al., 2005).

The purpose of the National Council of State Boards of Nursing (NCSBN) is to provide an organization through which state boards of nursing act and counsel together on matters concerning public health, safety and welfare. Additionally, the Council develops the NCLEX-RN. The Examination Committee of the NCSBN works collaboratively with staff and stakeholders to ensure that the NCLEX-RN exam is job-related and that it reflects current entry-level nursing practice incorporating specific client needs and processes fundamental to the practice of nursing (NCSBN, 2003). The test measures the competencies needed to perform safely and effectively as a newly licensed, entry-level registered nurse. Each exam assesses the knowledge, skills, and abilities that are considered essential for the nurse to promote, maintain, or restore the health of clients. The NCLEX-RN test plan blueprint utilizes the framework of client needs to organize its content. The four major categories of client needs include: safe, effective care environment, health promotion and maintenance, psychosocial integrity, and physiological integrity.

State Boards of Nursing use the NCLEX-RN results to assist in making licensure decisions for registered nurses. For eligibility to take the NCLEX-RN, graduates must successfully complete a nursing program curriculum that has been approved by a state's board of nursing. Curriculum standards set by state boards of nursing include essential content that must

be included in the curriculum, the number of hours required for clinical practice, and the skills and competencies needed before completion of the nursing program (NCSBN, 2003). This requirement protects the safety of the public by ensuring that licensed nurses are qualified to practice. Once a license is issued, the board monitors licensees' compliance to state laws and takes action against licensed nurses who have exhibited unsafe nursing practice.

If faculty of a baccalaureate nursing program desire to achieve national accreditation, the curriculum must meet the criteria set by either the Commission on Collegiate Nursing Education (CCNE) or the National League for Nursing Accrediting Commission (NLNAC) (Johnson, 2006). The Department of Education at the federal level has approved both of these bodies to accredit baccalaureate schools of nursing. When the accrediting body conducts a site visit to the school, faculty must document and exhibit proof that criteria set by the accrediting body have been met. A prerequisite to obtaining national accreditation is approval of the program's curriculum by the state's board of nursing. Additionally, nursing faculty must demonstrate that curriculum content and clinical learning experiences flow from the school's mission and program objectives (CCNE, 2003). A key element of CCNE's Standard III: Program Quality: Curriculum and Teaching-Learning Practices is that the curriculum and teaching practices must consider the needs and expectations of the identified community of interest (CCNE, 2003).

Curriculum development, ongoing evaluation, and constant revision are outcome-directed processes that are faculty driven (Johnson, 2006). To evaluate outcomes of program objectives, faculty members utilize formative evaluation strategies, such as student examinations and course evaluations, and summative evaluation strategies such as employer satisfaction surveys, senior exit surveys, and NCLEX results. This ensures inclusion of students, alumni, employers, and the public being served in the curriculum-review process.

To assess students' progress throughout the curriculum and their preparedness for the licensure exam, the faculty of schools of nursing often administer a variety of standardized exams. Specialty exam scores and exit exam scores provide inferences about students' ability to succeed on the NCLEX (Morrison, Adamson, Nibert, & Hsia, 2005). Education Resources, Inc. (ERI) follow the NCLEX-RN guidelines emphasizing the four client needs categories: (1) Safe, effective care environment; (2) Physiological integrity; (3) Psychosocial integrity; and (4) Health promotion and maintenance in developing Computer Based Mock NCLEX Software. Independent studies show that the comprehensive achievement profiles are reliable and valid assessment instruments for evaluating mastery by students of nursing content, knowledge base, and both critical thinking and decision-making skills (ERI, 2005).

Senior exit surveys and alumni surveys are utilized to discover participants' perceptions of the adequacy of their education program in preparing them to meet the needs of the people they serve. Employer satisfaction surveys are considered valuable in measuring opinions of graduates' competencies to provide patient care. Results obtained from these surveys are valuable tools utilized to monitor the curriculum for strengths and weaknesses. If trend results reveal weaknesses in participant, preparation or performance, curriculum committee members may consider instituting curricula revisions.

Nursing faculty must continually assess curriculum components, processes, and outcomes to ensure quality education in nursing. The nursing curriculum is developed by nursing faculty, evaluated by nursing faculty, and revised by nursing faculty. Several evaluation tools, such as surveys or test scores, provide insight as outcome measures; however, faculty have the most direct influence on curriculum development by virtue of their knowledge, experience, and decision-making power. Curriculum revisions are faculty driven by nurse educators who are clinical specialists, experienced practitioners, experienced teachers, and professional role

models. Nursing faculty members, considered as experts, determine what essential content needs to be included in the curriculum and how that material is to be disseminated to the learner.

Contemporary health care challenges necessitate faculty responsiveness to undergo curricula revision and modification to furnish students with knowledge and skill to efficiently meet the health demands of the population. At times, faculty members may try to protect the inclusion of content that belongs to their specialty area by blocking change that is needed to add relevant content, and thus maintain a vibrant, meaningful curriculum. Rolling and Burnett (1998) acknowledged the importance of identifying and eliminating outdated curriculum components and replacing them with contemporary concepts in order to furnish graduates with current and relevant perspectives. Some of the main forces and issues that influence nursing curriculum development in a rapidly changing and complex health care environment include: the growth of an ethnically diverse and enlarging aging population, the explosion of technology and influence of globalization, increasing environmental hazards, and global violence and the threats of potential violence (Warner, 2005).

Many baccalaureate-nursing programs engaged in substantial curriculum revision within the past few years in response to a more culturally diverse and enlarging aging population. The focus shifted from the acute care setting to community health. Patients required more cultural-specific home care instruction. The explosion of technology and influence of globalization mandated nurse educators and students to develop computer skills. The computer revolution has greatly impacted the nursing curriculum with revisions to include distance learning and online courses. The current issues that have not been adequately addressed in baccalaureate nursing curriculums are the increasing environmental hazards and insurmountable global violence.

Naturally occurring disasters or deliberately caused infections, chemical spills, radiological releases, or other calamitous events are challenging the US health care system;

however, mass casualty education preparation has not been incorporated into the curriculum of many nursing programs. Findings from a three-year national study by Weiner, Irwin, Trangenstein, and Gordon (n.d.) were that 79% of nursing educators selected curriculum plans as being the best place to increase emphasis on disaster preparedness; however, nationally, nursing programs provided limited curriculum content in disaster preparedness. Additional findings from this study included that approximately 75% of the nursing faculty felt inadequately prepared in the area of disaster preparedness. If global violence, the threats of potential violence, and environmental hazards are documented as major forces and issues that influence nursing curriculum development, why has mass casualty preparation not been incorporated into the curriculum of many nursing programs? Nursing educators are accountable to the student, the community, and society at large to prepare graduates to work in an environment where the potential for mass casualty disaster is no longer a low probability event by adjusting the curricula to include content regarding disaster preparation.

Preparing Nurses for Mass Casualty Incidents

The attacks of September 11, 2001, marked an end to a sense of national invulnerability to Americans. National spending has shifted to antiterrorism, and nursing professionals have been called upon to prepare for unpredictable and diverse potentially catastrophic events. Regarding mass casualty preparation, there are neither educational competencies mandated for existing nursing curricula nor any mandatory continuing educational courses that exist for the current nursing pool (Gebbie & Qureshi, 2002).

Nursing education is being faced with an aging workforce that did not receive adequate instruction or training for mass casualty preparation. In 2000, the average age of faculty in baccalaureate nursing programs was 50 years old (Trossman, 2002). The majority of nurse educators that have received instruction or training for mass casualty preparation have done so

through their own interest. Currently, practicing nurses who missed this information during formal nurse education must receive education through informal continuing education seminars and practice training sessions such as JCAHO's mandated mock drills. Therefore, it is increasingly important for current nursing educators to receive instruction and training regarding mass casualty preparation in order to disseminate this information adequately to the future nursing profession. If nursing educators are not prepared, how will they prepare students?

Practicing nurses are accountable to the public to provide care to those individuals, groups, and communities affected by disaster. Learning, through lived experiences, is another method of obtaining mass casualty preparation. "Learning by doing" occurs when nurses actually participate in disaster events. Regardless of degrees earned, specialties received, and experiences learned, any nurse might be faced with a major emergency situation. There is a need for increased education and training in disaster nursing for all groups of nurses.

It is the responsibility of knowledgeable nursing faculty to prepare graduates of entry-level practice with the knowledge and skills needed to function effectively in a disaster setting. In a study of disaster nursing curriculum development based on vulnerability assessment in the Pacific Northwest, Bond and Beaton (2005) found that both practicing nurses and student nurses indicated a strong need for disaster nursing content. In fact, the greatest perceived need was for content related to caring for casualties and safe practice during a mass casualty disaster.

In 2001, leaders from nursing organizations met with deans of nursing schools, experts on mass casualty preparation, government leaders and members from the NCSBN to discuss issues concerning mass casualty education in nursing (Conway-Welch, 2002). The formation of INCMCE, an outcome of the meeting, was in response to the recognition of the need for a competent nurse workforce to respond to MCIs. According to Conway-Welch, the purpose of the coalition is to "facilitate the systematic development of policies related to mass casualty events

as they influence the public health infrastructure and impact on nursing practice, education, research, and regulation” (INCMCE, 2003 ¶ 3). Members of INCMCE produced a set of general competencies that are applicable to all professional nurse roles and practice settings. The purpose of these competencies is to provide a framework for curriculum development for nurse educators to integrate mass casualty preparation into formal education within the classroom and clinical settings. These competencies fall within three essential components of professional nursing education: core competencies, core knowledge, and professional role development. All nursing programs should integrate the necessary knowledge and skill to demonstrate these competencies; however, current education guidelines do not mandate or recommend that all nurses be educated on MCI preparation. Many nurses currently registered to practice nursing, which includes the current pool of nurse educators, have not received this needed education.

The faculty of the nursing profession is held accountable to prepare nursing graduates with the knowledge and skills needed to perform adequately and competently as novice nurses in today’s time. This means formal educational practices regarding mass casualty preparation need to be included as part of the undergraduate nursing training. Until all nurses who are currently practicing learn this information via informal education such as continuing education pieces or through experience such as mock disaster drills or through real life disaster experiences, the profession will not be equipped with an army of self-confident, competent, nurses that is ready for disasters of all types, sizes, and locations.

CHAPTER III

METHODOLOGY

Population and Sample

The target population for this study was defined as faculty of accredited baccalaureate degree nursing programs currently teaching either theory or clinical courses or both. The accessible population consisted of nurse educators employed full-time by January 1, 2006, in all accredited baccalaureate degree nursing programs in Louisiana. The following procedure was used to establish the frame of the accessible population.

The researcher obtained a list of each baccalaureate degree nursing program currently accredited by the Louisiana State Board of Nursing (LSBN) from the agency web site. The LSBN personnel verified this list of programs as accurate and complete. A list of all employed nurse educators from all accredited baccalaureate degree nursing programs in Louisiana was obtained from each institution's faculty directory as listed on the institution's web page. This list of educators was verified as holding current teaching positions as of January 1, 2006, in the baccalaureate degree nursing programs by correspondence with a representative of the Dean's Office of each program. Additionally, the representative verified current e-mail addresses of the list of educators and supplied current e-mail addresses of new faculty and those missing from the list. Once the population frame of 285 was established, a census sampling technique was used for the design of this study.

Instrumentation

The instrument utilized to collect data was a researcher-designed questionnaire consisting of three primary components. The first part of the instrument consisted of five questions and was designed to assess the training and experience of nurse educators regarding preparation for mass casualty incidents. The items in this part of the instrument asked participants to report their

degree of participation in real and mock disaster activities as well as their involvement in formal and informal training programs.

The second part of the instrument identified the 51 core knowledge and competencies regarding responding to mass casualty incidents identified by the INCMCE to which the participants were asked to indicate their perceptions on two constructs. These constructs included their self-perceived level of knowledge of each core item and their perceptions regarding the importance of each item for inclusion in the baccalaureate-nursing curriculum. This section of the instrument was structured by placing core knowledge items in the center of the page with one response scale (self-perceived level of knowledge) on the left of the item and the other scale (perceived importance for inclusion in the nursing curriculum) on the right of the item. Both of the responses utilized a five-point anchored scale. For the self-perceived level of knowledge scale, participants were asked to rate their knowledge: (1) not at all knowledgeable; (2) slightly knowledgeable; (3) fairly knowledgeable; (4) quite knowledgeable; and (5) very knowledgeable. For importance, participants were asked to rate their perceptions regarding the importance of each item for inclusion in the baccalaureate-nursing curriculum: (1) not at all important, (2) slightly important, (3) fairly important, (4) quite important, and (5) very important.

The third part of the instrument, a demographic data tool, consisted of 10 questions and was designed to collect information on the following personal and professional characteristics of the participants: age, gender, ethnic background, household size, highest level of education completed, employment status, years of nursing experience, years of experience as a nurse educator, primary clinical area, and primary teaching area.

The content validity of the instrument was established by using a process in which six nurse educators, formerly employed or currently employed part-time in accredited baccalaureate degree nursing programs and having expertise in research design, reviewed the Disaster

Management Preparation Questionnaire (DMPQ). Suggestions for improvement from the panel consisted exclusively of minor editorial changes in wording of items that included sentence structure revisions to enhance clarity of the core competency items. The instrument was revised based on the input from the panel of experts to develop the final form of the instrument. Following these revisions, field-testing was conducted by administering the instrument to a sample of nurse educators teaching in programs other than the baccalaureate level.

Data Collection

A request for implementation of the study was sent to the Louisiana State University Institutional Review Board for Human Subject Protection prior to data collection. The study was granted approval number 3284. Utilizing a procedure that follows Dillman's (2000) guidelines for constructing e-mail surveys was used for data collection.

The first step in the process of data collection was to make initial contact with all participants by sending a pre-notice e-mail message (See Appendix A). This pre-notice was sent two-to-three days prior to sending the cover letter and the questionnaire. The purpose of sending a pre-notice was to alert the participants to expect the arrival of the instrument.

The second step in the data collection process was to transmit a cover letter and a copy of the instrument to all participants. The cover letter, constructed on official University letterhead, presented the significance of the study (See Appendix B). The researcher explained the importance of the participant's response to the success of the study, and requested their participation to respond promptly. A deadline date was included. A response incentive, a random drawing for a Littman Cardiology stethoscope, was utilized and introduced in the cover letter. Above all, the participant was assured that the researcher would follow confidentiality guidelines throughout the survey process.

An on-line survey delivery service called FrontPage was utilized to make the questionnaires available to participants. This service allows the researcher to post survey instruments on a secured Internet web page. The participants were able to access the questionnaire either by selecting the Internet link on the cover page or by copying the supplied web address into their browser. A username and password was required to access submitted data. FrontPage software kept a log of those who have completed and not completed the survey. The electronic data collection procedure enabled the researcher to identify individuals who had not responded so that non-response follow-up could be used with this group. This subscription service also allows the researcher to download the data file into a spreadsheet file.

The researcher also sent a paper version of the cover letter and questionnaire addressed to each faculty member at the address obtained from each institution's faculty directory as listed on the institution's web page. The paper versions were coded to enable the researcher to identify individuals who had not responded so that non-response follow-up could be used with this group. The researcher again emphasized that confidentiality of responses would be strictly maintained. The paper versions were either hand-delivered or mailed to a representative of the Dean's Office of each program (See Appendix C).

The third step of the data collection procedure was to send two weeks later an electronic replacement questionnaire to all participants that had not yet responded. They were reminded of their importance to the success of the study. The researcher reiterated that at no time would individual responses be linked with names of participants.

This procedure was repeated for non-participants every week for a period of four weeks. In each electronic replacement questionnaire, participants were reminded of the response incentive. All who responded before the completion of data collection were eligible for the

drawing to win the stethoscope. The data collection process culminated in a total of 166 returned questionnaires (58% response rate).

The fourth step of the data collection procedure was to input data received from paper versions into a spreadsheet created by FrontPage that was password protected. The final steps were taken once the deadline for response collection has passed. The researcher randomly drew one participant name from those who elected to be included in the drawing and that had completed the survey prior to the data collection deadline date. The researcher sent the stethoscope to the winner of the drawing.

Non-Responders

As a final step, the researcher contacted a randomly selected sample of 27 of the non-participants via the telephone number obtained from each institution's faculty directory as listed on the institution's web page. Fifteen items were randomly selected from the instrument to be included in the phone survey. A decision was made *a priori* that data received from the follow-up phone calls to the non-responders would be considered as representative of the study participants if two or less of the 15 survey items completed by the non-responders were significantly different from the responders.

Independent samples t-tests were used to compare means of the continuously measured randomly selected questionnaire items from the non-responders to the responders. Chi-square analyses were computed for the categorically measured randomly selected questionnaire items from the non-responders to the responders.

The data from the telephone follow-up, when compared to the respondent's responses, was found to be significantly different on more than two items. Thus, the non-respondent group was considered to be statistically different from participants. Findings must be limited to the participants, who were considered to differ from the accessible population.

CHAPTER IV

RESULTS AND FINDINGS

The primary purpose of this study was to identify factors that influence the importance of including educational competencies responding to mass casualty incidents into the existing curricula as perceived by faculty of baccalaureate degree nursing programs in Louisiana. A second purpose of this study was to describe the participants on selected personal and demographic characteristics.

A total of 166 of the 285 educators of baccalaureate degree nursing programs in Louisiana provided useable data in response to the survey. Findings and analyses of the Disaster Management Preparation Questionnaire are presented in this chapter. Results are arranged and presented by research objective as follows:

1. To describe nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana on the following personal and professional characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
2. To determine training received and life experiences regarding MCIs of nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana.

3. To determine self-perceived level of knowledge of educational competencies regarding MCIs among nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana.
4. To determine the importance of incorporating educational competencies regarding MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana.
5. To determine if a relationship exists among currently employed nurse educators between the overall perceived level of importance of incorporating educational competencies regarding MCI's into the baccalaureate-degree nursing curriculum and the following selected personal and professional demographic characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
6. To determine if a relationship exists between the level of knowledge and the overall level of importance of incorporating educational competencies regarding MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana.

7. To determine if a model exists that explains a significant portion of the variance of the perception of importance to include educational competencies regarding MCIs into the existing curricula among current faculty of baccalaureate degree nursing programs in Louisiana from the following personal and professional characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
 - j. Experience score
 - k. Self-perceived level of knowledge

Objective One

Objective one of the study was to describe nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana on the following personal and professional characteristics:

- a. Age
- b. Gender
- c. Ethnic background
- d. Size of household
- e. Highest level of education completed

- f. Years of experience as a nurse
- g. Years of experience as a nurse educator
- h. Primary clinical area
- i. Primary teaching area

Age

To describe the participants on the variable “age,” the participants were asked to indicate their age in years (as of their last birthday) from the following categories: “Under 25,” “25-34,” “35-44,” “45-54,” or “55 and older.” The response category which was selected by the largest number of participants was the “45-54” age group ($n = 65, 39.6\%$). The response category that was selected by the second largest number of participants was the “55 and older” age group, with 50 (30.5%) of the participants choosing this age category. None of the participants indicated his/her age as “Under 25.” Complete information on participant age is presented in Table 1.

Table 1
Age as Reported by Louisiana Baccalaureate Nurse Educators

Age in Years	n^a	Percentage
Under 25	0	0
25-34	7	4.3
35-44	42	25.6
45-54	65	39.6
55 and older	50	30.5
Total	164	100.0

^aTwo participants did not respond to this item.

Gender

The participants were also described on the variable “gender.” The majority ($n = 157$, 97.5%) indicated “Female” as their gender, while four (2.5%) subjects reported their gender as “Male.” Five of the 166 participants did not indicate their gender on the questionnaire.

Ethnic Background

Participants were also described on ethnic background. The participants were asked to report their ethnic background as “African American,” “Asian/Pacific Islander,” “Caucasian,” “Hispanic,” or “Other, please specify.” The majority ($n = 137$, 84%) indicated their ethnic background as “Caucasian,” while only two (1.2%) participants reported their ethnicity as “Asian/Pacific Islander.” Complete information on ethnic background of participants is presented in Table 2.

Table 2
Ethnic Background as Reported by Louisiana Baccalaureate Nurse Educators

Ethnic Background	n^a	Percentage
Caucasian	137	84.0
African American	17	10.5
Hispanic	5	3.1
Asian/Pacific Islander	2	1.2
Other	2 ^b	1.2
Total	163	100.0

^aThree participants did not respond to this item.

^bOne participant marked “Other” and specified “Latino” ($n = 1$). One participant that marked “Other” did not specify.

Size of Household

Participants were also described on two aspects of the size of their household. First, they were asked to indicate how many children (under the age of 18) were living at home from the following categories: “none,” “1-2,” “3-4,” “5-6,” or “7 or more.” The majority ($n = 92$, 56.1%) responded that they did not have any children under the age of 18 living at home. The response category with the second largest number of participants was “1-2 children” ($n = 59$, 36%).

Complete information on the number of children under the age of 18 living at home is presented in Table 3.

Table 3
Number of Children Under the Age of 18 Living at Home as Reported by Louisiana Baccalaureate Nurse Educators

Number of children < 18 at home	n^a	Percentage
None	92	56.1
1-2 children	59	36.0
3-4 children	13	7.9
5-6 children	0	0
7 or more children	0	0
Total	164	100.0

^aTwo participants did not respond to this item.

Additionally, participants were asked to indicate the number of adults (age 18 and over) other than themselves that were living at home from the following categories: “none,” “1-2,” “3-4,” “5-6,” or “7 or more.” The majority ($n = 130$, 79.3%) responded that they lived with one or two other adults aged 18 and older. The second largest group indicated “None” in response to the

number of other adults aged 18 or older ($n = 26, 15.9\%$) living at home. Complete information regarding other adults aged 18 and older in the household is presented in Table 4.

Table 4
Number of Adults Aged 18 and Over Other than Themselves Living at Home as Reported by Louisiana Baccalaureate Nurse Educators

Number of other adults ≥ 18 at home	n^a	Percentage
None	26	15.9
1-2 adults	130	79.3
3-4 adults	5	3.0
5-6 adults	3	1.8
7 or more adults	0	0
Total	164	100.0

^aTwo participants did not respond to this item.

Highest Level of Education

Highest level of education completed was also used to describe the participants. They were asked to indicate their highest level of education completed from the following categories: “Diploma,” “Associate,” “Baccalaureate,” “Master’s,” or “Doctorate”. The majority of participants ($n = 113, 68.5\%$) responded that their highest level of education completed was a master’s degree. Forty-eight (29.1%) indicated that they had obtained a doctoral degree, while four subjects (2.4%) reported a baccalaureate degree as their highest level of education completed. Complete information on highest level of education completed by participants is presented in Table 5.

Table 5
 Highest Level of Education Completed as Reported by Louisiana Baccalaureate Nurse Educators

Highest Level of Education	<i>n</i> ^a	Percentage
Diploma	0	0
Associate	0	0
Baccalaureate	4	2.4
Master's	113	68.5
Doctorate	48	29.1
Total	165	100.0

^aOne participant did not respond to this item.

Years of Nursing Employment

Participants were described on the number of years employed as a nurse. The subjects were asked to indicate the number of years from the following categories: “Less than 5 years,” “5-10 years,” “11-20 years,” “21-30 years,” or “More than 30 years.” The response category that was selected by the largest group was “21-30 years” ($n = 63, 39.4\%$). More than two-thirds ($n = 111, 69.4\%$) reported having more than 20 years of nursing employment. Only one (0.6%) participant reported less than five years of nursing employment. Complete information on years of nursing employment of participants is presented in Table 6.

Table 6
 Years of Nursing Employment as Reported by Louisiana Baccalaureate Nurse Educators

Years of Nursing Employment	<i>n</i> ^a	Percentage
Less than 5	1	0.6

(Table continued)

5-10	11	6.9
11-20	37	23.1
21-30	63	39.4
More than 30	48	30.0
<hr/>		
Total	160	100.0

^aSix participants did not respond to this item.

Years of Employment as a Nurse Educator

Participants were described on the number of years of employment as a nurse educator. The participants were asked to indicate the number of years from the following categories: “Less than 5 years,” “5-10 years,” “11-20 years,” “21-30 years,” or “More than 30 years.” The response category that was selected by the largest group was “11-20 years” ($n = 47, 29.2\%$). With the exception of the “More than 30 years” group, the participants were fairly equally dispersed in number among groups. Only nine (5.6%) participants reported more than 30 years of employment as a nurse educator. Complete information on years of employment as a nurse educator is presented in Table 7.

Table 7
Years of Employment as a Nurse Educator as Reported by Louisiana Baccalaureate Nurse Educators

Years of Employment as a Nurse Educator	n^a	Percentage
Less than 5 years	40	24.8
5-10 years	37	23.0
11-20 years	47	29.2

(Table continued)

21-30 years	28	17.4
More than 30 years	9	5.6
<hr/>		
Total	161	100.0

^aFive participants did not respond to this item.

Primary Clinical Practice Area

Participants were described on their primary clinical practice area. The participants were asked to indicate one of the following categories as their primary clinical practice area: “Adult health,” “Woman’s health,” “Child health,” “Mental health,” or “Other, please specify.” The majority ($n = 86$, 52.8%) reported “Adult health” as their primary clinical practice area and 17.8% ($n = 29$) of participants indicated “Other, please specify.” Community health was the primary clinical practice area most frequently specified as “Other” ($n = 12$). In addition to community health, the “Other” areas specified included ($n = 12$), emergency nursing ($n = 4$), critical care ($n = 3$), maternal newborn ($n = 3$), anesthesia ($n = 2$), oncology ($n = 2$), administration ($n = 1$), family ($n = 1$), and operating room ($n = 1$) as their primary clinical practice area. Complete information on primary clinical practice areas of participants is presented in Table 8.

Table 8
Primary Clinical Practice Area as Reported by Louisiana Baccalaureate Nurse Educators

Primary Clinical Practice Area	n^a	Percentage
Adult health	86	52.8
Child health	18	11.0
Mental health	15	9.2

(Table continued)

Woman's health	15	9.2
Other	29 ^b	17.8
<hr/>		
Total	163	100.0

^aThree participants did not respond to this item.

^bTwenty-nine participants selected the category "Other, please specify" and commented: Community Health ($n = 12$), Emergency Nursing ($n = 4$), Critical Care ($n = 3$), Maternal newborn ($n = 3$), Anesthesia ($n = 2$), Oncology ($n = 2$), Administration ($n = 1$), Family ($n = 1$), Operating Room ($n = 1$).

Primary Teaching Area

Participants were described on their primary teaching area. The participants were asked to indicate one of the following categories as their primary teaching area: "Adult health," "Woman's health," "Child health," "Mental health," or "Other, please specify." The majority ($n = 95$, 58.6%) reported "Adult health" as their primary teaching area and 14.8% ($n = 24$) of participants indicated "Other, please specify." The majority of those choosing "Other" ($n = 16$) specified "Community health" as their primary teaching area. Additional other areas reported included management ($n = 2$), research ($n = 2$), critical thinking ($n = 1$), leadership ($n = 1$), anesthesia ($n = 1$), and administration ($n = 1$) as their primary teaching area. Complete information on primary teaching areas of participants is presented in Table 9.

Table 9
Primary Teaching Area as Reported by Louisiana Baccalaureate Nurse Educators

Primary Teaching Area	n^a	Percentage
Adult health	95	58.6
Child health	16	9.9

(Table continued)

Woman's health	15	9.3
Mental health	12	7.4
Other	24 ^b	14.8
<hr/>		
Total	162	100.0

^aFour participants did not respond to this item.

^bTwenty-four participants selected the category "Other" and commented: Community Health ($n = 16$), Management ($n = 2$), Research ($n = 2$), Critical Thinking ($n = 1$), Leadership ($n = 1$), Anesthesia ($n = 1$), Administration ($n = 1$).

Objective Two

Objective two of the study was to determine training received and life experiences regarding mass casualty incidents of nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana. The data was collected by asking participants to indicate a "No" or "Yes" response to the following four questions:

1. As part of your professional interests have you read professional journal articles regarding mass casualty incidents?

If the response was "Yes," the participant was asked to indicate the total number of articles read within the past year from the following categories: "1-3," "4-6," "7-9," or "10 or more."

2. Have you earned continuing education (CE) credits regarding nursing disaster management?

If the response was "Yes," the participant was asked to indicate the total number of nursing disaster management CE hours earned from the following categories: "1-3," "4-6," "7-9," or "10 or more."

3. Have you participated in emergency response mock disaster drills?

If the response was “Yes,” the participant was asked to indicate how many times within the past three-year period from the following categories: “1-3,” “4-6,” “7-9,” or “10 or more.”

4. Have you participated in a mass casualty incident, such as September 11, 2001 attacks, Oklahoma City bombing, a plane crash, the Columbine High shooting, or Hurricanes Katrina or Rita?

If the response was “Yes,” the participant was asked to indicate the total number of lifetime incidents from following categories: “1-3,” “4-6,” “7-9,” or “10 or more.”

The area of training/experience to which the largest group of participants indicated a “Yes” response was “As part of your professional interests have you read professional journal articles regarding mass casualty incidents?” The majority of participants ($n = 110$, 66.3%) reported that they had read journal articles about mass casualty incidents. However, when those who indicated “Yes” to this item reported the number of articles read, the majority ($n = 56$, 51.8%) marked the response category of “1-3” (see Table 10).

The area of training/experience to which the smallest group of participants reported a “Yes” response was “Have you earned continuing education (CE) credits regarding nursing disaster management?” Less than one third of the participants ($n = 54$, 32.5%) reported earning CE credits on disaster management. Additionally, when those who indicated a “Yes” response to this item reported the number of CE hours earned, the majority ($n = 27$, 50.9%) marked the response category of “1-3” (see Table 10).

For the other two areas of training/experience (mock disaster drills and actual mass casualty incidents) less than half of the participants reported any participation, and of those that did report participation, the majority reported the number of participations in the “1-3” category (see Table 10).

Table 10
 Training Received and Life Experiences Regarding Mass Casualty Incidents as Reported by
 Louisiana Baccalaureate Nurse Educators

Question	Responses		Number of Training and Life Experiences			
	No <i>n</i> / %	Yes <i>n</i> / %	1-3 <i>n</i> / % ^a	4-6 <i>n</i> / %	7-9 <i>n</i> / %	≥10 <i>n</i> / %
As part of your professional interests have you read professional journal articles regarding mass casualty incidents?	56/33.7	110/66.3 ^b	56/51.8	33/30.6	5/4.6	14/13.0
Have you earned continuing education (CE) credits regarding nursing disaster management?	112/67.5	54/32.5 ^c	27/50.9	15/28.3	7/13.2	4/7.6
Have you participated in emergency response mock disaster drills?	109/65.7	57/34.3 ^d	46/86.8	4/7.5	2/3.8	1/1.9
Have you participated in a mass casualty incident, such as September 11, 2001 attacks, Oklahoma City bombing, a plane crash, the Columbine High shooting, or Hurricanes Katrina or Rita?	96/57.8	70/42.2 ^e	66/95.7	2/2.9	0/0	1/1.4

^aPercentage based on number of participants who provided a “Yes” response.

^bTwo participants that indicated “yes” did not indicate the total number of articles read within the past year.

^cOne participant that indicated “yes” did not indicate the total number of nursing disaster management CE hours earned.

^dFour participants that indicated “yes” did not indicate the total number of times within the past three-year period.

^eOne participant that indicated “yes” did not indicate the total number of lifetime incidents.

In addition to reporting the findings for the responses to the individual items, the researcher used the information obtained to compute a mass casualty experience score. The researcher established an initial scoring system and scale to calculate mass casualty experience. In this initial scoring system, points were assigned to participant response categories in

incremental amounts to represent the amount of training received and/or life experiences related to preparation for mass casualty incidents. This initial scoring system was validated through a review by a panel of experts of five medical professionals who were experts in the field of mass casualty incidents and disaster planning. These professionals consisted of two physicians, a radiology technologist, a nurse practitioner, and a physician’s assistant that had experience working in MCI’s including but not limited to extensive involvement in the aftermath of Hurricanes Katrina and Rita. Changes in this scoring system that were recommended by the panel of experts consisted primarily of eliminating a point assignment for a “Yes” response to the initial items and assigning a higher point value to the response category “Number of times of participation in mass casualty incidents during one’s lifetime.” The researcher incorporated recommendations from the panel for changes in the scoring system. The final form of the system used for calculation of a mass casualty experience score is presented in Table 11.

Table 11
Scoring System for Calculating Mass Casualty Experience Score Among Louisiana Baccalaureate Nurse Educators

Item Regarding Mass Casualty	<u>No</u>	Response and Points Allocated ^a			
		<u>Yes</u>			
		1-3	4-6	7-9	10 or more
Number of articles read within the last year	0	1	2	3	4
Number of continuing education credits earned	0	2	3	4	5
Number of times of participation in mock disaster drills	0	3	4	5	6
Number of times of participation in mass casualty incidents during one’s lifetime	0	10	15	20	25

^aMass casualty experience score developed by researcher and validated by panel of experts.

The lowest possible experience score was 0, and the highest possible experience score was 40. To aid in interpretation of the experience score, the researcher established a scale of interpretation as follows: 0 = Not experienced, 1-5 = Slightly experienced, 6-10 = Somewhat experienced, 11-15 = Moderately experienced, 16-20 = Highly experienced, and 21 or higher = Extremely experienced. The actual experience scores ranged from 0 ($n = 33$) to 35 ($n = 1$). The mean experience score ($M = 7.54$, $SD = 6.9$) was in the interpretive category of “somewhat experienced” based on the researcher-developed scale. The largest group ($n = 50$, 30.1%) of study participants was in the “slightly experienced” category and only four subjects (2.4%) were classified in the “extremely experienced” category. Complete information on mass casualty experience scores of participants is presented in Table 12.

Table 12
Mass Casualty Experience Scores Among Louisiana Baccalaureate Nurse Educators

Experience scores	<i>n</i>	Percentage
Not experienced (0)	33	19.9
Slightly experienced (1-5)	50	30.1
Somewhat experienced (6-10)	21	12.7
Moderately experienced (11-15)	38	22.9
Highly experienced (16-20)	20	12.0
Extremely experienced (21 or higher)	4	2.4
Total	166	100.0

Note. Mean Experience Score = 7.54, Standard Deviation = 6.9, Range = 0 – 35.

Objective Three

Objective three was to determine self-perceived level of knowledge of educational competencies responding to mass casualty incidents among nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana. To accomplish this objective, participants were asked to rate their level of knowledge of 51 items pertaining to mass casualty incidents. Responses were reported on the following five-point anchored scale: 1= not at all knowledgeable, 2 = slightly knowledgeable, 3 = fairly knowledgeable, 4 = quite knowledgeable, and 5 = very knowledgeable.

To aid in the interpretation of these responses, the researcher established a scale of interpretation as follows: 1.0-1.49 = not at all knowledgeable, 1.50-2.49 = slightly knowledgeable, 2.50-3.50 = fairly knowledgeable, 3.51-4.50 = quite knowledgeable and 4.51-5.0 = very knowledgeable. Cronbach's alpha measure of internal consistency as a reliability estimate of the scale was determined to be $\alpha = .98$, which according to Hair, Black, Babin, Anderson, and Tatham (2006) is acceptable (.70 or higher).

Participants considered themselves most knowledgeable about the individual items "Demonstrate basic first aid skills" ($n = 158, M = 4.13, SD = 0.99$) and "Demonstrate personal protective equipment" ($n = 159, M = 4.01, SD = 1.10$) which were in the interpretive category of quite knowledgeable. The individual item about which participants reported having the least knowledge was "Defining terms relevant to mass casualty incidents" ($n = 155, M = 1.86, SD = 1.08$), and was in the interpretive category of slightly knowledgeable. Overall, participants responded as being quite knowledgeable of six items, fairly knowledgeable of 28 items, and slightly knowledgeable of 17 items. See Table 13 for a complete presentation of the means, standard deviations, and response classification of each item.

Table 13
 Self-Perceived Knowledge of Selected Core Competencies for Mass Casualty Incidents among
 Louisiana Baccalaureate Nurse Educators

Items for Core Competencies	<i>n</i>	<i>M</i> ^a	<i>SD</i>	Classification ^b
Demonstrate basic first aid skills	158	4.13	0.99	Quite
Demonstrate personal protective equipment	159	4.01	1.10	Quite
Perform head-to-toe assessment	160	3.63	1.20	Quite
Demonstrate higher order nursing skills	160	3.61	1.33	Quite
Demonstrate safe medication administration	161	3.55	1.28	Quite
Assess and monitor during transport	161	3.53	1.15	Quite
Describe coping strategies	157	3.46	1.13	Fairly
Identify demonstrations of fear, panic, and stress	159	3.46	1.17	Fairly
Define mass casualty incidents	162	3.42	1.15	Fairly
Assess psychological responses	161	3.34	1.20	Fairly
Demonstrate appropriate documentation	161	3.24	1.32	Fairly
Differentiate between attacks and outbreaks	162	3.21	1.30	Fairly
Describe psychological impact on responders	161	3.20	1.19	Fairly
Use clinical judgment in assessment	160	3.15	1.31	Fairly
Locate and describe emergency response plan	159	3.11	1.34	Fairly
Identify potential community impact	160	3.04	1.05	Fairly
Conduct history focused to harmful exposure	160	3.01	1.33	Fairly
Describe community health limitations	162	2.97	1.11	Fairly
Demonstrate response to adverse vaccine effects	159	2.97	1.30	Fairly

(Table continued)

Recognize a confidentiality breach	161	2.91	1.38	Fairly
Identify resources for psychological needs	158	2.91	1.24	Fairly
Assess illness effects following exposures	161	2.89	1.20	Fairly
Describe emergency nursing care for all affected	161	2.86	1.26	Fairly
Discuss security and confidentiality issues	161	2.83	1.32	Fairly
Discuss ethical issues such as refusal of care	160	2.79	1.29	Fairly
Identify scope of practice roles	160	2.76	1.32	Fairly
Assess safety issues at the scene	158	2.73	1.16	Fairly
Discuss socio/cultural issues affecting response	161	2.70	1.19	Fairly
Demonstrate info access to harmful agents	156	2.66	1.22	Fairly
Describe equipment essential for disasters	162	2.62	1.25	Fairly
Differentiate between nurse practice roles	162	2.61	1.28	Fairly
Describe triage principles during MCI	161	2.54	1.30	Fairly
Identify resources for media releases	162	2.51	1.28	Fairly
Maintain knowledge in disaster preparation	158	2.49	1.21	Slightly
Describe emergency response interactions	161	2.49	1.17	Slightly
Discuss regulatory issues such as abandonment	163	2.48	1.24	Slightly
Describe legal authority of instituting quarantine	161	2.40	1.24	Slightly
Use framework to support triage system	161	2.40	1.30	Slightly
Identify rights to refuse to report to work	162	2.40	1.30	Slightly
Describe role as nurse epidemiologist	163	2.39	1.22	Slightly
Identify ways to access medical supplies	162	2.36	1.11	Slightly
Discuss principles of decontamination	163	2.36	1.23	Slightly

(Table continued)

Differentiate among symptoms of harmful agents	158	2.23	1.16	Slightly
Describe the 4 phases of emergency management	162	2.23	1.23	Slightly
Describe decontamination procedures	163	2.17	1.21	Slightly
Describe standards of handling human remains	162	2.15	1.22	Slightly
Describe the Incident Command System	160	2.13	1.27	Slightly
Demonstrate use of emergency communication	159	2.10	1.18	Slightly
Discuss chain of custody during a crime scene	159	2.06	1.20	Slightly
Define terms relevant to mass casualty incidents	155	1.86	1.12	Slightly

^aResponse scale: 1 = Not knowledgeable, 2 = slightly knowledgeable, 3 = fairly knowledgeable, 4 = quite knowledgeable, 5 = very knowledgeable.

^bInterpretive scale: 1.0-1.49 = not at all knowledgeable, 1.50-2.49 = slightly knowledgeable, 2.50-3.50 = fairly knowledgeable, 3.51-4.50 = quite knowledgeable, 4.51-5.0 = very knowledgeable.

To further summarize the information regarding the self-perceived knowledge level concerning mass casualty incidents, the researcher used factor analysis to determine if primary underlying constructs could be identified in the scale. The factor analysis conducted was exploratory and used the principal components extraction procedure with varimax rotation.

Prior to conducting the planned factor analysis, the researcher examined the cases-to-variable ratio (3.25: 1), which did not meet the cases-to-variable ratio recommended (minimally 5:1) by Hair et al., 2006. Since the number of responses did not meet the cases-to-variable ratio as recommended, the researcher examined appropriate tests for sampling adequacy very carefully. A review of the anti-image correlation matrix revealed measures of sampling adequacy (MSA's) all above the 0.5 threshold. Furthermore, a Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was conducted and factor analysis calculations revealed a KMO value of 0.961. KMO values above 0.5 determine sampling to be adequate (University of Newcastle Upon Tyne, 2006). Additionally, Bartlett's Test of Sphericity was performed to test the hypothesis that

the variables in the population correlation matrix are uncorrelated. The strength of the relationships between variables was found to be strong and acceptable for factor analysis based on the results of this test $\chi^2 (1275, n = 51) = 8166.93, p < .001$. (University of Newcastle Upon Tyne, 2006). Even though all measures examined indicated that the data from this research were adequate and appropriate for calculation of a factor analysis, Hair et al. (2006) recommended that, “When dealing with smaller sample sizes and/or a lower cases-to-variable ratio, the researcher should always interpret any findings cautiously” (p. 113).

After determining that the data was adequate for completing an exploratory factor analysis, the next step in conducting the test was to determine the number of factors to be extracted from the knowledge scale. The researcher used a combination of the latent root criterion, the scree test criterion and the percentage of variance explained to make this decision. When the scree test was examined, the number of factors was judged to be two, three or one. Subsequently, the researcher examined the loadings for one, two, and three factor models for the knowledge scale and all were found to be statistically acceptable (minimum loadings of .40 or higher).

The three-factor solution was found to have the highest percent of explained variance (67.35%) in baccalaureate nurse educators’ self-perceived level of knowledge concerning MCIs. Additionally, this model was determined by the researcher to be conceptually most easily interpreted. Three sub-scales were easily identifiable and were determined to be underlying constructs of self-perceived knowledge levels concerning mass casualty incidents of the DMPQ. The researcher labeled these three sub-scales as follows: “Knowledge of Ethical/Legal/Safety Issues,” “Assessment of Psycho/Social Concerns,” and “Implementation of Nursing Skills.” Therefore, the three-factor solution was selected for the factor analysis of the self-perceived knowledge scale.

The first factor identified in the scale (labeled by the researcher as Knowledge of Ethical/Legal/Safety Issues) included items related to the identification and discussion of ethical, legal, and safety issues relating to MCIs. A total of 31 items with loadings ranging from a high of .77 to a low of .49 explained 58.65% of the overall variance in the scale. The second factor identified in the scale (labeled by the researcher as Assessment of Psycho/Social Concerns) included 11 items that related to the psychological impact of MCIs and coping skills. The factor loadings ranged from a high of .82 to a low of .50 and explained an additional 5.19% of the overall scale variance. The third factor identified in the scale (labeled by the researcher as Implementation of Nursing Skills) included nine items that were specific activities and/or actions related to nursing interventions. This factor added an additional 3.51% of the explained variance and yielded factor loadings ranging from .75 to .49. The results of the factor analysis including the factor, the three sub-scales, the percentage of variance explained by each factor, and factor loadings for each of the items in each of the factors are presented in Table 14.

Table 14
Factor Analysis of Louisiana Baccalaureate Nursing Educators' Perceptions of Knowledge of Selected Core Competencies for Mass Casualty Incidents

Item: Knowledge of Ethical/Legal/Safety Issues (58.65% of variance explained)	Factor 1	Factor 2	Factor 3
Describe the 4 phases of emergency management	.77	.23	.11
Describe emergency response interactions	.77	.33	.12
Use framework to support triage system	.76	.27	.39
Describe standards of handling human remains	.76	.15	.35
Describe legal authority of instituting quarantine	.76	.33	.16

(Table continued)

Describe the Incident Command System	.75	.16	.27
Describe decontamination procedures	.75	.27	.30
Define terms relevant to mass casualty incidents	.74	.11	a
Discuss principles of decontamination	.74	.28	.34
Identify rights to refuse to report to work	.73	.36	.17
Demonstrate use of emergency communication	.72	.31	.13
Discuss chain of custody during a crime scene	.72	.29	.14
Describe triage principles during MCI	.72	.31	.42
Describe nursing roles in mock emergency drills	.71	.37	.31
Identify ways to access medical supplies	.67	.36	.23
Describe equipment essential for disasters	.66	.42	.43
Differentiate among symptoms of harmful agents	.66	.44	.32
Discuss regulatory issues such as abandonment	.66	.36	.28
Maintain knowledge in disaster preparation	.66	.49	.31
Describe role as nurse epidemiologist	.65	.41	.21
Discuss ethical issues such as refusal of care	.65	.45	.33
Differentiate between nurse practice roles	.65	.50	.28
Identify scope of practice roles	.61	.51	.31
Discuss socio/cultural issues affecting response	.60	.52	.26
Recognize a confidentiality breach	.59	.50	.28
Assess safety issues at the scene	.59	.39	.48
Describe emergency nursing care for all affected	.58	.40	.51
Differentiate between attacks and outbreaks	.58	.41	.31

(Table continued)

Identify resources for media releases	.53	.41	.32
Define mass casualty incidents	.51	.44	.19
Demonstrate information access to harmful agents	.49	.46	.43
<hr/>			
Item: Assessment of Psycho/Social Concerns (5.19% of variance explained)	Factor 1	Factor 2	Factor3
<hr/>			
Describe psychological impact on responders	.33	.82	.20
Assess psychological responses of victims	.23	.81	.26
Describe coping strategies	.26	.75	.26
Identify resources for psychological needs	.41	.73	.21
Identify demonstrations of fear, panic, and stress	.29	.72	.28
Assess effects of illness following exposures	.52	.59	.24
Describe community health limitations	.53	.58	.12
Conduct history focused to harmful exposure	.36	.56	.48
Use clinical judgment in assessment	.49	.55	.50
Identify potential community impact	.46	.54	a
Discuss security and confidentiality issues	.48	.50	.35
<hr/>			
Item: Implementation of Nursing Skills (3.51% of variance explained)	Factor 1	Factor 2	Factor3
<hr/>			
Demonstrate higher order nursing skills	.12	a	.75
Demonstrate basic first aid skills	a	.34	.74
Assess and monitor during transport	.31	.23	.72
Demonstrate personal protective equipment	.17	a	.66

(Table continued)

Perform head-to-toe assessment	.24	.52	.61
Demonstrate safe medication administration	.30	.43	.60
Demonstrate appropriate documentation	.43	.37	.55
Locate and describe emergency response plan	.38	.36	.50
Demonstrate response to adverse vaccine effects	.43	.43	.49

^a Factor loading < .10

To describe each of the three constructs, the researcher computed sub-scale scores. These sub-scale scores were computed as the mean of each of the items included in a factor. The mean was selected over the use of summated measures since the number of items in each factor differed. Examination of the computed mean sub-scale scores revealed that nurse educators reported the highest level of knowledge for the items factored in the “Implementation of Nursing Skills” factor ($M = 3.53, SD = .94$), which fell into the interpretive category of quite knowledgeable and lowest knowledge of the items included in the “Knowledge of Ethical/Legal/Safety Issues” factor ($M = 2.51, SD = 1.01$), which fell into the interpretive category of fairly knowledgeable (see Table 15).

Table 15
Self-Perceived Knowledge of Sub-scale Scores of Selected Core Competencies for Mass Casualty Incidents of Louisiana Baccalaureate Nursing Educators

Knowledge Sub-scale	<i>n</i>	<i>M</i> ^a	<i>SD</i>	Classification ^b
Implementation of Nursing Skills	163	3.53	.94	Quite
Assessment of Psycho/Social Concerns	163	3.11	.99	Fairly
Knowledge of Ethical/Legal/Safety Issues	163	2.51	1.01	Fairly

(Table continued)

^aResponse scale: 1 = Not knowledgeable, 2 = slightly knowledgeable, 3 = fairly knowledgeable, 4 = quite knowledgeable, 5 = very knowledgeable.

^bInterpretive scale: 1.0-1.49 = not at all knowledgeable, 1.50-2.49 = slightly knowledgeable, 2.50-3.50 = fairly knowledgeable, 3.51-4.50 = quite knowledgeable, 4.51-5.0 = very knowledgeable.

Although the researcher initially examined the internal consistency of the total knowledge scale, since three underlying constructs were identified in the data, it was deemed most appropriate to estimate the reliability of each derived sub-scale by computing the Cronbach’s alpha internal consistency measure for each sub-scale. All of the computed alpha values were found to be above .90 indicating that all of the identified sub-scales had acceptable estimates of reliability (Hair et al., 2006). The estimate of the reliability for each of the sub-scales is presented in Table 16.

Table 16
Knowledge Constructs, Number of Items Reliability of Sub-scales Derived from the Three-Factor Solution

Sub-scale	Item number	Reliability ^a
Knowledge of Ethical/Legal/Safety Issues	31	.98
Assessment of Psycho/Social Concerns	11	.95
Implementation of Nursing Skills	9	.91

^aCronbach’s alpha measure of internal consistency.

Objective Four

Objective four was to determine the importance of incorporating educational competencies responding to mass casualty incidents into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana. To accomplish this objective, participants were asked to rate the level of importance of 51 items pertaining to mass casualty incidents for inclusion in the nursing curriculum. Responses were reported on a five-point anchored scale with the following values: 1= not at all important, 2 =

slightly important, 3 = fairly important, 4 = quite important, and 5 = very important. To aid in the interpretation of these responses, the researcher established a scale of interpretation as follows: 1.0-1.49 = not at all important, 1.50-2.49 = slightly important, 2.50-3.50 = fairly important, 3.51-4.50 = quite important and 4.51-5.0 = very important. Cronbach’s alpha measure of internal consistency as a reliability estimate of the scale was determined to be $\alpha = .99$, which according to Hair et al. (2006) is acceptable (.70 or higher).

The individual items that participants rated as having the highest level of importance were “Demonstrate basic first aid skills” ($M = 4.50, SD = 0.77$) and “Demonstrate personal protective equipment” ($M = 4.46, SD = 0.83$), both of which were classified using the scale of interpretation as “Quite important.” The individual item that participants reported having the least importance was “Defining terms relevant to mass casualty incidents” ($M = 3.35, SD = 1.21$) rated as “Fairly important.” Participants perceived 50 items as quite important, and one item as fairly important. See Table 17 for presentation of the means, standard deviations, and scale of interpretations for the perceived importance of each item.

Table 17
Perceived Importance of Selected Core Competencies for Mass Casualty Incidents among Louisiana Baccalaureate Nurse Educators

Items for Core Competencies	<i>n</i>	<i>M</i> ^a	<i>SD</i>	Classification ^b
Demonstrate basic first aid skills	159	4.50	.77	Quite
Demonstrate personal protective equipment	162	4.46	.83	Quite
Demonstrate safe medication administration	159	4.37	.90	Quite
Perform head-to-toe assessment	161	4.29	.90	Quite
Use clinical judgment in assessment	160	4.26	1.00	Quite

(Table continued)

Assess and monitor during transport	162	4.22	.94	Quite
Identify rights to refuse to report to work	162	4.20	.93	Quite
Discuss regulatory issues such as abandonment	164	4.20	.97	Quite
Describe emergency nursing care for all affected	160	4.19	.99	Quite
Demonstrate response to adverse vaccine effects	160	4.18	.99	Quite
Assess safety issues at the scene	158	4.16	.98	Quite
Describe coping strategies	161	4.14	.89	Quite
Assess psychological responses	160	4.14	.90	Quite
Identify scope of practice roles	161	4.13	.96	Quite
Discuss ethical issues such as refusal of care	161	4.12	.96	Quite
Demonstrate info access to harmful agents	156	4.12	.97	Quite
Differentiate among symptoms of harmful agents	157	4.12	1.01	Quite
Demonstrate appropriate documentation	161	4.11	1.01	Quite
Identify potential community impact	160	4.09	.96	Quite
Describe psychological impact on responders	160	4.09	.97	Quite
Describe triage principles during MCI	161	4.09	1.03	Quite
Identify resources for psychological needs	161	4.09	1.00	Quite
Identify demonstrations of fear, panic, and stress	160	4.08	.90	Quite
Conduct history focused to harmful exposure	159	4.03	1.06	Quite
Discuss principles of decontamination	164	4.02	1.05	Quite
Locate and describe emergency response plan	162	4.02	1.12	Quite

(Table continued)

Describe equipment essential for disasters	163	4.02	1.04	Quite
Demonstrate higher order nursing skills	158	4.01	1.01	Quite
Describe nursing roles in mock emergency drills	162	4.01	.94	Quite
Assess illness effects following exposures	164	4.01	.98	Quite
Describe decontamination procedures	164	4.00	1.11	Quite
Recognize a confidentiality breach	162	3.98	1.07	Quite
Discuss security and confidentiality issues	161	3.98	1.05	Quite
Describe emergency response interactions	161	3.98	1.03	Quite
Define mass casualty incidents	162	3.95	.97	Quite
Differentiate between nurse practice roles	162	3.95	1.01	Quite
Maintain knowledge in disaster preparation	161	3.95	1.01	Quite
Use framework to support triage system	161	3.95	1.11	Quite
Describe standards of handling human remains	161	3.95	1.09	Quite
Describe community health limitations	161	3.93	.93	Quite
Describe legal authority of instituting quarantine	161	3.91	1.08	Quite
Differentiate between attacks and outbreaks	163	3.89	1.02	Quite
Describe the 4 phases of emergency management	161	3.89	.95	Quite
Discuss socio/cultural issues affecting response	164	3.88	1.07	Quite
Identify ways to access medical supplies	164	3.82	1.12	Quite
Demonstrate use of emergency communication	161	3.81	1.27	Quite
Describe the Incident Command System	161	3.78	1.14	Quite

(Table continued)

Describe role as nurse epidemiologist	164	3.70	1.08	Quite
Discuss chain of custody during a crime scene	162	3.63	1.15	Quite
Identify resources for media releases	161	3.52	1.14	Quite
Define terms relevant to mass casualty incidents	149	3.35	1.21	Fairly

^aResponse scale: 1 = Not important, 2 = slightly important, 3 = fairly important, 4 = quite important, 5 = very important.

^bInterpretive scale: 1.0-1.49 = not at all important, 1.50-2.49 = slightly important, 2.50-3.50 = fairly important, 3.51-4.50 = quite important, 4.51-5.0 = very important.

To further summarize the information regarding the perceived importance concerning mass casualty incidents, the researcher used factor analysis to determine if primary underlying constructs could be identified in the scale. However, since one of the primary purposes of the study was to examine the relationship between self-perceived knowledge and perceived importance, the researcher determined that the most appropriate factor analytic technique to use in this situation was to specify the three factors identified in the self-perceived knowledge scale and to determine if the factors could be verified in the perceived importance scale. To accomplish this purpose, the items included in each of the three knowledge factor sub-scales: “Knowledge of Ethical/Legal/Safety Issues,” “Assessment of Psycho/Social Concerns,” and “Implementation of Nursing Skills” were entered separately into a factor analysis with the designation that all items be loaded as a single factor in each analysis.

A decision was made *a priori* that to be considered acceptable as a single factor in the importance scale, all items included in a factor must yield a loading of at least .50. Since the three factor analyses conducted to accomplish this objective included only the items that were previously identified as included in one of the three sub-scales, the cases-to-variable ratio for these analyses did meet the minimum criteria recommended by Hair et al. (2006).

The researcher incorporated the 31 items from the importance scale (corresponding to the 31 items that comprised the factor “Knowledge of Ethical/Legal/Safety Issues” from the self-perceived knowledge scale) into a factor analysis with a specification that all items be loaded into a single factor. A review of the anti-image correlation matrix revealed measures of sampling adequacy (MSA’s) all above the 0.5 threshold. Furthermore, a Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was conducted and factor analysis calculations revealed a KMO value of 0.948. KMO values above 0.5 determine sampling to be adequate (University of Newcastle Upon Tyne, 2006). Additionally, Bartlett’s Test of Sphericity was performed to test the hypothesis that the variables in the population correlation matrix are uncorrelated. The strength of the relationships between variables was found to be strong and acceptable for factor analysis based on the results of this test $X^2 (465, n = 31) = 4653.50, p < .001$. (University of Newcastle Upon Tyne, 2006).

Based on the results of the analysis, the factor (“Knowledge of Ethical/Legal/Safety Issues”) was verified in the perceived importance scale. The loadings for this factor ranged from a high of .90 to a low of .60 and explained 65.61% of the overall variance in the scale. Therefore, the “Knowledge of Ethical/Legal/Safety Issues” sub-scale was verified as an importance sub-scale. See Table 18 for the factor loadings of the items in the importance sub-scale: “Knowledge of Ethical/Legal/Safety Issues.”

Table 18
 Factor Analysis of Louisiana Baccalaureate Nurse Educators’ Perceptions of the Importance of Core Competencies for Mass Casualty Incidents in the Knowledge of Ethical/Legal/Safety Issues Sub-scale

Importance of Knowledge of Ethical/Legal/Safety Issues (65.61% of variance explained)	Factor 1
Describe emergency nursing care for all affected	.90

(Table continued)

Describe equipment essential for disasters	.90
Describe triage principles during MCI	.88
Describe decontamination procedures	.88
Discuss principles of decontamination	.88
Differentiate among symptoms of harmful agents	.87
Describe standards of handling human remains	.87
Maintain knowledge in disaster preparation	.86
Assess safety issues at the scene	.85
Demonstrate information access to harmful agents	.85
Identify ways to access medical supplies	.85
Identify scope of practice roles	.84
Describe the Incident Command System	.84
Describe nursing roles in mock emergency drills	.83
Use framework to support triage system	.83
Differentiate between nurse practice roles	.82
Describe role as nurse epidemiologist	.81
Describe emergency response interactions	.80
Identify rights to refuse to report to work	.80
Discuss ethical issues such as refusal of care	.80
Describe legal authority of instituting quarantine	.79
Demonstrate use of emergency communication	.78
Discuss chain of custody during a crime scene	.78
Discuss regulatory issues such as abandonment	.77

(Table continued)

Discuss socio/cultural issues affecting response	.75
Differentiate between attacks and outbreaks	.74
Recognize a confidentiality breach	.73
Identify resources for media releases	.73
Describe the 4 phases of emergency management	.72
Define mass casualty incidents	.69
Define terms relevant to mass casualty incidents	.60

The researcher incorporated the 11 items from the importance scale (corresponding to the 11 items that comprised the factor “Assessment of Psycho/Social Concerns” from the self-perceived knowledge scale) into a factor analysis with a specification that all items be loaded into a single factor. A review of the anti-image correlation matrix revealed MSA’s all above the 0.5 threshold. Furthermore, a KMO Measure of Sampling Adequacy was conducted and factor analysis calculations revealed a KMO value of 0.934. KMO values above 0.5 determine sampling to be adequate (University of Newcastle Upon Tyne, 2006).

Additionally, Bartlett’s Test of Sphericity was performed to test the hypothesis that the variables in the population correlation matrix are uncorrelated. The strength of the relationships between variables was found to be strong and acceptable for factor analysis based on the results of this test $X^2 (55, n = 11) = 1567.64, p < .001$. (University of Newcastle Upon Tyne, 2006).

When these 11 items were entered into a single factor analysis, the perceived importance of these items were verified in the knowledge construct “Assessment of Psycho/Social Concerns” with loadings ranging from a high of .89 to a low of .70 and explained 69.10% of the overall variance in the scale. Therefore, the “Assessment of Psycho/Social Concerns” sub-scale was verified as an importance sub-scale. See Table 19 for the factor loadings of the importance

items identified by the sub-scale identified in the knowledge factor analysis as “Assessment of Psycho/Social Concerns.”

Table 19

Factor Analysis of Louisiana Baccalaureate Nurse Educators’ Perceptions of the Importance of Core Competencies for Mass Casualty Incidents in the Assessment of Psycho/Social Concerns Sub-scale

Importance of Assessment of Psycho/Social Concerns (69.10% of variance explained)	Factor 2
Identify resources for psychological needs	.89
Assess psychological responses of victims	.89
Describe psychological impact on responders	.88
Use clinical judgment in assessment	.88
Conduct history focused to harmful exposure	.85
Identify demonstrations of fear, panic, and stress	.83
Discuss security and confidentiality issues	.82
Describe coping strategies	.82
Assess effects of illness following exposures	.82
Describe community health limitations	.74
Identify potential community impact	.70

The researcher verified the nine items from the importance scale (corresponding to the nine items that comprised the factor “Implementation of Nursing Skills” from the self-perceived knowledge scale) into a factor analysis with a specification that all items be loaded into a single factor. A review of the anti-image correlation matrix revealed MSA’s all above the 0.5 threshold. Furthermore, a KMO Measure of Sampling Adequacy was conducted and factor analysis calculations revealed a KMO value of 0.916. KMO values above 0.5 determine sampling to be

adequate (University of Newcastle Upon Tyne, 2006). Additionally, Bartlett’s Test of Sphericity was performed to test the hypothesis that the variables in the population correlation matrix are uncorrelated. The strength of the relationships between variables was found to be strong and acceptable for factor analysis based on the results of this test $X^2 (36, n = 9) = 1041.07, p < .001$. (University of Newcastle Upon Tyne, 2006). Factor loadings regarding the perceived importance of these nine items were verified in the knowledge sub-scale. Loadings ranged from a high of .87 to a low of .72, and explained 65.54% of the overall variance in the scale. Therefore, the “Implementation of Nursing Skills” sub-scale was verified as an importance sub-scale. See Table 20 for the factor loadings of the importance items identified by the sub-scale identified in the knowledge factor analysis as “Implementation of Nursing Skills.”

Table 20
 Factor Analysis of Louisiana Baccalaureate Nurse Educators’ Perceptions of the Importance of Core Competencies for Mass Casualty Incidents in the Implementation of Nursing Skills Sub-scale

Importance of Implementation of Nursing Skills (65.54 % of variance explained)	Factor 3
Demonstrate safe medication administration	.87
Demonstrate response to adverse vaccine effects	.86
Perform head-to-toe assessment	.84
Demonstrate appropriate documentation	.84
Assess and monitor during transport	.84
Demonstrate higher order nursing skills	.78
Demonstrate basic first aid skills	.77
Locate and describe emergency response plan	.75
Demonstrate personal protective equipment	.72

To describe each construct, the researcher computed sub-scale scores. These sub-scale scores were computed as the mean of each of the items included in a factor. The mean was selected over the use of summated measures since the number of items in each factor differed. Examination of the computed mean sub-scale scores revealed that study participants indicated the highest level of importance for the items included in the sub-scale “Implementation of Nursing Skills” ($M = 4.24$, $SD = .78$), which fell into the interpretive category of quite important. Additionally, study participants perceived the lowest level of importance for sub-scale “Knowledge of Ethical/Legal/Safety Issues” ($M = 3.95$, $SD = .85$), which fell in the interpretive category of quite knowledgeable (see Table 21).

Table 21
Perceived Importance Sub-scale Analysis of Selected Core Competencies for Mass Casualty Incidents among Louisiana Baccalaureate Nursing Educators

Knowledge Sub-scale	<i>n</i>	<i>M</i> ^a	<i>SD</i>	Classification ^b
Perceived Importance of Implementation of Nursing Skills	164	4.24	.78	Quite
Perceived Importance of Assessment of Psycho/Social Concerns	164	4.08	.81	Quite
Perceived Importance of Knowledge of Ethical/Legal/Safety Issues	164	3.95	.85	Quite

^aResponse scale: 1 = Not important, 2 = slightly important, 3 = fairly important, 4 = quite important, 5 = very important.

^bInterpretive scale: 1.0-1.49 = not at all important, 1.50-2.49 = slightly important, 2.50-3.50 = fairly important, 3.51-4.50 = quite important, 4.51-5.0 = very important.

Although the researcher initially examined the internal consistency of the total importance scale, since three separate sub-scales were verified, it was deemed most appropriate to estimate the reliability of each derived sub-scale by computing the Cronbach’s alpha internal consistency measure for each sub-scale. All of the computed alpha values were found to be

above .90 indicating that all of the identified sub-scales had acceptable estimates of reliability (Hair et al., 2006). The estimate of the reliability for each sub-scale is presented in Table 22.

Table 22
Perceived Importance Sub-scales, Number of Items, and Reliability of Factors Derived Separately from the Factor Analysis of the Knowledge Scale

Factor	Item number	Reliability ^a
Importance of Knowledge of Ethical/Legal/Safety Issues	31	.98
Importance of Assessment of Psycho/Social Concerns	11	.96
Importance of Implementation of Nursing Skills	9	.94

^aCronbach's alpha measure of internal consistency.

Objective Five

The fifth objective of the study was to determine if a relationship existed among currently employed nurse educators between the overall perceived level of importance of incorporating educational competencies regarding MCI's into the baccalaureate-degree nursing curriculum and the following selected personal and professional demographic characteristics:

- a. Age
- b. Gender
- c. Ethnic background
- d. Size of household
- e. Highest level of education completed
- f. Years of experience as a nurse
- g. Years of experience as a nurse educator
- h. Primary clinical area
- i. Primary teaching area

To accomplish this objective, Kendall’s Tau was used to measure relationships between perceived level of importance sub-scales and the following selected personal and professional demographic characteristics: age, household size, years of nursing experience, and years employed as a nursing educator. An independent samples t-test was conducted to determine if differences existed in each of the importance scales by gender, highest level of education completed, and ethnicity. A one-way analysis of variance (ANOVA) was used to compare the means among primary clinical areas, and primary teaching areas in perceived importance factors. All testing was conducted at the .05 alpha level (two-tailed).

Age

A Kendall’s Tau correlation was computed to measure the relationship between each of the perceived importance of MCI competency sub-scale scores and age of respondent. A statistically significant correlation was identified between age and the sub-scale perceived importance of “Assessment of Psycho/Social Concerns” $r_{(162)} = .12, p = .045$. The nature of this relationship was such that nurse educators who were older tended to perceive a higher level of importance of incorporating core competency items in the “Assessment of Psycho/Social Concerns” sub-scale into the nursing curriculum (see Table 23). Age of participants was not found to be related to the other two sub-scale scores.

Table 23
Relationship Between Age of Louisiana Baccalaureate Nurse Educators and Perceived Importance Sub-scale Scores

Importance sub-scale	r^a	p^b	Descriptors ^c
Assessment of Psycho/Social Concerns	.12	.045	Low
Implementation of Nursing Skills	.12	.06	Low
Knowledge of Ethical/Legal/Safety Issues	.10	.09	Low

(Table continued)

Note. $n = 163$.

^aCorrelation Coefficient used was Kendall's Tau.

^bTwo-tailed.

^cDescriptors based on Davis' (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association.

Size of Household

A Kendall's Tau correlation was computed to measure the relationship between each of the perceived importance of MCI competency sub-scale scores and the number of children under the age of 18 living at home. The number of children under the age of 18 living at home was not found to be significantly related to sub-scale scores (see Table 24).

Table 24

Relationship Between Perceived Importance Sub-scale Scores and the Number of Children Under the Age of 18 years living at home with Louisiana Baccalaureate Nurse Educators

Importance sub-scale	r^a	p^b	Descriptors ^c
Implementation of Nursing Skills	-.12	.07	Low
Assessment of Psycho/Social Concerns	-.09	.16	Low
Knowledge of Ethical/Legal/Safety Issues	-.09	.17	Low

Note. $n = 163$.

^aCorrelation Coefficient used was Kendall's Tau.

^bTwo-tailed.

^cDescriptors based on Davis (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association.

A Kendall's Tau correlation was computed to measure the relationship between each of the perceived importance of MCI competency sub-scale scores and the number of adults, other than the educator, aged 18 and older living at home. The number of adults living at home was not found to be significantly related to sub-scale scores (see Table 25).

Table 25

Relationship Between Perceived Importance Sub-scale Scores and the Number of Adults Aged 18 and Older Living at Home with Louisiana Baccalaureate Nurse Educators

Importance sub-scale	r^a	p^b	Descriptors ^c
Implementation of Nursing Skills	-.08	.25	Negligible
Assessment of Psycho/Social Concerns	-.04	.49	Negligible
Knowledge of Ethical/Legal/Safety Issues	-.01	.85	Negligible

Note. $n = 163$.

^aCorrelation Coefficient used was Kendall's Tau.

^bTwo-tailed.

^cDescriptors based on Davis (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association.

Years Employed as a Nurse

A Kendall's Tau correlation was computed to measure the relationship between each of the perceived importance of MCI competency sub-scale scores and years employed as a nurse.

Years employed as a nurse was not found to be significantly related to sub-scale scores (see Table 26).

Table 26

Relationship Between Perceived Importance Sub-scale Scores and the Years Employed as a Nurse among Louisiana Baccalaureate Nurse Educators

Importance sub-scale	r^a	p^b	Descriptors ^c
Assessment of Psycho/Social Concerns	.10	.11	Low
Knowledge of Ethical/Legal/Safety Issues	.07	.23	Negligible
Implementation of Nursing Skills	.06	.34	Negligible

Note. $n = 159$.

^aCorrelation Coefficient used was Kendall's Tau.

^bTwo-tailed.

(Table continued)

^cDescriptors based on Davis' (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association.

Years Employed as a Nurse Educator

A Kendall's Tau correlation was computed to measure the relationship between each of the perceived importance of MCI competency sub-scale scores and years employed as a nurse educator. Years employed as a nurse educator was not found to be significantly related to sub-scale scores (see Table 27).

Table 27
Relationship Between Perceived Importance Sub-scale Scores and the Years Employed as a Nurse Educator among Louisiana Baccalaureate Nurse Educators

Importance sub-scale	r^a	p^b	Descriptors ^c
Assessment of Psycho/Social Concerns	.08	.18	Negligible
Implementation of Nursing Skills	.08	.20	Negligible
Knowledge of Ethical/Legal/Safety Issues	.07	.21	Negligible

Note: $n = 160$.

^aCorrelation Coefficient used was Kendall's Tau.

^bTwo-tailed.

^cDescriptors based on Davis' (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association.

Gender

An independent samples t-test was conducted to determine if differences existed in each of the importance sub-scales by gender. Testing was conducted at a significance level of .05.

Based on Levene's test, homogeneity of variances was thought to hold for Knowledge of

Ethical/Legal/Safety Issues $F(3,155) = 1.39, p = .24$, Assessment of Psycho/Social Concerns

$F(3,155) = .03, p = .86$, and Implementation of Nursing Skills $F(3,155) = .26, p = .61$. Therefore,

variances were assumed to be equal across the two populations and no corrections to the testing

situation were needed. Independent t-test analyses revealed no significant differences in perceived importance by gender (see Table 28).

Table 28
Comparison of Perceived Importance Sub-scale Scores by Gender among Louisiana Baccalaureate Nurse Educators

Importance sub-scale	Male <i>M/SD</i>	Female <i>M/SD</i>	<i>t</i> ^a	<i>p</i> ^b
Implementation of Nursing Skills	3.86/.90	3.97/.78	-.97	.33
Assessment of Psycho/Social Concerns	3.71/.73	4.10/.81	-.96	.34
Knowledge of Ethical/Legal/Safety Issues	3.66/.50	3.97/.85	-.73	.47

Note: *n* = 160.

^aCorrelation Coefficient used was an independent samples t-test.

^bTwo-tailed.

Highest Level of Education

As reported on the frequency distribution for the variable “Highest level of education completed” no participants reported “Diploma” or “Associate,” and four (2.4%) indicated “Baccalaureate” as their highest level of education completed. Since the number of participants that reported an educational level other than “Masters” or “Doctorate” was judged by the researcher to be insufficient for meaningful comparisons, the analysis to accomplish this portion of the objective included only those who reported masters and doctoral degrees as their highest level of education completed.

An independent samples t-test was conducted to determine if differences existed in each of the importance sub-scales for the two groups: “Master’s” and “Doctorate.” Testing was conducted at a significance level of .05. Based on Levene’s test, homogeneity of variances was thought to hold for “Assessment of Psycho/Social Concerns” $F(47,111) = 3.40, p = .07$ and

“Implementation of Nursing Skills” $F(47,111) = 2.50, p = .12$. Therefore, variances were assumed to be equal across the two populations and no corrections to the testing situation were needed. Independent t-test analyses revealed no significant differences in perceived importance of “Assessment of Psycho/Social Concerns” or “Implementation of Nursing Skills” by highest level of education completed.

However, Levene’s Test of Homogeneity of Variance resulted in determination of unequal variances among the groups for reported levels of importance of “Knowledge of Ethical/Legal/Safety Issues” $F(47,111) = 5.01, p = .03$. Therefore, equal variances were not assumed across the two populations, and corrections to the testing situation were needed. An independent t-test analysis with equal variances not assumed resulted in no significant differences in perceived importance of “Knowledge of Ethical/Legal/Safety Issues” by highest level of education completed $t(158) = -1.44, p = .15$. (see Table 29).

Table 29
Comparison of Perceived Importance Sub-scale Scores by Highest Level of Education Completed among Louisiana Baccalaureate Nurse Educators

Importance sub-scale	Master’s <i>M/SD</i>	Doctorate <i>M/SD</i>	<i>t</i> ^a	<i>p</i> ^b
Implementation of Nursing Skills	4.19/.80	4.33/.74	-1.10	.27
Assessment of Psycho/Social Concerns	4.02/.83	4.24/.73	-1.59	.11
Knowledge of Ethical/Legal/Safety Issues	3.88/.89	4.09/.73	-1.44	.15

Note: $n = 160$.

^aCorrelation Coefficient used was an independent samples t-test.

^bTwo-tailed.

Ethnic Background

As reported on the frequency distribution for the variable “Ethnic Background” two participants reported “Asian/Pacific Islander,” five participants reported “Hispanic,” and two

participants reported “Other” as their ethnic background. Of the two that indicated “Other,” one specified “Latino” and the other did not specify their ethnic background. Since the number of participants that reported an ethnic background other than “Caucasian” or African American” was judged by the researcher to be insufficient for meaningful comparisons, the analysis to accomplish this portion of the objective included only those who reported Caucasian and African American as their ethnic background.

An independent samples t-test was conducted to determine if differences existed in each of the importance sub-scales for the two groups: “Caucasian” and “African American.” Testing was conducted at a significance level of .05. Based on Levene’s test, homogeneity of variances was thought to hold for importance of “Knowledge of Ethical/Legal/Safety Issues” $F_{(16,135)} = .14$, $p = .71$, “Assessment of Psycho/Social Concerns” $F_{(16,135)} = .05$, $p = .83$, and “Implementation of Nursing Skills” $F_{(16,135)} = 1.39$, $p = .24$. Therefore, variances were assumed to be equal across the two populations and no corrections to the testing situation were needed. Independent t-test analyses revealed no significant differences in perceived importance of “Knowledge of Ethical/Legal/Safety Issues,” “Assessment of Psycho/Social Concerns,” or “Implementation of Nursing Skills” by ethnic background. See Table 30 for comparison of perceived importance sub-scale scores by ethnicity among Louisiana baccalaureate nurse educators.

Table 30
Comparison of Perceived Importance Sub-scale Scores by Ethnicity Among Louisiana Baccalaureate Nurse Educators

Importance sub-scale	Caucasian <i>M/SD</i>	African American <i>M/SD</i>	<i>t</i> ^a	<i>p</i> ^b
Knowledge of Ethical/Legal/Safety Issues	3.94/.83	4.13/.87	.91	.36
Assessment of Psycho/Social Concerns	4.08/.79	4.18/.89	.47	.64
Implementation of Nursing Skills	4.24/.73	4.31/.92	.36	.72

Note: $n = 153$.

(Table continued)

^aCorrelation Coefficient used was an independent samples t-test.

^bTwo-tailed.

Primary Clinical Practice Area

Analysis of variance was conducted to compare means of perceived importance sub-scale scores by primary clinical practice areas. Testing was conducted at a significance level of .05 (two-tailed). Based on Levene's test, homogeneity of variances was thought to hold for primary clinical practice areas in perceived importance of "Knowledge of Ethical/legal/safety issues" $F_{(4,157)} = .62, p = .65$, importance of "Assessment of psycho/social concerns" $F_{(4,157)} = 1.70, p = .15$, and importance of "Implementation of nursing skills" $F_{(4,157)} = 1.30, p = .27$. Therefore, variances were assumed to be homogeneous and no corrections to the testing situation were needed.

No significant difference was found in perceived importance of the sub-scale "Assessment of psycho/social concerns" $F_{(4,157)} = 1.73, p = .15$, or the perceived importance of the sub-scale "Implementation of nursing skills" $F_{(4,157)} = .82, p = .51$, in terms of primary practice areas. However, at least one significant difference was found in the perceived importance sub-scale "Knowledge regarding ethical/legal/safety issues" $F_{(4,157)} = 2.81, p = .03$ by the reported primary clinical practice area groups (see Table 31).

Table 31

Comparison of the "Knowledge of Ethical/Legal/Safety Issues" Perceived Importance Sub-scale Scores by Primary Clinical Practice Area of Louisiana Baccalaureate Nurse Educators

	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F^a</i>	<i>p^b</i>
Between Groups	7.731	4	1.933	2.81	.03
Within Groups	108.132	157	.689		
Total	115.864	161			

^aOne Way Analysis of Variance

^bTwo-tailed.

The Scheffe' multiple comparison procedure was performed post hoc to compare means of unequal group sizes and determine the location of the significant difference(s) between group means. In order to compare individual combinations of group means, an *F* value was computed for each pair evaluated (Hinkle, Wiersma, & Jurs, 2002). It was discovered that the participants who indicated "Woman's Health" as their primary clinical practice area differed from those reporting "Other" specialty areas in their perceived level of importance of items. Participants that chose "Other" specified the following primary clinical practice areas: community health (*n* = 12), emergency nursing (*n* = 4), critical care (*n* = 3), maternal newborn (*n* = 3), anesthesia (*n* = 2), oncology (*n* = 2), administration (*n* = 1), family (*n* = 1), and operating room (*n* = 1). Educators primarily practicing in "Woman's health" (*n* = 14, *M* = 3.28, *SD* = 1.02) tended to perceive the items in the importance sub-scale "Knowledge of Ethical/Legal/Safety Issues" as less important than the group choosing "Other" (*n* = 29, *M* = 4.11, *SD* = .75), $F(4,157) = 2.81, p = .03$ (see Table 32).

Table 32
Mean Perceived Importance Sub-scale Scores by Primary Clinical Practice Area of Louisiana Baccalaureate Nurse Educators

Practice Area	Perceived Importance Sub-scale Score								
	Knowledge of Ethical/Legal/Safety Issues			Assessment of Psycho/Social Concerns			Implementation of Nursing Skills		
	<i>n^a</i>	<i>M</i>	<i>SD</i>	<i>n^a</i>	<i>M</i>	<i>SD</i>	<i>n^a</i>	<i>M</i>	<i>SD</i>
Mental	15	4.03	.99	15	4.32	.89	15	4.27	.86
Adult	86	4.02	.80	86	4.12	.78	86	4.31	.71
Child	18	3.83	.80	18	3.96	.76	18	4.20	.76
Woman's	14	3.28	1.02	14	3.63	1.06	14	3.93	.95
Other ^b	29	4.11	.75	29	4.18	.68	29	4.24	.76

(Table continued)

^aThree participants did not respond to this item on the questionnaire.

^bTwenty-nine participants selected the category “Other” and reported: Community Health ($n = 12$), Emergency Nursing ($n = 4$), Critical Care ($n = 3$), Maternal newborn ($n = 3$), Anesthesia ($n = 2$), Oncology ($n = 2$), Administration ($n = 1$), Family ($n = 1$), Operating Room ($n = 1$).

Primary Teaching Area

Analysis of variance was conducted to compare means of perceived importance sub-scale scores by primary teaching practice areas. Testing was conducted at a significance level of .05. Based on Levene’s test, homogeneity of variances held for primary teaching areas in importance of “Knowledge of ethical/legal/safety issues” $F(4,157) = .92, p = .45$, importance of “Assessment of psycho/social concerns” $F(4,157) = 1.33, p = .26$, and importance of “Implementation of nursing skills” $F(4,157) = 2.26, p = .07$. Therefore, variances were assumed to be homogeneous and no corrections to the testing situation were needed. No significant difference was found in importance of “Knowledge regarding ethical/legal/safety issues” $F(4,157) = 2.40, p = .05$, “Assessment of psycho/social concerns” $F(4,157) = 1.39, p = .24$, or “Implementation of nursing skills” $F(4,157) = 1.31, p = .27$ sub-scale scores by primary teaching area (see Table 33).

Table 33
Mean Perceived Importance Sub-scale Scores by Primary Teaching Area of Louisiana Baccalaureate Nurse Educators

Teaching Area	Perceived Importance Sub-scale Score								
	Knowledge of Ethical/Legal/Safety Issues			Assessment of Psycho/Social Concerns			Implementation of Nursing Skills		
	n^a	M	SD	n^a	M	SD	n^a	M	SD
Adult	95	4.07	.80	95	4.16	.76	95	4.35	.69
Mental	12	3.89	.99	12	4.22	.95	12	4.12	.88
Child	16	3.74	.97	16	3.88	.90	16	4.12	.84
Woman’s	14	3.38	.95	14	3.70	.99	14	3.91	.95

(Table continued)

Other ^b	24	4.03	.70	24	4.12	.70	24	4.24	.78
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^aFour participants did not respond to this item.

^bTwenty-four participants selected the category “Other” and reported: Community Health ($n = 16$), Management ($n = 2$), Critical Thinking ($n = 1$), Leadership ($n = 1$), Anesthesia ($n = 1$), Research ($n = 2$), Administration ($n = 1$).

Objective Six

The sixth objective of the study was to determine if a relationship existed among currently employed nurse educators between the self-perceived level of knowledge and the perceived importance of incorporating educational competencies responding to MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana. To accomplish this objective, Pearson’s Product Moment Correlations were calculated to determine the strength and direction of the relationships between perceived level of importance of sub-scales and self-perceived knowledge of sub-scales as determined in the factor analysis.

Testing was conducted at an alpha level of .05 for the two-tailed test of significance. Davis’ (1971) descriptors of association were used to describe the calculated bivariate correlations as follows: .70 or higher = very strong association, .50 - .69 = substantial association, .30 - .49 = moderate association, .10 - .29 = low association, and .01 - .09 = negligible association. Each relationship between constructs, knowledge and importance, was significant and measured a low to moderate association in a positive direction when correlated using the Pearson’s Product Moment Correlation Coefficient. The nature of the association was such that the more knowledge the educators perceived that they had regarding core competencies for MCIs, the higher the level of importance they placed on inclusion of these competencies into the nursing curriculum. The highest correlation was between knowledge of “Assessment of Psycho/Social Concerns” and perceived importance of “Assessment of Psycho/Social Concerns” $r_{(161)} = .39, p < .001$. The correlations are presented in Table 34.

Table 34

Correlations Between Perceived Knowledge and Perceived Importance of Sub-scales:
 Knowledge of Ethical/Legal/Safety Issues, Assessment of Psycho/Social Concerns, and
 Implementation of Nursing Skills

	Importance of Knowledge of Ethical/Legal/Safety Issues	Importance of Assessment of Psycho/Social Concerns	Importance of Implementation of Nursing Skills
	r^a/p^b Descriptors ^c	r^a/p^b Descriptors ^c	r^a/p^b Descriptors ^c
Knowledge of Ethical/Legal/Safety Issues	.30/.001 Moderate	.33/< .001 Moderate	.26/.001 Low
Knowledge of Assessment of Psycho/Social Concerns	.29/< .001 Low	.39/< .001 Moderate	.26/.001 Low
Knowledge of Implementation of Nursing Skills	.27/.001 Low	.32/< .001 Moderate	.36/< .001 Moderate

Note. $n = 162$.

^aCorrelation Coefficient used was Pearson's Product Moment.

^bTwo-tailed.

^cDescriptors based on Davis' (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association.

Objective Seven

The seventh objective of the study was to determine if a model existed that explains a significant portion of the variance in the perception of importance to include educational competencies responding to MCIs into the existing curricula among current faculty of baccalaureate-degree nursing programs in Louisiana from the following personal and professional characteristics:

- a. Age

- b. Gender
- c. Ethnic background
- d. Size of household
- e. Highest level of education completed
- f. Years of experience as a nurse
- g. Years of experience as a nurse educator
- h. Primary clinical area
- i. Primary teaching area
- j. Experience score
- k. Self-perceived level of knowledge.

This objective was accomplished through use of multiple regression analysis. A multiple regression analysis was run separately on each of the importance sub-scales (criterion variables) derived during the factor analysis. The mean score of each importance sub-scale was based on information from the items loading in each sub-scale: importance of knowledge of ethical/legal/safety issues ($M = 3.95$), importance of assessment of psycho/social concerns ($M = 4.08$), and importance of implementation of nursing skills ($M = 4.24$) and served as the criterion for separate multiple regression analyses. The selected demographic variables used as predictors include: age, ethnicity, size of household, highest level of education completed, years of experience as a nurse, years of experience as a nurse educator, primary clinical area, and primary teaching area. Other independent variables included in the model were the mass casualty experience score, measuring training received and/or life experiences related to preparation for MCIs, and the mean of each of the self-perceived knowledge sub-scales derived during the exploratory factor analysis. All testing was conducted at the .05 alpha level (two-tailed).

Data were analyzed for normality, linearity, homogeneity, homoscedasticity, and collinearity. Diagnostics measuring potential outliers and influential cases were conducted and considered in equation building. Each categorical demographic variable, nominal or ordinal in nature, was binary-coded prior to entry into the regression analysis. Each subject was classified on these binary variables as either being a member of the group or not a member of the group.

Age

Analysis of frequency distributions for the variable “Age” resulted in no participants for the group “Under 25” and only seven subjects in the age group “25-34.” The researcher judged the number of participants in these groups as being too small to be meaningful as an explanatory factor, and the decision was made by the researcher to recode the variable “Age” by removing the level of the variable “Under 25” and to collapse the “25-34” group into the category “35-44” with the renaming of the new category as “25-44.” The three remaining levels of the variable “Age” were binary coded and variables entered in the regression analyses as either in the group “25-44” or not, in the group “45-54” or not, and in the group “55 years and older” or not.

Ethnic Background

Analysis of frequency distributions for the variable “Ethnic Background” resulted in small numbers for Asian/Pacific Islander ($n = 2$), Hispanic ($n = 5$), and Other ($n = 2$). A decision was made by the researcher to not include these three levels of the variable “Ethnic Background” into the regression analyses as separate independent variables due to the small number of subjects in each category. The two remaining groups were binary coded and variables entered into the regression analyses as in the group “Caucasian” or not and in the group “African American” or not.

Size of Household

As reported on the frequency distribution for the variable “Children under the age of 18 living at home” no participants reported having “5-6 children,” or “7 or more children,” and only 13 participants (7.9 %) reported having “3-4 children at home.” For the purposes of this objective, levels of the variable “Children under the age of 18 living at home” were collapsed and recoded into two categories: those “With children at home” and those “Without children at home.” The category “With children at home” included subjects who reported having “1-2 children” and “3-4 children” under the age of 18 living at home.

Analysis of frequency distributions for the levels of the variable “Adults, other than the educator, aged 18 and older living at home” revealed that five subjects (3%) reported “3-4 adults,” three subjects (1.8%) reported “5-6 adults,” and no participants reported “7 or more adults.” For the purposes of this objective, the researcher recoded this variable to collapse categories into those “One or more adults, other than the educator, aged 18 and older living at home” and “No other adults aged 18 and older living at home.” The category “One or more adults, other than the educator, aged 18 and older living at home” included subjects who reported having “1-2 adults,” “3-4 adults,” and “5-6 adults,” other than the educator aged 18 and older living at home.

Highest Level of Education Completed

Analysis of frequency distributions for the levels of the variable “Highest level of education completed” resulted in only four subjects (2.4%) reporting “Baccalaureate” and no subjects reporting either “Diploma” or “Associate.” Four subjects was not judged by the researcher as adequate to construct a separate variable, so for the purposes of this objective, the researcher recoded this variable into two separate binary variables: “Master’s” or not and

“Doctorate” or not. Variables entered into the regression analyses as either in the group “Master’s” or not and in the group “Doctorate” or not.

Years Employed as a Nurse

Only one subject (.6%) reported, “Less than 5 years” for the variable “Years employed as a nurse.” To achieve this objective, the researcher recoded the variable “Years employed as a nurse” to collapse the “Less than 5 years” group into the category “5-10 years” with the renaming of the new category as “Less than 11 years.” When this was completed, the four remaining levels of the variable “Years employed as a nurse” were binary coded and the variables entered in the regression analyses as either employed “Less than 11 years” or not, employed “11-20 years” or not, employed “21-30 years” or not and employed “More than 30 years” or not.

Years Employed as a Nurse Educator

Only nine subjects (5.6%) reported, “More than 30 years” for the variable “Years employed as a nurse educator.” To achieve this objective, the researcher recoded the variable “Years employed as a nurse educator” to collapse the “More than 30 years” group into the category “21-30 years” with the renaming of the new category as “More than 20 years.” When this was completed, the four remaining levels of the variable “Years employed as a nurse educator” were binary-coded and variables entered in the regression analyses as either employed “Less than 5 years” or not, employed “5-10 years” or not, employed “11-20 years” or not and employed “More than 20 years” or not.

Primary Clinical Practice Area

The levels of the variable “Primary clinical practice area” were binary-coded and variables entered the regression analyses as either in the group “Adult health” or not, in the group “Woman’s health” or not, in the group “Child health” or not, and in the group “Mental

health” or not. The group “Other, please specify” contained 29 subjects that specified a variety (nine different settings) of primary clinical practice areas. Because of the diversity within the “Other” category, the level of the variable was not considered by the researcher to be a productive variable for investigation as a separate variable in the regression analysis.

Primary Teaching Area

The levels of the variable “Primary teaching area” were binary-coded and variables entered the regression analyses as either in the group “Adult health” or not, in the group “Woman’s health” or not, in the group “Child health” or not, and in the group “Mental health” or not. The group “Other, please specify” contained 24 subjects that specified a variety (seven different settings) of primary teaching areas. Because of the diversity within the “Other” category, the level of the variable was not considered by the researcher to be a productive variable for investigation as a separate variable in the regression analysis.

Importance of Knowledge of Ethical/Legal/Safety Issues Regression Equation

The sub-scale scores for importance of Knowledge of ethical/legal/safety issues consisted of 31 variables and were used as the criterion variable in the first regression equation. In checking for the assumption of homoscedasticity, a scatterplot of standardized residuals against unstandardized predicted values was examined. Errors hovered around the zero line without emerging patterns, which indicated that the conditional distributions have equal variance and the assumption was not violated. See Figure 1 for the distribution of standardized residuals for the dependent variable Importance of Knowledge of Ethical/Legal/Safety Issues revealing a normal distribution.

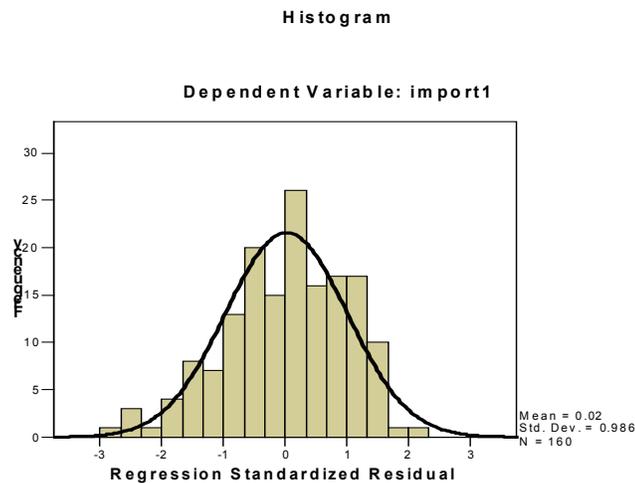


Figure 1
Histogram Depicting Standardized Residuals for the Dependent Variable Sub-scale Score of Perceived Importance of Knowledge of Ethical/Legal/Safety Issues

Bivariate Pearson’s product moment correlation coefficients of the binary-coded levels of the independent variables: age, ethnic background, size of household, highest level of education completed, years of employment as a nurse, years of employment as a nurse educator, primary clinical practice area, and primary teaching area were performed to calculate the relationship between the coded independent variables and the dependent variable sub-scale score on perceived importance of “Knowledge of ethical/legal/safety issues.” Correlations were also computed between independent variables that were interval in nature (knowledge of ethical/legal/safety issues and experience score) and the dependent variable importance of “Knowledge of ethical/legal/safety issues.” The correlation matrix indicated that eight of the predictor variables (knowledge of ethical/legal/safety issues, assessment of psychosocial concerns, woman’s practice, implementation of nursing skills, woman’s teaching, adult teaching, adults at home, educator 21 or more) correlated significantly with perceived importance of “Knowledge of Ethical/Legal/Safety Issues.” Data analysis using Pearson’s Product Moment Correlation Coefficients revealed correlations that were negligible to low in strength between each predictor variable and the mean perceived importance of “Knowledge of ethical/legal/safety

issues.” See Table 35 for a presentation of Pearson’s Product Moment Correlation Coefficients and significance levels of independent variables selected for entry into the regression analysis.

Table 35
Bivariate Correlations between the Knowledge Sub-Scale Score: Perceived Importance of Knowledge of Ethical/ Legal/Safety Issues and Selected Personal and Professional Characteristics of Louisiana Baccalaureate Nurse Educators

Variable	r^a	p^b	Descriptors ^c
Knowledge of ethical/legal/safety issues	.28	<.001	Low
Assessment of psychosocial concerns	.28	<.001	Low
Woman’s practice	-.26	<.001	Low
Implementation of nursing skills	.25	.001	Low
Woman’s teaching	-.23	.002	Low
Adult teaching	.17	.020	Low
Adults at home	-.14	.047	Low
Educator 21 or more	.13	.048	Low
Age 55 and older	.12	.06	Low
Master’s	-.12	.07	Low
Doctorate	.12	.07	Low
Nurse more than 30 years	.10	.10	Low
Educator 11-20 years	-.09	.12	Negligible
Children at home	-.09	.13	Negligible
Adult practice	.08	.15	Negligible
African American	.08	.16	Negligible
Child teaching	-.08	.17	Negligible

(Table continued)

Experience score	.06	.24	Negligible
Age 25-44 in years	-.06	.24	Negligible
Age 45-54 in years	-.06	.24	Negligible
Mental teaching	-.05	.27	Negligible
Educator less than 5 years	-.05	.27	Negligible
Nurse 21-30 years	-.05	.28	Negligible
Nurse 11-20 years	-.04	.31	Negligible
Caucasian	-.03	.34	Negligible
Child practice	-.03	.34	Negligible
Educator 5-10 years	.03	.38	Negligible
Nurse less than 10 years	-.03	.38	Negligible
Mental practice	.01	.45	Negligible

Note. $n = 155$.

^aCorrelation Coefficient used was Pearson's Product Moment.

^bTwo-tailed.

^cDescriptors based on Davis (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association

Stepwise multiple regression analysis was conducted utilizing the probability of F to enter at .05 and the probability of F at .10 to be removed from the equation. Two independent variables, "Knowledge of ethical/legal/safety issues" and "Woman's practice" were retained in the equation and explained 12% of the overall variance ($R^2 = .124$) in the dependent variable importance of "Knowledge of ethical/legal/safety issues." See Table 36 for ANOVA analyses revealing significance in predicting importance of "Knowledge of ethical/legal/safety issues" among baccalaureate nurse educators $F(2,152) = 10.78, p = <.001$. See Table 37 for presentation of regression findings.

Table 36

Analysis of Variance Illustrating Significance of Knowledge of Ethical/Legal/Safety Issues and Woman's Practice in Predicting Perceived Importance of Knowledge of Ethical/Legal/Safety Issues Among Baccalaureate-Degree Louisiana Nurse Educators

Regression	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F^a</i>	<i>p^b</i>
Between Groups	14.016	2	7.008	10.78	<.001
Within Groups	98.813	152	.650		
Total	112.829	154			

Note. Predictors: Knowledge of Ethical/Legal/Safety Issues and Woman's Practice

^aOne Way Analysis of Variance

^bTwo-tailed.

Table 37

Regression Findings Predicting Louisiana Baccalaureate Nurse Educators Perceived Importance of Knowledge of Ethical/Legal/Safety Issues

Model	<i>R</i>	<i>R²</i>	Adjusted <i>R²</i>	<i>SEE</i>
2	.352	.124	.113	.806

Two regression coefficients that entered the model were "Knowledge of ethical/legal/safety issues" and "Woman's practice" as their primary practice area. The higher educators perceived their knowledge of ethical/legal/safety issues, the greater importance they placed on including ethical/legal/safety issues into the nursing curriculum. Perceived importance of knowledge of ethical/legal/safety issues for subjects indicating "Woman's practice" as their primary practice area were .666 lower on the importance scale. Not considering "Woman's practice" as their primary clinical practice area resulted in a higher perception of importance to include MCI competencies regarding knowledge of ethical/legal/safety issues into the nursing curriculum. Table 38 depicts regression equation coefficients for the perceived importance of knowledge of ethical/legal/safety issues.

Table 38

Unstandardized and Corresponding Standard Errors, Standardized Coefficients, *t* Values and Corresponding Significance Levels

Variable	Coefficient	<i>S_b</i>	<i>Beta</i>	<i>t</i>	<i>p^a</i>
Intercept	3.481	.183		19.06	< .001
Knowledge of ethical/legal/safety issues	.203	.066	.239	3.08	.002
Woman's practice	-.666	.238	-.216	-2.79	.006

^aTwo-tailed.

Variables that did not make a significant contribution to explaining the variance in the importance of knowledge of ethical/legal/safety issues were excluded from the regression analysis. No collinearity issues were found based on variance inflation factors (VIF) for each variable < 10 and tolerances >.01 (Pedhazur, 1997). The variable "Assessment of psychosocial concerns" had the lowest tolerance (.248) and the highest variance inflation factor (VIF = 4.034). Presented in Table 39 are excluded variables, standardized beta values, *t* values with significance levels measured at .05 alpha, partial correlations and tolerance levels for the regression equation to predict importance of knowledge of ethical/legal/safety issues.

Table 39

Excluded Variables, Standardized Beta Values, *t* Values with Significance Levels, Partial Correlations and Tolerance Levels for the Regression Equation to Predict Importance of Knowledge of Ethical/legal/safety Issues

Variable	Beta In	<i>t</i>	<i>p^a</i>	Partial Correlation	Tolerance	VIF
Educator 21 or more	.128	1.69	.093	.136	.996	1.004
Adults at home	-.098	-1.29	.199	-.104	.988	1.012
Experience score	-.103	-1.20	.233	-.097	.775	1.290

(Table continued)

Adult teaching	.095	1.19	.237	.096	.905	1.106
Age 55 and older	.088	1.14	.256	.092	.967	1.034
Child teaching	-.047	-.605	.546	-.049	.977	1.023
Adult practice	.117	1.50	.135	.121	.988	1.012
African American	.085	1.12	.265	.091	.996	1.004
Nurse > than 30	.083	1.10	.275	.089	.990	1.010
Implementation of nursing skills	.125	1.08	.281	.088	.428	2.337
Educator 11-20 years	-.081	-1.06	.289	-.086	.997	1.003
Child practice	-.071	-.93	.353	-.076	.987	1.013
Assessment of psychosocial concerns	.130	.85	.396	.069	.248	4.034
Mental teaching	-.063	-.83	.410	-.067	.992	1.008
Master's	-.062	-.80	.423	-.065	.960	1.042
Doctorate	.062	.80	.428	.065	.952	1.050
Nurse less than 10	-.054	-.71	.481	-.057	.983	1.017
Age 25-44 in years	-.050	-.66	.511	-.054	1.000	1.000
Children at home	-.047	-.61	.546	-.049	.977	1.023
Adult practice	.048	.58	.562	.047	.866	1.155
Educator < 5 years	-.044	-.58	.564	-.047	.998	1.002
Nurse 11-20 in years	-.034	-.45	.651	-.037	.999	1.001
Age 45-54 in years	-.025	-.33	.742	-.027	.978	1.023
Woman's teaching	.045	.33	.746	.026	.300	3.331
Caucasian	-.024	-.32	.752	-.026	.999	1.001

(Table continued)

Nurse 21-30 in years	-.019	-.25	.805	-.020	.983	1.017
Educator 5-10	.013	.16	.870	.013	.997	1.003
Mental practice	-.002	-.02	.982	-.002	.988	1.013

^aTwo-tailed.

The data set was examined for outliers using standardized residual, studentized residual, and studentized deleted residual values. Applying a cutoff parameter of $|2|$ points, six cases were flagged as possible outliers for standardized residuals (ZRESID). To overcome the limitation of every residual of having the same variance, the studentized residual (SRESID) was utilized. Using a cutoff value of $t_{(136)} = 1.98$ to identify large residuals as possible outliers, seven cases were flagged as possible outliers. To consider the changes in the parameter made by deleting a subject, the DFBETA value was computed and considered using the formula: $3/\sqrt{n}$ ($n = 166$) = .2328.

The data set was examined for the presence of influencers using Leverage and Cook's D values. To identify cases that may have undue influence on the regression line, Leverage values were calculated for each case using the formula: $h_i > 2(k+1)/n$ ($n = 166$) (Pedhazur, 1997). No cases were identified as potential influencers using the cutoff value of Leverage as .361.

Another index used to identify influential observations which may be influencing the independent variable(s) and/or the dependent variable is Cook's Distance (Cook's D). No cases exceed the cutoff value for Cook's D of 1.0 (Pedhazur, 1997).

As no cases were flagged as influencing the regression line, the researcher determined that all cases be included in the final model. The primary purpose of this study was to identify factors that influence the importance of including educational competencies responding to MCIs into the existing curricula as perceived by all current full-time faculty of baccalaureate-degree nursing programs in Louisiana.

Importance of Assessment of Psychosocial Concerns Regression Equation

The construct importance of “Assessment of Psychosocial Concerns” consisted of 11 variables and was used as the criterion variable in the second regression equation. In checking for the assumption of homoscedasticity, a scatterplot of standardized residuals against unstandardized predicted values was examined. Errors hovered around the zero line without emerging patterns, which indicated that the conditional distributions have equal variance and the assumption was not violated. See Figure 2 for the distribution of standardized residuals for the dependent variable “Assessment of Psychosocial Concerns” revealing a normal distribution.

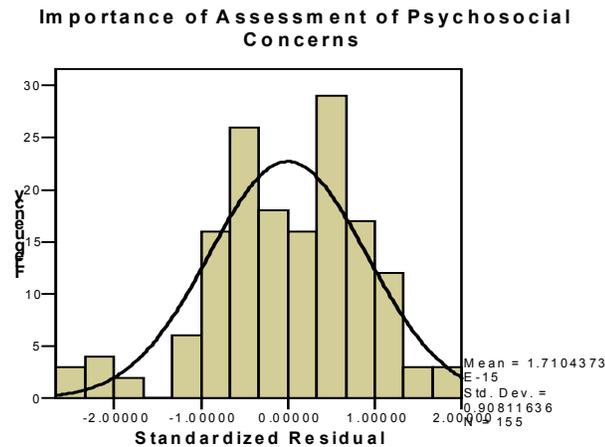


Figure 2
Histogram Depicting Standardized Residuals for the Dependent Variable Sub-scale Score of Perceived Importance of Assessment of Psychosocial Concerns

Bivariate Pearson’s product moment correlation computations of the binary-coded levels of the independent variables: age, ethnic background, size of household, highest level of education completed, years of employment as a nurse, years of employment as a nurse educator, primary clinical practice area, and primary teaching area were performed to calculate the relationship between the coded independent variables and the dependent variable sub-scale score of perceived importance of “Assessment of Psychosocial Concerns.” Correlations were also computed between independent variables that were interval in nature (knowledge of Assessment

of Psychosocial Concerns and experience score) and the dependent variable importance of “Assessment of Psychosocial Concerns.” The correlation matrix indicated that six of the predictor variables (assessment of psychosocial concerns, knowledge of ethical/legal/safety issues, implementation of nursing skills, woman’s practice, woman’s teaching, and adults at home) correlated significantly with perceived importance of “Assessment of Psychosocial Concerns”. Data analysis using Pearson’s product moment comparisons revealed correlations that were negligible to moderate in strength between each predictor variable and the sub-scale score perceived importance of knowledge of ethical/legal/safety issues. See Table 40 for a presentation of Pearson’s Product Moment correlations and significance levels of independent variables selected for entry into the regression analysis.

Table 40
Bivariate Correlations between the Knowledge Sub-Scale Score: Perceived Importance of Assessment of Psychosocial Concerns and Selected Personal and Professional Characteristics of Louisiana Baccalaureate Nurse

Variable	r^a	p^b	Descriptors ^c
Assessment of psychosocial concerns	.37	<.001	Moderate
Knowledge of ethical/legal/safety issues	.32	<.001	Moderate
Implementation of nursing skills	.29	<.001	Low
Woman’s practice	-.20	.006	Low
Woman’s teaching	-.17	.017	Low
Adults at home	-.16	.025	Low
Educator 21 or more	.15	.025	Low
Age 55 and older	.15	.035	Low
Doctorate	.14	.045	Low

(Table continued)

Nurse 11-20 years	-.13	.05	Low
Master's	-.12	.07	Low
Nurse more than 30 years	.12	.08	Low
Children at home	-.11	.08	Negligible
Adult teaching	.11	.08	Negligible
Experience score	.09	.15	Negligible
Child teaching	-.08	.16	Negligible
Mental practice	.08	.16	Negligible
Age 25-44 in years	-.08	.17	Negligible
Age 45-54 in years	-.06	.25	Negligible
African American	.05	.28	Negligible
Child practice	-.04	.30	Negligible
Adult practice	.04	.31	Negligible
Educator less than 5 years	-.03	.34	Negligible
Mental teaching	.03	.36	Negligible
Nurse less than 10 years	.02	.42	Negligible
Educator 5-10 years	-.01	.45	Negligible
Caucasian	-.01	.46	Negligible
Nurse 21-30 years	<-.01	.48	Negligible

Note. $n = 155$.

^aCorrelation Coefficient used was Pearson's Product Moment.

^bTwo-tailed.

^cDescriptors based on Davis (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association

Stepwise multiple regression analysis was conducted utilizing the probability of F to enter at .05 and the probability of F at .10 to be removed from the equation. One independent

variable, “Assessment of psychosocial concerns” was retained in the equation and explained 14% of the overall variance ($R^2 = .137$) in the dependent variable importance of “Assessment of psychosocial concerns.” See Table 41 for ANOVA analyses measured at .05 alpha level revealing significance of in predicting importance of “Assessment of psychosocial concerns” among baccalaureate nurse educators. See Table 42 for presentation of regression findings $F(1,153) = 24.28, p = <.001$.

Table 41
Analysis of Variance Illustrating Significance of Knowledge of Ethical/Legal/Safety Issues and Woman’s Practice in Predicting Perceived Importance of Assessment of Psychosocial Concerns Among Baccalaureate-Degree Louisiana Nurse Educators

Regression	SS	df	MS	F ^a	p ^b
Between Groups	13.928	1	13.928	24.28	<.001
Within Groups	87.757	153	.574		
Total	101.685	154			

Note. Predictor: Knowledge of psychosocial concerns

^aOne Way Analysis of Variance

^bTwo-tailed.

Table 42
Regression Findings Predicting Louisiana Baccalaureate Nurse Educators Perceived Importance of Knowledge of Psychosocial Concerns

Model	R	R ²	Adjusted R ²	SEE
	.370	.137	.131	.757

The regression coefficient group that entered the model was significant ($t = 4.9, p = <.001$) supporting lack of collinearity problems impacting the regression line. The higher educators perceived their knowledge of assessment of psychosocial concerns, the greater importance they placed on including assessment of psychosocial concerns into the nursing

curriculum. See Table 43 for significant regression equation coefficients for the perceived importance of assessment of psychosocial concerns.

Table 43
Unstandardized and Corresponding Standard Errors, Standardized Coefficients, *t* Values and Corresponding Significance Levels

Variable	Coefficient	S _b	Beta	<i>t</i>	<i>p</i> ^a
Intercept	3.125	.201		15.5	< .001
Assessment of psychosocial concerns	.304	.062	.370	4.9	< .001

^aTwo-tailed.

Variables that did not make a significant contribution to explaining the variance in the importance of knowledge of ethical/legal/safety issues were excluded from the regression analysis. No collinearity issues were found based on the excluded variable “Age 25-44” had the lowest tolerance (.248) and the highest VIF (4.034). Presented in Table 44 are excluded variables, standardized beta values, *t* values with significance levels measured at .05 alpha, partial correlations and tolerance levels for the regression equation to predict importance of knowledge of ethical/legal/safety issues.

Table 44
Excluded Variables, Standardized Beta Values, *t* Values with Significance Levels, Partial Correlations and Tolerance Levels for the Regression Equation to Predict Importance of Assessment of Psychosocial Concerns

Variable	Beta In	<i>t</i>	<i>p</i> ^a	Partial Correlation	Tolerance	VIF
Woman’s practice	.128	1.69	.093	.136	.996	1.004
Educator 21 or more	-.098	-1.29	.199	-.104	.988	1.012
Adults at home	-.103	-1.20	.233	-.097	.775	1.290

(Table continued)

Adult teaching	.095	1.19	.237	.096	.905	1.106
Nurse 11-20 years	.088	1.14	.256	.092	.967	1.034
Woman's teaching	-.047	-.605	.546	-.049	.977	1.023
Adult practice	.117	1.50	.135	.121	.988	1.012
Children at home	.085	1.12	.265	.091	.996	1.004
Age 55 and older	.083	1.10	.275	.089	.990	1.010
Nurse > 30 years	.125	1.08	.281	.088	.428	2.337
Experience score	-.081	-1.06	.289	-.086	.997	1.003
African American	-.071	-.93	.353	-.076	.987	1.013
Age 25-44 in years	.130	.85	.396	.069	.248	4.034
Child teaching	-.063	-.83	.410	-.067	.992	1.008
Doctorate	-.062	-.80	.423	-.065	.960	1.042
Masters	.062	.80	.428	.065	.952	1.050
Child practice	-.054	-.71	.481	-.057	.983	1.017
Educator 11-20	-.050	-.66	.511	-.054	1.000	1.000
Educator 5-10	-.047	-.61	.546	-.049	.977	1.023
Mental teaching	.048	.58	.562	.047	.866	1.155
Educator < 5 years	-.044	-.58	.564	-.047	.998	1.002
Mental practice	-.034	-.45	.651	-.037	.999	1.001
Nurse 21-30	-.025	-.33	.742	-.027	.978	1.023
Knowledge of ethical/legal/safety issues	.045	.33	.746	.026	.300	3.331
Age 45-54 in years	-.024	-.32	.752	-.026	.999	1.001

(Table continued)

Caucasian	-.019	-.25	.805	-.020	.983	1.017
Implementation of nursing skills	.013	.16	.870	.013	.997	1.003
Nurse less than 10	-.002	-.02	.982	-.002	.988	1.013

^aTwo-tailed.

The data set was examined for outliers using standardized residual, studentized residual, and studentized deleted residual values. Applying a cutoff parameter of $|2|$ points, seven cases were flagged as possible outliers for standardized residuals (ZRESID). To overcome the limitation of every residual having the same variance, the studentized residual (SRESID) was utilized. Using a cutoff value of ($t_{136} = 1.980$) to identify large residuals as possible outliers, the same seven cases were flagged as possible outliers. To consider the changes in the parameter made by deleting a subject, the DFBETA value was computed and considered using the formula: $3/\sqrt{n}$ ($n = 166$) = .2328.

The data set was examined for the presence of influencers using Leverage and Cook's D values. To identify cases that may have undue influence on the regression line, Leverage values were calculated for each case using the formula: $h_i > 2(k+1)/n$ ($n = 166$). No cases were identified as potential influencers using the cutoff value of Leverage as .361. Another index used to identify influential observations which may be influencing the independent variable(s) and/or the dependent variable is Cook's Distance (Cook's D). No cases exceed the cutoff value for Cook's D of 1.0.

As no influential observations were found, the researcher decided to retain all cases in the regression model. The primary purpose of this study was to identify factors that influence the importance of including educational competencies responding to mass casualty incidents into the existing curricula as perceived by all current full-time faculty of baccalaureate degree nursing programs in Louisiana.

Importance of Implementation of Nursing Skills Regression Equation

The construct importance of “Implementation of Nursing Skills” consisted of nine variables and was used as the criterion variable in the third regression equation. In checking for the assumption of homoscedasticity, a scatterplot of standardized residuals against unstandardized predicted values was examined. Errors hovered around the zero line without emerging patterns, which indicated that the conditional distributions have equal variance and the assumption was not violated. See Figure 3 for the distribution of standardized residuals for the dependent variable “Implementation of Nursing Skills” revealing a normal distribution.

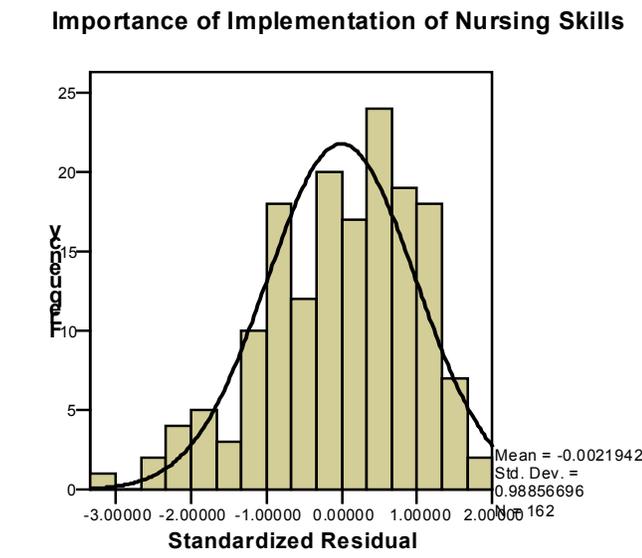


Figure 3
Histogram Depicting Standardized Residuals for the Dependent Variable Sub-scale Score of the Perceived Importance of Implementation of Nursing Skills

Bivariate Pearson’s product moment correlation computations of the binary-coded levels of the independent variables: age, ethnic background, size of household, highest level of education completed, years of employment as a nurse, years of employment as a nurse educator, primary clinical practice area, and primary teaching area were performed to calculate the relationship between the coded independent variables and the dependent variable importance of

“Implementation of Nursing Skills.” Correlations were also computed between independent variables that were interval in nature (knowledge of ethical/legal/safety issues and experience score) and the dependent variable importance of “Knowledge of ethical/legal/safety issues.” The correlation matrix indicated that five of the predictor variables (implementation of nursing skills, knowledge of ethical/legal/safety issues, assessment of psychosocial concerns, adults at home, and woman’s teaching) correlated significantly with perceived importance of “Implementation of Nursing Skills.” Data analysis using Pearson’s product moment comparisons revealed correlations that were negligible to moderate in strength between each predictor variable and the mean perceived importance of implementation of nursing skills. See Table 45 for a presentation of Pearson’s Product Moment bivariate correlations and significance levels of independent variables selected for entry into the regression analysis.

Table 45
Bivariate Correlations between the Knowledge Sub-Scale Score: Perceived Importance of Implementation of Nursing Skills and Selected Personal and Professional Characteristics of Louisiana Baccalaureate Nurse Educators

Variable	r^a	p^b	Descriptors ^c
Implementation of nursing skills	.33	<.001	Moderate
Knowledge of ethical/legal/safety issues	.24	.001	Low
Assessment of psychosocial concerns	.23	.002	Low
Adults at home	-.21	.005	Low
Woman’s teaching	-.16	.023	Low
Adult teaching	.16	.026	Low
Children at home	-.16	.027	Low
Woman’s practice	-.15	.028	Low

(Table continued)

Age 55 and older	.14	.037	Low
Educator 21 or more	.14	.040	Low
Nurse more than 30 years	.12	.06	Low
Master's	.11	.08	Low
Adult practice	.10	.12	Negligible
Doctorate	.10	.12	Negligible
Age 25-44 in years	-.09	.14	Negligible
Nurse 11-20 years	-.09	.14	Negligible
Mental teaching	-.07	.20	Negligible
Nurse 21-30 years	-.06	.24	Negligible
Child teaching	-.05	.26	Negligible
Age 45-54 years	.04	.32	Negligible
African American	.04	.33	Negligible
Nurse less than 10 years	.04	.34	Negligible
Educator less than 5 years	-.03	.37	Negligible
Child practice	-.02	.40	Negligible
Experience score	.02	.41	Negligible
Caucasian	-.02	.43	Negligible
Mental practice	-.01	.48	Negligible

Note. $n = 155$.

^aCorrelation Coefficient used was Pearson's Product Moment.

^bTwo-tailed.

^cDescriptors based on Davis (1971) including .70 or higher = very strong association; .50 - .69 = substantial association; .30 - .49 = moderate association; .10 - .29 = low association; and .01 - .09 = negligible association

Stepwise multiple regression analysis was conducted utilizing the probability of F to enter at .05 and the probability of F at .10 to be removed from the equation. Two independent

variables, knowledge of “Implementation of nursing skills” and “Children at home” were retained in the equation and explained 14% of the overall variance ($R^2 = .136$) in the dependent variable importance of “Implementation of Nursing Skills.” See Table 46 for ANOVA analyses revealing significance of in predicting importance of “Implementation of Nursing Skills” among baccalaureate nurse educators $F(2,152) = 11.95, p = <.001$. See Table 47 for presentation of regression findings.

Table 46
Analysis of Variance Illustrating Significance of Implementation of Nursing Skills and Children at Home in Predicting Perceived Importance of Implementation of Nursing Skills Among Baccalaureate-Degree Louisiana Nurse Educators

Model	Regression	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F^a</i>	<i>p^b</i>
2 ^b	Between Groups	12.374	2	6.187	11.95	<.001
	Within Groups	78.724	152	.518		
	Total	91.098	154			

Note. Predictors: Knowledge of implementation of nursing skills and children at home.

^aOne Way Analysis of Variance.

^bTwo-tailed.

Table 47
Regression Findings Predicting Louisiana Baccalaureate Nurse Educators Perceived Importance of Knowledge of Psychosocial Concerns

Model	<i>R</i>	<i>R²</i>	Adjusted <i>R²</i>	<i>SEE</i>
2	.369	.136	.124	.720

Two regression coefficients that entered the model were self-perceived “Knowledge of implementation of nursing skills” and “Children at home < age 18.” The higher educators perceived their knowledge of implementation of nursing skills, the greater importance they placed on including implementation of nursing skills into the nursing curriculum. Perceived importance of implementation of nursing skills for subjects having “Children at home < age 18”

were .266 lower on the importance scale, meaning that educators with “Children at home < age 18” tended to perceive inclusion of MCI competencies regarding knowledge of implementation of nursing skills as less important than educators without children. See Table 48 for significant regression equation coefficients for the perceived importance of knowledge of implementation of nursing skills.

Table 48
Unstandardized and Corresponding Standard Errors, Standardized Coefficients, T Values and Corresponding Significance Levels

Variable	Coefficient	S _b	Beta	<i>t</i>	<i>p</i> ^a
Intercept	3.381	.230		14.69	<.001
Implementation of nursing skills	.276	.062	.335	4.44	<.001
Children at home	-.266	.116	-.173	-2.29	.023

^aTwo-tailed.

No evidence of collinearity is noted between independent variables that were excluded from the regression based on VIF < 10 and Tolerance >.01. Presented in Table 49 are excluded variables, standardized beta values, *t* values with significance levels measured at .05 alpha, partial correlations and tolerance levels for the regression equation to predict importance of knowledge of ethical/legal/safety issues.

Table 49
Excluded Variables, Standardized Beta Values, *t* Values with Significance Levels, Partial Correlations and Tolerance Levels for the Regression Equation to Predict Importance of Implementation of nursing skills

Variable	Beta In	<i>t</i>	<i>p</i> ^a	Partial Correlation	Tolerance	VIF
Adult teaching	.135	1.77	.078	.143	.970	1.031

(Table continued)

Educator ≥ 21 years	.136	1.75	.082	.141	.927	1.079
Adults at home	-.134	-1.73	.085	-.140	.938	1.066
Woman's teaching	-.128	-1.70	.091	-.137	.987	1.013
Adult practice	.121	1.60	.111	.129	.983	1.017
Age 55 and older	.115	1.45	.148	.117	.895	1.118
Woman's practice	-.110	-1.45	.149	-.117	.974	1.027
Experience score	-.106	-1.34	.182	-.108	.902	1.109
Nurse > 30 years	.106	1.34	.0182	.108	.910	1.099
Nurse 11-20 years	-.099	-1.24	.218	-.100	.881	1.135
Age 25-44 in years	-.075	-.89	.377	-.072	.801	1.249
African American	.066	.87	.385	.071	.989	1.011
Master's	-.061	-.80	.426	-.065	.972	1.029
Assessment of psychosocial concerns	-.095	-.80	.428	-.065	.398	2.515
Doctorate	.051	.67	.507	.054	.973	1.027
Educator 11-20	-.049	-.64	.522	-.052	.988	1.012
Mental teaching	-.049	-.64	.522	-.052	.978	1.023
Educator < 5 years	-.044	-.58	.566	-.047	.991	1.009
Child teaching	-.043	-.56	.574	-.046	.994	1.006
Knowledge of ethical/legal/safety issues	-.053	-.45	.650	-.037	.425	2.356
Mental practice	.024	.31	.757	.025	.972	1.029
Educator 5-10 years	-.023	-.30	.767	-.024	.962	1.039

(Table continued)

Age 45-54 in years	-.022	-.29	.771	-.024	.983	1.017
Nurse 21-30 years	-.019	-.24	.808	-.020	.983	1.017
Caucasian	-.016	-.21	.837	-.017	.979	1.021
Nurse less than 10	.010	.13	.895	.011	.988	1.012
Child practice	-.006	-.08	.933	-.007	.991	1.009

^aTwo-tailed.

The data set was examined for outliers using standardized residual, studentized residual, and studentized deleted residual values. Applying a cutoff parameter of $|2|$ points, six cases were flagged as possible outliers for standardized residuals (ZRESID). To overcome the limitation of every residual of having the same variance, the studentized residual (SRESID) was utilized. Using a cutoff value of $t_{(136)} = 1.98$ to identify large residuals as possible outliers, the same six cases were flagged as possible outliers. To consider the changes in the parameter made by deleting a subject, the DFBETA value was computed and considered using the formula: $3/\sqrt{n}$ ($n = 166$) = .2328.

The data set was examined for the presence of influencers using Leverage and Cook's D values. To identify cases that may have undue influence on the regression line, Leverage values were calculated for each case using the formula: $h_i > 2(k+1)/n$ ($n = 166$) (Pedhauser, 1997). No cases were identified as potential influencers using the cutoff value of Leverage as .361. Another index used to identify influential observations which may be influencing the independent variable(s) and/or the dependent variable is Cook's Distance (Cook's D). No cases exceed the cutoff value for Cook's D of 1.0. As no influential observations were found, the researcher decided to retain all cases in the regression model. The primary purpose of this study was to identify factors that influence the importance of including educational competencies responding

to MCIs into the existing curricula as perceived by all current full-time faculty of baccalaureate degree nursing programs in Louisiana.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Purpose

The primary purpose of this study was to identify factors that influenced the importance of including educational competencies regarding MCIs into the existing curricula as perceived by faculty of baccalaureate degree nursing programs in Louisiana. A second purpose of this study was to describe the participants on selected personal and demographic characteristics.

Research Objectives

1. To describe nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana on the following personal and professional characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
2. To determine training received and life experiences regarding MCIs of nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana.

3. To determine self-perceived level of knowledge of educational competencies regarding MCIs among nursing educators currently teaching in accredited baccalaureate-degree nursing programs in Louisiana.
4. To determine the importance of incorporating educational competencies regarding MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana.
5. To determine if a relationship exists among currently employed nurse educators between the overall perceived level of importance of incorporating educational competencies regarding MCI's into the baccalaureate-degree nursing curriculum and the following selected personal and professional demographic characteristics:
 - a. Age
 - b. Gender
 - c. Ethnic background
 - d. Size of household
 - e. Highest level of education completed
 - f. Years of experience as a nurse
 - g. Years of experience as a nurse educator
 - h. Primary clinical area
 - i. Primary teaching area
6. To determine if a relationship exists between the level of knowledge and the overall level of importance of incorporating educational competencies regarding MCIs into the current curricula of accredited baccalaureate-degree nursing programs as perceived by nurse educators in Louisiana.

7. To determine if a model exists that explains a significant portion of the variance of the perception of importance to include educational competencies regarding MCIs into the existing curricula among current faculty of baccalaureate-degree nursing programs in Louisiana from the following personal and professional characteristics:

- a. Age
- b. Gender
- c. Ethnic background
- d. Size of household
- e. Highest level of education completed
- f. Years of experience as a nurse
- g. Years of experience as a nurse educator
- h. Primary clinical area
- i. Primary teaching area
- j. Experience score
- j. Self-perceived level of knowledge

Sample and Procedures

The target population for this study was defined as faculty of accredited baccalaureate degree nursing programs currently teaching either theory or clinical courses or both. The accessible population consisted of nurse educators employed full-time by January 1, 2006, in all accredited baccalaureate-degree nursing programs in Louisiana. The frame of the accessible population consisted of 285 educators of baccalaureate-degree nursing programs in Louisiana.

The instrument utilized to collect data was a researcher-designed questionnaire consisting of three primary components. The first part of the instrument consisted of five questions and was designed to assess the training and/or life experiences of nurse educators regarding preparation

for MCIs. The items in this part of the instrument asked participants to report their degree of participation in real and mock disaster activities as well as their involvement in formal and informal training programs. The second part of the instrument identified the 51 core knowledge and competencies regarding MCIs related to those identified by the International Nursing Coalition for Mass Casualty Education (INCMCE). The study participants were asked to indicate their perceptions on two constructs: their self-perceived level of knowledge of each core item and their perceptions regarding the importance of each item for inclusion in the baccalaureate-nursing curriculum. Both of the responses utilized a five-point anchored scale. The third part of the instrument, a demographic data tool, consisted of 10 questions and was designed to collect information on personal and professional characteristics of the participants. A panel of experts prior to data collection established content validity.

The instrument for data collection was delivered to subjects using an on-line survey delivery service that provided an Internet link to the instrument. A response incentive, a random drawing for a Littman Cardiology stethoscope, was utilized and introduced in the cover letter. A username and password were required to access submitted data. Additionally, the researcher sent a paper version of the cover letter and questionnaire addressed to each faculty member at the address obtained from each institution's faculty directory as listed on the institution's web page.

Above all, the respondent was assured that the researcher would follow confidentiality guidelines throughout the survey process. Both delivery systems were coded to enable the researcher in identifying individuals who had not responded so that non-response follow-up could be used with this group.

The accessible population of 285 educators in Louisiana baccalaureate-degree nursing programs was asked to complete the survey during the time period of April 10, 2006, through May 30, 2006. Usable data was collected on 166 participants. Findings and analyses of the

DMPQ are presented in this chapter. Summary of findings are arranged and presented by research objective.

Summary of Findings by Objective

Objective One

Findings of Objective One indicated that responding Louisiana nurse educators were predominately aged between 45-54 years ($n = 65$, 39.6%) and 55 years and older ($n = 50$, 30.5%). The majority of the participants was female ($n = 157$, 97.5%), Caucasian race ($n = 137$, 84%), and had earned a master's degree ($n = 113$, 68.5%) as their highest level of education. The majority of educators ($n = 92$, 56.1%) indicated that they did not have children under the age of 18 years living at home; however, 59 subjects (36%) did indicate residing with one or two children under age 18. Most of the participants ($n = 130$, 79.3%) resided with one or two other adults aged 18 or older. Twenty-one to 30 years of employment as a nurse ($n = 63$, 39.4%) was indicated by the highest number of participants, and more than two-thirds ($n = 111$, 69.4%) reported having more than 20 years of nursing employment. The highest number of participants reported having 11-20 years ($n = 47$, 29.2%) of employment as a nurse educator. With the exception of the "More than 30 years" group, the participants were fairly equally dispersed in number among groups. The majority ($n = 86$, 52.8%) reported "Adult health" as their primary clinical practice area and as their primary teaching area ($n = 95$, 58.6%).

Objective Two

The study participants were asked if they had received prior mass casualty training and/or experienced an actual MCI. Findings for this portion of Objective Two revealed that the majority of study participants had read professional journal articles as part their professional interests ($n = 110$, 66.3%); however, less than one-third of the participants ($n = 54$, 32.5%) reported earning CE credits on disaster management, and most had not participated in mock disaster drills ($n =$

109, 65.7%), and had not participated in actual MCIs ($n = 96, 57.8\%$). Additionally, study participants that responded “yes” to having received prior mass casualty training and/or experience were asked to indicate the number of trainings received or experiences encountered. The majority of participants responded to having read one-to-three professional articles ($n = 56, 51.8\%$), having earned one-to-three hours of CE credits ($n = 27, 50.9\%$), having participated in one to three mock disaster drills ($n = 46, 86.8\%$), and having participated in one-to-three actual MCIs ($n = 66, 95.7\%$).

The researcher used the information reported by the study participants to establish an initial scoring system to calculate mass casualty experience. This initial scoring system was validated through a review by a panel of experts of five medical professionals who were experts in the field of mass casualty incidents and disaster planning. Establishing a possible range from 0-40 points on the scoring system, the researcher found experience scores ranging from a low of 0 ($n = 33$) to a high of 35 ($n = 1$). In order to interpret experience score findings the researcher developed a scale of interpretation as follows: 0 = Not experienced, 1-5 = Slightly experienced, 6-10 = Somewhat experienced, 11-15 = Moderately experienced, 16-20 = Highly experienced, and 21 or higher = Extremely experienced. The overall mean experience score ($M = 7.54, SD = 6.9$) was in the interpretive category of “somewhat experienced” based on the researcher-developed scale. The largest group ($n = 50, 30\%$) of study participants was in the “slightly experienced” category and only four subjects (2.4%) were classified in the “extremely experienced” category.

Objective Three

Study participants were asked to rate their self-perceived level of knowledge of 51 items pertaining to mass casualty incidents. In order to interpret findings, the researcher established a scale of interpretation as follows: 1.0-1.49 = not at all knowledgeable, 1.50-2.49 = slightly

knowledgeable, 2.50-3.50 = fairly knowledgeable, 3.51-4.50 = quite knowledgeable and 4.51-5.0 = very knowledgeable. Findings for this portion of Objective Three included: the individual item perceived most knowledgeable about was in the interpretive category of quite knowledgeable “Demonstrate basic first aid skills” ($n = 158, M = 4.13, SD = 0.99$), and the individual item perceived least knowledge of was in the interpretive category of slightly knowledgeable “Defining terms relevant to mass casualty incidents” ($n = 155, M = 1.86, SD = 1.08$). Participants responded as being quite knowledgeable of six items, fairly knowledgeable of 28 items, and slightly knowledgeable of 17 of the items.

Additional findings for Objective Three revealed that the three-factor solution was found to have the highest percent of explained variance (67.35%) in baccalaureate nurse educators’ self-perceived level of knowledge concerning mass casualty incidents. Within this model, Factor 1 included 31 items with loadings ranging from .77 to .49 and was labeled “Knowledge of Ethical/Legal/Safety Issues.” Factor 2 included 11 items with loadings ranging from .82 to .50 and was labeled “Assessment of Psycho/Social Concerns.” Factor 3 included nine items with loadings ranging from .75 to .49 and was labeled “Implementation of Nursing Skills.”

Findings for this portion of Objective Three included that study participants reported the highest level of knowledge for the items factored in the “Implementation of Nursing Skills” factor ($M = 3.53, SD = .94$), which fell into the interpretive category of quite knowledgeable. Additional findings included that study participants perceived least knowledge of the items factored in “Knowledge of Ethical/Legal/Safety Issues” factor ($M = 2.51, SD = 1.01$), which fell into the interpretive category of fairly knowledgeable.

Objective Four

Study participants were asked to rate their perceived level of importance of 51 items pertaining to MCIs. In order to interpret findings, the researcher established a scale of

interpretation as follows: 1.0-1.49 = not at all important, 1.50-2.49 = slightly important, 2.50-3.50 = fairly important, 3.51-4.50 = quite important and 4.51-5.0 = very important. Findings for this portion of Objective Three included: the individual item perceived most important was in the interpretive category of quite important “Demonstrate basic first aid skills” ($M = 4.50$, $SD = 0.77$) and the individual item perceived least important was in the interpretive category of fairly important “Defining terms relevant to mass casualty incidents” ($M = 3.35$, $SD = 1.21$). Participants perceived 50 items as quite important, and one item as fairly important.

To examine the relationship between self-perceived knowledge and perceived importance, all items included in each of the three knowledge factor sub-scales: “Knowledge of Ethical/Legal/Safety Issues,” “Assessment of Psycho/Social Concerns,” and “Implementation of Nursing Skills” were entered separately into a factor analysis with the designation that all items be loaded as a single factor. Findings revealed that the factors: “Knowledge of Ethical/Legal/Safety Issues,” “Assessment of Psycho/Social Concerns,” and “Implementation of Nursing Skills” were each confirmed in the perceived importance scale. For importance of “Knowledge of Ethical/Legal/Safety Issues” loadings ranged from .90 to .60 and explained 65.61% of the overall variance as a single factor, importance of “Assessment of Psycho/Social Concerns” loadings ranged from .89 to .70 and explained 69.10% variance as a single factor, and importance of “Implementation of Nursing Skills” loadings ranged from .87 to .72 and explained 65.54% of the variance as a single factor.

Findings for this portion of Objective Four included that study participants indicated the highest level of importance for the items factored as “Implementation of Nursing Skills” ($M = 4.24$, $SD = .78$), which fell into the interpretive category of quite important. Additional findings included that study participants perceived the items of least importance factored as “Knowledge

of Ethical/Legal/Safety Issues” ($M = 3.95$, $SD = .85$), which fell into the interpretive category of fairly knowledgeable.

Objective Five

Findings for Objective Five revealed statistically significant differences in perceived level of importance in the variable “Primary practice area” where subjects primarily practicing in “Woman’s health” ($n = 14$, $M = 3.28$, $SD = 1.02$) tended to perceive the items in the importance of “Knowledge of Ethical/Legal/Safety Issues” as less important than the group choosing “Other” ($n = 29$, $M = 4.11$, $SD = .75$), $F(4,157) = 2.81$, $p = .03$. Additional statistically significant differences were revealed in perceived level of importance in the variable “Age” where older participants tended to place a higher level of importance of incorporating core competencies related to assessment of psycho/social concerns into the nursing curriculum $r(162) = .12$, $p = .045$.

No statistically significant relationships existed between perceived importance of “Knowledge of ethical/legal/safety issues” and age $r(162) = .10$, $p = .09$; the number of children under the age of 18 living at home $r(162) = -.09$, $p = .17$; the number of adults other than the educator, aged 18 and older living at home $r(162) = -.01$, $p = .85$; years employed as a nurse $r(158) = .07$, $p = .23$; years employed as a nurse educator $r(159) = .07$, $p = .21$; gender differences $t(158) = -.73$, $p = .47$ between male ($n = 4$, $M = 3.66$, $SD = .50$), or female ($n = 156$, $M = 3.97$, $SD = .85$); highest level of education completed differences $t(158) = -1.44$, $p = .15$, between master’s ($n = 112$, $M = 3.88$, $SD = .89$) or doctorate ($n = 48$, $M = 4.09$, $SD = .73$); or between ethnic background differences $t(151) = .91$, $p = .36$, between Caucasians ($n = 136$, $M = 3.94$, $SD = .83$) or African Americans ($n = 17$, $M = 4.13$, $SD = .87$). Additionally, no statistically significant relationships were found in perceived importance of the sub-scale “Knowledge of ethical/legal/safety issues” among primary teaching areas $F(4,157) = 2.40$, $p = .052$.

No statistically significant relationships existed between perceived importance of “Assessment of psychosocial skills” and the number of children under the age of 18 living at home $r_{(162)} = -.09, p = .16$; the number of adults other than the educator, aged 18 and older living at home $r_{(162)} = -.04, p = .49$; years employed as a nurse $r_{(158)} = .10, p = .11$; years employed as a nurse educator $r_{(159)} = .08, p = .18$; gender differences $t_{(158)} = -.96, p = .34$, between male ($n = 4, M = 3.71, SD = .73$), or female ($n = 156, M = 4.10, SD = .81$); highest level of education completed differences $t_{(158)} = -1.59, p = .11$, between master’s ($n = 112, M = 4.02, SD = .83$) or doctorate ($n = 48, M = 4.24, SD = .73$); or between ethnic background differences $t_{(151)} = .47, p = .64$, between Caucasians ($n = 136, M = 4.08, SD = .79$) or African Americans ($n = 17, M = 4.18, SD = .89$). Additionally, no statistically significant relationships were found in perceived importance of the sub-scale “Assessment of psychosocial skills” among primary practice areas $F_{(4,157)} = 1.73, p = .15$, or in terms of primary teaching areas $F_{(4,157)} = 1.39, p = .24$.

No statistically significant relationships existed between perceived importance of “Implementation of Nursing Skills” and age $r_{(162)} = .12, p = .06$; the number of children under the age of 18 living at home $r_{(162)} = -.12, p = .07$; the number of adults other than the educator, aged 18 and older living at home $r_{(162)} = -.08, p = .25$; years employed as a nurse $r_{(158)} = .06, p = .34$; years employed as a nurse educator $r_{(159)} = .08, p = .20$; gender differences $t_{(158)} = -.97, p = .33$, between male ($n = 4, M = 3.86, SD = .90$), or female ($n = 156, M = 3.97, SD = .78$); highest level of education completed differences $t_{(158)} = -1.10, p = .27$, between master’s ($n = 112, M = 4.19, SD = .80$) or doctorate ($n = 48, M = 4.33, SD = .74$); or between ethnic background differences $t_{(151)} = .36, p = .72$ between Caucasians ($n = 136, M = 4.24, SD = .73$) or African Americans ($n = 17, M = 4.31, SD = .92$). Additionally, no statistically significant relationships were found in perceived importance of the sub-scale “Implementation of nursing

skills” among primary practice areas $F(4,157) = .82, p = .51$ or in terms of primary teaching areas $F(4,157) = 1.31, p = .27$.

Objective Six

Findings for Objective Six revealed that relationships between constructs, knowledge and importance, were significant and measured low to moderate in a positive direction and magnitude when correlated by the Pearson r . The nature of the association was such that the more knowledge the educators perceived that they had regarding core competencies for MCIs, the higher the level of importance they placed on inclusion of these competencies into the nursing curriculum. The highest correlation was between knowledge of “Assessment of Psycho/Social Concerns” and perceived importance of “Assessment of Psycho/Social Concerns” $r(161) = .39, p < .001$.

Objective Seven

The seventh objective of the study was to determine if a model existed that explained a significant portion of the variance of the perception of importance to include educational competencies responding to MCIs into the existing curricula among current faculty of baccalaureate degree nursing programs in Louisiana from the following personal and professional characteristics: age, ethnicity, size of household, highest level of education completed, years of experience as a nurse, years of experience as a nurse educator, primary clinical area, primary teaching area, experience score, and self-perceived knowledge sub-scale scores. A multiple regression analysis was run separately on each of the importance factors (criterion variables) created during the factor analysis. The mean score of each importance factor was based on information from the items loading in each factor: importance of knowledge of ethical/legal/safety issues ($M = 3.95$), importance of assessment of psycho/social concerns ($M = 4.08$), and importance of implementation of nursing skills ($M = 4.24$) and served as the criterion

factor for separate multiple regression analyses. The selected demographic variables used as predictors include: age, ethnicity, size of household, highest level of education completed, years of experience as a nurse, years of experience as a nurse educator, primary clinical area, and primary teaching area. Other independent variables included in the model were the experience score, measuring training received and/or life experiences related to preparation for mass casualty incidents, and the mean of each of the self-perceived knowledge constructs created during the exploratory factor analysis.

Findings for Objective Seven were that models did exist that explained the variance of factors that influence the perception of importance of including educational competencies responding to MCIs into the existing curricula among current faculty of baccalaureate degree nursing programs in Louisiana. Findings are presented by criterion variables (importance factor subscales).

Importance of “Knowledge of Ethical/Legal/Safety Issues”

A model explaining a significant portion of the variance in the importance of “Knowledge of Ethical/Legal/Safety Issues” was found $F(2,152) = 10.78, p = <.001$. Of the selected demographic variables used as predictors, “Knowledge of ethical/legal/safety issues” and “Woman’s practice” were the only significant variables to enter the model and collectively explained 12% of the variance ($R^2 = .124$) in the dependent variable importance of “Knowledge of ethical/legal/safety issues.”

Importance of “Assessment of Psycho/social Concerns”

A model explaining a significant portion of the variance in the importance of “Assessment of Psycho/social Concerns” was found $F(1,153) = 24.28, p = <.001$. Of the selected demographic variables used as predictors, only one significant variable, knowledge of “Assessment of psychosocial concerns” entered the model and explained 14% of the overall

variance ($R^2 = .137$) in the dependent variable importance of “Assessment of Psycho/social Concerns.”

Importance of “Implementation of Nursing Skills”

A model explaining a significant portion of the variance in the importance of “Implementation of Nursing Skills” was found $F(2,152) = 11.95, p = <.001$. Of the selected demographic variables used as predictors, knowledge of “Implementation of nursing skills” and “Children at home” entered the model and collectively explained 14% of the overall variance ($R^2 = .136$) in the dependent variable importance of “Implementation of Nursing Skills.”

Conclusions, Implications, and Recommendations

Conclusion One

Nursing educators employed full-time in baccalaureate-level programs in Louisiana are an older workforce. This conclusion is based on the study findings that nurse educators were predominately aged between 45-54 years ($n = 65, 39.6\%$) and 55 years and older ($n = 50, 30.5\%$). This finding is similar to the finding reported by Trossman (2002) that the average age of faculty in baccalaureate nursing programs was 50 years old in 2002. According to DHHS (2006) the national deficit of full-time equivalent registered nurses is estimated to be 1,016,900 by the year 2020. Additionally, the national deficit of full-time RN’s identified in the DHHS (2006) report will further compound the aged nature of the nurse educator workforce since full-time RNs are the source of nurse educators.

Conclusion Two

Nursing educators employed full-time in baccalaureate-level programs in Louisiana have limited training and/or life experiences regarding MCIs. This conclusion is based on the finding that although the majority of study participants had read professional journal articles on MCIs as part of their professional interests ($n = 110, 66.3\%$), less than one-third of the participants ($n =$

54, 32.5%) reported earning continuing education credits on disaster management, most had not participated in mock disaster drills ($n = 109$, 65.7%), and the majority had not participated in actual MCIs ($n = 96$, 57.8%). Nursing education is being faced with a workforce that did not receive adequate instruction or training for mass casualty preparation.

This finding is similar to previous findings by Gebbie and Qureshi (2002) that MCI training is not part of the required undergraduate curricula in most U.S. accredited nursing programs or continuing education programs for the existing pool of nurses. If nursing educators have not received training and/or experience regarding MCIs, how will they disseminate this preparation to students?

This finding is also similar to findings reported by Chaffee, Conway-Welch, and Sabatier (2001) that although others expect a knowledgeable nursing response, most nurses are not prepared for this, and their ill preparation is not their fault. Nurses are duty-bound to be proactive in seeking education on the topic of terrorism preparedness, usually in their time off of work. Potential barriers to MCI training previously identified included a lack of opportunity and a lack of work time allocated for training (Shadel et al., 2003). Findings by French et al. (2002) favored the importance of incorporating practice drills and providing education regarding employee disaster roles during initial hospital orientation and annually. A positive outcome of previous MCI training and experience was documented by Suserud and Haljamae (1997) that experienced nurses coped better mentally and consistently provided better care in emergency situations than did nurses lacking experience. Less experienced nurses often doubted their own competence and indicated a lack of confidence in their ability to perform adequate treatment to victims.

Based on this conclusion, the researcher recommends that the Deans of nursing schools and nursing administrators should take immediate steps to encourage and support a cadre of current nursing faculty to receive MCI training. The nursing educators must have allocated time

off from work to attend MCI training workshops, complete continuing education credits on MCIs and participate in mock mass casualty drills.

Conclusion Three

Nursing educators employed full-time in baccalaureate-level programs in Louisiana that have dependents living at home regard MCI instruction with less importance than educators without dependents. This conclusion is based on the finding that educators who reported not having “children at home < age 18” indicated a higher perception of importance to include MCI competencies regarding knowledge of implementation of nursing skills into the nursing curriculum $t_{(150)} = -2.29, p = .02$. A similar study conducted by French et al. (2002) researched needs and concerns experienced by nurses during Hurricane Floyd in 1999 that devastated the east coast of Florida. Primary concerns were with personal, family and pet safety. Many participants described their conflict in responding to disasters as professional obligation versus family commitment. Perhaps, nursing educators with dependents living at home were more concerned with their personal responsibilities in the event of a MCI rather than focusing on the importance of MCI education.

Based on this conclusion, the researcher recommends that qualitative research be conducted on nurses that participated in MCIs, such as Hurricane Katrina, in order to identify their concerns regarding personal, family, and pet safety. Additionally, a recommendation is to investigate special concerns that nurses may have regarding MCIs caused by bioterrorism, because conflicting commitment may be more pronounced with the increased risk of disease exposure that comes with weaponized biological agents.

Conclusion Four

Nursing educators employed full-time in baccalaureate-level programs in Louisiana have limited knowledge of MCIs. This conclusion is based on mean self-reported knowledge

responses for each of the 51 items consisting of MCI competencies (on a scale of 1-5) that ranged from 1.86 to 4.13, indicating overall “fair knowledge.” The computed mean sub-scale scores revealed that nurse educators reported the highest level of knowledge for the items factored in the “Implementation of Nursing Skills” factor ($M = 3.53$), which fell into the interpretive category of quite knowledgeable and lowest knowledge of the items included in the “Knowledge of Ethical/Legal/Safety Issues” factor ($M = 2.51$), which fell into the interpretive category of fairly knowledgeable.

Findings from this study are similar to those reported by Rose and Larrimore (2002) who surveyed 291 health care staff on knowledge and awareness of chemical and biological terrorism. Findings included that 53% of the participants claimed a willingness to work during a terrorist event; however, only 23% answered knowledge questions correctly and indicated feeling confident to render such care.

Based on this conclusion, the researcher recommends that the Deans of nursing schools and nursing administrators should take immediate steps to encourage and support a cadre of current nursing faculty to receive MCI education. The nursing educators must have allocated time off from work to attend MCI educational workshops and complete continuing education credits on MCIs. Additionally, the committee that interviews new faculty applicants must recognize the need to hire faculty equipped with knowledge and experience to teach MCI preparation.

Conclusion Five

There is a positive relationship between self-perceived knowledge of MCIs and perceived importance of inclusion of these competencies into the nursing curriculum. The nature of the association was such that the more knowledge the educators perceived that they had regarding core competencies for MCIs, the higher the level of importance they placed on inclusion of these

competencies into the nursing curriculum. This conclusion is based on the finding that relationships between sub-scales, knowledge and importance, were significant and measured low to moderate in a positive direction when used by the Pearson Product Moment Correlation Coefficients. The highest correlation was between knowledge of “Assessment of Psycho/Social Concerns” and perceived importance of “Assessment of Psycho/Social Concerns” $r_{(161)} = .39, p < .001$. Other findings that support this conclusion include: “Knowledge of Ethical/Legal/Safety Issues” explained a significant portion of the overall variance ($R^2 = .124$) in the importance of “Knowledge of Ethical/Legal/Safety Issues” $F_{(2,152)} = 10.78, p < .001$; the knowledge of “Assessment of Psycho/Social Concerns” explained a significant portion of the overall variance ($R^2 = .14$) in the importance of “Assessment of Psycho/Social Concerns” $F_{(1,153)} = 24.28, p < .001$; and the knowledge of “Implementation of Nursing Skills” explained a significant portion of the overall variance ($R^2 = .14$) in the importance of “Implementation of Nursing Skills” was found $F_{(2,152)} = 11.95, p < .001$.

These findings are congruent with findings by Weiner, Irwin, Trangenstein, and Gordon (n.d.) that 79% of nursing educators selected curriculum plans as being the best place to increase emphasis on disaster preparedness; however, because approximately 75% of the nursing faculty felt inadequately prepared in the area of disaster preparedness, nursing programs provided limited curriculum content in disaster preparedness. Additionally, findings are similar to those by Hilton and Allison (2004) who proclaimed that nursing educators that are ill-informed in education and training hesitate in incorporating disaster preparedness into nursing curricula.

Even if nurse educators have some training and/or experience in MCIs, a perception that their knowledge is low will have an impact on their willingness and ability to effectively incorporate this content into the curriculum. Therefore, the researcher recommends that Deans of Nursing take immediate steps to identify a pool of educators who can now, or with training are

willing to teach MCI preparation. This selected cadre must be sent immediately to training programs because until a cadre of nurse educators learn this information via continuing education workshops, or through experiences such as mock disaster drills that coordinate nursing with local, state, and federal response efforts, or through real life disaster experiences, the profession will not be equipped with an army of self-confident, competent, nurses that can prepare the future generation of nurses for disasters of all types.

Conclusion Six

Nursing educators employed full-time in baccalaureate-level programs in Louisiana perceive MCI instruction as quite important for inclusion in nursing curricula. This finding is based on the perceived importance sub-scale scores of MCI competencies (on a scale of 1-5) ranged from 3.35 to 4.50, indicating overall “quite important.” The computed mean sub-scale scores revealed that study participants indicated the highest level of importance for the items included in the sub-scale “Implementation of Nursing Skills” ($M = 4.24, SD = .78$), which fell into the interpretive category of quite important. Additionally, study participants perceived items of least importance were included in the sub-scale “Knowledge of Ethical/Legal/Safety Issues” ($M = 3.95, SD = .85$), which fell in the interpretive category of quite knowledgeable.

This finding is similar to a previous study of disaster nursing curriculum development based on vulnerability assessment in the Pacific Northwest. Bond and Beaton (2005) found that both practicing nurses and student nurses indicated a strong need for disaster nursing content. Conway-Welch (2002) advocated that nursing students learn their role expectations and become educated in the skills needed to assist appropriately in all disasters prior to graduation.

Nurse educators are challenged to develop relevant curricula to equip the novice nurse for new roles and responsibilities needed for entry-level preparation. Nursing educators are accountable to the student, the community, and society at large to prepare graduates to work in

an environment where the potential for mass casualty disaster is no longer a low probability event. The current environment dictates an adjustment of the curricula to include content regarding disaster preparation to provide nursing students with the knowledge and skills required to participate in a national emergency response. If the curriculum is full, it's time to prioritize content and remove less essential elements. Inclusion of MCI training and core competencies into nursing curricula is long overdue.

Just as emergency room nurses are trauma-trained for the inevitable, nurses that are generalists need to receive training for the inevitable because when disaster strikes, it often occurs in such magnitude that an enormous pool of nurses will be needed. In the event of chemical or biological warfare the response must be rapid and coordinated with local, state and federal agencies in order to control widespread panic and minimize death.

Based on this conclusion, the researcher recommends that educators already possessing some knowledge, training, and interest be recognized and immediately incorporate MCI materials into the existing nursing curriculum. Furthermore, Deans of Nursing schools should organize a consortium of selected nurse educators from across the state of Louisiana to receive knowledge and training of MCI core competencies. The nurses from the consortium could then disseminate their knowledge and experiences at their individual schools of nursing, and incorporate MCI content into the curriculum in a timely manner. To accomplish this, such a consortium should receive training from professionals identified as very knowledgeable and highly experienced in MCIs. The researcher further recommends that Deans of the Louisiana baccalaureate nursing schools liaise with the military medical communities in Louisiana to share knowledge and training. There is already a trained core of medical professionals within the state who understand the discipline of coordinated training and rapid deployment of properly trained individuals to confront an MCI. Such individuals include those currently serving in the armed

forces, DHS officials, National Nurses Response Team RNs, the National Guard, and volunteers from agencies such as the ARC and emergency medical response teams. In a large-scale disaster the cooperation of the civilian and military sectors will be vital in creating an environment of coordinated responses with delineation of roles, responsibilities and leadership.

Recommendations for Future Research

Future research needs to be conducted to investigate the knowledge attained by nurse educators regarding mass casualty preparation following inclusion of core competencies in nursing curricula. Additionally, alternate curriculum plans need to be explored to measure where MCI content best fits.

Further research should be conducted to include currently licensed practicing nurses other than nurse educators that practice in diverse roles. This study could be replicated to nurses working in hospital settings, community settings, and in other specialty areas. If knowledge and training/life experiences are found to be high among nurses practicing in roles other than as nurse educators, perhaps these individuals could serve as preceptors to nursing students.

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APPENDIX A

PRE-NOTICE E-MAIL MESSAGE



Dear Nurse Educator,

Recently you received a notice regarding research to identify factors that influence the importance of including educational competencies responding to mass casualty incidents in the nursing curricula as perceived by Louisiana baccalaureate nurse educators. As a nurse educator in Louisiana, your input in this effort is vital. In order that the results truly represent the baccalaureate-nursing faculty in Louisiana, it is important that you complete and return the questionnaire.

Your responses to the questionnaire will remain completely confidential. At no time will your individual responses be linked to your name. Your email address on the electronic form or the code number on the hardcopy version will be utilized only for follow-up with non-responders. After your completed survey is received and your name is removed from the non-respondent list, your questionnaire will be assigned a random identification number that will have no association with your name. Participation in this study is voluntary, and the submission of your answers indicates your consent to include your responses in the group data. The questionnaire should take about 20-25 minutes to complete. For your convenience, you may complete this questionnaire electronically (online) or in the hardcopy form delivered to your faculty office. Please complete whichever version is more convenient for you by May 30, 2006. A self-addressed stamped envelope to return the completed hardcopy survey will be included.

As a token of my appreciation, completion of the survey will qualify you to participate in a drawing to win a new Littman Master Classic II Cardiology stethoscope. If you have any questions or concerns about the study, please contact me at (225) 927-9400 or (985) 549-5543 or my co-researcher, Michael F. Burnett, at (225) 578-5748.

[Click here to take the electronic survey](http://www3.selu.edu/kwhitty) or copy this web address into your browser:

<http://www3.selu.edu/kwhitty>

Thank you in advance for your participation,

Kristin Whitty, MSN, RN

APPENDIX B
THE COVER LETTER



Dear Nurse Educator,

As a nursing instructor in Louisiana, Hurricanes Katrina and Rita have affected me like most nurses in our state. I have concerns about our level of preparation, as nurses, to deal with the tragic effects resulting from disasters of mass casualty. To appreciate where we stand as a profession, I am conducting research to collect information on the knowledge and importance of mass casualty preparation as perceived by baccalaureate nurse educators. The potential for catastrophic disasters is increasing in number and complexity; and coupled with a global population growth, more people are at risk for mass casualty during disaster. Victims of mass casualty require nurses for medical treatment. Regarding mass casualty preparation, there are neither educational competencies mandated for existing nursing curricula nor any mandatory continuing education courses that exist for the current nursing pool. We, as nurse educators, determine what essential content needs to be included in the curriculum and how that material is to be disseminated to the learners.

This study will attempt to identify factors that influence the importance of including educational competencies responding to mass casualty incidents in the nursing curricula as perceived by Louisiana baccalaureate nurse educators. As a nurse educator in Louisiana, your input in this effort is vital. In order that the results truly represent the baccalaureate-nursing faculty in Louisiana, it is important that you complete and return the questionnaire.

Your responses to the questionnaire will remain completely confidential. At no time will your individual responses be linked to your name. Your email address on the electronic form or the code number on the hardcopy version will be utilized only for follow-up with non-responders. After your completed survey is received and your name is removed from the non-respondent list, your questionnaire will be assigned a random identification number that will have no association with your name. Participation in this study is voluntary, and the submission of your answers indicates your consent to include your responses in the group data. The questionnaire should take about 20-25 minutes to complete. For your convenience, you will receive the questionnaire both electronically (online) and in hardcopy form delivered to your faculty office. Please complete whichever version is more convenient for you by May 30, 2006. A self-addressed stamped envelope to return the completed hardcopy survey will be included.

As a token of my appreciation, completion of the survey will qualify you to participate in a drawing to win a new Littman Master Classic II Cardiology stethoscope. If you have any questions or concerns about the study, please contact me at (225) 927-9400 or (985) 549-5543 or my co-researcher, Michael F. Burnett, at (225) 578-5748. Thank you in advance for your participation.

Sincerely,

Kristin K. Whitty, MSN, RN
Nursing Instructor
1375 Charmaine Avenue
Baton Rouge, La. 70806

Michael F. Burnett
Professor, School of Human Resource
Education and Workforce Development
LSU, 142 Old Forestry, BR, La. 70803

142 Old Forestry Bldg, Baton Rouge, Louisiana, 70803, Ph: 225-578-5748, Email: vocbur@lsu.edu. Fax: 225-578-5755

APPENDIX C

DISASTER MANAGEMENT PREPARATION QUESTIONNAIRE

Disaster Management Preparedness Questionnaire

This survey of nursing educators is intended to collect information about the core competencies regarding disaster management. This survey is strictly confidential and only summary information will be reported in the results of the study. Please provide your school email address for the purpose of follow-up with nonresponders. After your completed instrument is received, your name will be removed from the nonrespondent list. At no time will your responses be linked with your name or email address. As a token of my appreciation, completion of the survey will qualify you to enter a drawing to win a Littman II Cardiology stethoscope! Many thanks in advance for making your contribution by completing this survey.

Please enter your email address _____. This information will be used for nonresponse follow-up and as your entry into the drawing for the stethoscope. At no time will your responses be linked to your name or email address.

Directions: For Question #1, please circle your level of concern.

1. How concerned are you that incidents like the September 11, 2001 attacks could occur here in Louisiana?
- | | | | | |
|---------------|--------------------|-----------|------------------|---------------------|
| Not Concerned | Slightly Concerned | Concerned | Fairly Concerned | Extremely Concerned |
| 1 | 2 | 3 | 4 | 5 |

Directions: For Questions #2-5, please circle your answer and if yes is your response, please indicate a numerical amount.

2. As part of your professional interests, have you read professional journal articles regarding mass casualty incidents?
- | | |
|------------------------------|---|
| No | Yes |
| <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 <input type="checkbox"/> 7-9 <input type="checkbox"/> 10 or more |
3. Have you earned continuing education credits regarding nursing disaster management?
- | | |
|------------------------------|---|
| No | Yes |
| <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 <input type="checkbox"/> 7-9 <input type="checkbox"/> 10 or more |
4. Have you participated in emergency response mock disaster drills?
- | | |
|------------------------------|---|
| No | Yes |
| <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 <input type="checkbox"/> 7-9 <input type="checkbox"/> 10 or more |
5. Have you participated in a mass casualty incident, such as September 11, 2001 attacks, Oklahoma City bombing, a plane crash, the Columbine High shooting, or Hurricanes Katrina or Rita?
- | | |
|------------------------------|---|
| No | Yes |
| <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 <input type="checkbox"/> 7-9 <input type="checkbox"/> 10 or more |

For questions 6-56, Column A relates to your perceived level of knowledge of core competencies of mass casualty incidents. Each item listed in the center column describes the core competencies for mass casualty incidents. Column B relates to your perception of importance of each competency for the inclusion into the nursing curriculum. **Please circle one response in column A and one response in Column B of each row.**

<p>For Column A, please indicate your level of knowledge concerning mass casualty incidents using a scale: 1 to 5</p> <p>“1”= Not at all knowledgeable “2”= Slightly knowledgeable “3”= Fairly knowledgeable “4”= Quite knowledgeable “5”= Very knowledgeable</p> <p>Column A</p>	<p><u>Core Competencies</u> for <u>Mass Casualty Incidents (MCIs)</u></p>	<p>For Column B, please rate how important you feel this content is for inclusion in the nursing curriculum using a scale: 1 to 5</p> <p>“1”= Not at all important “2”= Slightly important “3”= Fairly important “4”= Quite important “5”=Very important</p>
Column A	Example	Column B
<p>For example: if you rate your level of knowledge regarding CPR demonstration as very knowledgeable, you would circle your response as:</p> <p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p> <p style="text-align: right;">5</p>	<p>Demonstrate cardiopulmonary resuscitation (CPR) on an adult mannequin</p>	<p>For example: if you feel this knowledge regarding CPR is not at all important for inclusion in the nursing curriculum, you would circle your response as:</p> <p>Not important → Very important</p> <p>1 2 3 4 5</p> <p style="text-align: left;">1</p>
<p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p>	<p>6. Identify the potential impact of an MCI on the community</p>	<p>Not important → Very important</p> <p>1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p>	<p>7. Describe community health limitations in meeting basic needs such as food and shelter post MCIs</p>	<p>Not important → Very important</p> <p>1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p>	<p>8. Define mass casualty incidents</p>	<p>Not important → Very important</p> <p>1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p>	<p>9. Define terms relevant to MCIs such as: CBRNE</p>	<p>Not important → Very important</p> <p>1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p>	<p>10. Describe the 4 phases of emergency management of an MCI</p>	<p>Not important → Very important</p> <p>1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable</p> <p>1 2 3 4 5</p>	<p>11. Describe the interaction between emergency response systems during MCIs</p>	<p>Not important → Very important</p> <p>1 2 3 4 5</p>

<p>For Column A, please indicate your level of knowledge concerning mass casualty incidents using a scale: 1 to 5</p> <p>“1”= Not at all knowledgeable “2”= Slightly knowledgeable “3”= Fairly knowledgeable “4”= Quite knowledgeable “5”= Very knowledgeable</p>	<p style="text-align: center;"><u>Core Competencies</u> for Mass Casualty Incidents (MCIs)</p>	<p>For Column B, please rate how important you feel this content is for inclusion in the nursing curriculum using a scale: 1 to 5</p> <p>“1”= Not at all important “2”= Slightly important “3”= Fairly important “4”= Quite important “5”=Very important</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>12. Describe the legal authority of public health agencies during MCIs to institute measures of quarantine</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>13. Discuss chain of custody while treating a mass casualty site as a crime scene</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>14. Identify ways to access additional medical supplies during a MCI</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>15. Differentiate between intentional biological attack and natural disease outbreak</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>16. Assess effects of illness on individuals post exposure to a MCI</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>17. Demonstrate use of emergency communication equipment needed in a MCI response</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>18. Discuss principles of decontamination during a MCI</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>19. Describe decontamination procedures needed for chemical agents during a MCIs</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>20. Identify rights of health care providers during MCIs such as refusal to report to work or duty</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>21. Discuss ethical issues such as an individual's right to refuse care during a MCI</p>	<p>Not important → Very important 1 2 3 4 5</p>
<p>No knowledge → Very knowledgeable 1 2 3 4 5</p>	<p>22. Recognize “a confidentiality breach” that may occur during a MCI</p>	<p>Not important → Very important 1 2 3 4 5</p>

<p>For Column A, please indicate your level of knowledge concerning mass casualty incidents using a scale: 1 to 5</p> <p>“1”= Not at all knowledgeable “2”= Slightly knowledgeable “3”= Fairly knowledgeable “4”= Quite knowledgeable “5”= Very knowledgeable</p>	<p><u>Core Competencies</u> for Mass Casualty Incidents (MCIs)</p>	<p>For Column B, please rate how important you feel this content is for inclusion in the nursing curriculum using a scale: 1 to 5</p> <p>“1”= Not at all important “2”= Slightly important “3”= Fairly important “4”= Quite important “5”=Very important</p>
No knowledge → Very knowledgeable 1 2 3 4 5	23. Describe standards of care when handling human remains in a disaster setting	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	24. Discuss regulatory issues related to abandonment of patients	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	25. Discuss sociocultural issues that may affect an individual's response to a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	26. Describe the nursing role as an epidemiologist in MCIs	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	27. Differentiate between nursing practice roles during a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	28. Identify one's role during a MCI within the limits of one's scope of practice	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	29. Describe essential equipment for responding to a disaster	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	30. Maintaining one's knowledge in disaster management preparation	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	31. Describe nursing roles in community emergency response drills	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	32. Use an approved framework to support triaging during MCIs	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	33. Use clinical judgment in assessing individual care during a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	34. Describe emergency nursing care for all individuals affected by MCIs	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	35. Describe accepted triage principles specific to MCIs	Not important → Very important 1 2 3 4 5

<p>For Column A, please indicate your level of knowledge concerning mass casualty incidents using a scale: 1 to 5</p> <p>“1”= Not at all knowledgeable “2”= Slightly knowledgeable “3”= Fairly knowledgeable “4”= Quite knowledgeable “5”= Very knowledgeable</p>	<p><u>Core Competencies</u> for Mass Casualty Incidents (MCIs)</p>	<p>For Column B, please rate how important you feel this content is for inclusion in the nursing curriculum using a scale: 1 to 5</p> <p>“1”= Not at all important “2”= Slightly important “3”= Fairly important “4”= Quite important “5”=Very important</p>
No knowledge → Very knowledgeable 1 2 3 4 5	36. Assess safety issues for all individuals at the scene of a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	37. Differentiate among signs and symptoms of harmful agent exposures during a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	38. Demonstrate the ability to access information regarding harmful agents	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	39. Conduct a focused health history to access exposure to harmful agents	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	40. Perform an age-appropriate injury head-to-toe assessment	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	41. Assess the psychological responses of all individuals following MCIs	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	42. Identify the resources available to address the psychological impact following a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	43. Describe the psychological impact on responders to disasters	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	44. Demonstrate safe medication administration during a MCI	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	45. Demonstrate interventions needed for adverse effects of immunizations such as smallpox vaccination	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	46. Demonstrate basic first aid skills	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	47. Demonstrate higher order nursing skills such as large bore intravenous catheter insertion	Not important → Very important 1 2 3 4 5

<p>For Column A, please indicate your level of knowledge concerning mass casualty incidents using a scale: 1 to 5</p> <p>“1”= Not at all knowledgeable “2”= Slightly knowledgeable “3”= Fairly knowledgeable “4”= Quite knowledgeable “5”= Very knowledgeable</p>	<p><u>Core Competencies</u> for <u>Mass Casualty Incidents (MCIs)</u></p>	<p>For Column B, please rate how important you feel this content is for inclusion in the nursing curriculum using a scale: 1 to 5</p> <p>“1”= Not at all important “2”= Slightly important “3”= Fairly important “4”= Quite important “5”=Very important</p>
No knowledge → Very knowledgeable 1 2 3 4 5	48. Demonstrate the proper use personal protective equipment	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	49. Assess and monitor the injured during transport to an acute care facility.	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	50. Describe the Incident Command System during mass casualty	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	51. Locate and describe your employer’s emergency response plan	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	52. Discuss security and confidentiality during a mass casualty event	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	53. Demonstrate appropriate nursing documentation during a disaster	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	54. Identify resources for requests from media for information	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	55. Identify reactions to fear, panic, and stress that victims, families, and responders may demonstrate during a disaster	Not important → Very important 1 2 3 4 5
No knowledge → Very knowledgeable 1 2 3 4 5	56. Describe appropriate coping strategies to manage self and others	Not important → Very important 1 2 3 4 5

Note: From INCMCE’s Competencies for entry-level registered nurses related to mass casualty incidents

Demographic Information

Directions: For questions 57-67, Please place an "X" by only one response.

57. What is your age (as of your last birthday)? **Select only One**
- a. under 25
 - b. 25-34 years
 - c. 35-44 years
 - d. 45-54 years
 - e. 55 years and older
58. What is your gender? Male Female
59. What is your ethnic background? **Select only One**
- a. African American
 - b. Asian/Pacific Islander
 - c. Caucasian
 - d. Hispanic
 - e. Other, please specify
60. How many children under the age of 18 do you have living in your home? **Select only One**
- a. none
 - b. 1-2
 - c. 3-4
 - d. 5-6
 - e. 7 or more
61. How many adults age 18 and over are living in your home other than yourself? **Select only One**
- a. none
 - b. 1-2
 - c. 3-4
 - d. 5-6
 - e. 7 or more

62. What is your highest level of education completed? **Select only One**

- a. Diploma
- b. Associate
- c. Baccalaureate
- d. Master's
- e. Doctorate

63. What is your employment status as of January 1, 2006? **Select only One**
_____ Part-time _____ Full-time

64. How many years have you been employed as a nurse? **Select only One**

- a. less than 5 years
- b. 5 to 10 years
- c. 11 to 20 years
- d. 21 to 30 years
- e. more than 30 years

65. How many years have you been employed as a nurse educator? **Select only One**

- a. less than 5 years
- b. 5 to 10 years
- c. 11 to 20 years
- d. 21 to 30 years
- e. more than 30 years

66. What do you consider to be your primary clinical practice area? **Select only One**

- a. Adult Health
- b. Woman's Health
- c. Child Health
- d. Mental Health
- e. Other, please specify: _____

67. What do you consider to be your primary teaching area? **Select only One**

- a. Adult Health
- b. Woman's Health
- c. Child Health
- d. Mental Health
- e. Other, please specify: _____

Many thanks for participating in this study. Your responses are crucial in deciding if and how to incorporate disaster management education as it relates to mass casualty incidents into the nursing curriculum.

VITA

Kristin Lorraine Kroll Whitty was born on August 20, 1956, in New Orleans, Louisiana. She is the daughter of Lorraine Bahan Kroll and the late Vernon R. Kroll, M.D. She graduated from the Louise S. McGehee School in 1974 and attended Louisiana State University in Baton Rouge, Louisiana. In May of 1979, she received the degree of Bachelor of Science in Nursing from Louisiana State University Medical Center.

Following four years of employment as a registered nurse in intensive care at Southern Baptist Hospital in New Orleans, Louisiana, she moved to Lafayette, Louisiana. She continued working as a registered nurse in the Cardiology Catheterization Laboratory at Lafayette General Hospital. In 1989, she moved to Baton Rouge, Louisiana, where she accepted employment as a registered nurse in the emergency department at Baton Rouge General Medical Center and remained there until 1999. She currently maintains her nursing skills by working per diem in the Pre and Post-Anesthesia Care Unit in an outpatient setting.

In January 1999, she enrolled in Southeastern Louisiana University in Hammond, Louisiana, to further her nursing education. Her research interests were predictors of success for nursing students to complete program requirements, which was the topic of her clinical research. She presented her findings as a poster presenter at a research seminar at McNeese State University. She began her career as a nursing educator in January 1999 at the Baton Rouge General School of Nursing. In May of 2001, she received a degree of Master of Science in Nursing from Southeastern Louisiana University. She began teaching nursing education in the university setting in August 2001, when she accepted a full-time instructor position at Southeastern Louisiana University School of Nursing. On December 21, 2006, the degree of Doctor of Philosophy will be conferred during the fall commencement ceremony at Louisiana State University.

She has been certified as an Advanced Cardiac Life Support Instructor since 1989 and continues to teach other health professionals in this course. She has current certifications for Adult Trauma Nursing Curriculum, the Emergency Nursing Pediatric Curriculum, and Pediatric Advanced Life Support. She is a member of the National League for Nurses. She is a member of the American Nurses Association and its Baton Rouge Chapter. She is a member of the Oncology Nurses Association and its Baton Rouge Chapter. She is a member of the Sigma Theta Tau International Honor Society of Nursing.