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# The Effect of Simulations on Nursing Students' Ethical Reasoning Confidence in Disasters: A Pilot Study

Sara E. Greco  
*James Madison University*

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The Effect of Simulations on Nursing Students' Ethical Reasoning Confidence in Disasters:  
A Pilot Study

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An Honors Program Project Presented to  
the Faculty of the Undergraduate  
College of Health and Behavioral Studies  
James Madison University

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In Partial Fulfillment of the Requirements  
For the Degree of Bachelors of Science in Nursing

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by Sara Elizabeth Greco

May 2016

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Accepted by the faculty of the School of Nursing, James Madison University, in partial fulfillment of the requirements for the Honors Program.

FACULTY COMMITTEE:

---

Project Advisor: Julie Sanford, DNS, Professor and  
Director, School of Nursing

---

Reader: Erica Lewis, PhD, Assistant Professor,  
School of Nursing

---

Reader: Erika Metzler-Sawin, PhD, Assistant  
Professor, School of Nursing

HONORS PROGRAM APPROVAL:

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Bradley R. Newcomer, Ph.D.,  
Director, Honors Program

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PUBLIC PRESENTATION

This work is accepted for presentation, in part or in full, at the Pi Mu Professional Development Day on April 12, 2016, and at the Honors Symposium on April 15, 2016.

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## **Abstract**

This study measured the effect of a disaster nursing simulation and debriefing session on senior BSN students' perceived ethical reasoning confidence and their belief in the importance of ethical reasoning. Using a quasi-experimental design, this study compared participants' responses before and after the interventional activities using the Survey of Ethical Reasoning. Post-test results demonstrated an increase in students' perceived ethical reasoning confidence, perceived importance of ethical reasoning, and utilization of James Madison University's Eight Key Questions Ethical Reasoning Framework.

**Key Words:** *Ethical reasoning, nursing ethics, simulation, disaster simulation, nursing education*

## **Introduction and Literature Review**

Within the past 15 years, there have been a number of mass casualty incidents both nationally and internationally: the 9/11 terrorist attacks, Hurricanes Katrina and Sandy, the Sandy Hook Elementary School Shooting, tsunamis in Japan and Indonesia, and consecutive earthquakes in Haiti. It is impossible to predict when or where disaster will strike, yet these events are inevitable. However, nurses can proactively work to minimize the extent of physical and psychological damage from these events by educating our first responders and promoting preparedness within communities.

Despite the need for disaster preparedness, research shows that this type of education and training is scarce in healthcare education. In one study, only half of the 348 surveyed nursing schools reported having any sort of emergency and disaster education in their curriculum, with an average exposure time of only four hours.<sup>30</sup> The ability to authentically prepare for mass casualty incidents is further complicated by the ethical dilemmas healthcare providers experience in the midst of responding to an emergency. On any standard given day in a hospital, priority care is given to the most acutely ill patient. Conversely, situations involving mass casualties and limited resources require healthcare providers to focus on victims with survivable injuries, while leaving the most severely injured and resource-intensive victims to die.<sup>5, 11</sup> Being in the position of having to choose who lives and who dies is emotionally distressing to first responders. However, it is a reality that is rarely discussed when preparing for mass casualty events.<sup>19</sup>

Simulations are a potential solution to this educational deficit. Simulations are advantageous learning tools because they allow students to act as professional nurses in a realistic scenario with minimal threat of harm to themselves or others. Nursing education research supports that simulation exercises are powerful learning experiences for nursing



students, often leading to improved clinical competency, critical thinking, and reports of self-efficacy.<sup>6, 21, 28</sup> However, limited research has been done to measure the exact outcome of such simulations on ethical reasoning in nursing students. This study is unique in that it investigates the effect of a high fidelity, multiple-casualty disaster simulation on students' confidence to reason ethically, as well as their perceived importance of ethical reasoning skills.

A crucial component of any simulation exercise is the debriefing process following the activity. Debriefing provides a structured reflection for participants, thereby allowing them to analyze and self-correct their behavior, decisions, and thought processes. The purpose of debriefing is to promote cognitive accommodation and assimilation of their learning experience into future professional practice.<sup>8, 12, 22</sup> For this study, the Madison Collaborative's Eight Key Questions (8KQs) were used as a framework for ethical decision making to guide the debriefing process (Figure 1). The Madison Collaborative is a product of

<p><b>Figure 1: The Eight Key Questions (8KQs)</b></p> <p><b>Fairness:</b> How can I act equitably and balance all interests?</p> <p><b>Outcomes:</b> What are the short-term and long-term outcomes of possible actions?</p> <p><b>Rights:</b> What innate, legal, and social rights apply?</p> <p><b>Character:</b> What actions will help me become my ideal self?</p> <p><b>Liberty:</b> What principles of freedom and personal autonomy apply?</p> <p><b>Empathy:</b> How would I respond if I cared deeply about those involved?</p> <p><b>Authority:</b> What do legitimate authorities expect of me?</p> <p><b>Responsibilities:</b> What duties and obligations apply?</p>
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James Madison University's Quality Enhancement Plan, which was developed in accordance with the goals of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).<sup>1</sup> The Madison Collaborative's Eight Key Questions encompasses eight values, or lenses, one might consider when faced with an ethical decision. These eight lenses include fairness, outcomes, responsibilities, character, liberty, empathy, authority, and rights.<sup>15</sup>

The Madison Collaborative is associated with five cognitive and two non-cognitive student learning outcomes (SLOs) which are outlined in Figure 2.<sup>26</sup> Because the primary aim of this study was to investigate how a disaster nursing simulation affected nursing students' perceptions of their ethical reasoning confidence and ethical reasoning importance, the primary SLOs of interest were non-cognitive (i.e., SLOs 6 & 7). Measuring student achievement of these outcomes is critical because it would be difficult to enhance students' ethical reasoning skills in a clinical setting if they perceived these skills as unimportant, or if they failed to make progress towards feeling confident with their use. Moreover, learning how to apply the ethical reasoning process to clinical situations goes hand-in-hand with feeling confident in ethical reasoning skills. The more students feel confident with ethical reasoning, the more they will work toward improving these skills in a clinical setting, and vice versa: the more students strive to improve their ethical reasoning skills, the more confident they will feel. Similarly, it is important to ensure students value the ethical reasoning process to real life situations.

**Figure 2:** The Madison Collaborative Student Learning Objectives (SLOs)

*Cognitive SLOs*

1. Students will be able to state, from memory, all eight Key Questions.
2. When given a specific decision and rationale on an ethical issue or dilemma, students will correctly identify the Key Question most consistent with the decision and rationale.
3. Given a specific scenario, students will identify appropriate considerations for each of the eight Key Questions. Alternate approach: Students will be able to provide the specific considerations raised or rationale implied when applying every Key Question to an ethical situation or dilemma.
4. For a specific ethical situation or dilemma, students will evaluate courses of action by applying (weighing and, if necessary, balancing) the considerations raised by Key Questions.
5. Students will apply SLO 4 to their own personal, professional, and civic ethical cases.  
NOTE: Implied within this SLO is the students' ability to identify an ethical situation, based on the belief that the process of ethical reasoning increases discriminatory capacities. This will be addressed via the assessment rubric.

*Non-Cognitive SLOs (Attitudes Relating to Ethical Reasoning)*

6. Students will report that they view ethical reasoning skills as important.
7. Students will report increased confidence in their ability to use the ethical reasoning process.

## **Aim**

The primary aim of this study was to investigate how a disaster nursing simulation affected nursing students' perceived ethical reasoning confidence. Specifically, nursing students who took part in a disaster nursing simulation followed by a structured debriefing session that utilized the Madison Collaborative's Eight Key Questions as a framework for ethical reasoning. Additionally, the effect of the intervention on students' perceived importance of ethical reasoning and students' perceptions of the Eight Key Question Ethical Reasoning Framework was explored. Participants' attitudes towards ethical reasoning were measured before and after the exercise. The researchers hypothesized that students would report higher levels of perceived ethical reasoning confidence, importance, and understanding of the Eight Key Question Framework after the simulation and debriefing activities than before the intervention.

## Methods

### *Design and Sample*

This research study utilized a quasi-experimental design. A total of 17 consenting BSN senior students in the nursing program participated in the simulation activity. Students were recruited based on their Community Health clinical group assignment, but participation was voluntary. Institutional Review Board approval and consent was obtained.

### *The Simulation and Debriefing Design*

The disaster simulation utilized high fidelity simulators and patient actors to simulate the impact of a toxic chemical spill caused by a train derailment on a neighborhood in a southeastern United States town. There were a total of nine victims with varying profiles in regards to their age, culture, and degree of injury sustained. All actors were oriented prior to the simulation and were provided with a standardized script to accompany their clinical progression or deterioration throughout the exercise.

Upon entering the simulation room, students were provided with bags that were supplied with varying basic first-aid materials. Students worked in pairs to assess victims, prioritize care, and communicate effectively with each other and the victims. Triage tags that reflected the color-coded triage levels of the Simple Triage and Rapid Treatment (START)<sup>4, 29</sup> system were used, and students were instructed to adjust triage levels if a victim's condition changed throughout the scenario. A nursing faculty member was present in the simulation room to monitor for students who were showing signs of emotional distress and intervene if necessary. Students were provided with five articles<sup>5, 14-15, 24, 29</sup> and one video<sup>4</sup> on the topics of the START System, the Eight Key Questions, and ethics of disaster nursing to prepare for the simulation in

the week before the activity. Additionally, the students had a lecture on the content of disaster nursing in their Community Health class several weeks prior to the simulation.<sup>18</sup>

During the debriefing process following the simulation, students were asked to identify and share a decision that they made during the scenario that they believe had ethical implications. Ethical dilemmas discussed included the length of time to administer CPR on a deteriorating victim, discontinuing resuscitation efforts on a deceased victim, and offering false reassurance to victims. The group then collectively chose one ethical decision they encountered to consider in more depth using each of the Madison Collaborative's Eight Key Questions. Participants chose to evaluate the ethical dilemma of giving false reassurance. The debriefing facilitation guide is included in Appendix 1.

### *Instrument*

To assess nursing students' attitudes toward ethical reasoning, the Survey of Ethical Reasoning (SER) was used (Appendix 2). The SER is comprised of various sections that include rank-order items and Likert-scale items. The first section of the SER asks students to rank order 10 different skills including: artistic, budgeting, critical thinking, ethical reasoning, oral communication, organization, programming, time management, interpersonal, and writing. Students are instructed to rank these skills from 1 (Most Important) to 10 (Least Important).

The second section of the SER includes five statements about perceived importance of ER and five statements about confidence in applying the ethical reasoning process. This section also includes six statements that correspond to the Madison Collaborative Student Learning Outcomes and the Eight Key Questions (i.e., "When faced with an ethical situation, I can correctly identify the most relevant key questions"). Students are asked to indicate how much

they agree with each statement using a five-point Likert scale (1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree Nor Disagree, 4 = Somewhat Agree, and 5 = Strongly Agree).

Factor Analysis results on a large sample of freshmen<sup>26</sup> indicate that these ten SER items are comprised of two factors, which were labeled “Importance” and “Confidence” based on item content. Thus, it may be appropriate to report two scores for this portion of the SER: an “Importance” subscale score and a “Confidence” subscale score. Each “Importance” score would be the total score for the five items that relate to importance of ethical reasoning, and each “Confidence” score would consist of the total score for the five items about confidence in applying the ethical reasoning process. These results also suggest that it is inappropriate to report an overall or total score for this section of the SER because it is not unidimensional.<sup>26</sup>

Given the two-factor internal structure of the SER, appropriate reliability estimates were computed for the “Importance” and “Confidence” subscales. Cronbach’s alpha reliability estimates for the “Importance” subscale were .99, (very high) for the pre-simulation SER. Reliability for the post-simulation SER could not be completed because the nursing students answered almost identically. The “Confidence” subscale scores also demonstrated adequate reliability (.91 and .90 for the pre- and post-simulation scores, respectively). Thus, subscale scores were computed as the mean Importance and mean Confidence scores at two time points: pre- and post-simulation.

The third section of the SER describes five different behaviors related to applying, discussing, and engaging in ethical reasoning. Student are asked to indicate how frequently they engage in each of the five behaviors using a five-point Likert scale (1 = Never, 2 = Every Few Months, 3 = Monthly, 4 = Weekly, and 5 = Daily). An indication of frequency can be used to

approximate how confident students are in their ethical reasoning abilities. More frequent use could indicate a more confident ethical reasoner.

The final section of the SER lists each of the 8 Key Questions separately. Student are asked to indicate how important each Key Question is in their ethical reasoning process using a five-point Likert scale (1 = Not At All Important, 2 = Slightly Important, 3 = Somewhat Important, 4 = Important, and 5 = Very Important).

### *Settings*

The simulation and debriefing session took place in a nursing lab and classroom within the nursing department at James Madison University in Harrisonburg, Virginia. The nursing lab was designed to replicate the sights, smells, and noises that are expected to be encountered in a disaster scenario.

## Results

### *Part 1: Ranking of Skills*

Part 1 of the SER asks students to rank-order ten skills, one of which is ethical reasoning. The distribution of nursing student rankings can be found in Table 1, for both the pre-simulation and post-simulation SER. Recall that a rank of 1 indicates students felt the skill was most important to their life or career after graduation and a rank of 10 indicates students felt the skill was least important to their life or career after graduation. A Wilcoxon signed-rank test indicated the ranking of ethical reasoning importance differed from pre- to post-simulation ( $Z = -2.273$ ,  $p = .023$ ). Specifically, the median rank for pre-simulation was 4.0. This median rank increased in importance to 2.5 post-simulation. This indicates nursing students tend to rank ethical reasoning as more important after participation in the simulation than prior to participation.

<b>Table 1.</b> Distribution of Ethical Reasoning Rank of Importance				
Rank	Pre-Simulation		Post-Simulation	
	Frequency	Percent	Frequency	Percent
1 = Most Important	1	6.3	2	12.5
2	3	18.8	6	37.5
3	2	12.5	3	18.8
4	3	18.8	2	12.5
5	2	12.5	2	12.5
6	3	18.8	1	6.3
7	2	12.5	0	0
8	0	0	0	0
9	0	0	0	0
10 = Least Important	0	0	0	0
Total	16	100.0	16	100.0



## *Part 2: Confidence and Importance*

Subscale scores were computed as the mean Importance and mean Confidence scores at two time points: pre- and post-simulation. A dependent-samples t-test indicated that mean “Importance” scores did not change from pre- to post-simulation ( $t(15) = -1.15, p = .267$ ). This is likely due to a ceiling effect on the importance scores. Pre-simulation, students scored an average of 4.7 out of 5 on the “Importance” scale, leaving little room for growth. Indeed, after the simulation, students scored an average of 4.99 on the “Importance” scale, with almost all ( $n=15$ ) student responding “Strongly Agree” in terms of importance of ethical reasoning skills.

There was, however, growth seen in students’ confidence in ethical reasoning ( $t(15) = -2.915, p = .011$ ). Specifically, students gained approximately one half point on the scale from pre-simulation ( $M_{pre} = 4.15$ ) to post-simulation ( $M_{post} = 4.60$ ). This difference represents a large effect size ( $d = 0.84$ ).

The remaining questions in Part 3 of the SER indicated a significant improvement in all items using a Wilcoxon signed-rank test. Table 2 shows that for all items, students’ self-reported abilities increased significantly from pre-simulation to post-simulation. This increase might reflect an increase in confidence, as opposed to an actual increase in ability as students are not directly asked to perform the task (i.e., state the Eight Key Questions from memory), but asked whether they can do it.

<b>Table 2.</b> Self-Reported Abilities to Use the Eight Key Questions (8KQ)		
	Wilcoxon signed rank <i>Z</i>	<i>P</i>
I can state from memory the 8KQ of ethical reasoning	-3.21	.001
When faced with an ethical situation, I can correctly identify the most relevant KQ	-2.31	.021
I can weigh and balance the relevant KQ to make an informed decision	-2.46	.014
I can apply the 8KQ ethical reasoning framework to aspects of my personal life	-2.64	.008
I can apply the 8KQ ethical reasoning framework to aspects of my professional life	-2.26	.024
I can apply the 8KQ ethical reasoning framework to aspects of my civic life	-2.46	.014

### *Part 3: Frequency of Engagement*

The third section of the SER describes five different behaviors related to applying, discussing, and engaging in ethical reasoning and asks students to reply with the frequency of each behavior. More frequent use could indicate a more confident ethical reasoner, as well as an indication of how important the skill is. A Wilcoxon signed-rank test indicated that discussion of ethical reasoning dilemmas differed from pre- to post-simulation ( $Z = -2.236$ ,  $p = .025$ ). Specifically, the median score for pre-simulation was 4.0, as well as the post-simulation mean. However, the distribution of scores was different (see Table 3). It should be noted that although the students' indications of frequency of discussion changed, it is unlikely actual behaviors have changed in the short time from pre- to post-simulation. However, students' recognition of what constitutes an ethical dilemma could have been the cause of the change in scores.

<b>Table 3.</b> Distribution of Frequencies of Ethical Dilemma Discussions				
Score	Pre-Simulation		Post-Simulation	
	Frequency	Percent	Frequency	Percent
1=Never	1	6.3	1	6.3
2	1	6.3	0	0
3	4	25.0	3	18.8
4	7	43.8	7	43.8
5 = Daily	3	18.8	5	31.3
Total	16	100.0	16	100.0

*Part 4: Importance of Individual Eight Key Questions*

In part 4 of the SER, students ranked the Eight Key Questions in terms of importance (where 1=most important, 8=least important). A Wilcoxon signed-rank test indicated students ranked empathy ( $Z = -2.385$ ,  $p = .017$ ) and outcomes ( $Z = -2.573$ ,  $p = .010$ ) as significantly more important after the simulation and debriefing activity than before. Rights was ranked as significantly less important ( $Z = -3.311$ ,  $p = .001$ ) after the simulation and debriefing activity than before. Specifically, Table 4 shows the median and mean ranks for Key Questions showing significant differences from pre- to post-simulation.

<b>Table 4.</b> Median and Mean Rank of Importance for Key Questions						
	Importance		Rights		Outcomes	
	Pre	Post	Pre	Post	Pre	Post
Median	4.00	4.00	1.00	5.00	5.00	3.00
Mean	4.31	3.31	1.81	4.75	4.62	3.44

## Discussion

Comparative assessment of pre and post results indicate a significant increase in students' confidence to apply, discuss, and engage in the ethical reasoning process. This is consistent with other research studies. In one report of over 600 students exposed to virtual patient simulations, 74.2% of the participants agreed or strongly agreed that the simulation experience increased their self-reliance when making decisions with ethical implications.<sup>16</sup> In another study that incorporated high-fidelity simulations into a Nurse Ethics Residency program, both qualitative data and narrative reflections of participants showed an increase in self-efficacy regarding.<sup>25</sup>

In the present study, students' perceptions of ethical reasoning importance did not improve significantly in the post results. As mentioned previously, this may be due to the ceiling effect of the post test scores. However, students did rank ethical reasoning skills significantly higher amongst other skill sets following the simulation. This demonstrates that students' perceptions of ethical reasoning as a priority in nursing care increased. A recent study investigating the use of a high-fidelity patient simulation scenario to help nursing students learn the importance of ethical content in their nursing practice supports this finding. In the study, the high-fidelity patient simulation scenario was found to be a transformational learning experience. Furthermore, the simulation's effectiveness in teaching ethical reasoning importance was superior to the comparative in-person and online case studies.<sup>27</sup> This attitudinal shift regarding ethical reasoning importance is critical in motivating students to engage to advancing students' ethical reasoning confidence. If students perceive ethics as important, they will strive to implement the ethical reasoning process more frequently and consistently when faced with difficult decisions. This has the potential to ultimately enhance students' ethical reasoning

confidence as they will have more exposure to the thought processes needed to arrive at an ethical decision.

Students' positive responses to the Eight Key Questions Ethical Reasoning Framework, such as their greater understanding of what constitutes an ethical dilemma and their increased confidence in applying the appropriate Key Question(s) to a particular dilemma, support this method as an effective and beneficial model for guiding such thought processes. However, further research is needed to determine the comparative effectiveness of other ethical reasoning frameworks, such as reflective journaling prompts, the Nurses' Ethical Reasoning Skills and the Moral Orientations of Care and Justice frameworks utilized in other studies.<sup>7,9,23</sup>

#### *Limitations and Recommendations*

Similar to other pilot studies, this research design utilized a small sample size. Furthermore, students were recruited to participate in the study based on their clinical instructor assignment at a single university, thereby preventing random selection. A larger sample size of nursing students with more variable educational experiences is recommended to strengthen the validity of research findings.

An additional limitation of this study is that the SER is designed for longitudinal research investigations. To ideally measure changes in students' attitudes towards ethical reasoning, the study should be implemented in the first semester of the nursing program and repeated with the same students every semester thereafter to observe changes over time.

## **Conclusions**

Ethical reasoning is an integral part of nursing practice, particularly in mass casualty situations. Nursing programs must continue to integrate ethics and disaster preparedness into course curriculums so that students are equipped to make difficult ethical decisions with confidence and good conscience. Although further supporting evidence is needed, simulations and guided debriefing show great potential to further develop and advance students' ethical reasoning processes.

## Appendix 1: Simulation Pre/Debriefing Guide

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### Pre-Simulation (30 Minutes):

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- Have students complete the research consent form and administer the Pre-Test Survey
- Assign students randomly into teams of two and explain that they will be working in teams throughout the simulation
- Inform students that an instructor will be in the lab room and will be available for support if they become overwhelmed by the simulation experience
- Review with students the simulation objectives (assessment, prioritization, and communication) and how to use the triage tag system
- Provide students with 8 Key Question cards, objective cards, and bags of supplies
- Read students the scenario. At the end of the scenario, a member of the Sim Lab staff will enter into the debriefing room and urgently usher students to the Sim Lab. This is the start of the simulation.

#### Scenario:

A train derailment has caused a toxic chemical spill in the neighborhood of Harrisonburg, VA. A group of nursing students on their way to clinical are the first to witness and respond to the disaster. There were 9 victims of the crash who are experiencing varying degrees of injury. Amongst the victims are a child, a full term pregnant mother, and a non-English speaking individual. Biochemical waste being carried on the train is no longer contained and poses a threat to individual and environmental health. Available resources are limited to the basic assessment and first aid supplies students have on hand for their day of clinical. It is expected to be approximately 30 minutes before additional help can arrive.

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### Post-Simulation Debriefing (1 Hour):

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- Have each student identify a decision that they made during the scenario that they believe had ethical implications and write it down on a piece of paper.
- Have students share individual experiences with the debriefing group.
- After each person has shared, identify if there were any decisions that multiple students found to be an ethical dilemma. Have the group collectively choose one of the ethical decisions, and consider it using each of the 8 key questions (see question-specific guide below)
- Discuss how the 8 key questions could have informed your decision.
- Practice/role plays implementing a related action using the 8 key questions. Write the "words" that could be used and practice saying them.
- Ask students how could this be applied to other professional situations? If time allows, students can also practice applying the Eight Key Questions to their personal lives.
- Lastly, ask students to take the Post-Test Survey.

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### Eight Key Question-Specific Guide:

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1. Fairness - How can I act equitably and balance legitimate interests?
  - Ask students to describe the legitimate interests they have to take into consideration when reasoning through the ethical decision being analyzed.
2. Outcomes - What achieves the best short- and long-term outcomes for me and all others?
  - Ask students will identify the short- and long-term outcomes of the decision being analyzed. Have students will predict how making a different decision would result in different outcomes.



3. Responsibilities - What duties and/or obligations apply?
  - Have students state the duties and obligations that apply to them as students, as nurses, and as citizens. Ask students to reflect on whether these responsibilities would have changed if the decision being analyzed was made in an acute care setting, rather than the disaster setting.
4. Character - What action best reflects who I am and the person I want to become?
  - Prompt students to think about the personal values and beliefs that constitute their character. Ask students to analyze how these personal values and beliefs influenced the decision being analyzed.
5. Liberty - How does respect for freedom, personal autonomy, or consent apply?
  - Ask students to describe barriers to obtaining consent or honoring the liberty of the victim in the ethical dilemma being considered.
6. Empathy - What would I do if I cared deeply about those involved?
  - Ask students to reflect on how their responses may have changed if they personally knew the victim in the ethical dilemma being analyzed.
7. Authority - What do legitimate authorities (experts, law, my religion/god) expect of me?
  - Students will identify the authorities they are responsible to as a student, nurse, and citizen. Ask students to consider if they would perceive themselves to be accountable to different authorities if the dilemma was to occur in an acute care setting.
8. Rights - What rights (e.g. innate, legal, social) apply?
  - Ask students to identify the different rights they had to consider when reasoning through the ethical dilemma being analyzed. Did the decision they made affect victims' rights differently?

## Appendix 2: The Survey of Ethical Reasoning

Developed by the Center for Assessment and Research Studies

Please rank order the following skills from 1 (Most important) to 10 (Least important) according to your life/career after graduation. Be sure to use each number only once. Feel free to use the scrap paper provided to help you rank order the skills below and check your answers.

- |                             |                              |
|-----------------------------|------------------------------|
| 1. Artistic Skills          | 6. Oral Communication Skills |
| 2. Budgeting Skills         | 7. Organization Skills       |
| 3. Critical Thinking Skills | 8. Programming Skills        |
| 4. Ethical Reasoning Skills | 9. Time-management Skills    |
| 5. Interpersonal Skills     | 10. Writing Skills           |

\*\*\*\*\*

The following statements concern your attitudes toward ethical reasoning skills and the eight-key-question reasoning framework, which stands at the core of the *Madison Collaborative: Ethical Reasoning in Action*.

Please indicate how much you agree with the statements using the scale below:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Strongly</b>	<b>Somewhat</b>	<b>Neither Agree</b>	<b>Somewhat</b>	<b>Strongly</b>
<b>Disagree</b>	<b>Disagree</b>	<b>Nor Disagree</b>	<b>Agree</b>	<b>Agree</b>

11. Ethical reasoning skills are important to me
12. Having good ethical reasoning skills will be useful in my future jobs
13. Every university should teach ethical reasoning
14. I believe ethical reasoning is a valuable skillset
15. Ethical reasoning skills are beneficial to making difficult life choices

- 16. I am not a JMU student
- 17. When faced with an ethical dilemma, I feel confident in making an appropriate decision
- 18. I feel prepared to deal with complex life situations that involve ethics
- 19. I am comfortable applying my ethical reasoning skills to real life situations
- 20. I can actively participate in a discussion about ethics
- 21. I am capable of evaluating my options using an ethical reasoning process
- 22. I can state from memory the eight key questions of ethical reasoning
- 23. When faced with an ethical situation, I can correctly identify the most relevant key questions
- 24. I can weigh and balance the relevant key questions to make an informed decision
- 25. I can apply the eight-key-question ethical reasoning framework to aspects of my personal life
- 26. I can apply the eight-key-question ethical reasoning framework to aspects of my professional life
- 27. I can apply the eight-key-question ethical reasoning framework to aspects of my civic life

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Please indicate how often you engage in the following behaviors:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Never</b>	<b>Every Few Months</b>	<b>Monthly</b>	<b>Weekly</b>	<b>Daily</b>

- 28. How often do you think about ethical issues?
- 29. How often do you apply ethical reasoning to make a decision?
- 30. How often do you think about ethics when grappling with complex situations?
- 31. How often do you engage in ethical reasoning when giving advice to others?
- 32. How often do you discuss real-life ethical dilemmas with others?

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The *Madison Collaborative: Ethical Reasoning in Action* uses eight key questions to help faculty, staff, and students address complicated ethical situations. Nevertheless, not everyone – including experts in ethics –emphasize all key questions equally. From your current perspective, please indicate how important each of the key questions is in your ethical reasoning process.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Not at all</b>	<b>Slightly</b>	<b>Somewhat</b>	<b>Important</b>	<b>Very</b>
<b>Important</b>	<b>Important</b>	<b>Important</b>		<b>Important</b>
33. Empathy			37. Rights	
34. Fairness			38. Responsibilities	
35. Character			39. Outcomes	
36. Liberty			40. Authority	

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