Title:
Clinical Decision Making in Nursing Students: When Intuition Helps and When It Hurts

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Clinical Decision Making Skills
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References:

Abstract Summary:
A simulation study of clinical decision making among nursing students indicates that intuition is associated with enhanced accuracy within familiar clinical situations, particularly for those directly engaged with patient care. In more novel situations, and for those solely observing the scenario, intuition is associated with less accurate decision making.

Learning Activity:

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<th>LEARNING OBJECTIVES</th>
<th>EXPANDED CONTENT OUTLINE</th>
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<td>The learner will be able to contrast the value of intuition for decision making among nursing students within familiar and novel clinical situations modeled in the simulation environment.</td>
<td>A) Description of the simulation learning environment and its ability to capture decision making in ways not addressed in previous studies that involved case studies and surveys. B) Description of decision making assessment tool and scoring procedure C) Description of the novel situation, which focused on material with which students had very limited experience (identifying heart rhythm change). D) Description of the familiar situation, which focused on a problem with which students had considerable experience (identifying and addressing shortness of breath). E) Summary</td>
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of findings: 1) With a novel situation, reliance on intuition associated with less accurate CDM performance. 2) With a familiar situation, reliance on intuition associated with more accurate CDM performance. This effect varied, however, by participant role and type of decision. 3) Reliance on analysis not associated with CDM accuracy on either the familiar or the novel situation. F) Discussion of how these findings extend what we know regarding intuition in CDM 1) Value and use of intuition not reserved solely for experts 2) Why reliance on intuition is associated with enhanced CDM accuracy on the familiar, but not the novel, situation. 3) Why degree of reliance on analytical thinking was not associated with CDM accuracy.

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<th>The learner will be able to identify the value of intuition for the following aspects of clinical decision making: gathering relevant cues, generating appropriate diagnosis(es) and determining the correct action(s).</th>
<th>A) Review of the particular questions on the decision assessment tool that addressed the three aspects of decision making (cue acquisition; diagnosis; action). B) Summary of findings 1. With the familiar situation, accuracy with cue acquisition was higher for those reporting higher reliance on intuition. Diagnosis and action were not associated with reliance of intuition. 2. With the novel situation, accuracy with cue acquisition and diagnosis was lower for those reporting higher reliance on intuition; no association emerged for the action decision. C) Discussion of how these findings extend current knowledge of intuition in CDM 1. Previous studies have not scrutinized the CDM process to determine how intuition helps, and hurts, specific aspects of performance. 2. Why cue acquisition, and not diagnosis or action, benefits from intuition during familiar situations. 3. Why cue acquisition benefits from intuition during a familiar, but not a novel, situation. 4. Why diagnosis is hindered by intuition during a novel, but not a familiar, situation.</th>
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<td>The learner will be able to distinguish the specific roles within the simulation environment that most effectively recruit intuition during clinical decision making.</td>
<td>A) Description of the specific participant roles in the simulation environment: observers, family member, auxiliary nurse (medication nurse; education nurse) and primary nurse. B)</td>
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### Summary of findings
1. Reported reliance on intuition varied with role; whereas most roles reported much higher reliance on analysis than on intuition, those in the primary nurse role reported equivalent reliance on the two approaches, regardless of situation.
2. With the familiar situation, the positive association between accuracy and intuition emerged only for those directly involved in patient care; no association emerged among those in the family and observer roles.
3. With the novel situation, the negative association between accuracy and intuition emerged only for those in the observer role; no association emerged for those in the family and nurse roles.

### Discussion of how these findings extend current knowledge of intuition in CDM
1. Though simulation exercises are frequently used in nursing training, little is known regarding the impact of a student’s role on their learning experience.
2. Why those in the primary nurse role report greater reliance on intuition than those in other roles.
3. Why a role’s level of patient engagement would predict the nature of association between thinking style and CDM accuracy.

### The learner will be able to generate potential changes to nursing education that encourage more effective clinical decision making.

A) Nursing education should recognize the value of intuition for clinical decision making, particularly with highly familiar clinical situations.
B) Nurse educators should consider that certain roles within simulation are more likely to make beneficial use of intuition.
C) Nurse educators should consider that those in the observer role experience simulation in a qualitatively different way than those in other roles.
D) Incorporating a “decision assessment tool” during simulation exercises, similar to what we used here, enables nurse educators a more precise understanding of students’ reasoning during their simulation.

### Keywords:
clinical decision making, intuition, pre-licensure nursing students

### Abstract Text:
Intuition has a long history in nursing practice and nurses report viewing intuition as a reliable and worthwhile method of knowing how to guide patient care (Benner, 1984; Pearson, 2013). Traynor, Boland
and Buus (2010) determined that nurses at all levels report their use of intuition with a degree of ambivalence, reflecting the competing pulls of their personal value of the process with the institutional emphasis on evidence-based practice. Although a number of studies have assessed the degree to which nurses report using intuition (e.g. Benner, 1984; Eizenberg, 2010; Pretz & Folse, 2011), objective assessments of the value of this process are few and very little is known regarding the efficacy of intuition among nursing students. In this presentation we address students’ reliance on intuition within the clinical simulation environment and the value of their intuition, which varies depending the familiarity of the situation, type of decision, and the students’ role within the simulation.

The present research is among the first to examine the nature of intuitive and analytical reasoning strategies among nursing students within a clinical simulation learning environment. It is generally accepted that clinicians rely upon both approaches to reasoning but this primarily reflects anecdotal reports and survey evidence. For this study, we assessed final semester ASN students during their regular clinical simulation exercises. Students were randomly assigned to one of several roles in the simulation: primary nurse, auxiliary nurse, family member or observer.

During the simulation, two distinct states unfolded. The first, deemed highly familiar, required students to identify and address the patient who was experiencing shortness of breath. The second, which was relatively novel content, required students to identify and address the development of uncontrolled atrial fibrillation in the patient. Within each state, students were stopped and asked to complete the Decision Assessment Tool, which asked them to respond to the following questions: a) What are you noticing about the patient?, b) What do you think is going on with the patient?, and c) What action(s) should the nurse take at this point?. These questions respectively correspond with the cue acquisition, diagnosing and action phases of CDM. Then, students responded to two separate 10-point Likert scales from “not at all” to “completely” indicating agreement to each of the following questions: “My decision was based primarily on logical reasoning” and “My decision was based primarily on my gut feelings”.

To score students’ decision making performance, two doctorally-prepared, certified nurse educators reviewed students’ responses to each of the three CDM questions for each phase. The scorers determined each question to be correct or incorrect based upon a rubric developed by the research team. The two scorers exhibited high inter-rater reliability so their two sets of scores were averaged together. We then conducted a series of correlations to evaluate whether decision making accuracy varied with students’ reported reliance on intuition and analysis, as determined by their responses on the two Likert scales of “gut feelings” and “logical reasoning”, respectively.

A key goal of the present study was to examine whether reported reliance on intuition, or analysis, was associated with one’s decision making accuracy. On the familiar situation, those reporting higher reliance on intuition exhibited stronger CDM performance. In contrast, within the novel situation, those reporting greater reliance on intuition exhibited either comparable or weaker performance relative to other students. These empirical data indicate that even among novice nurses, sufficient familiarity and experience exists to support effective use of intuition during CDM; this is consistent with concept analyses asserting that nursing intuition depends upon extensive prior experience with a situation (e.g. Greene, 2012; Robert, Tilley & Petersen, 2014). It should be noted, that the familiar situation (shortness of breath) required students to integration a complex set of cues from multiple sources in order to begin the CDM process. This is consistent with previous, qualitative, research suggesting that when a situation demands integration of a complex set of cues, nurses are more likely to use intuition (Dowding et al., 2009).

Notably, the benefit of intuition within the familiar situation emerged only for those students who were most highly engaged in patient care, namely those in the nurse roles; among those in the observer or family member roles, reliance on intuition was either unrelated or associated with lower accuracy. Whereas those engaged in patient care experience greater pressure and distraction, those in observer and family roles have ample time and cognitive resources to reflect on the situation since they are not actively engaging with the patient and his unfolding challenges. On the novel situation, the negative association of intuition with accuracy emerged only for the observers; no association emerged for those in other roles. Taken together, these data indicate that within a familiar situation, intuition can enhance
decision making, particularly for those directly engaged with patient care, but can disrupt decision making for those who are occupying more passive roles in the simulation.

The potential benefit of intuition appears to vary with the type of decision at hand. Clinical decision making involves multiple components; here we examined students’ ability to identify relevant cues, ability to generate accurate diagnosis(ses), and ability to identify appropriate course(s) of action. On the familiar situation, performance with the initial component of cue acquisition was higher for those reporting higher reliance on intuition, demonstrating that the more diffuse, holistic nature of intuition is helpful when gathering relevant cues in a complex situation. The other CDM phases, diagnosis and action, were not associated with reliance of intuition within the ambiguous situation. During the novel situation, by contrast, those reporting greater reliance on intuition exhibited weaker performance on the cue acquisition and diagnosis phases of CDM; intuition was not associated with action decisions.

These findings emphasize the value of intuition for certain types of clinical decision making, even among pre-licensure nursing students. Although Benner (1984) asserted that intuition is a mark of expertise, our findings indicate students make effective use of the process, particularly when a situation is familiar. Educators are encouraged to address the value of intuition in familiar clinical situations, recognizing that a student who reports relying “on her gut instinct” may indeed be using a valid and reliable way of knowing and not simply guessing. Our findings emphasize, however, that intuition may be detrimental when students solely observe a clinical scenario. When a student is directly involved with patient care and under considerable cognitive pressure, intuition can be advantageous. These variations indicate that a student’s reasoning experience during clinical decision making will qualitatively differ depending upon the nature of their role in clinical simulation; educators must be mindful of these differences when engaging the students during debriefing. Further, students should be provided experience with both passive and active roles during simulation. Finally, we were able to gather ample information regarding the students’ reasoning by having them record their thoughts during the simulation and recommend that educators incorporate this process into the simulation experience. This provided students the time to reflect on their own reasoning and gave educators a “real-time” window into the students’ thinking.