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# Letter to the Editor

## SITUATIONAL AWARENESS IN NURSING

I was pleasantly surprised to discover the article titled, "Understanding Situation Awareness in Nursing Work: A Hybrid Concept Analysis"<sup>1</sup> in the most recent issue of *Advances in Nursing Science*. First, I would like to commend the authors for introducing the concept of situational awareness (SA) to the nursing literature. The authors accurately describe that SA remains largely unexplored in nursing despite the potential impact on safety demonstrated in high reliability organizations.

Despite the relevance of this article, there are 3 major theoretical concerns. First, the authors used a hybrid concept analysis causing some concern in regards to the retrospective assessment of SA. Second, the authors make a strong case for Benner's novice-to-expert model,<sup>2</sup> avoiding concerns of automatic decision making and complacency. And, finally, team SA is not addressed.

The authors suggest that hybrid concept analysis allows for inclusion of the nurse's perspective. Having recently completed a concept analysis (unpublished) on SA using Walker and Avant's method,<sup>3</sup> in addition to studying decision theory, I question the theoretical aspect of retrospectively interviewing nurses using the questions presented in the article. As the authors acknowledge, the most common definition of SA is Endsley's "... the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning, and the projection of their status in the near future."<sup>4</sup>(p36) The perception of elements within a volume of space and time presents challenges for assessing SA retrospectively. Humans tend to validate their decisions after they are made, thereby clouding the actual awareness of the situation within a volume of space and time. Knowledge of the outcome can influence judgment of the situation.<sup>5</sup> Retrospectively assessing the level of SA within a volume of space and time may be impossible.

Second, the authors heavily rely on Benner's novice-to-expert model<sup>2</sup>; however, a 1997 study on SA and air traffic controllers<sup>6</sup> suggests that personal factors, including experience, have virtually no variance on awareness and error severity. The more recently the controller was (re)certified, however, the less severe the error.<sup>6</sup> Similar to Benner's model, decision management theory suggests the progression of analytic to automatic decision making. Eventually, decisions become automatic, effortless, and uncontrollable.<sup>7</sup> To illustrate this concept in nursing, the first time a nurse cares for a patient with slightly elevated vital signs, the process may be painfully analytic. Educational background, or a mentor, may suggest decision rules that are gradually memorized. Eventually those rules became automatized to the point where later the nurse may not perceive subtle changes in the patient's condition. Concerns about automatic decision making are mainly confined to decisions where things happen fast; automatic behaviors are not necessarily good. In addition, expertise and experience are not equivalent. A nurse of 4 years may be better apt to recall on an experience that occurred last week than a nurse of 40 years who has never been involved with such an experience. Knowledge and experience likely affects perception, comprehension, and projection (SA); however, it may not run parallel to Benner's novice-to-expert model.

Finally, the authors make a recommendation to develop methods aimed at accelerating the novice-to-expert trajectory. Although this may be an important phenomenon for many reasons, one should consider the concept of team SA. If, perhaps, some nurses are better capable of achieving level 1 SA (perception) and others are more likely to complete levels 2 and 3 SA (comprehension and projection), recommendations should be focused on team SA. It may be unrealistic, and perhaps undesirable when speaking about SA, for all nurses to be "experts." When considering interventions, it is certainly beneficial to consider SA as an interwoven concept where team members collect, synthesize, and disseminate information to create an understanding of the current situation.<sup>8</sup>

I could not agree more that future research is needed to understand the application of SA in nursing practice and its impact on patient

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outcomes; however, the methods of research must be carefully considered. Failure to maintain SA presents threats to patient safety; therefore, SA needs to be examined within a theoretical context, studied systematically, and openly recognized as a universal factor in patient safety.

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