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Featured Article

Music for Anxiety Reduction and Performance Enhancement in Nursing Simulation

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KEYWORDS

anxiety;
music;
performance;
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Abstract

Background: Performance anxiety related to nursing simulation can potentially impede student learning.

Method: This study employed a randomized control group pretest–posttest design to examine the effect of music listening on anxiety, self-efficacy, and performance among baccalaureate nursing students undergoing simulation testing ($N = 38$; $M_{age} = 23.05$, standard deviation = 3.41).

Results: Heart rate, mean arterial pressure, and state-trait anxiety scores were significantly lower in the experimental group, $F(3, 35) = 6.55$, $p = .02$, $\eta^2 = 0.27$, whereas instructor performance ratings were significantly higher than the control condition ($p = .009$). No differences were seen on self-efficacy scores ($p = .37$).

Conclusions: The intervention has the potential to reduce anxiety, improve performance, and facilitate learning in simulation testing experiences.

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Simulation in nursing education has become increasingly important as an effective pedagogical methodology. Nurse educators continue to face challenges such as competition for clinical sites, faculty shortages, limiting faculty to student ratios, and opportunities to provide enriching clinical experiences. As such, simulation has served to bridge the gap between theory and clinical practice by providing students with the opportunity to perform nursing care in a safe, customizable, and realistic clinical

environment. This increased use of simulation has brought new challenges to the forefront of nursing education. One challenge commonly reported by students is the high degree of anxiety experienced while performing a nursing simulation (Gibbons, Dempster, & Moutray, 2008; Prato & Yucha, 2013).

Performance anxiety related to nursing simulation can produce negative results by inhibiting student learning (Nielsen & Harder, 2013). Somatic symptoms such as increased heart rate, increased blood pressure, sweating, tremors, increased respiratory rate, and dizziness are common responses that can serve as barriers to student learning. Many

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students report the inability to focus cognition during simulations as a result of increased levels of anxiety. Performing during graded simulation experiences and faculty monitoring are cited as common sources of student anxiety. Students often express that they would likely perform better during simulation if they were not under observation during the experience (Horsley & Wambach, 2015).

Key Points

- Listening to relaxing music reduced mean arterial pressure, heart rate, and state anxiety.
- Reducing anxiety was associated with an increase in successful performances for students undergoing simulation testing.
- Findings from this research provide support for music as a viable intervention for reducing anxiety and improving performance for nursing students.

In addition to practical considerations and information gleaned from student feedback, this study was framed and drew primarily on the theoretical framework of Social Cognitive Theory by Bandura (1986, 1997). In this framework, learning is examined through the interaction of individual factors such as motivation and self-confidence, behaviors that include the process of caring for a patient, and the context in which experiences occur (e.g., providing patient care in a simulated experience or actual patient care).

This investigation draws on this theoretical perspective to examine the interaction of anxiety, self-efficacy, and performance within the context of simulated clinical experiences for undergraduate nursing students. The use of music as a therapeutic medium in health care is well known. Music listening has been used to reduce pain, calm symptoms associated with chronic disease, and provide comfort at end of life (Lai et al., 2008). In a systematic review of 24 randomized control trials on the effects of music on anxiety, 12 found music to be effective in reducing self-reported anxiety scores (Nilsson, 2008). Six of the 22 studies that assessed vital signs demonstrated significant reductions in blood pressure and heart rate. Although examined within patient populations, there is limited use of music for anxiety reduction and performance enhancement within the context of simulation in nursing education. This study examined the effect of music listening on anxiety, self-efficacy, and performance in this population.

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Literature Review

Anxiety in Nursing Education

Nursing students experience stress and anxiety as a result of demands placed on them during nursing school (Prato & Yucha, 2013). Requirements such as time spent in class,

coursework, time in the clinical setting, acquisition of new skills, and simulations take up a considerable amount of students' time. Simulation has been used by faculty to evaluate students' clinical and decision-making skills. These evaluation situations can create anxiety on the part of students.

Simulation in nursing education is a commonly used teaching modality. Simulation entails use of clinical scenarios conducted in a controlled environment where student experiences can be closely monitored. Students are able to make mistakes without causing harm and operate independently in a safe environment (Shepherd, McCunnis, & Brown, 2010; Gore, Hunt, Parker, & Raines, 2011). Simulation use has grown in part because of a lack of clinical sites for student learning and as a method of increasing the quality of experiences (Casida & Shpakoff, 2012; Horsley & Wambach, 2015).

Faculty observe simulations and follow with a formal debriefing process once the scenario is complete. Many students verbalize being uncomfortable with the fact that they are being watched and evaluated by faculty (Beischel, 2013; Bremner, Aduddell, Bennett, & VanGeest, 2006; Nielsen & Harder, 2013). Beischel (2013) reported that students expressed debilitating levels of anxiety during simulation experiences. Although moderate levels of anxiety can help to facilitate performance, oftentimes too much anxiety can generate devastating effects that limit performance (Lai et al., 2008). The anxiety experienced by nursing students performing simulations may negatively influence overall performance and affect the student's ability to complete a task properly (Moscaritolo, 2009).

Lai et al. (2008) found that music listening resulted in significant reductions in self-reported anxiety levels by nursing students. The recommendations for music interventions included nonlyrical, slow, and flowing music at approximately 60-80 beats per minute and a minimum duration of 30 minutes in length (Nilsson, 2008). Students were asked about their music preferences and music was tailored to reduce anxiety (Lai et al., 2008). Because music tastes vary significantly, self-selection of music to calm anxiety may be helpful.

Theoretical Framework

Bandura's Social Cognitive Theory was used to frame the investigation. Within the framework, Bandura postulates that self-efficacy is the primary determinant for performance. Self-efficacy is defined as one's beliefs in his or her ability to organize and execute the courses of action required to manage prospective situations (Bandura, 1997). Bandura contends that self-efficacy beliefs are formed through four primary sources: (a) enactive mastery experiences, (b) vicarious experiences, (c) verbal persuasion, and (d) physiological or affective state.

Enactive mastery refers to experiences that an individual has had in the same or similar circumstance

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