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DOCTORAL DISSERTATION DEFENSE

Of

Matthew Mills

For the Degree of

Doctor of Education

Interprofessional Leadership,

Educational Technology

THE EFFECT OF DEBRIEFING AFTER LOW FIDELITY SIMULATION
ON THE SELF-EFFICACY AND ANXIETY OF ATHLETIC TRAINING
STUDENTS

January 19, 2024

9:00 AM

[Virtual \(Microsoft Teams\)](#)

M.A. Exercise and Sports Science, Athletic Training
University of North Carolina at Chapel Hill, 2013

B.S, Athletic Training/Sports Medicine
Quinnipiac University, 2011

Matthew (Matt) Mills is an athletic training educator at Springfield College. He has been a certified athletic trainer for twelve years. He has practiced clinically at the University of North Carolina at Chapel Hill and Stanford University, where he primarily worked with the Men's Gymnastics and Women's Rowing programs. He subsequently joined a neurotechnology start-up company focused on the assessment of traumatic head injuries. He then worked as a faculty member in the athletic training program at Quinnipiac University, where he taught primarily in the areas of orthopedic assessment and rehabilitation. His current teaching responsibilities at Springfield College include musculoskeletal assessment, diagnosis, and treatment, and he serves as the program's simulation and fieldwork coordinator. His clinical expertise is in the head, neck, and spine, but he is particularly interested in using technological solutions to improve student learning and patient outcomes.

Matt plans to continue his current research agenda on maximizing the effectiveness of simulation in athletic training education, particularly in a budget-constrained environment. He has authored a textbook chapter, a journal article, and given numerous presentations on the optimal utilization of simulation in education, focusing on deliberate evidence-based implementation. He currently serves on committees for the National Athletic Trainers' Association, Eastern Athletic Trainers' Association, National Athletic Trainers' Association Research and Education Foundation, and the Commission on Accreditation of Athletic Training Education.

ABSTRACT

Simulations have been increasingly used in athletic training education to supplement clinical experience. There is an abundance of evidence on the benefits of high-fidelity simulation (HFS) with debriefing, but HFS is costly and time-intensive to administer. Low-fidelity simulation (LFS) has been proposed as an alternative that is easier to scale and more cost-effective; however, the evidence surrounding its impact on students is mixed, possibly because debriefing is frequently omitted in LFS. As such, this study aimed to examine the effect of debriefing after low-fidelity simulation on the anxiety and self-efficacy of athletic training students.

An experimental mixed methods cross-over control study found a significant difference in the self-efficacy of athletic training students who received a structured debriefing session compared to those who did not, as well as a significant inverse relationship between state anxiety and generalized self-efficacy at baseline. Participants also reported that simulation design, previous experiences, and existing frameworks all played a role in their simulation experience.

These findings may influence how athletic training educators choose to implement LFS activities in their classrooms to maximize the gains in self-efficacy and inform educators of the importance of self-efficacy in the management of anxiety in athletic training students during learning activities. Future research should examine the effectiveness of various debriefing techniques, including asynchronous and virtual methods, to maintain the benefits of LFS.