**Short Communication**

**Fifty Years of Findings from the Jefferson Longitudinal Study of Medical Education Offers Big Ideas for Nursing Educators**

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**Practice Points**

\* Providing appropriate support on a continuous basis early-on to enhance student performance in a nursing curriculum.

\* Medical and nursing schools are socially accountable to select qualified applicants with the best potential to become caring physicians and nurses, utilizing techniques such as empathy training.

\* Higher scoring students in both medicine and nursing tend to pick fields such as intensive care or internal medicine.

\* The role of mindfulness-based stress reduction interventions to significantly reduce psychological distress in healthcare students.

\* Collaborative education for medical and nursing students to promote positive attitudes towards complementary roles of physicians and nurses.

**Keywords:** Burnout; Empathy; Interprofessional collaboration; Nursing education; Psychological distress

**Introduction**

Released this year, Fifty Years of Findings from the Jefferson Longitudinal Study of Medical Education (JLSMED), by authors Joseph Gonnella, Clara Callahan, Jon Veloski, Jennifer DeSantis and Mohammadreza Hojat documents the most comprehensive and uninterrupted longitudinal study of medical students and graduates maintained in a single medical school. In the foreword, Geoffrey Norman of McMaster University describes the work as an “IMAX theatre presentation of the journey from applicant to student to resident to physician” [1]. In this book, one can find 204 publications over the last fifty years, most written by the founder of the Jefferson Scale of Empathy (JSE), Dr. Mohammadreza Hojat. The lessons learned from this book are invaluable and can be applied to many other professions in addition to medical education, particularly nursing. Following medical students from the time of matriculation through their active professional careers is a notion that offers important considerations for the nursing profession. What leads nurses to their designated areas of interest? Are there certain personality traits that contribute to this? Does nursing education incorporate enough tutelage in the non-traditional areas, such as empathy and professionalism? Are there certain predictors of student outcomes that can help educators forecast which students will need extra support? All of these questions are answered in this book, which provides both unique and creative approaches to study questions, research designs, and analyses.

In Benner, et al.’s [2] book Educating Nurses, she emphasizes the importance of moral imagination and nurses needing empathy with difficult conversations. These topics were also studied multiple times in the longitudinal study of medical education by Gonnella, et al. [1]. What is learned in medical education can be applied in almost all aspects of nursing education. According to Gonnella, et al. [2], medical schools have a social responsibility and ethical obligation to monitor the quality of their educational programs, to assess their educational outcomes, and to ensure that their educational goals have been achieved for the purpose of public safety. This insight could not be truer of nursing education as well. Nursing schools have the same ethical obligation and social responsibility to produce quality nurses for the sake of the community.

As noted by the authors, over time the medical school curriculum was altered based upon student performance on standardized tests and examinations. The categories in the longitudinal database were: data before education at Jefferson University (i.e., demographics), data during education at Jefferson, and data after graduation from Jefferson. Nursing schools could benefit from tracking students based on demographics, data during education such as test scores and standardized test scores (i.e., ATI), and finally after NCLEX. One included study found that scores on the SATs, which were taken in high school, were significantly associated with performance measures in medical school. Findings showed that there are specific categories that certain demographics of students struggle with consistently. It was concluded that providing appropriate support on a continuous basis early-on could enhance student performance [1].

Three scales also were developed as offshoots of the JLSMED: JSE, Jefferson Scale of Physician-Nurse Collaboration and Jefferson Scale of Physician Lifelong Learning. The JSE has since been adapted for other healthcare professions and utilized broadly, especially in nursing. One included study found significant associations between scores on the JSE and measures of clinical competence and patient outcomes. Medical schools are “socially accountable to select qualified applicants with the best potential to become caring physicians, not just those who can successfully pass examinations of recalling factual knowledge” [1]. Furthermore, this book analyzed cognitive factors, such as knowledge and skills, and non-cognitive factors, such as interpersonal skills, attitudes and personal qualities. These qualities contribute to a physician’s competence, but schools tend to focus on the cognitive factors more than the non-cognitive. The researchers looked at National Board Examination scores of medical students and correlated them with cognitive factors and non-cognitive factors. They found that non-cognitive factors, such as empathy, yielded a much higher correlation with better scores on the exam than the cognitive factors [1]. Baccalaureate nursing programs should consider empathy education and training as well, since nurses also strive to become compassionate caretakers and not just machines recalling factual information.

The collection also included many studies on what area of medicine physicians chose and why, looking at grades and if there was any correlation. Findings showed a great correlation; for instance, internal medicine was popular among the highest scoring students, and radiology the lowest. Similar implications could be inferred for nursing students as well. Benner, et al. [1], noted that nurses with higher GPAs tend to choose intensive care units or emergency departments to work in. However, is this still actually true? Furthermore, why is that? Healthcare workers are really needed in ambulatory care settings but institutions consistently stress inpatient care settings. Many baccalaureate nursing institutions also offer incentives for nursing students who want to go back for a graduate degree right after obtaining a BSN. This often makes the students feel as if bedside nursing is “not enough” [2]. Another study in this treasure trove suggests that in order to increase the number of graduates in a specialty, such as primary care, the school should offer primary care elective courses to increase interest and awareness. Nursing could implement this with outpatient practices, rehabilitation and home health settings more than is already done [1].

Another topic discussed at length in the JLSMED is psychological distress and burnout. It is important to note that these studies were all completed before the Covid-19 pandemic. Psychological distress and burnout in healthcare providers has since reached an all-time high. Going through nursing school and medical school during the pandemic in particular has posed great challenges. Mindfulness-based stress reduction interventions have significantly reduced psychological distress in students [1]. Another study found that persistent imposter syndrome is associated with distress in medical students. Imposter syndrome is associated with lower self-compassion, sociability, and self-esteem in students. These affect clinical practice, so incorporating mindfulness-based stress reduction measures would be beneficial to any student in the medical field [1].

A hallmark study in the JLSMED is Hojat, et al. [3], “The Devil is in the Third Year: A Longitudinal Study of Erosion of Empathy in Medical School.” This study found a significant decline in empathy scores as medical students entered year three of school and continued to decline until graduation. This is when the curriculum is shifting toward patient care activities, when empathy is most essential. Future research in nursing should focus on this phenomenon. Does nursing empathy decline once students start clinical and are immersed in patient care? This would be detrimental to the profession and methods to prevent this should be a main focus in programs. In some of the included empathy studies, ways to prevent this decline included volunteering and service-learning with student-run free clinics, empathy training with simulation, meaningful feedback from peers in videotaped interactions, and online training modules. One of the biggest barriers was sustainability; training must be ongoing in order to be effective. Empathy in patient care “must be considered as an important component of a physician’s overall competence and is a significant factor in optimal patient outcomes” [1]. The same can certainly be said for nursing.

The final noteworthy concept covered in this book that also greatly relates to nursing is interprofessional collaboration. One of the scales developed as an offshoot of the longitudinal study is for physician-nurse collaboration. This scale measures perceptions of responsibility, expectations, shared learning, decision-making, authority and autonomy. Interprofessional collaboration between physicians and nurses will “help contain costs and ensure better patient outcomes. Collaborative education for medical and nursing students is needed to promote positive attitudes towards complementary roles of physicians and nurses” [1]. This innovative concept should be explored in greater depth. An interdisciplinary simulation with students from medical, nursing, respiratory therapy, and physical therapy could drastically improve healthcare education. The coordination would take some time and creativity; however, the benefits of interprofessional collaboration--including having an early appreciation and understanding of each other’s roles--could be monumental in a nursing curriculum.

Fifty Years of Findings from the Jefferson Longitudinal Study of Medical Education has strong implications for nursing and nursing education. This book looks deeper into the decision of which area healthcare providers chose to work in and which factors, such as grades or personality traits, influence the decision. This information could guide healthcare education to heavily incorporate more non-traditional settings, such as ambulatory care or rehabilitation. The JLSMED utilized standardized tests and examination scores to predict which students would excel and which ones would struggle, then stressing the importance of early intervention. The curriculum was then modified to fit the needs of the students and give them optimal chances to succeed. The multiple studies documenting empathy decline once students start interacting with patients are fundamental to the healthcare field and their findings show the effects of that decline on clinical competence and patient outcomes. The high incidence of psychological distress and burnout in students can be mitigated through mindfulness-based stress reduction interventions and alleviation of imposter syndrome. Incorporating empathy training, volunteerism and interprofessional collaboration early in the nursing curriculum would produce optimal outcomes as well. The findings from Gonnella et al. [1] longitudinal study of medical education offer countless insights for planning greater student outcomes in nursing education today.

**References**

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