# Education

# 'Hope'ing to Become a Pharmacist: Exploring Hope in First Year Pharmacy Students

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**ABSTRACT**

**Introduction**: Colloquially, 'hope' may be associated with optimism or positive thinking. 'Hope' in the academic setting describes the ability to identify and set goals (agency), and the ability to identify multiple pathways to achieve goals (pathways). High hope has been linked to academic success, improved workplace outcomes, and increased life satisfaction. Hope has been shown to be a modifiable trait. There is a need to understand and measure hope in pharmacy students as a potential intervention to improve student outcomes and experiences.

**Objective**: The objectives of this study were to introduce the concept of hope theory in an academic pharmacy setting and to describe hope scores in first year pharmacy students.

**Methods**: This exploratory cross-sectional study was completed at a public Midwestern college in the spring of 2017. During a required career and professional foundations course, students (N=166) took the modified adult hope scale via Qualtrics (Qualtrics Labs Inc., Provo, UT). The scale consists of 4 items measuring agency and 4 items measuring pathways. Students rank each item from 1-8 (1= definitely false, 8=definitely true).

**Results**: The response rate was 99%. The total average hope score was 52.5 (range 30-64, standard deviation 5.87) out of 64 points. The average pathways score was 25.9 (range 16-32, standard deviation 3.18) out of 32 points. The average agency score was 26.6 (range 14-32, standard deviation 3.39) out of 32 points.

**Discussion**: On average, students demonstrated relatively high hope. As an exploratory study, it cannot be determined these scores are specific to this cohort or representative of students broadly. Some students scored much lower than average. These students may benefit from targeted interventions.

**Implications**: As colleges continue to face challenges of licensure pass rates and concerns of student mental-health and wellbeing, hope may be one modifiable way to measure, monitor, and impact student success.

# Impact of Simulations on Health Professional Students' Empathy: A Systematic Review

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**ABSTRACT**

**Introduction**: Empathy is an important attribute of health professionals in the delivery of patient care. The American Association of Colleges of Pharmacy (AACP) cites empathy as an important communication skill for pharmacy graduates to possess. One strategy to facilitate the development of empathy is through the use of simulation activities.

**Objective**: The objective of this study is to assess the use and impact of simulation activities on health professional students' empathy.

**Methods**: A systematic review was conducted utilizing the following databases: PubMed Medline, CINHAL, PsycInfo, and ERIC. A search strategy was developed using the main terms of "simulation" and "empathy" and "health occupations students." All articles retrieved through March 2018 were assessed for inclusion. Articles were included if published in English with either quantitative or qualitative study results. Articles were excluded if they did not align with the objective, were review articles, or full text could not be located. All citations were screened for inclusion by two reviewers. Discrepancies were resolved by a third reviewer. The exclusion of manuscripts was documented.

**Results**: One hundred thirty-one citations were identified through the database searches. Sixty-nine citations were selected for full-text review. Information collected for included articles: study design, population size, healthcare discipline, simulation description, measurement tool, and findings.

**Discussion/Conclusions**: Preliminary analysis revealed the majority of articles involved medical, nursing, and pharmacy students. The most prevalent types of simulations involved either student role-plays or standardized patient scenarios. Other common themes included geriatric and poverty simulations. Both qualitative and quantitative methods were used to assess the development of empathy. The most frequently cited quantitative survey methods were the Jefferson Scale of Empathy, Kiersma-Chen Empathy Scale, as well as Global Ratings of Empathy.

**Implications**: The results of this study may assist in developing teaching strategies to enhance the development of empathy in health professional students.

**Key Words**: simulation, empathy, health professional students

# Effect of Incorporating a Cultural Awareness Digital Badge on Pharmacy Students' Cultural Empathy

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**ABSTRACT**

**Introduction**: In response to predictions of increasing diversity in the United States[1] and the Joint Commission's call for improved cultural competence among health care providers[2] many pharmacy schools have incorporated learning outcomes regarding cultural competence, awareness, and empathy[3,4]. This study will focus on the use of an online digital badging tool as a mechanism to encourage students to complete activities or reflect on specified topics related to culture.

**Objectives**: The purpose of this study is to assess the impact of earning a digital badge on pharmacy students' cultural attitudes and empathy.

**Methods**: First-year pharmacy students (N=150) enrolled in an introductory pharmacy practice course had the opportunity to earn a digital badge as they engaged in topics and activities regarding culture. Cultural activities include: cultural self-awareness, cultural awareness and healthcare, complementary and alternative medicine, culture of addiction, culture of mental illness, attendance at a cultural event, and participation in a book club. To earn the digital badge, students completed one required activity and four (of seven) activities of their selection. Pre- and post-surveys adapted from the Kiersma-Chen Empathy Scale and the Intercultural Attitudes, Skills and Knowledge Scale (IASK) were administered to all students in the course at the beginning and end of the semester, respectively. Change in attitudes will be compared between the control group (those who did not earn a digital badge) and the experimental group (those who earned a digital badge).

**Results**: The preliminary analysis is being conducted at this time.

**Key Words**: cultural awareness, pharmacy students, empathy, digital badge

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# Evaluating the Long-term Benefits of Pharmacy Professionals' Engagement in International/Global Health Programs

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**ABSTRACT**

**Introduction:** Global health is an area of study within the health sciences and beyond that has grown dramatically in the past decade. Many students and trainees in various health professions are increasingly engaged in global health initiatives as it provides a valuable educational and personal experience. Participants in health professions outside of pharmacy have been shown to have (1) increased cultural sensitivity (2) a higher interest in voluntarism/public health response (3) be more likely to take career opportunities in underserved communities or multicultural settings, and (4) tend to develop more effective communications for interdisciplinary collaboration.

**Goals and Objective:** The objective of this study is to document the extent of the 4 benefits described above in pharmacists who had participated in the various global health initiatives available to them as students. The goal of this study is to outline similarities or differences between pharmacy professionals and what has been reported for other health professionals in outcomes of engaging in global health opportunities. This will also highlight if pharmacy involvement in global health programs requires a more tailored structure for the participants to have these life-long benefits.

**Proposed Method:** An online survey will be sent to current pharmacists who had participated in any of the experiential/elective course/service learning international/global health experiences available within the University of Minnesota College of Pharmacy during their time as students. Respondents will receive a set of questions aimed at understanding their experience with the program and any other self-reported long-term benefits believed to be a result of their involvement. Other information including past and current employers, locations of past and current practice, extent of continued volunteerism, and extent of interdisciplinary communication in past and current work site will also be collected. Analysis will involve comparison to existing literature from other health professionals or to a matched cohort.

# Faculty Perceptions of a Tobacco Cessation Train-the-Trainer Program: A Qualitative Follow-up Study

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**ABSTRACT**

**Introduction:** Between 2003-2005, pharmacy faculty members (n=191; representing 89 of 91 schools) participated in a national train-the-trainer program to disseminate a shared tobacco cessation curriculum to pharmacy schools across the United States. Nearly 15 years later, an estimated 74.5% of 143 schools use the Rx for Change content to teach tobacco cessation to pharmacy students.

**Objectives:** To characterize faculty perceptions of the program and experiences with curricular implementation of tobacco cessation content over the past 15 years.

**Methods:** A subset of faculty members who participated in the train-the-trainer workshop were selected randomly or via snowball sampling to participate in a semi-structured telephone interview. Qualitative data were analyzed thematically in five iterative steps: data immersion, coding, categorizing, identifying themes, and identifying subthemes.

**Results:** Of 29 faculty members invited, 18 (62%) participated. Eight themes emerged to characterize perceptions about the program: (1) it provided many tools that assisted with teaching, (2) faculty gained knowledge, confidence for teaching tobacco cessation, and new clinical skills, (3) colleague support, institutional flexibility, and lack of competing curricular priorities were important facilitators for implementation, (4) different methods of delivery allowed freedom to implement content, (5) materials helped faculty assist patients at practice sites, (6) students' confidence for counseling patients was increased, (7) it expanded networks of faculty colleagues, and (8) it provided new expertise for research activities.

**Conclusion:** Participation in the train-the-trainer workshop was perceived by faculty to have increased their confidence for teaching tobacco cessation and provided ongoing access to useful tools for teaching. The newly acquired skills were deemed to be helpful for treating tobacco use and dependence in clinical practice.

**Implications:** Results can inform future trainers of educators to understand faculty experiences with implementing a training program and to inform faculty participants of potential long-term outcomes as a result of the training.

**Key words:** smoking cessation, tobacco education, curriculum implementation, qualitative research, pharmacy education

# Predictors of Academic Performance in Pharmacy School Based on Pre-Admission Characteristics

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**ABSTRACT**

**Introduction**: Pre-admission factors may predict student performance in the PharmD program. The objective of this study was to assess predictors of placement on academic probation and first-time pass on NAPLEX and MPJE exams.

**Methods**: Pre-admission characteristics were collected for University of Minnesota PharmD classes of 2012-2022. Data were collected during the admission process and retrospectively after students completed the PharmD program (2012-2017). Pre-admission data included demographics, previous degree, GPA, grades in science courses, PCAT, and application/interviewer scoring. Student performance measures for the classes of 2012-2022 were placement on academic probation, repeated courses or years in curriculum, withdrawal or removal from the program, pharmacy GPA, and first-time pass rates for the NAPLEX and MPJE exams (2012-2017). Descriptive statistics and multivariate nominal logistic regression models were utilized.

**Results**: A total of 1642 admitted students were included in the analysis. Placement on academic probation significantly correlated with older age ($p<0.0001$); highest education completed (no degree or Associate's degree vs Bachelor's degree or greater, $p=0.031$); and lower PCAT scores on chemistry ($p=0.002$) and quantitative ($p=0.010$) sections. The univariate assessment of first-time pass of NAPLEX shows significant correlation with younger age, female gender, U.S. citizenship status, and higher PCAT scores for composite, biology, and reading. Finally, adjusted multivariate logistic regression showed statistically significant correlation of the first-time pass of NAPLEX with higher PCAT composite scores, science pre-pharmacy GPA, and younger ages.

**Conclusion**: These findings will inform the future procedures and criteria used by the College of Pharmacy to select students for admission to the Doctor of Pharmacy program and to help identify students in need of academic support early in the program.

**Keywords:** Admissions, Academic success, student characteristics

**Abbreviations:** GPA=Grade Point Average, PCAT=Pharmacy College Admission Test, NAPLEX=Northern American Pharmacist Licensure Examination**,** MJPE=Multistate Pharmacy Jurisprudence Examination