



# Physician Suicide: A Correlational Study of Depression and Undergraduate Major

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## Introduction

Between 300 and 400 deaths occur annually via suicide within the physician population. This means that physicians are between 1.4-2.27 times as likely to take their own life when compared to the population at whole.

Aside from this being a tragedy for those involved, there is a larger social issue that ensues. The following are reasons we should care:

- Amount of Training to become a Physician
  - 4-5 years of undergrad
  - 4-5 years of graduate school
  - 3-7 years of residency (depending on specialty)
- Cost of Medical School
  - \$39,914/year (public)
  - \$72,436/year (private)
- There will be an estimated shortage (between 61,700-94,700) of physicians in the U.S. by 2025.
- There are limited medical school and residency openings
- Access to medical care is already a growing concern

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## Research Question

It is thought that being a medical student or a doctor has the unfortunate occupational hazard of depression and suicide. Dr. Wible states: "Fact, we enter medical school with our mental health better than or on par with our peers. Suicide is an occupational hazard of our profession" (Ted, 2015).

Does everyone that enters medical school really have superb mental health? Have we been overlooking the mental health status of undergraduates heading into medicine? This leads to the research question:

**Are there underlying personality traits or specific characteristics in the population that pursue careers in medicine that may make them more susceptible to depression and suicide?**

In other words, the population going into medicine may only be expected to have superior mental health, but this may not be the case. Even those practicing medicine may not seek help for fear of being stigmatized and losing their licenses to practice.

## Background and Literature Review

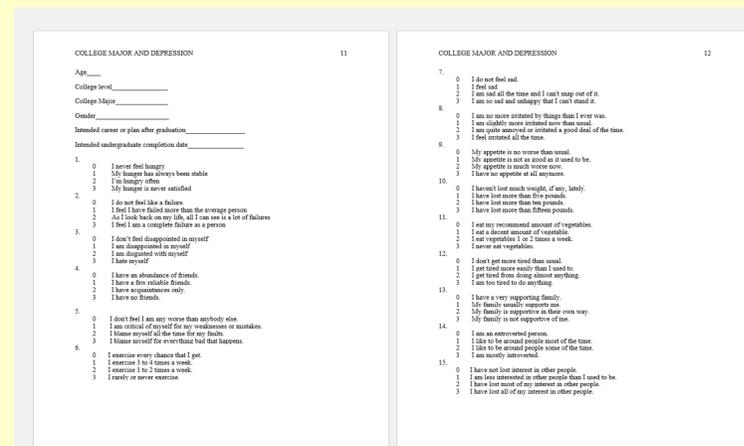
Many studies have been done involving suicide, suicide ideation, and depression amongst populations of college students and graduate students. Recently, attention has been drawn to the research showing that physicians and residents show high levels of depression that increases with connection to the duration of time an individual has been involved in medical training or practice. "A 2010 prospective cohort study of 740 interns across 13 US hospitals found that the incidence of depression increased from 3.96% to 27.1% in the first 3 months of their intern year and that interns' thoughts of death increased by 370%" (Goldman, Shah, & Bernstein, 2015).

Goldman, Shah, and Bernstein (2015) mention additional statistics found on the American Foundation for Suicide Prevention website. This website reports between 300 and 400 deaths annually via suicide within the physician population. This means that physicians are between 1.4-2.27 times as likely to take their own life when compared to the population at whole (2015). Most of the research done on physician suicide and depression focuses on medical students and beyond. When looking at research, it is shown that the system for medical training, added stressors, exposure to diseases, and flaws within the healthcare system are blamed for the occurrences of depression and suicide. Little to no research has been done at an undergraduate level to suggest that there is no correlation between the populations intending to go into medical careers and a possible predisposition to mental health issues.

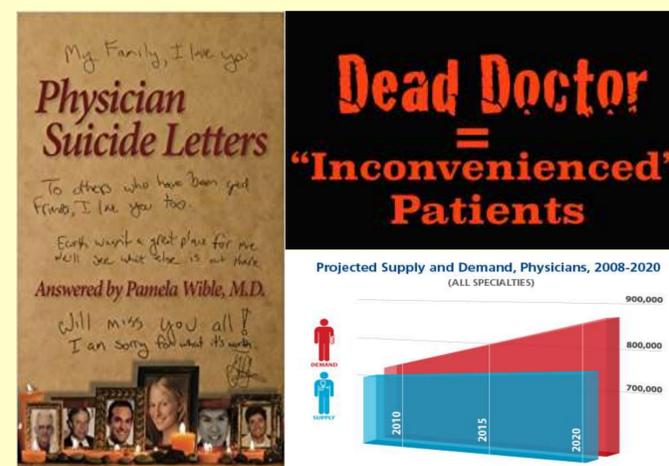
## Methods

In looking for a correlation between physician depression and a predisposition in the population planning on entering into the career of medicine, a sample of over 1000 college undergraduates would be analyzed using a questionnaire including the BDI amidst questions looking at factors such as undergraduate majors and intended career choice. An electronic questionnaire with 35 questions (see fig.1) intended for colleges across the United States that have a large population of undergraduate pre-medical students would be ideal.

Respondents would anonymously complete them and send them back electronically. The data would then be entered into a spreadsheet to look for a correlation between undergraduate majors and self-assessed depression using Spearman's Rho to look for a significant relationship between depression and undergraduate science majors. Science majors are defined as anyone in the physical (math, engineering, physics, chemistry, or a closely related field) and biological sciences. Depression is defined by a high rating on the BDI.



Sample questionnaire



## Expected Results

The expected results of the study are that there is a significant difference in reported rates of depression across different disciplines for undergraduates. The statistics will indicate that those seeking to go into medical careers have higher reported rates of depressive episodes or depressive issues. This could be because of increased stressors and academic rigor bestowed upon undergraduates seeking medicine as a career. More information and studies should be conducted as to why there is a significant difference between depression rates of pre-medical students and their counterparts.

## Significance

There are limited seats available in medical school, and even fewer residency positions. Keeping physicians healthy and a viable community resource is imperative. If the hypothesis of this study finds a correlation showing higher rates of depression in undergraduates pursuing medicine, preventive measures can be applied and coping mechanisms for high stress situations can be implemented earlier.

If there is no correlation found, this is further evidence that depression and suicide is a risk associated with medical training and medical careers. Further studies can then start to look at the underlying causes and risks. In either situation, it is important to destigmatize health professionals and pre-health professionals seeking mental health services. There is a fear of losing licenses and not being able to pursue medicine if someone feels the need to seek mental health services. This is a poisonous way of thinking, and is not helping the issue at hand.

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