Introduction

Due to the large number of courses, low overall retention, difficulty, and the abundance of intensive engineering projects lead to an unhealthy work-life balance and eventually lower levels of mental health for engineers.

This seems to highly correlate to the problem of students dropping out, specifically in the STEM field, where more than 60% of the dropouts occur in the first two years. [2]

While mental health and wellness issues can be seen across all majors, it seems to be more prominent in fields like engineering. Which have very different mixes of conditions and issues affecting their students.

References

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2. Chen, Y., Johri, A., & Rangwala, H. (2018, March 7-9). Running out of STEM: A Comparative Study across STEM Majors of College Students At-Risk of Dropping Out Early [PDF]. Sydney, NSW, Australia: LAK'18.
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4. Qin, H., Chen, M., & Wang, M. (2016, August 01). Mental Health Education of the Minority Engineering College Students. Retrieved January 26, 2021, from https://www.atlantis-press.com/proceedings/ichess-16/25857315

The Well-Being of Engineers.

VICTOR CHUNG

Dropout Mental Health Facts

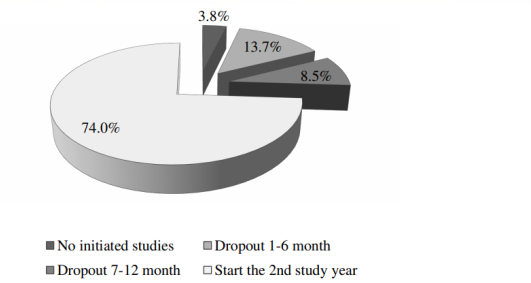

Fig. 1. **Proportion of censored (start 2nd study year) and uncensored (dropout) students during the study year (n = 952)**

The pie chart shown here shows the percentage of engineering students who drop out or continue in their first study year.
The data consist of 952 full-time students from 3 faculties of engineering science enrolled in the years 2012, 2013, and 2014 at the Latvia University of Agriculture. Based on the chart, we can see a staggering **26%** of students leave the university before starting their second study year. [3]

It has been reported by other studies that **fewer than 40%** of STEM students receive their degrees. This initial drop out of students in their first year may explain why. [2]

Another study by Huanchang Qin, Mengzhen Chen, and Meisuo Wang explains that mental health crisis phenomena generally occur in students when they are faced with academic pressure. This is also the primary reason which makes up for **33%** of university/college student suicides. [4]

The following is a study conducted by Dr. Andrew Danowitz and Dr. Kacey Beddoes on the well being and mental health of engineering students.
Based on a survey with over 900 respondents, the following information was graphed.

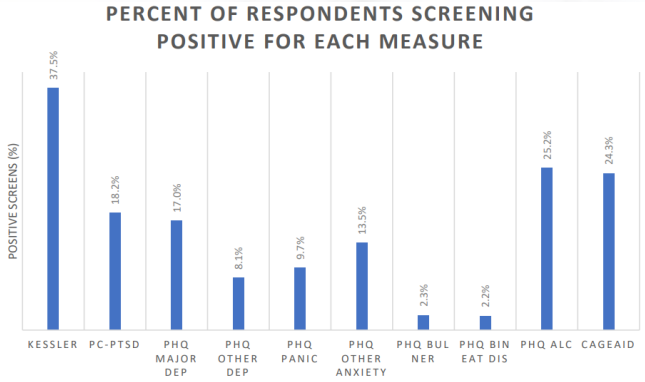

Figure 1.Percentage of respondents with a positive screen to each survey measure. Ns as follows. Kessler: 794, PC-PTSD: 704, PHQ Dep: 719, PHQ Panic: 724, PHQ Anxiety: 726, PHQ Bulimia Nervosa: 729, PHQ Binary Eating Disorder: 729, PHQ Alcohol: 727, CageAID: 675

The Kessler scale shows that roughly **38%** of students screen for high risk of Serious Mental Illness (SMI). This is huge compared to the reported 4% of the U.S. adult population estimated to suffer from an SMI. This is also more than double the estimated 17.9% of adults to suffer from **any** mental health condition (Center for Behavioral Health Statistics and Quality, 2016) [1]

Based on this information, it is clear to say that while compared to the general population, engineering students have a higher need for mental health services.

48% **of Bachelor**
69% **of Associate**

STEM Students

enrolled between 2003 - 2009 had left these fields by Spring 2009 [2]

Suicide is the second leading cause of death among post-secondary students [1]

According to Danowitz and Beddoes' study. Out of all the other engineering fields, computer engineering students are at the highest risk for serious mental illness as measured by the Kessler instrument [1]

Engineering students are about **two times** more likely to suffer from some form of anxiety, depression, and PTSD-like symptoms than the average post-secondary student [3]