

## Background

- Experiences in classrooms can lead to an increase of STEM motivation<sup>1,3</sup>
- Personal experiences can have a large influence on one's STEM motivation<sup>2</sup>
- Personal experiences with medicine can influence career choice<sup>4</sup>
- Chronic illnesses and medical experiences can potentially lead to more interruptions<sup>5,6,7</sup>

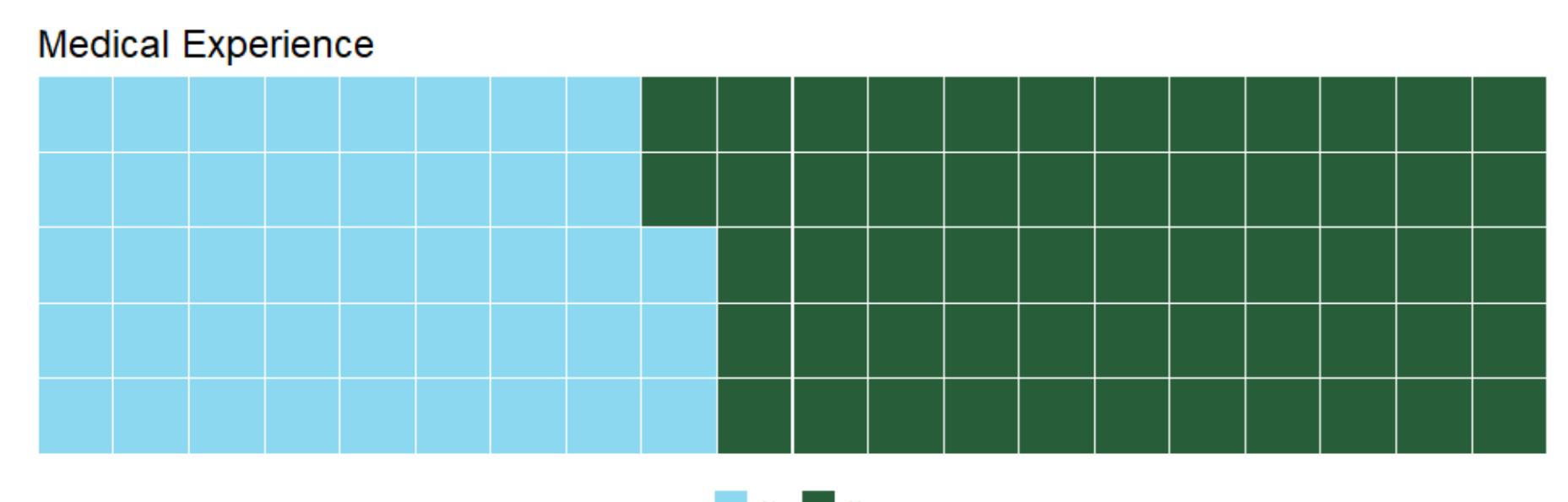
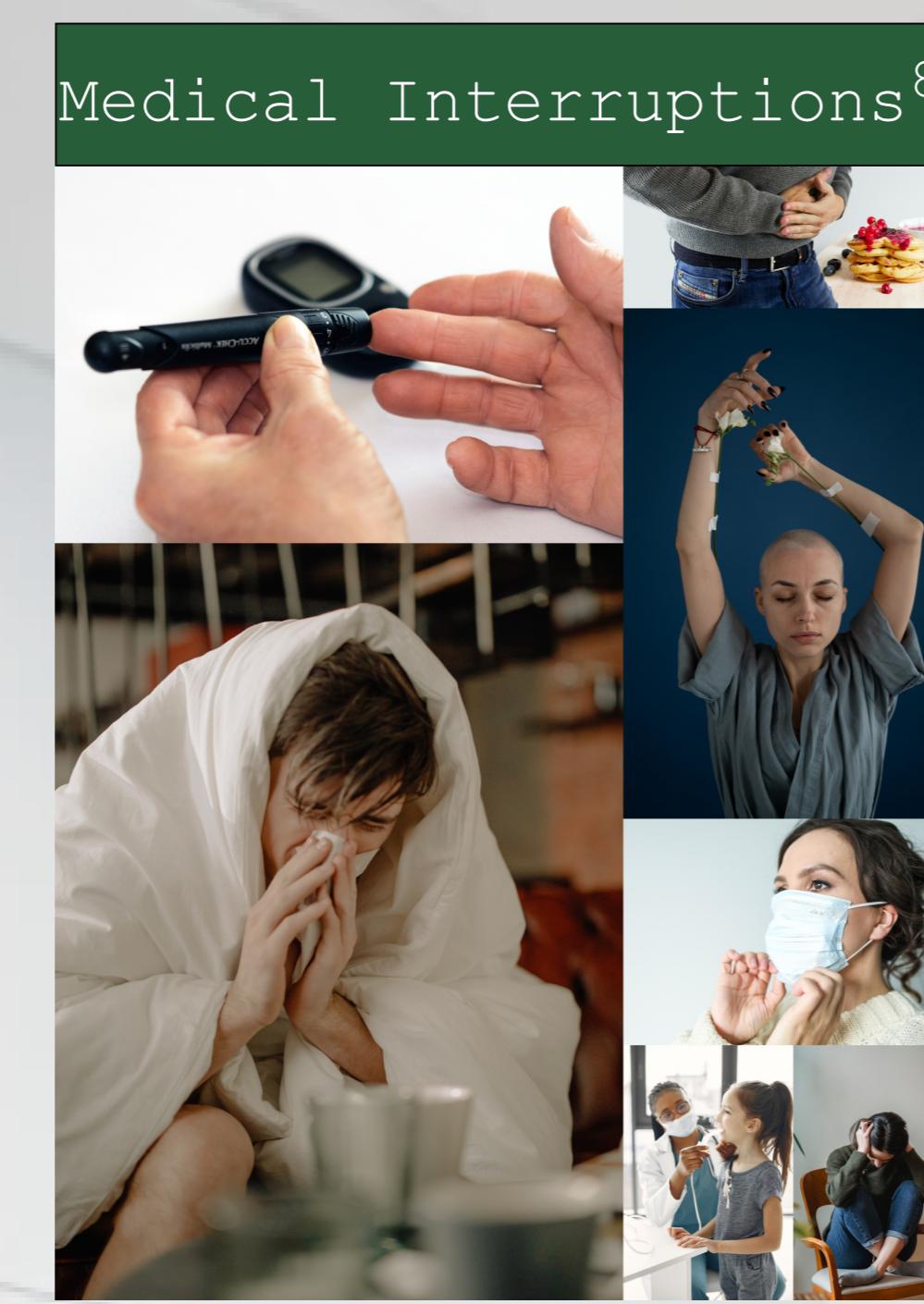


Figure 1: Proportions of students with medical experiences. 1 square equals 1%.

## Methods

- Pre-post surveys given in 14 different biology courses (major and non-major) at an open enrollment institution.
- 390 pre & post responses
- Pearson Correlation



Medical Interruptions<sup>8</sup>

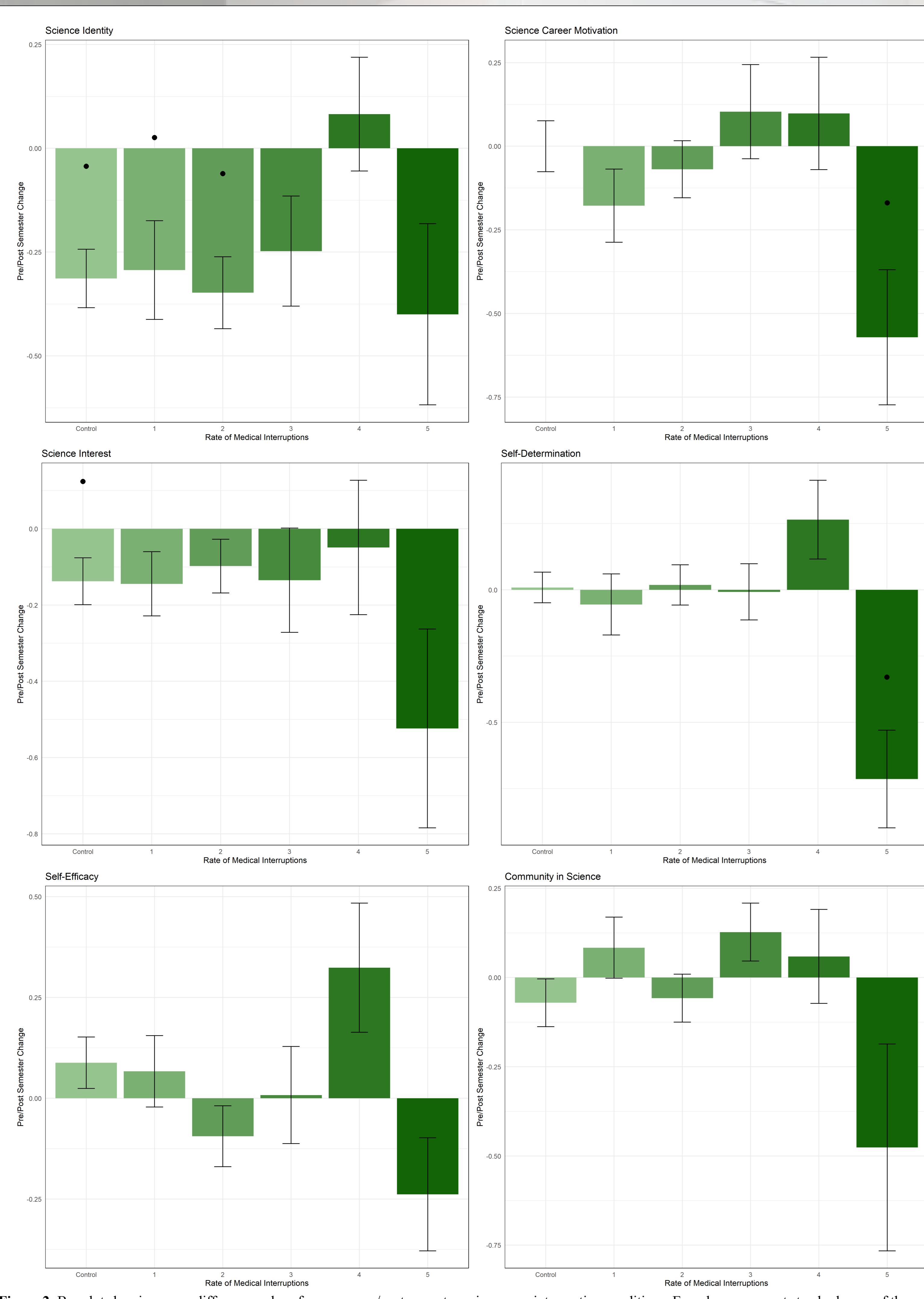


Figure 2: Bar plot showing mean difference values for across pre/post semester pairs across interruption conditions. Error bars represent standard error of the mean. Significant differences ( $p \leq 0.05$ ) are indicated by black data points above the bars. "Mean" shows difference in Likert Scale between pre and post semester data. Number of medical interruptions represents a Likert Scale of medical interruptions.

# When Students Miss Class Due to a Medical Condition, Are they Engaging More with Science?

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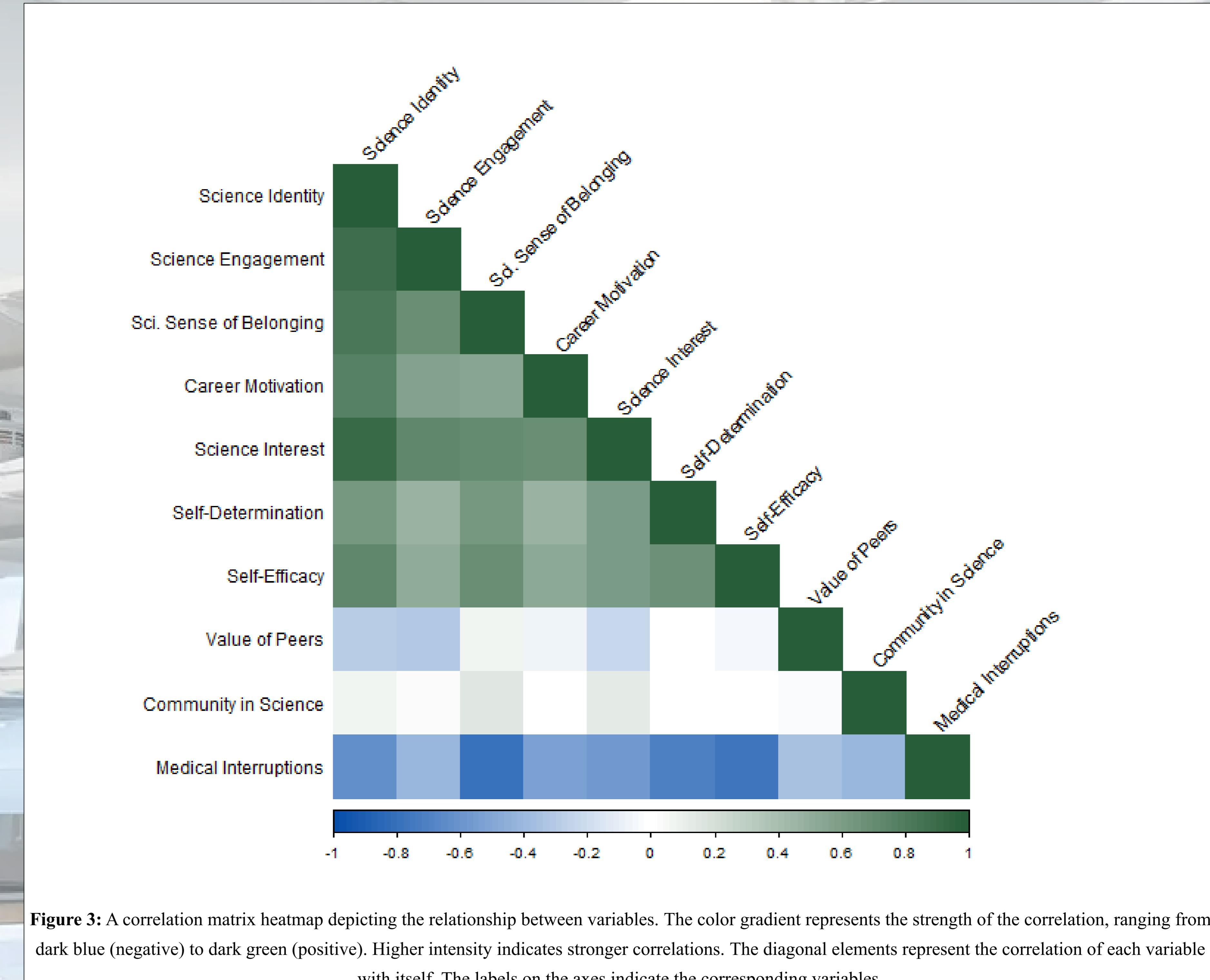


Figure 3: A correlation matrix heatmap depicting the relationship between variables. The color gradient represents the strength of the correlation, ranging from dark blue (negative) to dark green (positive). Higher intensity indicates stronger correlations. The diagonal elements represent the correlation of each variable with itself. The labels on the axes indicate the corresponding variables.

## Conclusion

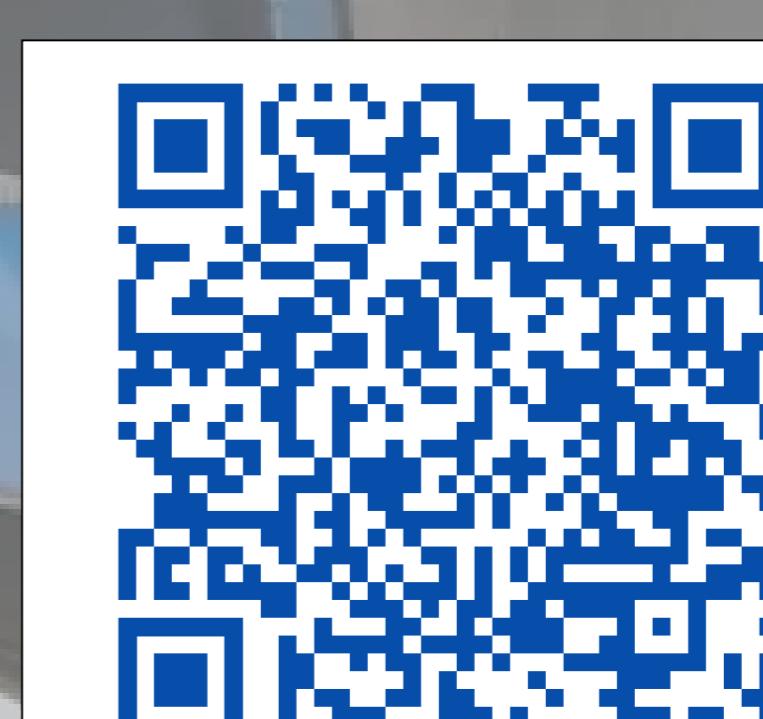
- As students with medical experiences miss more class, their STEM motivation can be negatively affected.
- The more time they miss class, STEM motivation is more negatively affected.
- As the semester progresses, those who "Always" have medical interruptions have significantly lower STEM motivation.



Survey Questions



Website



References