## ANTON MOSUNOV AND GAVIN OROK, University of Waterloo

Assessing the Effect of an Illustrated Storybook on Correcting Common Misconceptions About Mathematics

Innumeracy is rarely not accompanied by mathematical anxiety, and many factors contribute to its formation. For example, students may have difficulty caring about the subject because of how abstract and disconnected from real life it may appear, leading to them being less engaged in their classes. In addition, women can feel outnumbered in their mathematics classes and are discouraged from pursuing STEM careers because they see fewer female role models in math. These aspects often lead to fewer students pursuing math courses, resulting in lower academic performance.

On the other hand, having a growth mindset has a positive effect on performance in math, including numeracy. With a team of writers and artists we've authored an illustrated storybook whose goal is to help students to develop a growth mindset towards mathematics and address some common misconceptions about it. Our book contains a number of exercises, including basic ones on primes, that are accompanied by visual aids to engage the readers in the young target audience. In our presentation we will present the book and introduce our research project, which aims to assess the effect of our storybook on correcting misconceptions about mathematics among first- and second-year undergraduate students. Our research project has been given ethics clearance and will commence in Winter 2024.