

Exploring the Intersection of Social Justice and Quantitative Reasoning: Engaging Non-Stem Undergraduates With Payday Loans

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Social Justice Mathematics (SJM) represents a broad and evolving space within mathematics education. SJM integrates mathematical concepts with social justice issues and aims to achieve dual goals: enhancing students' mathematical understanding while fostering critical awareness of social injustices (Gutstein, 2003; Frankenstein, 1983). Much of the existing work on social justice mathematics has focused on middle and high school students (Gutstein, 2003; Stinson, Bidwell, & Powell, 2012), as well as preservice and in-service teachers (Gonzalez, 2009, 2003; Bartell, 2013). Although there are a few studies with undergraduate students in disciplines such as calculus (e.g., Erksine et al., 2022), computer science (Padiyath et al., 2024), and statistics (Conway & Nguyen, 2020)), there is limited research on how non-STEM undergraduate students engage with SJM, leaving a gap in understanding how these students respond to lessons designed to integrate mathematical content with social justice themes. Thus, we ask the question: "In what ways does integrating social justice themes, such as payday loans, impact non-STEM students' understanding of financial inequality and/or concepts of simple and compound interest?"

We draw from the work of Branson and George (2024), who explored the connection between payday loans and mathematical concepts, providing a framework for examining how undergraduate students relate to these concepts through the lens of financial inequality. This study was conducted at a university in the North Eastern U.S. Participants in the study were enrolled in a quantitative reasoning course for non-STEM undergraduate students, primarily from a business administration program. The aim of the course is to equip students with essential mathematical skills and apply them to real-world problems.

In this poster, we present a case study examining students' pre-existing perspectives on payday loans and their disproportionate impact on marginalized communities. We addressed our research questions through pre- and post-surveys assessing students' attitudes toward both mathematics and social justice, followed by interviews before and after the lesson. The data were coded, revealing key themes, such as students' views on financial systems and how these systems disproportionately affect marginalized groups. This poster will present emerging themes from our findings, illustrating how the integration of social justice issues into the quantitative reasoning course influenced students' understanding of both mathematical concepts and financial inequality.

References

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