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PRIMARY SCHOOL TEACHERS' MATHEMATICS
ANXIETY, MATHEMATICS TEACHER EFFICACY,
AND MATHEMATICS AVOIDANCE:
THE CASE OF TRINIDAD AND TABAGO

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Primary School Teachers' Mathematics Anxiety, Mathematics Teacher Efficacy, and Mathematics Avoidance: The Case of Trinidad and Tobago

Synopsis:

Research about mathematics anxiety, mathematics teacher efficacy and mathematics avoidance among teachers in Trinidad and Tobago is limited. This study explored if these constructs varied by teacher age, gender, mathematic attainment, and years of teaching experience, among a representative sample of primary teachers in Trinidad and Tobago.

TITLE: Primary school teachers' mathematics anxiety, mathematics teacher efficacy, and mathematics avoidance: The case of Trinidad and Tobago

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ABSTRACT:

Primary teachers must teach Mathematics regardless of their confidence and competence to teach it, and their desire to avoid it. Mathematics anxiety and related constructs like mathematics teacher efficacy and mathematics avoidance have been widely researched outside of Trinidad and Tobago. This volume of research has not been replicated in Trinidad and Tobago, and leaves much that is unknown about how these constructs affect teachers, and students, in Trinidad and Tobago. Such research is important because teachers play a pivotal role in students' experiences with Mathematics, and teachers' beliefs and attitudes about Mathematics have been demonstrated to influence students' beliefs and attitudes towards Mathematics, including mathematics anxiety. Mathematics anxiety has been found to be problematic for both teachers and their students.

This study explored interrelationships among mathematics anxiety, mathematics teacher efficacy, and mathematics avoidance, and examined if these constructs varied by the gender, age, mathematics attainment, and years of teaching experience at the primary level, of a representative sample of primary teachers in Trinidad and Tobago. Participants' ages ranged from 30 to 59 years. The 65% female and 35% male participants mirrored the ratio of male and female primary teachers in Trinidad and Tobago. Participants had taught at primary school for at least five years, at the time of the study. Sixty-three percent of the participants possessed a Teachers College Diploma, with 12% specializing in Mathematics. They completed a self-reporting questionnaire about mathematics anxiety, mathematics teacher efficacy, and mathematics avoidance. STATA12 was used for correlations, means-difference, and regression analyses.

High mathematics anxiety was associated with low mathematics teacher efficacy and high mathematics avoidance; and low mathematics anxiety was associated with strong mathematics teacher efficacy and low mathematics avoidance. Male teachers reported higher math anxiety and avoidance than females, but marginally lower teacher efficacy. Mathematics anxiety, teacher efficacy, and avoidance did not differ by participants' age and years of teaching experience, but males reported significantly higher mathematics avoidance than females, $F(1, 66) = 6.865, p < 0.05$. Teachers' mathematics attainment significantly predicted mathematics anxiety ($\beta = 0.347$); and mathematics anxiety significantly predicted mathematics teacher efficacy ($\beta = 0.66$).

Further research in Trinidad and Tobago should examine what Mathematics primary teachers know and how they know it, and what pedagogical practices they employ to teach Mathematics. A mixed-method research design would produce a holistic understanding of how these constructs influence teacher and student outcomes.

Mathematics anxiety influences teachers' beliefs about their ability to teach Mathematics, and must be addressed through teacher education and support that equips teachers with tools to manage their anxiety and strengthen their teacher efficacy.

Keywords: *mathematics anxiety, mathematics teacher efficacy, mathematics avoidance, primary teachers*