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Gender Difference in Teachers' Mathematical Knowledge for Teaching in the Context of Single-Sex Classrooms

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Abstract This study examines gender differences of teachers on their mathematical knowledge for teaching in the context of single-sex classrooms in Saudi Arabia. A translated version of the Mathematical Knowledge for Teaching (MKT) instrument (Learning Mathematics for Teaching [LMT], 2008) in Number and Operation Content Knowledge (CK) and Knowledge of Content and Student (KCS) scales were administered to 197 teachers (146 male and 51 female). Two-sample *t* test and multiple regression were conducted to compare the two groups and test the effect of teacher background variables. Female teachers significantly scored better than their male counterpart. Gender, years of teaching experience, and specialization significantly predicted teachers' content knowledge, $F(3, 187) = 13.180$, explaining 41.8 % of the variance. Only gender and specialization significantly predicted teachers' knowledge of content and student, $F(2, 191) = 6.335$, explaining 24.9 % of the variance. Further comparing items in the MKT instrument where female teachers outperformed male teachers confirmed that female teachers were better in attending to the content knowledge in the context of student's learning.

Keywords Content knowledge · Gender differences · Knowledge of content and student · Mathematical knowledge for teaching · Pedagogical content knowledge · Saudi Arabia

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