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Ethnicity, gender, and self-beliefs in mathematics and English for mid-adolescent New Zealanders

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Biography

Penelope Watson is a Senior Lecturer at the University of Auckland's Faculty of Education and Social Work. Her research interests are gender, gender stereotypes and identity, gendered beliefs and expectations, and gender stereotype threat. She contributes as a researcher to several projects exploring, for example, the influence of gendered teacher expectations of academic achievement on male and female students, and the relationship of adolescent gender self-concept with school belonging, ethnic identity, and stress and coping at school, and the association of self-beliefs, gender, and vocational aspirations for young people.

ABSTRACT

Socialization regarding stereotypes associated with subject domains can be reflected in student self-beliefs. Paralleling Western gender stereotypes, for example, females demonstrate lower mathematics self-concept than males in many Western contexts, but not in Asia. How gender and ethnicity influenced mathematics and English self-beliefs, was investigated for mid-adolescent New Zealanders.

A questionnaire, was administered at the start of two scholastic years to New Zealand Year 10 students (*N*=153; *M*age=14 years), comprising New Zealand European (*n*=79) and Asian (*n*=74) ethnicities, with 62 males and 91 females overall. The questionnaire measured students' self-concept, interest, and self-reported last grade, in mathematics and in English.

A general linear model (MANOVA) revealed effects for ethnicity and gender with Asian students showing higher mathematics interest and self-concept, and female students showing lower mathematics self-concept and interest. Interaction effects pointed significantly to the influence of European but not Asian background for mathematics interest and self-concept. The general linear model for English indicated significant ethnicity effects for grade and self-concept with New Zealand European students scoring higher, and a gender effect for interest with females registering higher English interest.

Interaction effects between gender and ethnicity in mathematics mirrored negative mathematics stereotypes often relevant for European (notably females) rather than Asian-background students, indicating that stereotypes may be associated with different sub-populations in unique ways within the same national context. Importantly, lower mathematics self-concept and interest for New Zealand European females signal persistent barriers to their future entry into STEM fields.