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Preface to the Special Issue

Helen M. G. Watt* and Jacquelynne S. Eccles
University of Michigan, USA

Why are there fewer women in careers related to math, science, and technology? Why does this phenomenon appear robust across a number of countries? Why, despite a concentration of research into this question over the last 25 years, and numerous policy documents and educational efforts, do we still see gendered representation in these careers in the 21st century? Although women have been making gains in entering traditionally male-dominated professions, and in entering the workforce in general, gender differences persist. Females are both less likely to choose careers in those fields, and also to leave them if they do enter them (American Association of University Women, 1993; National Center for Education Statistics, 1997; National Science Foundation, 1999).

A resurgence of interest into the question has been prompted in part by a general shortage of people entering so-called "STEM" careers (in Science, Technology, Engineering, and Math). At the same time, researchers concerned with gender equity have continued to question the reasons for women's lower representation in STEM. Ever since Lucy Sells voiced social concerns about lower female participation in math courses in her identification of math as the "critical filter" limiting access to many high-status high-income careers (Sells, 1980), others have also argued that many females prematurely restrict their educational and career options by discontinuing their mathematical training in high school or soon after (Bridgeman & Wendler, 1991; Heller & Parsons, 1981; Lips, 1992; Meece, Wigfield, & Eccles, 1990).

A major impetus for our Special Issue was to draw together researchers who are each utilizing multi-wave longitudinal data to address this central issue from a variety of perspectives. A unique feature of this Special Issue is our inclusion of studies that represent multiple waves of longitudinal data. Rather than speculating about how processes may unfold over time to produce certain outcomes, longitudinal studies allow us to draw strong conclusions regarding those processes, and to tease apart and test out a range of theoretical models. Empirical bases are large-scale longitudinal

*Corresponding author. Now located at Faculty of Education, Monash University, Clayton Campus, Wellington Road, Melbourne, VIC 3800, Australia. E-mail: helen.watt@education.monash.edu.au

datasets from the USA, Canada (Anglophile and Francophile), Australia, and Germany. The Special Issue is important and timely, providing implications to further the knowledge base for development, intervention, and policy concerning gender differences in occupational outcomes.

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