

Meeting: 1003, Atlanta, Georgia, SS 2A, AMS-MAA-MER Special Session on Mathematics and Education Reform, I

1003-97-784 **Cathy Kessel*** (cbkessel@alumni.uchicago.edu). *Understanding under-representation in mathematics using research and concepts from social science: An introduction*. Preliminary report. Mathematicians such as Lipman Bers and mathematics departments such as Potsdam, the University of Nebraska, and the University of Maryland have been remarkably successful in creating productive environments for members of groups often under-represented in mathematics.

Although descriptions of these successes exist, they do not appear to have been used to achieve success elsewhere. This may be because essential features have not been described, have not been described in enough detail to be replicated, or it may not be clear what features are essential. Social science offers methods to describe a range of phenomena from individual beliefs and behaviors to institutional practices. It also offers methods of providing evidence that certain actions promote or discourage participation of particular groups.

This session is intended as an introduction to some concepts and methods which ameliorate or illuminate the climate for under-represented groups.

This talk is intended as an introduction for the rest of the session. I will provide:

Statistics that show representation at various levels in mathematics, from undergraduates to faculty.

Brief examples of social science concepts and how they may be used.

Caveats for mathematicians about the use of social science. (Received September 29, 2004)