

A MULTICULTURAL EXPLORATION OF THE INTERRELATIONSHIPS  
AMONG ATTITUDES ABOUT AND ACHIEVEMENT  
IN INTRODUCTORY STATISTICS

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The difficulties that many students, particularly those in the social and behavioural sciences, encounter while taking an introductory statistics course have been widely reported. Some of those difficulties have been attributed to non-cognitive factors such as students' attitudes about the material.

Likewise, students' experiences during an introductory statistics course are likely to impact as much on their future attitudes about statistics as on their knowledge about the field.

Research investigating students attitudes about statistics dates back to at least the mid 1950's with a study conducted by Bendig and Hughes. This was something that received relatively little attention until the early 1980's when several researchers came forward with new instruments for assessing attitudes about statistics. Building on work in the area of attitudes about mathematics and earlier investigations of attitudes about statistics, several researchers devised the first instrument explicitly designed for assessing attitudes about statistics in a pre and post course context. This instrument was constructed so as to assess students attitudes in four domains: affect, cognitive competence, value, and difficulty.

Since 1994, two of the present authors have been conducting studies examining the interrelationships among those attitudinal domains assessed at the beginnings of introductory statistics courses, student performance during the courses, attitudes at the end, and performance on final examinations. Initial findings suggest direct effects of students' sense of cognitive competency and value for statistics on initial test performance with later test performance ultimately impacting directly on their sense of cognitive competency at the ends of the courses. Attitudes about statistics seem to have virtually no direct impact on their performance on final examinations controlling for their test performance along the way. These studies have focused on both graduate and undergraduate students in several institutions of higher education.

We propose to extend and expand this line of inquiry into a multicultural context by collecting data from both Arabic and Hebrew speaking college students during the first

semester of the 1997-98 school year in Israel. The attitudinal instruments we have been using have been translated into both languages and we have received commitments from instructors at two institutions of higher education to collect data for us. This research will afford a unique perspective on the way that attitude and achievement in statistics interrelate and on possible cultural differences in those relationships.