Chapter 11

Academic Motivation and Experiences of International Students of Color in STEM

Chrystal A. George Mwangi
University of Massachusetts, USA

Alicia M. Peralta
University of Maryland, USA

Sharon Fries-Britt
University of Maryland, USA

Nina Daoud
University of Maryland, USA

ABSTRACT

This qualitative study draws upon self-determination theory and neo-racism to examine the academic experiences of international students of color in science, technology, engineering, and mathematics (STEM) as they engage in U.S. college classrooms. The authors discuss how these students a) describe their academic motivation to achieve and b) perceive their own academic preparedness in relation to U.S. academic expectations. Findings demonstrate students were academically motivated most by their family, home country, and self-confidence in academic abilities. However, students also faced challenges in adjusting to the U.S. classroom climate and culture, specifically perceiving pressure that they needed to prove their academic ability to U.S. classmates.

INTRODUCTION

Students in science, technology, engineering and mathematics (STEM) programs in the United States assist in building the country’s global competitiveness by enabling institutions to produce higher numbers of STEM graduates. Researchers attribute the growth of international students in STEM programs to a number of reasons. These reasons include: using international students as a means to mitigate leaks in the STEM talent pipeline; to finance U.S. colleges and universities experiencing reduced state and federal appropriations; to promote state and federal goals for foreign relations and economic development; and to foster a global mission (Douglass & Edelstein, 2009; George Mwangi, 2013; Scott, 2006). However, while both research and practice reflect college access and recruitment of international students, it is only recently that U.S. higher education is emphasizing the retention and success of these students (Choudaha... DOI: 10.4018/978-1-4666-9749-2.ch011
The lack of national strategy to recruit international students, coupled with the minimal resources dedicated to their persistence creates challenges for international students in adapting to and navigating their U.S. college experiences. The shortage of domestic students in STEM creates an even greater need for U.S. institutions to effectively recruit, attract, and retain qualified international students for the STEM disciplines.

Furthermore, the experiences of international students have not been adequately investigated, particularly as it relates to understanding the diversity within this group. A review of the literature examining international student experiences confirms that much of the discourse around this population primarily focuses on the Asian student experience, while overlooking the experiences of other international students (Fries-Britt, George Mwangi, & Peralta, 2014b; Lee & Rice, 2007; Olivas & Li, 2006). While half of international students hail from China, India, and South Korea, there is a great deal of diversity in the other countries from which students come as well (Institute of International Education, 2014). In particular, it is important to acknowledge the less recognized regions in the conversation about international students: those who come from sub-Saharan Africa and the Caribbean. This is a critical gap given the different social identities and experiences international students bring with them to the United States, and the reality that this background shapes their experiences. For example, when aspects of students’ social identities such as race and ethnicity intersect with their international status, their social identities often operate differently in the United States than they do in students’ countries of origin (Fries-Britt, George Mwangi, & Peralta, 2014a).

Accordingly, this study presents the academic experiences of international students of color, to better understand how nativity, race, and culture manifest within their U.S. campus environment. Specifically, the chapter emphasizes the importance of understanding and supporting the academic success of international students of color in STEM, a population that provides major contributions to the U.S. economy and talent pool (Bhandri & Blumenthal, 2013). International students’ academic performance is impacted by their perceptions of academic readiness and their sources of academic motivation (Robbins, Lauver, Le, Davis, Langley, & Carlstrom, 2004; Zimmerman, Bandura & Martinez-Pons, 1992). These students bring with them a number of experiences and sources of academic motivation that can be reinforced or weakened during the college experience. Our study focuses on students who are also considered racial minorities in the United States as they were born abroad in countries with predominantly non-White populations; a trend that is growing among international students (IIE, 2014). Accordingly, the purpose of this chapter is to examine how international students of color in STEM programs perceive and experience the U.S. academic environment. To guide this exploration, the study addresses the following research questions:

- What factors do international students of color in STEM attribute to their academic motivation?
- How do international students of color in STEM perceive their academic readiness in relation to U.S. academic expectations?

**BACKGROUND**

In order to frame how international students of color perceive their academic motivations, readiness, and engagement, we used self-determination theory and neo-racism as guides. Much of the traditional literature on academic motivation focuses on intrinsic (e.g. passion, interest) and extrinsic (e.g. rewards, punishment) orientations, which are central themes in self-determination theory (Deci, Vallerand, Pelletier,
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