Chapter 1
Societal Factors and Workplace Perceptions: Understanding Social Determinants of Professional STEM Achievement and Persistence for Black Women

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ABSTRACT

Despite the growing number of women and minorities in STEM occupations, underrepresentation of Black women in the STEM workforce persists as they hold only 2.4% and 2% of science and engineering jobs, respectively, though they make up 6.4% of the total population. Despite these numbers, the African American women who are in STEM fields have been shown to excel at exceptional rates. The purpose of this chapter is to examine existing data, strategies, and models that address social determinants of professional STEM attainment for Black women. This chapter will explore the importance of intersectional identities and how this influences Black women’s success in STEM fields in addition to understanding how counterpaces function to enhance persistence and advance the success of women of color in STEM fields. Understanding the non-academic factors that affect minority women’s persistence in STEM allows for a broader conversation around implications for findings for academic and social support programs.

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BACKGROUND/CONCERN

For the US to maintain a competitive edge in the global race for technology and innovation leadership we must invest in the growth of our science and engineering (S&E) enterprise. National initiatives cite the need to diversify and strengthen the Science, Technology, Engineering and Mathematics (STEM) workforce with strong recommendations to increase the participation and success of underrepresented groups (Estrada, et al., 2016). Despite the growing number of women and minorities in STEM occupations, underrepresentation of black women in the STEM workforce persists as they hold only 2.4% and 2% of science and engineering and mathematical and computing jobs respectively, though they make up 6.4% of the total population (Parker C. F., 2018). The notion of a competency gap to explain the lack of representation/disproportionate number of black women in STEM, a better understanding of the societal factors and workplace perceptions affecting women’s achievement and persistence in STEM fields is warranted.

MISSION

The purpose of this chapter is to examine existing data, strategies, and models that address social determinants of professional STEM attainment for black women. This chapter will explore the importance of intersectional identities and how this influences Black women’s success in STEM fields in addition to understanding counterpaces - the types, their function and how they operate to enhance persistence and advance the success of Black women in STEM fields. This chapter aims to advance knowledge for all organizations working to address and understand the experiences, persistence, and success of black professional women in STEM. Understanding the non-academic factors that affect minority women’s persistence in STEM allows for a broader conversation around implications for findings for academic and social support programs.

INTRODUCTION

There is believed to be a direct link to the inadequate educational preparation of the past and the current educational achievement gaps of African Americans,
Feminization of Old Age and Experiences of Subalternity: The Socio-Cultural Dynamics of Inclusion – Exclusion in Urban India
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