Chapter 6
Gendered and Racial Microaggressions in STEM:
Definitions, Consequences, and Strategies Urban Elementary School Professionals Can Use to Combat Them

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ABSTRACT

Women and people of color remain underrepresented in science, technology, engineering, and mathematics (STEM) workforce and academia. In this chapter, the authors focus on the experience of girls and students of color in urban STEM classrooms through the lens of microaggressions theory. Within this chapter, the authors define macroaggression and discuss the various types (e.g., microinsults, microinvalidations, microassaults). Consequences of microaggressions are discussed and strategies are presented to address microaggressions within the PreK-12 urban school setting.

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INTRODUCTION

Within urban schools, teacher, administrators, and school counselors' biases, conscious and unconscious, and their language, verbal and nonverbal, can have a profound effect on students. *Microaggressions*, interactions that consciously or unconsciously disparage others based on characteristics or group membership (Pierce *et al.*, 1978; Sue, 2010), are one way biases manifest themselves every day in the urban school environment. Microaggressions may influence students' persistence, achievement, and identity development in STEM by effecting students' beliefs about who STEM professional are and their ability to succeed in STEM fields. Microagressions are especially harmful to students who are underrepresented in STEM Fields (Morley, 2013), including girls and students of color. Thus, discussion and exploration of macroaggressions in the PreK-12 urban environment is warranted. In this chapter, we define macroaggression and discuss types of microaggressions (e.g., *microinsults*, *microinvalidations*, *microassaults)* (Sue et al., 2007), providing examples of each type of microaggressions within the urban school setting. We then discuss the consequences of microaggressions on STEM achievement, persistence, and identity development. Finally, strategies are presented to address microaggressions within the PreK-12 urban school setting, and STEM classrooms in particular.

DEFINITION OF MICROAGGRESSIONS

Microaggressions have become a common topic recently in the literature. With the emergence of this topic in educational contexts, teachers and students are becoming more aware of the presence and effects of microaggressions. However, the concept of microaggressions and their harmful effects are not new. Microaggressions was a term created in 1978 by Pierce as a way to define the phenomenon of negative interactions African Americans experienced (Pierce et al., 1978). While initially developed to describe negative interactions related to race, microaggressions can also be related to gender, religious orientation, socioeconomic status, or other components of identity (Sue, 2010). Microaggressions are most commonly verbal; however, they may also take a nonverbal form. Moreover, microaggressions can include both conscious or unconscious exchanges in which a student or group of students is disparaged based on characteristics or membership (Pierce et al., 1978; Sue, 2010). Microaggressions can also be committed by individuals internal and external to a specific group. Researchers have identified three types of microaggressions that occur whenever an aspect of a student's identity is ridiculed, challenged, invalidated, or dismissed: (1) *microinsults*, (2) *microassaults*, (3) *microinvalidations* (Sue, 2010).

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