The Persistence of African-American Males in the College of Engineering at Virginia Tech

by

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Abstract

This study was designed to explore, identify, and examine how African-American males were able to persist in the College of Engineering at Virginia Tech. The findings were used to gain insight to how some African-American males persevere in engineering disciplines and others do not. In addition, the study was designed to better understand the institutional barriers that were perceived as having to overcome in order to persist as an engineering student and to pinpoint the factors that most influenced their decision to pursue engineering. It was also intended that this study would provide the groundwork for the development of a conceptual model that would have implications for recruiting, retaining, and graduating African-American males. Such a conceptual model would complement existing literature related to academic success and achievement in higher education.

The primary sources of collecting data were focus groups, individual interviews, and biographical questionnaires. These research methods allowed African-American males to share their stories and experiences in their own words. A total of 42 African-American males participated in the study. The participants were divided into five sample-groups: (1) Ultimate-Persistent Group, African-American males who were
former engineering students but who had already graduated with an engineering degree from Virginia Tech; (2) Exemplary-Persistent Group, African-American male engineering students who were categorized as juniors and/or seniors with a 2.5 QCA or higher; (3) Satisfactory-Persistent Group, African-American male engineering students who were categorized as juniors and/or seniors with a 2.0 – 2.5 QCA; (4) Unsatisfactory-Persistent Group, African-American male engineering students who were categorized as juniors and/or seniors with less than a 2.0 QCA; (5) Non-Persistent Group, African-American males (former engineering students) who left engineering but were classified as juniors and/or seniors based on the number of years enrolled in the university. Data were analyzed using the grounded theory method.

The findings of the study clearly indicated that a number of factors influenced these African-American males’ interest and skill development in math, science, and engineering. Such salient factors were family members, teachers, role models, science and math programs, and participants’ genuine interests in such subject areas. In many ways, the factors that were identified as influencing these African-American males’ decision to pursue engineering were also identified as being instrumental in helping them persist in engineering. More specifically, these factors were the following: commitment to engineering, familial support, integration in the social and academic environment, connection or link with academic resources, clear goals with a realistic plan of action, regular interaction with African-American and non-African-American peers, both politically and academically sound, and a sense of racial identity. When these factors were low and/or absent, the researcher discovered that these African-American males had more difficulty persisting and were more likely to transfer out of the College of
Engineering. This was especially the case for the *Unsatisfactory Persistent Group* and *Non-Persistent Group*.

Similar to Delores Scott’s (1995) findings, those African-American males who did persist and/or graduate stated that they were determined to succeed in engineering so they could prove to those individuals, who doubted they could be successful in the College of Engineering, that they would get their engineering degrees. This underpinning of determination served as motivation for many of the sample groups, such as the *Ultimate-Persistent Group*, *Exemplary-Persistent Group*, and *Satisfactory-Persistent Group*. 
Dedication

There are always so many people to thank whenever one undertakes a venture of this magnitude, but I cannot think of anyone more deserving than my wonderful, loving, and supportive parents. In a symbolic way of appreciation, I would like to dedicate my dissertation to both my dad and mom – Mr. James L. Moore, Jr. and Mrs. Edna M. Moore.
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