Study finds that cumulative experiences develop IT skills

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Expanding the range of black men's career options in an increasingly technology-oriented world will help alleviate high unemployment and poverty they often experience, according to a study examining the career paths of successful black men in college.

The study comes at a time when minority college students who take STEM (science, technology, engineering, mathematics) jobs may earn at least 50 percent more than their peers studying humanities or education, yet black men comprise only 2.2 percent of those working in information technology (IT) occupations.

Funded by the National Science Foundation, researchers from Washington State University and Pennsylvania State University studied 25 undergraduate black men enrolled in IT disciplines in four historically black colleges and universities to see what motivated them to achieve academically, attend college and pursue IT careers. Participants were also asked to reflect upon how their gender and ethnicity shaped their educational experiences and career choices.

Motives for IT academic and career success

The researchers found that an accumulation of experiences over time motivated black men to develop skills, such as resilience, that are valuable in IT careers. The researchers refer to these experiences give black men "a type of capital that is often less available to black women

and other ethnic males. Skills may be learned from parents or through social conditioning, are long-lasting and are transferable to other fields besides IT, the researchers said.

As an example, one participant said growing up in a manufacturing town influenced his pursuit of an IT career. That environment gave him perspective about how things should work, which fueled his interest in the technology behind the manufacturing.

Others credited their IT career success to technical, leadership and problem-solving skills instilled in them by their families, college professors, military colleagues and sports activities.

'Manhood training' and 'black experience'

"One very interesting skill emerged that we refer to as 'manhood training,' or skills that endure through the life history of the individual," said K.D. Joshi, a WSU management, information systems and entrepreneurship professor. "This is a critical learning experience that is important in building any career, not just an IT career."

She said the positive effects of manhood training were evident when participants commented about how much they valued their grandfathers' influence in helping them develop a strong work ethic and financial skills at an early age.

The researchers said another important discovery was the participants' resistance to the negative effects of the "black experience" on their lives and careers. The black experience includes negative experiences, such as frequent encounters with police or gang activity, as well as positive experiences, such as having more opportunities because of their underrepresentation in IT.

"The men in our study acknowledged the presence of the black experience as something powerful and unique but frequently dismissed or rejected its effects on their lives and careers," said Joshi. "These young black men's ability to embrace these experiences to generate a more positive outlook was remarkable."

Implications for educators

"The broader impacts of our study include helping policy makers create innovative interventions revealing how and which social structures enable or constrain black men's IT-related career choices," said Joshi. "This research may also be used to sensitize teachers and school counselors to the unique career development needs experienced by black men that can help their recruitment into STEM related careers."

Ultimately, the study's findings may increase the much needed STEM workforce while expanding career options for black men who are disproportionately affected by economic downturn.

Co-authors include Lynette Kvasny, associate professor of information sciences and technology, Pennsylvania State University; P. Unnikrishnan, doctoral student, WSU; and Eileen Trauth, professor of information sciences and technology, Pennsylvania State University.

The study exemplifies the interdisciplinary work of WSU's Grand Challenges, areas of research addressing some of society's most complex issues. The study is also in keeping with the theme of the challenge on Opportunity and Equity, which aims to promote an informed and equitable society, expand individual opportunity, and advance social justice.

Provided by Washington State University