

STUDENT PROFILE

Higher Education Student Nadia Johnson: Motivating Girls to Study Science

By Rebekah Snyder

As its sixth year begins, Nadia Johnson knows the Oncofertility Saturday Academy is inspiring young women to pursue science careers. As part of the Women's Health Sciences Program (WHSP) at Northwestern, it recently received a national award for excellence. What Johnson wants to know is what keeps the volunteer mentors coming back. Why do they contribute their valuable time and energy?

For the WHSP co-director of oncofertility education programs, the question is not just academic, although it is the focus of Johnson's research as she pursues a master's degree in SESP's Higher Education Administration and Policy Program. Motivating girls to study science is an issue close to her heart. A high school biology teacher challenged and inspired her to pursue science, and she earned bachelor's degrees in biology, kinesiology and psychology before turning to education.

"Understanding how boys and girls learn science is important," she notes. "We know that boys tend to be more willing to tinker, while girls wait for instruction. When it comes to teaching science, we must better understand how boys and girls experience the science setting differently and how we can manage this so that girls can get just as far as boys."

Teresa Woodruff, professor of obstetrics and gynecology at the Feinberg School of Medicine and of molecular biosciences at the Weinberg College of Arts and Sciences, founded WHSP in 2007. SESP research associate professor Kemi Jona helped to develop the Oncofertility Saturday Academy, the flagship WHSP academy. The goal of the Oncofertility Saturday Academy is to allow high school girls to learn science through hands-on investigations, to develop relationships with mentors, and to discover college and career opportunities in science.

African American and Latina girls, two groups that are underrepresented in science and medicine, can take advantage of this weekend workshop series for juniors and seniors. In addition, they can participate in WHSP programs in cardiology, physical science and infectious disease.

There is no question that these programs are encouraging young women toward science. Five years of data show success, and WHSP recently received President Obama's Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring, the nation's highest

recognition for excellence in mentoring. What Johnson does wonder about is the benefits these programs provide for mentors. Along with program co-director Cathryn Smeyers, she knows that understanding what makes for a positive experience for the volunteer mentors is key to maintaining success. And while much research has been done on the positive impact on students, little is known about how the program benefits volunteers. Her Higher Education master's program is giving her the tools to answer this question.

"We have more than 100 undergraduates, medical students, postdocs and faculty members volunteering for a program that serves 32 girls each year," she says. "Why do they do this? What do they get out of it?" Over the past two years, Johnson has used quantitative and qualitative methods to find answers. What she has learned is surprising. "Ninety-eight percent of respondents were 'very satisfied' or 'satisfied' with their experience, and no one was dissatisfied," she reports. Complaints were almost exclusively related to program logistics, and she is using her findings to make improvements.

The research project is one example of the flexibility that Johnson appreciates most about her master's program. "Students can experience the many levels of university administration, and the program offers a diverse range of possibilities," she reports. "It allows students to target their involvement in research to their interests and skill sets." For Johnson, this means applying her strong background in science and statistical analysis to her research project and, ultimately, to improving the WHSP mentoring programs.

In the end, however, a study isn't necessary to tell Johnson what she knows from personal experience. Creating an environment in which girls can succeed in science, mentored by women scientists and physicians, is key. "If you excel in something and get praise, you tend to head down that path," she says. That was the case for Johnson, and she is helping ensure that young women of Chicago's most underserved communities get this same opportunity.

Nadia Johnson (left), a student in the Higher Education Administration and Policy Program, and Cathryn Smeyers are co-directors of oncofertility education programs at Northwestern.

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