

2003 AWARD WINNERS



EDWIN B. NEWMAN AWARD

**The Edwin B. Newman Award
is given jointly by Psi Chi and APA.**

**Members of the 2003 Edwin B. Newman Award
Committee were Christopher Koch, PhD (Chair);
Carla Reyes, PhD; Nolan E. Penn, PhD (APA);
and Cathy Epkins, PhD (APA).**

PSI CHI/APA EDWIN B. NEWMAN GRADUATE RESEARCH AWARD

The Psi Chi/APA Edwin B. Newman Graduate Research Award is sponsored jointly by Psi Chi, the national honor society in psychology, and the APA. The award is presented annually to the psychology graduate student who submits the best research paper that was published or presented at a national, regional, or state psychological association conference during the past calendar year.

The Psi Chi/APA Edwin B. Newman Graduate Research Award was established in 1979. The award was established to recognize young researchers at the beginning of their professional lives and to commemorate both the 50th anniversary of Psi Chi and the 100th anniversary of psychology as a science (dating from the founding of Wundt's laboratory). It was named for Dr. Edwin B. Newman, the first national president of Psi Chi (1929) and one of its founders. He was a prolific researcher and a long-time chair of the Department of Psychology at Harvard University. Newman was a member of APA's Board of Directors, served as recording secretary of the board from 1962 to 1967, and was parliamentarian for the APA Council of Representatives for many years. He served both Psi Chi and APA in a distinguished manner for half a century.

1979 Michael S. Fanselow	1991 Sung-II Kim
Natalie P. Porter	1992 Daniel E. Shapiro
1980 Rowland S. Miller	1993 Julie Anderson
1981 Peter David Blanck	1994 Agnes Chan
1982 Morton Ann Gernsbacher	1995 Prahlad Gupta
1983 Katheryn Perez Riley	1996 Sterling Charles Johnson
1984 Mark E. Johnson	1997 Jack B. Nitschke
1985 Jeremy Shapiro	1998 Holly Hazlett-Stevens
1986 Ruth A. Weber	1999 Allison M. Ryan
1987 James A. Shepperd	2000 Laura M. Mackner
1988 Brad J. Bushman	2001 Su Yeong Kim
David A. Smith	2002 Micheal E. Shafer
1989 Denise M. Driscoll	2003 Rose Mary Webb
1990 Catherine L. Reed	



Rose Mary Webb

Psi Chi/APA Edwin B. Newman Graduate Research Award

Citation

“For an outstanding research paper whose findings challenge the untested presumption in much of the current literature that individuals who leave the math–science pipeline are underachieving. The paper entitled ‘Mathematically Facile Adolescents With Math–Science Aspirations: New Perspectives on Their Educational and Vocational Development’ was published in the *Journal of Educational Psychology*, was highlighted in the 15 November 2002 issue of *Science*, won the Susan W. Gray Award for Excellence in Scholarly Writing, and was the basis for Webb’s selection as the 2002–2003 Psi Chi/APA Edwin B. Newman Graduate Research Award recipient. Dr. David Lubinski served as Research Advisor and coauthor of the paper.”

Biography

Rose Mary Webb was born the youngest of nine children to Leonard and Vera Ahne in Scranton, Arkansas. She attended 1st through 12th grades in this small community, graduating from high school with just over 30 classmates. She attended college locally, at Arkansas Tech University, with a major in mathematics and minors in education and English. Upon receiving her bachelor of science degree with honors, she took a position as a high school mathematics instructor, following in a family tradition of teaching, as three of her four sisters have done. She was the only math instructor for Grades 9 through 12 in a high school that was even smaller than the one she had attended, and the position required six class preparations,

ranging from general mathematics to calculus. The position afforded her the opportunity to observe a broad range of intellectual differences among individuals. Webb realized that, within any given class, some students required explicit instruction, repeated illustrations, and guided practice, whereas other students seemed to grasp novel concepts with ease and naturally connect new with old learning. She found herself in one hour teaching 16- and 17-year-old students who were quite literally unable to add and subtract three-digit numbers, and in the next striving to challenge a student who seemed to intuit the properties of differentiation and integration prior to any formal calculus instruction.

Although she found the constant challenge of the dynamic classroom invigorating, Webb decided that teaching high school did not provide her with the opportunity for the in-depth study of complex ideas that she desired, so she took a job in industry as a quality assurance technician while she explored various coursework (e.g., engineering, actuarial science) to identify a field that would be a better match. During this period, it was her good fortune to take her first psychology class with an instructor with a penchant for discussing the implications of individual differences in cognitive abilities; it was here that her latent interest in intelligence was given an opportunity to grow. She began reading about theories of cognitive development and the structure of human abilities. She immediately immersed herself in the field of psychology, taking eight psychology courses over the following two semesters in preparation for graduate work in her newly identified field of study. It was during this time that she and her husband, Mark Webb, began another exciting life adventure—parenthood—with the birth of their first child, Evelyn. After completing her bachelor’s degree in psychology, Webb went on to graduate school, eager to begin her new career.

Webb began her graduate career at Iowa State University in the lab of David Lubinski and Camilla Benbow, who codirect the Study of Mathematically Precocious Youth (SMPY), a longitudinal study of exceptional intellectual talent founded by Julian C. Stanley at Johns Hopkins University in 1972. After her second year of study, Lubinski and Benbow took positions at Vanderbilt University and invited Webb to continue her studies with them in their new location, an invitation she readily accepted. Shortly after arriving at Vanderbilt, Webb and her husband had their second child, Alexander, and discovered a little-known mathematical phenomenon: When it comes to having children, one plus one is greater than two times one.

Under the joint mentorship of Lubinski and Benbow, Webb completed her master’s work, which tracked the educational–vocational development of 1,110 adolescents who, at the age of 13, were identified as at least the top one percent in ability, and who, at the age of 18, reported plans for an undergraduate major in a math or science domain (Webb, Lubinski, & Benbow, 2002). Webb and her colleagues found that women were more likely than men to

change their undergraduate majors to domains outside of math or science and that these differences were partially explained by the individual's pattern of specific abilities and interests. For example, Webb et al. documented that, on average, the highly able women in their study had more similar math and verbal abilities than their male counterparts, whose math abilities were markedly more pronounced than their verbal abilities. This finding was supported by discoveries in Webb's earlier collaborative research, which indicated that mathematically able women tended to be more verbally talented than equally mathematically able men (Lubinski, Webb, Morelock, & Benbow, 2001). Moreover, participant sex explained only one percent of the variance between those who did and those who did not complete a math-science undergraduate degree, and after controlling for ability and interest variables, participant sex contributed no incremental explanation of degree group membership. Webb et al. found that both women and men who chose to change their undergraduate majors to domains outside math-science reported levels of career satisfaction, career success, and life satisfaction that were similar to those of women and men who remained in math-science disciplines. These findings challenge the untested presumption in much of the current literature that individuals who leave the math-science pipeline are underachieving. This work was published in the *Journal of Educational Psychology*, was highlighted in the November 15, 2002, issue of *Science*, won a Mensa Award for Excellence in Research, won the Susan W. Gray Award for Excellence in Scholarly Writing, and was the basis for Webb's selection as the 2002-2003 Psi Chi/APA Edwin B. Newman Graduate Research Award recipient.

Complementing Webb's empirical work are a chapter and a comment. The chapter, coauthored with her graduate advisor, David Lubinski, reviews findings from the major domains of differential psychology (Lubinski & Webb, 2003). The comment, coauthored with April Bleske-Rechek, a research associate for SMPY, is a methodological critique of a report on female psychologists in the academy (Bleske-Rechek & Webb, 2002).

Throughout Webb's graduate experience, she has served as a research assistant for SMPY. She has been instrumental in progressing data collection for the longitudinal study from traditional mail survey methods to more complex, individually tailored Internet-based survey methods. Furthermore, she has contributed conceptually and technically to the instrument development on two current projects. First, she has made unique contributions to a 10-year follow-up of 714 individuals with math-science talent identified in top U.S. graduate programs; her ideas helped broaden the study's focus beyond educational-vocational development to include other areas of life experiences such as family and relationship choices. Second, she has contributed to a 20-year follow-up of the study's most able cohort. Because the participants of this cohort have had numerous educational opportunities available to them (many of which they have utilized), Webb helped design a

series of items to assess both their views regarding the importance of providing specific accelerative learning opportunities for gifted children in general and their likelihood of using those opportunities for their own children.

Webb is currently a doctoral candidate in the Department of Psychology and Human Development at Vanderbilt University. Her dissertation involves the three major domains of individual differences: cognitive abilities, interests, and personality. Previous researchers have found unique patterns of correlations among many of the dimensions of abilities, interests, and personality and have defined a number of trait constellations from these patterns. Webb anticipates identifying these constellations of attributes in intellectually precocious adolescents and subsequently using this information to predict contrasting long-term developmental trajectories. She hopes that her findings will eventually help refine developmentally appropriate learning opportunities for intellectually talented youths. One component of Webb's dissertation will tap a methodological interest of hers—methods of dealing with missing data. Webb's dissertation data include ability assessments based on several measurement devices, each of which has some missing values. Webb intends to apply an expectation-maximization algorithm, a maximum likelihood method that bases its original estimates for the missing values on the covariance matrix of the complete data set and fine tunes its estimates across multiple iterations until convergence, to impute missing values for the ability measures.

Webb has enthusiastically returned to teaching this fall; she is teaching an undergraduate course in psychological measurement at Vanderbilt. She plans to continue to examine the implications of individual and group differences in cognitive domains and to study the development of intellectual talent, particularly mathematical talent, across the life span.

Selected Bibliography

- Bleske-Rechek, A., & Webb, R. M. (2002). Neglected aspects and unsupported claims [Comment]. *American Psychologist*, *57*, 1132-1133.
- Lubinski, D., & Webb, R. M. (2003). Individual differences. In L. Nadel (Ed.), *Encyclopedia of cognitive science* (Vol. 2, pp. 503-510). London: Macmillan.
- Lubinski, D., Webb, R. M., Morelock, M. J., & Benbow, C. P. (2001). Top 1 in 10,000: A 10-year follow-up of the profoundly gifted. *Journal of Applied Psychology*, *86*, 718-729.
- Webb, R. M., Lubinski, D., & Benbow, C. P. (2002). Mathematically facile adolescents with math-science aspirations: New perspectives on their educational and vocational development. *Journal of Educational Psychology*, *94*, 785-794.

