

Retaining Hispanic Dietetic Undergraduate Students through Mentoring and Professional Development

THE ACADEMY OF NUTRITION and Dietetics' (the Academy's) commitment to diversity within the profession and the reduction of health disparities is reflected by its diversity philosophy statement,¹ the Commission on Dietetic Registration Code of Ethics,² the Accreditation Council for Education in Nutrition and Dietetics standards,³ and in terms of education preparation and retention, the Academy's Diversity Mentoring project.⁴ The need to augment the number of registered dietitian nutritionists (RDNs) who are culturally competent to serve the increasing minority populations can be accomplished by implementing new curriculum for all dietetic students^{5,6} and by adding to the recruitment of culturally diverse students into undergraduate dietetic programs.³ The need to increase recruitment has been documented,⁶ but the literature has not addressed retention of students once they have been accepted into a dietetics program.

This article describes the implementation and evaluation of a mentoring

program for Hispanic* undergraduate dietetics students along with a study that illustrates specific ways in which a mentoring program can retain minority students in the dietetics professions and provide support for their successful entry into the profession.⁷

BACKGROUND

Hispanics suffer from poor college completion rates when compared with other Americans; only 35% of 18- to 24-year-old Hispanics who are enrolled in college finish their degree, compared with 46% of whites.⁸ Only 11% of Hispanics aged 18 to 24 years have a bachelor's degree compared with 34% of whites.⁹ Factors that contribute to decreased retention and poor academic achievement include low income¹⁰; disconnection with institution's faculty, student life, and department resources^{11,12}; lack of college-educated role models^{13–15}; lack of parental higher education¹⁶; or parents prioritizing obligations to help with family chores and spend time with family and school work.^{17,18} Mentoring may serve as a strategy to retain Hispanic students in higher education programs.^{19,20}

Mentoring is an effective means of diversifying the health professions.^{6,21} Two outstanding mentoring programs in the field of dietetics have been

established at the educational preparation level—the Mentoring Multicultural Students for the Food and Nutritional Sciences Program^{6,22} and the Academy's Building our Future Mentoring Project.⁴ Other well-evaluated mentoring programs in fields related to dietetics include Louisiana State University's mentoring program for the science, technology, engineering, and mathematics fields,²³ and allied health.²⁴ California State Polytechnic University, Pomona, is a Hispanic Serving Institution, with Hispanics comprising approximately 25% of the student body. The California State Polytechnic University in Pomona's Dietetic Mentoring Program was adapted to fit the needs of Hispanic students, but is suitable for any student. This mentoring program is the first to specifically address the needs of Hispanic undergraduate dietetics students and is based on the well-documented Tinto theory¹¹ on higher education retention. Tinto's theory identifies three major reasons for students' departure from higher education before earning a degree: academic difficulties, inability to match educational and occupational goals, and failure to integrate into the intellectual and social life of the institution.

Within the Estudiante Dietético enhanced undergraduate dietetic curriculum—aimed toward increasing dietetics students' cultural competency, especially with the Hispanic population (funded through US Department of Agriculture-Health Sciences Institute grant 2009-01198)—we sought to meet the Academy's objective to diversify the RDN workforce by creating and evaluating a student mentoring program that would encourage Hispanic students to complete their bachelor's degree, attain a high grade point average, improve their cultural competency, and learn the professional skills necessary to have a competitive edge as they compete for dietetics internships. The mentoring program was provided during the course of 1 academic year and included

This article was written by **Lizett Olivares**, MS, RD, California State Polytechnic University Pomona, College of Agriculture, Department of Human Nutrition and Food Science; **Bonny Burns-Whitmore**, DrPH, RD, professor and director, Didactic Program in Dietetics, and graduate coordinator, California State Polytechnic University Pomona, College of Agriculture, Department of Human Nutrition and Food Science; and **Lisa Kessler**, DrPH, RD, interim associate dean, California State Polytechnic University Pomona, College of Agriculture, Department of Human Nutrition and Food Science.

Available online 8 December 2013
<http://dx.doi.org/10.1016/j.jand.2013.09.026>

*The terms *Hispanic* and *Latino* are used interchangeably in the literature to identify persons of Spanish-speaking origin or descent who designate themselves as Mexican-American, Chicano, Puerto Rican, Cuban, or of other Hispanic origin. This group is comprised of individuals with diverse backgrounds and countries of origin including South and Central America and the Caribbean, recent immigrants as well as those individuals whose families have been in the United States for generations. This article will use the term *Hispanic*.

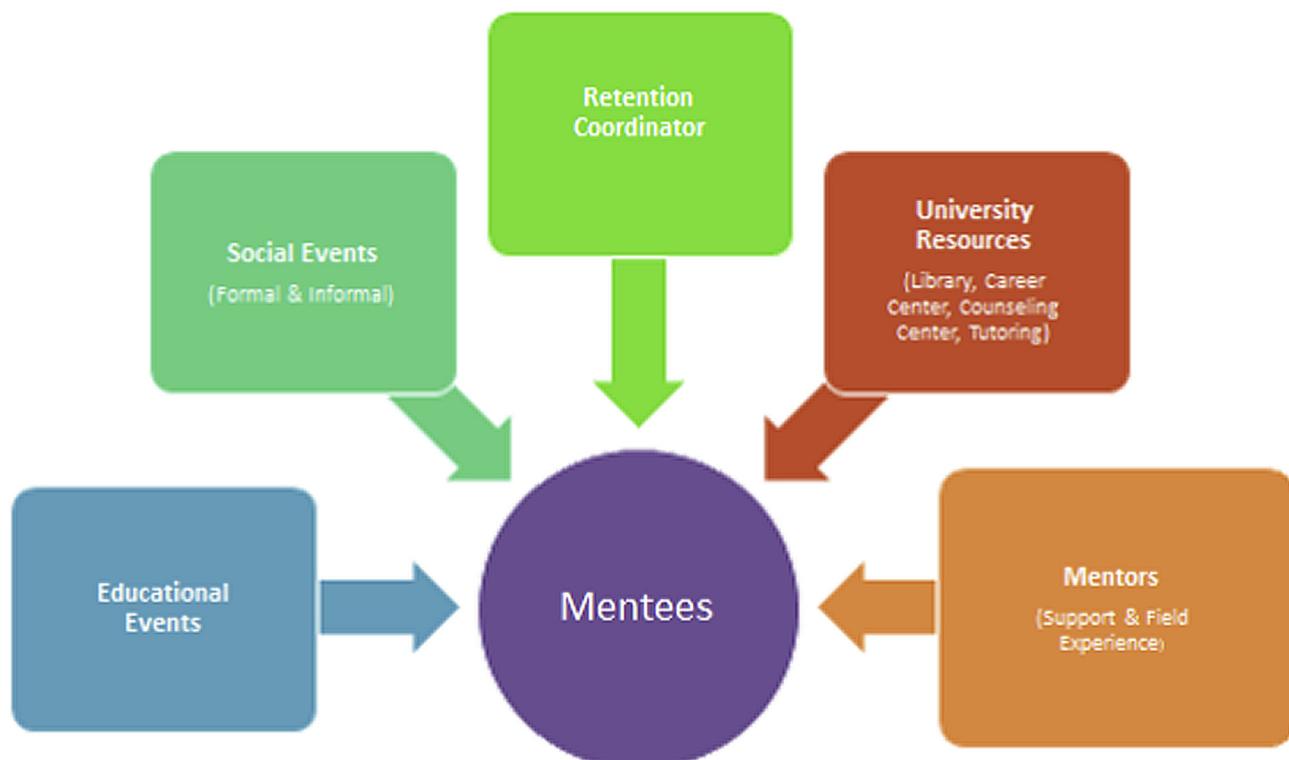


Figure. Estudiante de Dietético program model. Source: Adapted with permission²⁴: Gardner JD. A successful minority retention project. *J Nursing*. 2005;44(12):566-568.

the following: a retention coordinator, mentors with similar ethnic backgrounds and common personal and/or professional goals to their assigned mentee, opportunities to increase awareness and connectedness with university resources, inclusion of family, and field experience with RDNs and food and nutrition practitioners who service the Hispanic community. This mentoring project was funded in part by ADVANCE Transformation Grant 054826 from the National Science Foundation.

DESCRIPTION OF ESTUDIANTE DIETÉTICO MENTORING PROGRAM

The Estudiante Dietético mentoring program model was a synergistic effort to integrate didactic and experiential education with support from a retention coordinator, assigned mentor, and family. The role of the retention coordinator was to enhance cohesion in the student cohort, involve family, coordinate student involvement in the community, and facilitate use of university resources, as shown in the Figure.

Participants

California State Polytechnic University, Pomona, Institutional Review Board (Protocol 10-172) approved the study protocol and all participants provided written informed consent. The sample consisted of 30 undergraduate dietetics students recruited from the Estudiante Dietético program. After attending a presentation about the mentoring program, interested students completed the informed consent forms. Twenty-four students (23 women, one man) volunteered to participate. The mean age was ± 23.3 years (range, 19 to 33 years). Students reported their ethnicity as Mexican American 54% (n=13), other Hispanic 17% (n=4), white non-Hispanic 17% (n=4), Pacific Islander 8% (n=2), Asian Indian 4% (n=1), and black 0 (n=0). Demographic data and student expectations for the mentoring program were collected by surveys. A one-page biography, a recent photograph, and proof of negative tuberculosis test (needed to observe clinics) were required from each participant before starting the program. Written student reflections were collected after each field and mentor observation

experience. Before and after mentoring intervention assessments of satisfaction with the Human Nutrition and Food Science (HNFS) Department program were also assessed. A control group of 32 dietetics students not participating in the Estudiante Dietético curriculum or the mentoring program provided the department satisfaction comparison data. Before and after data were collected from 17 students (16 women, one man). Mean age for the control group was ± 22.4 years (range, 19 to 33 years), which was not significantly different from the participating group ($P<0.277$). Reported ethnicity for the control group (n=17) was as follows: white 53% (n=9), Asian 24% (n=4), Mexican American 6% (n=1), mixed race 18 % (n=3), and black 0 (n=0). The ethnicity of the control students sample was similar to the distribution of ethnicities in the department; however, there were fewer Hispanic students in the control sample.

Retention Coordinator

The retention coordinator is an RDN with 7 years' professional experience working with the Hispanic community

and is a graduate student in the University. She is Hispanic, biliterate in English and Spanish, and familiar with the difficulties a Hispanic student may experience in higher education. She conducted an informal voluntary needs assessment with each student to assess his or her academic situation and career goals. Thereafter, she was available to students through e-mail, telephone, and scheduled appointments at the University. The retention coordinator also scheduled all guest speakers, social gatherings, presentations, and resources provided by University Student Support Services.

Mentor Recruitment

The retention coordinator recruited mentors by contacting local RDNs and food and nutrition practitioners working with the Hispanic community through the HNFS Department alumni e-mail list, face-to-face meetings, telephone calls, e-mails, and referrals. A follow-up recruitment letter to interested RDNs and other nutrition professionals living within a 40-mile radius of campus was sent 2 months before the start of the program, explaining the program components as well as expectations for mentor availability and commitment. A total of 21 food and nutrition practitioners served as mentors, including 17 RDNs (12 working in nutrition education and five working in a clinical setting) and four public health professionals working in nutrition education. Although Hispanic RDNs were preferred as mentors, only four were available at the time of the study. Two Hispanic public health professionals were recruited to expand the number of similar ethnicity mentors. Mentors were asked to complete a one-page biography about their recent work experience, a brief personal background questionnaire, and supply contact information. Mentors attended an orientation provided by the retention coordinator about the expectations of the program and elements of good mentoring. Mentors were asked to permit their student mentee to shadow them in their work environment twice during the program. Mentors arranged this with their work environment before student visitation.

Mentor Matching

The retention coordinator matched students and mentors based on their

biographies, proximity of student living arrangements, student dietetics career goals, and mentor availability to provide worksite experience. Mentors with similar ethnic backgrounds were matched whenever possible because minority students are more motivated in higher education when role models of the same background are accessible.^{25,26} Because of the number of mentors, some students were matched with a mentor willing to work with two students. Mentors and students were introduced at the beginning of the academic year at a social event designed to introduce the program. Mentors established and sustained informal relationships with student mentees through telephone, e-mail, and occasional face-to-face meetings.

Dietetics Work Experience

Students were given the opportunity to shadow and/or assist a nutrition professional or nutrition educator within clinical, community, and nutrition education settings. Students controlled the amount of time they wanted to dedicate to work experience. Students were asked to complete one-page reflection summaries for each observed activity and to describe lessons learned through their experience.

Professional Development

A combination of didactic education and field experience has been shown to enhance student learning and motivation to succeed.²⁷ The didactic education and field experiences included bimonthly meetings with guest speakers who presented such topics as interviewing tips and study skills; presentations by the retention coordinator on personal growth strategies such as Strengthsquest,²⁸ which helps students identify and match strengths to a career-planning path; Spanish-language practice meetings; and dietetics-related skill building activities such as carbohydrate counting, counseling patients, and delivering nutrition education. In addition, in order to stimulate mentor and mentee interactions, the retention coordinator designed and facilitated two hands-on, interactive workshops. One workshop involved reviewing and practicing writing problem, etiology, and signs/symptoms statements under the

guidance of a clinical RDN. The other workshop involved the mentors and mentees in pairs presenting a cooking demonstration for the group.

Social Events

Because lack of familial support can significantly impact student attrition,^{18,29} two family-centered gatherings were held during the academic year. A "Family Night" was held to invite parents and significant others to learn about the program, understand the rigor of the dietetics coursework, and meet the program's faculty, mentors, and the retention coordinator. The "End of Year Dinner" was held to recognize students, their families, and their mentors for their accomplishments and their dedication to the program and dietetics profession. These activities are important because a successful strategy in retaining Hispanic college students involves integrating and educating the whole family about the college experience³⁰ and recognizing student accomplishment.³¹

University Services

The retention coordinator provided orientations on the academic support services offered by the University. Students were strongly encouraged to seek services such as computer skills training, public speaking, tutoring, and participating in mock job interviews. If students were struggling with an academic course, the retention coordinator helped them develop a plan to improve their achievement, including formation of small peer study groups, tutoring, and asking for additional support from the course instructor. Students who sought Student Support Services were asked for evidence of participation.

ASSESSMENT

Several measures were used to assess success of the program in meeting its goals. These include perceived support and satisfaction, attendance, reflections, and analysis.

Perceived Support and Satisfaction

Using a five-score (strongly disagree, disagree, neutral, agree, and strongly agree) rating scale and questions

Table. Ratings of overall satisfaction in the Estudiante de Dietético mentoring program

Item	Strongly agree % (n)	Agree % (n)	Neither agree nor disagree % (n)	Disagree % (n)	Strongly disagree % (n)
1. The program offered practical information and advice	88 (21)	13 (3)	0 (0)	0 (0)	0 (0)
2. The program increased my competency to work with the high-risk population	71 (17)	17 (4)	13 (3)	0 (0)	0 (0)
3. The program enhanced my self-confidence as a working professional	75 (18)	21 (5)	4 (1)	0 (0)	0 (0)
4. The program components met my needs	71 (17)	25 (6)	4 (1)	0 (0)	0 (0)

adapted from the Affirming At-Risk Minorities for Success study,²⁶ participants rated their level of perceived support in professional development, academics, and field experience received from the HNFS Department. Participants also rated their level of satisfaction with professional development, academic support, field experience and mentor accessibility, effectiveness, accessibility of the retention coordinator, and overall satisfaction with the mentoring program. Ratings were made both before (early October) and at the conclusion (end of May) of the study. This measure was used to compare participants in the Estudiante Dietético mentoring program with the control group.

Attendance

Attendance was recorded at meetings, workshops, field experience, and social events for participants, mentors, and family members throughout the program.

Reflections

Mentees wrote reflections after a mentor site visitation, field experience, or workshop attendance. These were evaluated using Krueger's systematic transcription-based content analysis methods³² to determine whether there were themed responses. Among the mentees, 17 of the 24 (71%) students provided written personal reflections.

Analysis

Of the 24 student mentees enrolled, 23 (96%) completed the mentoring program. All Hispanic students in the mentoring program ($n = 17$) were retained and continued as dietetics students at the program's conclusion. Although one student dropped out of the mentoring program, data on all 24 were used in the analysis. There was no significant difference between perceived HNFS Department support among student mentees compared with the control group. The **Table** provides the results on those questions related to student satisfaction with the mentoring program.

Satisfaction Results

All (100%) students agreed or strongly agreed that their professional skills increased at the conclusion of the program, 22 of 23 students (96%) agreed that the field experience was a good use of their time, and 20 of 23 students (87%) agreed that their mentor encouraged them and provided adequate support. Availability of the retention coordinator was very important to the students; 20 of 23 (87%) students strongly agreed that she made herself available when the students needed assistance. In addition, the retention coordinator was an important source of support for the academic and professional goals of the students; 71% of students strongly agreed that they believed she supported their

academic goals, and 83% of students ($n=20$) strongly agreed she supported their professional goals.

Student attendance at events ranged from 52% to 88% ($n=24$). The highest student attendance was for the interactions/observations with their mentors, which reached 68% to 88%. Mentor attendance at meetings averaged 36%, and the average attendance of students' significant others was 42%.

Two RDNs evaluated the 17 students' written reflections. The reflections were organized into themes using Krueger's Grounded Theory guidance techniques.^{32,33} The following themes emerged: appreciation of their interaction with their mentor and the retention coordinator, and appreciation for their field experience. Three students reported that they were "sometimes frustrated by schedules that conflicted with their mentor's availability." Several students reported that their attendance at events was dependent on their other work assignments and academic workloads and not on their interest in the topic. Two quotations summarized students' feelings about the mentoring program: "This has been one of the best experiences in my college career thus far," and "... it was very comforting to know I can come to her [the retention coordinator] whether I have a personal or academic dilemma."

LESSONS LEARNED

Having a retention coordinator who is Hispanic and can empathize with

students' experiences, and who can serve as a liaison between the mentors, the faculty, and the students, was an important factor in this mentoring program. Students considered the retention coordinator to be highly valued and a role model, "... someone trustworthy we can go to for help." Another important lesson is the need for better communication with department faculty to avoid conflicts between scheduled mentoring events and midterm exams or large class projects. It is hoped that better communication will increase student attendance at the events.

In addition, student responses suggest that more emphasis should be placed on informing the mentors of their role and of including family/significant others in more events. This mentoring program provided professional development, camaraderie, and connection with the field of dietetics and the HNFS Department. Continuation and assessment of the long-term retention rates and dietetics internship success rates of these students compared with Hispanic students who are not involved in a mentoring program should be done. This initial mentoring experience suggests that the Estudiante Dietético project has the potential to increase the number of well-trained Hispanic RDNs. This is not only an important departmental program goal (students be culturally competent), but it contributes to the diversification of the dietetics profession, thereby helping to decrease some of the racial/ethnic disparities in health care.

References

1. Academy of Nutrition and Dietetics. Diversity philosophy statement. <http://www.eatright.org/About/Content.aspx?id=7600&terms=diversity+philosophy+statement>. Accessed November 8, 2011.
2. American Dietetic Association, Commission on Dietetic Registration. American Dietetic Association/Commission on Dietetic Registration code of ethics for the profession of dietetics and process for consideration of ethics issues. *J Am Diet Assoc.* 2009;109(8):1461-1467.
3. Diversity. Academy of Nutrition and Dietetics, Accreditation Council for Education and Dietetics website. <http://www.eatright.org/CADE/content.aspx?id=110>. Accessed November 8, 2011.
4. Diversity Mentoring Toolkit. American Dietetic Association website. <http://www.eatright.org/CADE/content.aspx?id=6442450959>. Accessed on June 5, 2011.

5. Kessler LA, Burns-Whitmore B, Wallace SR. Focus groups reveal dietetic students opinions on the addition of cultural competency training to the dietetics curriculum. *NACTA J.* 2010;54(4):2-6.
6. Heiss CJ, Rengers B, Fajardo-Lira C, Henley SM, Bizeau M, Gillette CD. Preparing dietetics practitioners to effectively serve the Hispanic population. *J Am Diet Assoc.* 2011;111(3):359-364.
7. US Department of Health and Human Services. The Office of Minority Health. Appendix A. Standards for Maintaining, Collecting and Presenting Federal Data on Race and Ethnicity. Federal Register. http://www.whitehouse.gov/sites/default/files/omb/assets/information-an-regulatory-affairs/re_app-a-update.pdf. Published October 30, 1997. Accessed June 4, 2011.
8. Fry R. *Latinos in Higher Education: Many Enroll, Too Few Graduate*. Washington, DC: Pew Hispanic Center; 2002:3-12.
9. US Census Bureau. Educational attainment in the United States: 2003. <http://www.census.gov/prod/2004pubs/p20-550.pdf>. Published June 2004. Accessed June 25, 2013.
10. Martinez CR, DeGarmo DS, Eddy JM. Promoting academic success among Latino youths. *Hispanic J Behavioral Sci.* 2004; 26(2):128-151.
11. Tinto V. The dimensions of institutional action. In: *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Chicago, IL: University of Chicago Press; 1993:150-160.
12. Booker K. Perceptions of classroom belongingness among African-American college students. *College Student J.* 2007;41(1):178-186.
13. Rodriguez N. Predicting the academic success of Mexican American and white college students. *Hispanic J Behav Sci.* 1996;18(3):329-342.
14. Strage A. Predictors of college adjustment and success: Similarities and differences among Southeast-Asian-American, Hispanic, and white students. *Education.* 2000;120(4):731-740.
15. Wawrzynski MR, Sedlacek WE. Race and gender differences in the transfer student experience. *J College Student Dev.* 2003; 44(4):489-501.
16. Ceballo R. From barriers to Yale: the role of parenting strategies in Latino families. *Hispanic J Behav Sci.* 2004;26(2):171-186.
17. Phinney JS, Ong A, Madden T. Cultural values and intergenerational value discrepancies in immigrant and non-immigrant families. *Child Development.* 2000;71(2):528-539.
18. Tseng V. Family interdependence and academic adjustment in college: Youth from immigrant and US-born families. *Child Development.* 2004;75(2): 966-983.
19. Borres V, Arredondo P. Mentoring and first year Latino/a college student. *J Hispanic Educ.* 2005;4(2):114-133.
20. Campos CM, Phinney JS, Perez-Brena N, et al. A mentor-based targeted intervention for high-risk Latino college freshmen. *J Hispanic Educ.* 2009;8(2):158-178.
21. Doley J. English as a second language dietetic students: lessons from nursing to facilitate learning experiences in dietetic internships. *J Am Diet Assoc.* 2010; 110(12):1806-1809.
22. Ralston PA. Diversifying the health professions: a model program. *Am J Health Behav.* 2003;27(3):235-245.
23. Wilson ZS, Holmes L, deGravelles K, Sylvain MR, Batiste L, Johnson M, McGuire SY, Pang SS, Warner IM. Hierarchical mentoring: a transformative strategy for improving diversity and retention in undergraduate STEM disciplines. *J Sci Educ Technol.* 2011;11(6):956-965.
24. Gardner JD. A successful minority retention project. *J Nursing.* 2005;44(12):566-568.
25. Fuertes JN, Sedlacek WE. Needs and interests of Hispanic students. *College Student Affairs J.* 1990;10(2):16-21.
26. Sutherland JA, Hamilton MI, Goodman N. Affirming at-risk minorities for success (ARMS): Retention, graduation and success on the NCLEX-RN. *J Nurs Educ.* 2007;46(8):347-353.
27. Karimi R, Arendt CS, Cawley P, Buhlet AV, Elbarbry F, Roberts SC. Learning bridge: curricular integration of didactic and experiential education. *Am J Pharm Educ.* 2010;74(3):48-50.
28. Clifton EO, Anderson E, Schreiner L. *Strengthsquest*. 2nd ed. New York, NY: Gallop Press; 2006.
29. Solberg SV, Valdez J, Villarreal P. Social support, stress, and Hispanic college adjustment: Test of a diathesis-stress model. *Hispanic J Behav Sci.* 1994;16(3): 230-239.
30. Gilroy M. Tools for success in recruiting and retaining Hispanic students. *Hispanic Outlook Higher Educ.* 2010;20(5): 32-34.
31. Longbeam SD, Sedlacek WE, Alatorre HM. In their own voices: Latino student retention. *J Student Affairs Res Pract.* 2004;41(3):538-550.
32. Krueger RA. Analyzing focus group results. In: *Focus Groups: A Practical Guide for Applied Research*. 2nd ed. London, UK: Sage Publications; 1994: 120-139.
33. Krueger RA, Casey MA. Analyzing focus group results. In: *Focus Groups: A Practical Guide for Applied Research*. Thousand Oaks, CA: Sage Publications; 2000: 100-118.

FUNDING/SUPPORT

This work was partially supported by US Department of Agriculture-Hispanic Serving Institution grant 2009-01198 and by the National Science Foundation grant 054826.

ACKNOWLEDGEMENTS

The authors thank and acknowledge the assistance with manuscript editing performed by Nancy Alvarado, PhD, associate professor in psychology and sociology at the California State Polytechnic University in Pomona.