

## Ethnic identity, academic achievement, and self-esteem among Mexican-American university students

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This study examines the relationship between ethnic identity, academic achievement, and self-esteem among a sample of Mexican-American students at a predominantly European-American university. Mexican-American students reported a significantly stronger sense of ethnic identity relative to European-American students on a standardized measure of ethnic identity (Phinney, 1992). High scores on the ethnic identity measure were significantly correlated to a measure of self-esteem for both Mexican-American students and European-American students, but did not predict academic achievement for either group as measured by overall grade point average when sex and age were controlled for. Results and implications for the meaning of ethnic identity in a multi-cultural society are discussed as well as directions for future research.

*Key words:* ethnic identity, academic achievement, self-esteem, university students

Identity is an issue of longstanding interest in the social sciences (e.g., Erikson, 1963; Marcia, 1980). It was Erikson (1968) who first gave prominence to the belief that the primary work of adolescence was to develop a stable sense of identity. While Erikson believed that the quest towards identity was a life long journey, he theorized that it began most forcefully in adolescence and continued to be of primary importance well into early adulthood.

Although identity can be viewed as a unitary psychological construct, it is helpful to think of identity as having many dimensions. For example, an adolescent may develop an identity as a student, an athlete, a female/male, a son/daughter, a boyfriend/girlfriend, a heterosexual/homosexual, an African-American/Irish-American, and so forth. For many individuals, ethnic identity<sup>1</sup> is an important compo-

nent of overall identity (Phinney, 1992), and is believed to be a critical determinant of many aspects of social adjustment such as school achievement, health behaviors, and psychological functioning (e.g., Phinney & Kohatsu, 1997; Sellers, Chavous, & Cooke, 1998).

While certain historical aspects of ethnic identity and related behaviors may vary cross-culturally, there appear to be central issues of ethnic identity that are uniform regardless of culture. In a large cross-cultural study, Daniel Offer and his colleagues surveyed adolescents from ten different nations about identity related issues (Offer, Ostrov, Howard, & Atkinson, 1988). The majority of adolescents in this sample, regardless of their nation of origin, held similar views about their relationships with their families, educational goals, the importance of social relationships, and moral values. Although there were some gender and age differences within the sample (Offer et al., 1988), few differences were observed in key aspects of identity across cultures.

Ethnic identity also appears to be an important issue in higher education in the United States as well. Researchers such as Jean Phinney (1996) have increasingly sought to understand how ethnic identity operates within a multi-cultural society. One assumption is that ethnicity will disadvantage students in important ways that are not always well understood (Lemay & Asmore, 2004). Some research has argued that ethnic group membership must necessarily negatively impact achievement through mechanisms such as stereotype threat, or require an individual to move away from a strong ethnic identification in order to successfully navigate the educational system (Contrada et al., 2000).

<sup>1</sup> Phinney (1996) defines ethnic identity as "an enduring, fundamental aspect of the self that includes a sense of membership in an ethnic groups and the attitudes and feelings associated with that membership" (p. 922).

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Minority students in the United States are less likely to complete high school or enter college than European-American students (U.S. Department of Education, National Center for Education Statistics, 2005). For example, the U.S. Department of Education estimates that the high school dropout rate for Mexican-Americans adolescents is approximately 35% compared to only 8.9% for European-Americans. However, many researchers believe that these figures underestimate the problem (Chavez, Oetting, & Swaim, 1994). In addition, the psychological consequences of a failure to attain important educational goals extend far beyond being academically and professionally unprepared for future employment. Individuals who fail to complete high school are more likely to experience excessive alcohol use (Arellano, Chavez, & Deffenbacher, 1998) and to engage in delinquent acts (O'Malley, Bachman, & Johnston, 1977). These effects appear to be particularly deleterious for Hispanic students (Arellano et al., 1998).

More recently, the number of minority students entering institutions of higher education in the United States has increased significantly. Approximately 32-33% of students granted higher education degrees in the United States during the 2003-2004 academic year were minority students (U.S. Department of Education, National Center for Education Statistics, 2005) reflecting a growing trend of access and opportunity for minority students unparalleled in American history. While financial resources continue to be an important determinant of access to education, staying in school and doing well continue to be important determinants of success in American society. How then does ethnicity impact on this process (e.g., Sellers et al., 1998)?

In order to more fully understand the interplay between ethnic identity and academic achievement, idiographic research techniques have been employed by some investigators to examine the experiences of individual students in a high school or college setting. For example, Fries-Britt and Turner (2001) conducted focus groups and interviews with 15 academically successful African-American students who were attending a predominantly European-American school. Many of the students they interviewed reported facing stereotypes that eroded important aspects of their academic sense of self (Fries-Britt & Turner, 2001). Students complained about not getting respect from both their European-American peers as well as their professors. These academically successful students felt that they continually needed to prove themselves academically to those around them. These findings have been supported by other studies that describe similar negative experiences for African-American students at predominantly European-American institutions (e.g., Smedley, Myers, & Harrell, 1993; Steele, 1997). In spite of these negative implications, is it possible that there are positive, adaptive advantages to a strong sense of ethnic identity?

Some research supports a more positive association between ethnic identity and academic performance. An

idiographic study of academically successful Puerto Rican students in a Chicago high school by Flores-Gonzalez (1999) found that most participants were able to maintain their ethnic identity and still succeed academically. These students believed that they were being true to their Puerto Rican heritage and were not accused of being un-Puerto Rican or acting like European-Americans by achieving good grades. Although Fordham and Ogbu (1986) found that some African-American students were ostracized and even physically assaulted for doing well in school, research suggests that a negative experience is not universal for high achieving teens.

In addition to the link between ethnic identity and academic achievement, research also indicates a positive association between ethnic identity and self-esteem (Chavira & Phinney, 1991; Phinney, 1992), especially for minority students. While this connection has been examined extensively for minority groups such as African-American students, there has been less research on this connection for Mexican-American students (Porter & Washington, 1993). Still, Flores and Rodriguez (1996) found an inverse relationship between high scores on a measure of ethnic identity and depression for Hispanic college students, but not for African-American college students. It appears that in some cases a strong ethnic identity may help to buffer someone from the sometimes difficult transition to college and potential psychological problems associated with it (see also Flores, Rodriguez, & Iuzzini, 1996).

The aforementioned links between ethnic identity, academic achievement, and self-esteem suggest several important questions worthy of investigation. For example, is ethnic identity equally salient for all racial and ethnic groups in all circumstances? Is ethnic identity more salient when one is a member of a small ethnic minority population within a larger community group? This study attempts to answer some of the above questions by measuring the presence of ethnic identity in a large ethnically mixed population of university students and examining what effect, if any, a strong ethnic identity has on academic achievement and self-esteem.

Phinney (1992) has created an ethnic identity measure for use with individuals across a variety of ethnic groups. In developing the Multigroup Ethnic Identity Measure (MEIM), she has attempted to create an assessment device which would allow the study of ethnic identity as a general phenomenon. In this way, researchers could study and compare the ethnic identity experiences of Asian-Americans, Native Americans, African-Americans, Mexican-Americans, and many other groups. Phinney and her colleagues have found that high levels of ethnic identity in African-American students (as assessed by the MEIM) to be positively related to self-esteem (Chavira & Phinney, 1991; Phinney, 1992; Roberts et al., 1999), and negatively related to mental health problems such as loneliness and depression (Roberts et al., 1999; see Phinney & Kohatsu, 1997 for a review).

We attempted to replicate Phinney's research on the connection between strong ethnic identity and higher levels of self-esteem in a college sample composed of predominantly Mexican-American and European-American students. The student population at Texas A&M – Corpus Christi (TAMU-CC) provides a unique opportunity to examine the ethnic identity of Mexican-American students at a predominantly European-American university who represent a population majority in the local community. In addition to examining the relationship between self-esteem and ethnic identity, this study also sought to explore the relationship between ethnic identity and academic achievement.

## METHOD

### Participants

A total of 516 college students participated in this research project. They were recruited from various undergraduate psychology and sociology courses at a medium-sized public university and from a two-year college in the same community. Approximately 47% ( $n = 242$ ) of the participants identified themselves as Caucasian, 35% ( $n = 181$ ) as Hispanic, 9% ( $n = 48$ ) as "mixed", and 4% ( $n = 21$ ) as African-American. Those that identified themselves as Asian-American, American Indian, and "other" accounted for less than 5% of the sample.

The average age of the respondents was 23.42 ( $SD = 7.05$ ) with the modal age category being 19 ( $n = 111$ ). There were 131 males (approximately 25%) in the sample and 378 females (approximately 73%). Over 75% of the sample ( $n = 392$ ) reported being "never married", while approximately 65% of the sample ( $n = 336$ ) worked either full- or part-time.

### Procedure

All of the participants were given the Multigroup Ethnic Identity Measure (Phinney, 1992). This 20-item scale was developed in order to "measure [those] aspects of ethnic identity that are common to all members of ethnic minority groups" (Phinney, 1992, p. 163). In addition to providing an overall measure of ethnic identity, it is composed of several subscales which Phinney labeled "Affirmation and Belongingness," "Ethnic Identity Achievement," "Ethnic Behaviors and Practices," and "Other Group Orientation." Due to restrictions in access to students' academic records, we asked the students to provide us with an estimate of their college grade point average as a measure of academic success. We asked students to provide a variety demographic information including sex, age, marital status, employment status, parents' combined income, and father's educational college. A single-item measure (Robins, Hendin, & Trzes-

niewski, 2001) was used to assess self-esteem (measured by the degree of agreement/disagreement to the statement "I have high self-esteem"). This measure correlates highly with other standard measures of self-esteem such as the Rosenberg Self-Esteem Scale (Rosenberg 1965; see Robins, Hendin, & Trzesniewski, 2001 for a full discussion of the reliability and validity of the scale).

In addition, we asked the students to respond to a set of experimenter-generated items that sought to examine potential factors that we believe might impact on academic success. These included items concerning their family (e.g., "My family does not really wish for me to get a college degree"), their experiences in college (e.g., "I feel very comfortable talking in class"), and their attempt to balance work and school (e.g., "Finding enough time to study is not a problem for me").

## RESULTS

*Reliabilities.* Phinney (1992) reported an internal consistency estimate for the total Ethnic Identity score of her college sample as .90; our value of .88 was a near match. In fact, our sample of 516 was significantly larger and a bit more diverse than her sample of 136. A further examination of the internal consistency estimates for each of the ethnic groups showed that the highest estimates were for African Americans ( $n = 21$ ,  $\alpha = .94$ ), those of Mixed ethnic background ( $n = 48$ ,  $\alpha = .89$ ), and Hispanic ( $n = 181$ ,  $\alpha = .87$ ). The weakest internal consistency estimate was for the European-American respondents ( $n = 242$ ,  $\alpha = .84$ ). It may be that European-American respondents represent a more heterogeneous group than those identified as minority groups, or are simply not used to thinking about ethnic identity in quite the same way as minority students. The correlations among the ethnic identity components also show the same pattern as Phinney's data, with strong positive correlations among the "Affirmation/Belonging," "Ethnic Identity Achievement," and "Ethnic Behaviors" scales, with each of

Table 1  
Correlations among ethnic identity components

	Phinney sample ( $N = 136$ )			TAMU-CC ( $N = 516$ )		
	Affirm/ belong	ID achieve	Ethnic behaviors	Affirm/ belong	ID achieve	Ethnic behaviors
ID achieve	.79**			.65**		
Ethnic behaviors	.60**	.59**		.53**	.55**	
Other-group orientation	.07	.06	.03	-.02	.09*	-.02

Note. Affirm/belong=Affirmation and belongingness; ID achieve=Ethnic identity achievement.

\*  $p < .05$ . \*\*  $p < .01$ .

Table 2

Means and standard deviations for ethnic identity components

	Phinney sample (N = 136)		TAMU-CC (N = 516)	
	M	SD	M	SD
Ethnic identity	3.04	0.59	2.95	0.54
Affirmation/belongingness	3.36	0.59	3.31	0.61
Ethnic identity achievement	2.90	0.64	2.82	0.60
Ethnic behaviors	2.67	0.85	2.50	0.77
Other-group orientation	3.25	0.51	3.56	0.47

Table 3

Mean comparisons of Mexican-Americans and European-Americans on the major ethnic identity measures

Item	Mexican-Americans (n = 181)		European-Americans (n = 242)		t
	M	SD	M	SD	
Ethnic ID score	3.15	0.48	2.79	0.49	7.51**
Affirmation/belongingness	3.51	0.49	3.18	0.60	6.04**
Ethnic identity achievement	3.00	0.54	2.65	0.54	6.63**
Ethnic behaviors	2.74	0.72	2.28	0.76	6.23**
Other group orientation	3.57	0.40	3.51	0.53	1.26

\*p < .05. \*\*p < .01.

these having no relationship with the “Other-Group Orientation” scale (Table 1).

**Group Comparisons.** In our sample, there was a positive correlation between Ethnic Identity and self-esteem ( $r(179) = .28, p < .01$ ) for the Mexican-American respondents but not for the European-American respondents ( $r(239) = .12, n.s.$ ). These results are similar to Phinney’s (1992) sample; she found a positive relationship between Ethnic Identity and self-esteem when all minorities were combined into one category, but not for European-Americans.

The overall means and standard deviations on each of the scales are remarkably similar to those obtained by Phinney (1992) in her college sample (Table 2). A series of t-tests designed to compare Mexican-Americans versus European-Americans yielded statistically significant differences on all of the Ethnic Identity measures save “Other Group Orientation” (these are listed in Table 3). In order to control for familywise error rate with several mean comparisons, a modified Bonferroni correction (Keppel, 1982) was employed; all t-values were still statistically significant beyond the new significance level. However, because the items making up Affirmation & Belonging, Ethnic ID Achievement, and Ethnic Behaviors are all included in Aethnic ID score, these should be interpreted with some caution.

As can be seen, Mexican-Americans scored higher than European-Americans on the total Ethnic Identity Score, as well as on the Affirmation and Belongingness, Ethnic Identity Achievement, and Ethnic Behaviors scales. None of the experimenter-generated items were significantly correlated to ethnic identity in either the Mexican-American or European-American groups.

We proceeded to perform hierarchical multiple regressions with either self-esteem or academic achievement (i.e., Grade Point Average) as the dependent variables for the Mexican-American, European-American, and Mixed samples. Ethnic identity did not account for a significant amount of variance in academic achievement (as measured by the students’ GPA) after controlling for sex and age in the Mexican-American, European-American, or Mixed samples.

Next, sex and age were entered in Step 1 of the second hierarchical regression with self-esteem as the dependent variable for the Mexican-American sample. These accounted for just over 1 percent of the variance in self-esteem ( $F(2, 175) = 1.05; p = .35$ ). Step 2 added Ethnic Identity, accounting for 9 percent of the variance ( $\Delta R^2 = .08, F(3, 174) = 5.76, p < .01$ ). Therefore, Ethnic Identity was able to significantly predict self-esteem, after controlling for the effects of sex and age for Mexican-American respondents (see Table 4).

Table 4

Summary of multiple regression analysis for ethnic identity predicting self-esteem (Mexican-American only)

Variable/Step	R <sup>2</sup>	ΔR <sup>2</sup>	β	SE β
Step 1	.012			
Sex			.233	.167
Age			-.005	.010
Step 2	.090	.078**		
Ethnic ID			.542**	.140

Note: N = 178.  
\*p < .05. \*\*p < .01.

Table 5

Summary of multiple regression analysis for ethnic identity predicting self-esteem (European-American only)

Variable/Step	R <sup>2</sup>	ΔR <sup>2</sup>	β	SE β
Step 1	.028			
Sex			.375*	.146
Age			.001	.010
Step 2	.044	.016*		
Ethnic ID			.255*	.128

Note: N = 239.  
\*p < .05. \*\*p < .01.

The same regression analysis was run with the European-American sample. Again, sex and age were entered in Step 1 with self-esteem as the dependent variable. These accounted for almost 3 percent of the variance in self-esteem ( $F(2, 236) = 3.21; p < .05$ ). Step 2 added Ethnic Identity, accounting for over 4 percent of the variance ( $\Delta R^2 = .02$ ,  $F(3, 235) = 3.62, p < .05$ ). Again, Ethnic Identity was able to significantly predict self-esteem, after controlling for the effects of sex and age for the European-American respondents as well (see Table 5). There was no significant relationship between Ethnic Identity and self-esteem for those of Mixed ethnicity.

## DISCUSSION

The results of the present study support the use of the MEIS (Phinney, 1992) as a global measure of ethnic identity with Mexican-American students. The reliability estimates for Phinney's original sample and our study were essentially the same, although our minority sample was primarily Mexican-Americans and represented a much larger sample size overall. The pattern of correlations between scales was also similar in the two studies. These data lend empirical credence to the conceptualization of ethnic identity as a unitary construct that can indeed be measured by one instrument across different ethnic groups.

As stated previously, although Mexican-Americans are a statistical majority in the geographic area in which these data were collected, they would be considered a minority group by national population standards and in the local university population as well. While it might be assumed that when an ethnic group holds numeric majority as well as cultural prominence in a particular geographic area, ethnic identity would become less important. However this does not appear to be the case in our sample. Although Mexican-Americans are 55% of the population of the city in which the study was conducted and European-Americans are 39% (U.S. Census Bureau, 2000), a higher degree of ethnic identity for Mexican Americans remains. Therefore, we surmise that there are other factors that contribute to the need to identify with one's ethnic group even when the minority group is a numerical majority. Given the strong relationship found between ethnic identity and self-esteem for Mexican-American students in our sample, it may be that ethnic identity is more salient for Mexican-Americans in a university environment for a variety of reasons. The same relationship holds for the European-Americans in our sample, but to a lesser degree. Previous studies have demonstrated similar effects for African-American students in academic environment (Fries-Britt & Turner, 2001), albeit in a negative way.

While higher levels of self-esteem are correlated with higher levels of ethnic identity among the students in our sample, neither self-esteem nor overall ethnic identity scores significantly correlate with or predict academic success as measured in this study. Therefore, it appears that for

this group ethnic identity and self-esteem--while present and salient--are not significantly related to our measure of academic success. One of the limitations of this study is its reliance on Grade Point Average as the sole criterion of academic success. Expanding the operational definition of academic success to include factors such as successful completion of degree, time to completion of degree, and post-degree occupational success seems warranted. It may be that these two groups define academic success in essentially different ways; for Mexican-American students in our study, many of whom are first generation college students, access to and completion of a higher degree may represent an academic milestone that is less meaningful to European-American students.

Finally, as a result of these findings, the focus of our research will expand to include identification and exploration of other roles that ethnic identity plays in an individual's everyday life, plus the identification of social factors that influence the salience of ethnic identity. The prevailing literature indicates that membership in an ethnic minority group becomes important when the members identify themselves as different or separate from the dominant group (Garcia, 1982; Keefe & Padilla, 1987; Porter & Washington, 1993). However, there are individual differences as well; sometimes individuals always feel part of their ethnic group, while at other times group membership is less meaningful. It may be that the competitiveness fostered in the typical academic environment is more meaningful at the individual rather than at the group level. Future studies which combine idiographic and standardized assessment methodologies may be useful in attempting to tease out these factors. For instance, high and low ethnic identity subjects could be identified using standardized measures, after which ideographic techniques such as focus groups could be used to explore the relationship between identity and the college experience. It may be that there are critical aspects of the minority group experience that could be fostered to improve the quality of the educational environment and augment successful experiences for a wider variety of students.

## REFERENCES

- Arellano, C. M., Chavez, E. L., & Deffenbacher, J. L. (1998). Alcohol use and academic status among Mexican American and European-American non-Hispanic adolescents. *Adolescence, 33*, 751-760.
- Chavez, E. L., Oetting, E. R., & Swaim, R. C. (1994). Dropout and delinquency: Mexican-American and Caucasian non-Hispanic youth. *Journal of Clinical Child Psychology, 23*, 47-55.
- Chavira, V., & Phinney, J. S. (1991). Adolescent's ethnic identity, self-esteem, and strategies for dealing with ethnicity and minority status. *Hispanic Journal of Behavioral Sciences, 13*, 226-227.

- Contrada, R. J., Asmore, R. D., Gary, M. L., Coups, E., Egegh, J. D., Sewell, A., Ewell, K., Goyal, T. M., & Chasse, V. (2000). Ethnicity-related sources of stress and their effects on well-being. *Current Directions in Psychological Science*, 9, 136-139.
- Erikson, E. H. (1963). *Childhood and Society* (2nd ed.). New York: Norton.
- Erikson, E. H. (1968). *Identity: Youth and Crisis*. New York: Norton.
- Flores, S. A., & Rodriguez, M. L. (June, 1996). The buffering effects of ethnic identity in adjustment to college. Paper presented at the annual meeting of the Society for the Psychological Study of Social Issues, Ann Arbor, MI.
- Flores, S. A., Rodriguez, M. L., & Iuzzini, J. L. (March, 1996). Ethnic identity and emotional and academic adjustment in minority college students. Paper presented at the annual meeting of the Eastern Psychological Association, Philadelphia, PA.
- Flores-Gonzalez, N. (1999). Puerto Rican high achievers: An example of ethnic and academic identity compatibility. *Anthropology and Education Quarterly*, 30, 343-362.
- Fordham, S., & Ogbu, J. U. (1986). Black student's school success: Coping with the burden of acting White. *The Urban Review*, 18, 176-206.
- Fries-Britt, S. L., & Turner, B. (2001). Facing stereotypes: A case study of Black students on a White campus. *Journal of College Student Development*, 42, 420-429.
- Garcia, J. A. (1982). Ethnicity and Chicanos: Measurement of ethnic identification, identity, and consciousness. *Hispanic Journal of Behavioral Sciences*, 4, 295-314.
- Keefe, S. E., & Padilla, A. M. (1987). *Chicano Ethnicity*. Albuquerque: University of New Mexico Press.
- Keppel, G. (1982). *Design and Analysis: A researcher's handbook* (2nd ed.). New Jersey: Prentice-Hall, Inc.
- Lemay, E., & Ashmore, R. (2004). Reactions to perceived categorization by others during the transition to college: Internalization and self-verification processes. *Group Processes & Intergroup Relations*, 7, 173-187.
- Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.) *Handbook of adolescent psychology* (pp. 159-187). New York: Wiley.
- Offer, D., Ostrov, E., Howard, K. L., & Atkinson, R. (1988). *The teenage world: Adolescent's self-image in ten countries*. New York: Plenum.
- O'Malley, P. M., Bachman, J. G., & Johnston, J. (1977). *Youth in transition. Final report: Five years beyond high school: Causes and consequences of educational attainment*. Ann Arbor, MI: Institute for Social Research.
- Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7, 156-176.
- Phinney, J. S. (1996). Understanding ethnic diversity. *The American Behavioral Scientist*, 40, 143-152.
- Phinney, J. S., & Kohatsu, E. L. (1997). Ethnic and racial identity development and mental health. In J. Schulenberg & J. L. Maggs (Eds.), *Health risks and developmental transitions during adolescence* (pp. 420-443). New York: Cambridge University Press.
- Porter, J. R., & Washington, R. E. (1993). Minority identity and self-esteem. *Annual Review of Sociology*, 19, 139-161.
- Roberts, R. E., Phinney, J. S., Masse, L. C., Chen, Y. R., Roberts, C. R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *Journal of Early Adolescence*, 19, 301-322.
- Robins, R. W., Hendin, H. M., & Trzesniewski, K. H., (2001). Measuring global self-esteem: Construct validation of a single-item measure of the Rosenberg self-esteem scale. *Personality and Social Psychology Bulletin*, 27, 151-161.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Sellers, R. M., Chavous, T. B., & Cooke, D. Y. (1998). Racial ideology and racial centrality as predictors of African American college students academic performance. *Journal of Black Psychology*, 24, 8-27.
- Smedley, B., Myers, H., & Harrell, S. (1993). Minority-status stresses and the college adjustment of ethnic minority freshmen. *Journal of Higher Education*, 64, 434-452.
- Steele, C. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. *American Psychologist*, 52, 613-629.
- U.S. Census Bureau (2000). Census 2000 Redistricting (Public Law 94-171) Summary File.
- U.S. Department of Education, National Center for Education Statistics. (2005). *Post-Secondary Institutions in the United States: Fall 2003 and Degrees and Other Awards Conferred: 2003-200* (NCES 2005-154).