**Embargo Policy**

All AERA Annual Meeting papers are embargoed until the date and time they are presented at the conference.

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AERA Media Contact Information

To receive an embargoed copy of a full paper, or to talk to paper authors, please contact AERA Communications:

Tony Pals, Director of Communications
tpals@aera.net
Cell: (202) 288-9333

Bridget Jameson, Communications Associate
bjameson@aera.net
Cell: (651) 428-9443
“Revisiting the Relationship Between Institutional Rank and Student Engagement”
Authors: John Zilvinskis (Indiana University - Bloomington), Louis Rocconi (Indiana University – Bloomington)
Contact: John Zilvinskis (Indiana University - Bloomington)
**Embargoed until:** 12:25 p.m. CDT, Friday, April 17

Study Snapshot:

- In examining the relationship between student engagement and three college ranking guides—*U.S. News & World Report, Forbes, and Washington Monthly*—study authors found almost no relationship between various measures of student engagement and institutional rank.
- However, study authors did find a negative relationship between student-faculty interaction and institutional ranking, which is consistent with previous research. Students attending higher ranked (more competitive) colleges were found to report less frequent interaction with their faculty. The negative relationship held for both first-year and senior students and across rankings, with the exception of the *U.S. News* ranking for first-year students.
- The study utilized data from more than 80,000 first-year and senior students at 64 institutions that participated in the 2013 National Survey of Student Engagement (NSSE). All 64 institutions were ranked in the 2013 editions of *Forbes*’ Top Colleges in the U.S., *U.S. News & World Report*’s National University Rankings, and *Washington Monthly*’s National Universities Rankings.
- The authors examined 10 NSSE indicators—such as student-faculty interaction, higher-order learning, collaborative learning, supportive environment, and quality of interactions—that correspond to specific areas of student engagement.
- The study found a negative relationship between *Washington Monthly*’s rankings and senior students’ reporting of a supportive college environment, indicating that seniors, on average, felt most supported at institutions with lower *Washington Monthly* rankings.
- It also found a positive relationship between an institution’s *Washington Monthly* ranking and the “discussion with diverse others” engagement indicator for seniors, suggesting that seniors at institutions with higher rankings reported higher levels of engagement with people who are different than themselves.
- The results of the study show that student engagement, except in a few areas, is not related to the institutional characteristics measured in college rankings guides.
- The authors argue that the absence of information in rankings regarding student engagement, as well as other areas like classroom learning and faculty teaching, can be misleading to consumers who may overvalue an institution’s rank.
- The authors note that student engagement is an important aspect of a student’s experience and if rankings are intended to demonstrate some level of collegiate quality then their measures should be linked to important aspects of the college experience, such as student engagement. Authors note that students and parents should not allow themselves to be completely guided by rank; instead they should gather information from multiple sources, as they refine the school search and decision-making process.
“Exploring the Effects of Tuition Increases on Racial/Ethnic Diversity at Public Colleges and Universities”
Authors: Drew Allen (City University of New York), Gregory C. Wolniak (New York University)
Authors: Drew Allen (City University of New York)
Embargoed until: 8:15 a.m. CDT, Saturday, April 18

Study Snapshot:

- As tuition becomes a more prominent tool to address financial challenges of colleges and universities, it is critically important to examine the implications of tuition increases on institutions and their students.
- The study examined the effect of tuition increases on the diversity of full-time students at a sample of 530 public four-year colleges and universities, using institution-level from the Integrated Postsecondary Education Data System spanning years 1998-99 to 2011-12.
- Across public four-year institutions, results suggest that tuition hikes have a negative and statistically significant effect on campus diversity. These average effects appear to be driven by the open-access, non-selective institutions within the sample.
- The study found that a one percent increase in published in-state tuition and fees at public four-year institutions was associated with a 0.14 percent drop in the racial/ethnic diversity among full-time campus populations. Larger estimated effects were found at non-selective institutions.
- Authors estimate that, for the average four-year public college in the sample, a hike in in-state tuition and fees of $1,000 would lead to a drop in racial/ethnic diversity among full-time students of more than 2.5 percent.
- For the average non-selective public institution, a $1,000 increase in tuition and fees would lead to an average drop in campus racial/ethnic diversity of nearly 6 percent.
- When looking at only full-time first-time freshmen, the trends appear similar. Elasticity of racial/ethnic diversity among new students is negative and significant for non-selective four-year institutions.
- This result is particularly notable because non-selective public institutions are much more likely to be the points of entry into higher education for underrepresented populations, including ethnic/racial minorities. These institutions represent the most likely alternative for students “on the fence” between deciding between a community college or a four-year institution.
- Among non-selective institutions, the average percentage of nonwhite enrolled students overall all years was 41.1 percent. Among the highly selective institutions in the sample, just 23.3 percent of all enrolled students were nonwhite.
- For highly selective institutions, the effect of tuition increases on racial/ethnic diversity is still negative but quite small and not statistically significant—essentially there is no effect.
- Study results also suggest that the number of colleges and universities surrounding an institution—that is, the number of competitors in the higher education marketplace—as well as the tuition increases of these surrounding institutions may have an effect on the overall diversity of the institution’s study body.
The authors found that increasing numbers of community colleges in the vicinity of a four-year public university decreases diversity at the four-year public institution. Tuition increases at surrounding four-year public and private colleges that serve as potential enrollment alternatives for students tend to increase diversity at the public four-year institution.

Further research is needed to determine whether shifts in campus diversity among full-time students reflect various racial/ethnic subgroups shifting enrollment status to part-time in response to tuition hikes, or whether changes in diversity reflect enrollment shifts to other universities or outside of postsecondary education altogether.
“Online Course-Taking and Student Outcomes in California Community Colleges”
Authors: Cassandra M.D. Hart (University of California, Davis), Elizabeth Friedmann (University of California, Davis), Michael Hill (University of California, Davis)
Contact: Cassandra M.D. Hart (University of California, Davis)
**Embargoed until:** 8:15 a.m. CDT, Saturday, April 18

Study Snapshot:

- The use of online courses is expanding rapidly at all levels of higher education, with the community college sector accounting for roughly half of all online course enrollments. Policymakers and administrators increasingly regard online education as important to the long-term strategy of their institutions.
- The study explored the effects of online course-taking at California’s community colleges, which make up the nation’s largest community college system, comprising 112 institutions educating more than 2.3 million students per year. In 2011-12, online courses made up 10.5 percent of all course sessions in the system.
- Study authors found that on average students have poorer outcomes in online courses, in terms of the likelihood of course completion; course completion with a passing grade; and receiving an A or B.
- Online course enrollment is associated with an 8.9 percentage point decrease in the likelihood that a student will complete a course; a 15.2 percentage point decrease in the likelihood that a student will pass a course; and a 12.0 percentage point reduction in the likelihood that a student will pass with an A or B.
- The negative relationship is robust across different types of students, different types of courses, and is not explained by faculty characteristics.
- Differences were found to be especially acute in summer sessions, intersessions, non-transfer-eligible classes, and classes that enroll a smaller share of their students online. Gaps are also more pronounced in math and humanities classes than in other subject areas.
- The authors limited their sample to courses in which both face-to-face and online options were offered at the same college in the same term. The sample excluded: students who already held an associate’s or bachelor’s degree, students also enrolled in either K-12 or continuing education classes, students who had not finished high school, and students with high school degrees earned outside the United States. The sample was further limited to students between the ages of 18 and 40.
- Although online course enrollment is related to differences in the characteristics of faculty students are exposed to, these account for only a negligible portion of the performance gap associated with online course taking.
- Online student are significantly more likely to have tenured instructors and significantly more likely to have teachers with more than 11 years of experience. It could be argued that online students may perform less well than their peers partly because they are exposed to a group of faculty associated with poorer student performance on the metrics explored. However, the authors found that within instructors, students perform worse in instructors’ online sessions.
than in their face-to-face courses. This suggests that little of the performance gap between online and face-to-face performance gap can be explained by exposure to systematically tougher or less effective faculty teaching in the online setting.

- Courses that took place outside of the regular academic calendar were associated with especially large gap between online and face-to-face classes. The gap was roughly five percentage points higher for intersession courses than for classes offered in a typical semester or quarter-length format, and the performance gap was nearly seven percentage points larger (over two-thirds higher) in summer than during the traditional academic year.

- The performance gap was also significantly higher when a relatively small share of students (less than 15 percent) were in online sections than when a high share (greater than or equal to 40 percent) were enrolled through online sessions.

- The authors note that the consistency of the results across different types of student characteristics—such as first-term academic performance, stated academic goal, course load, age, financial aid use, sex, and racial/ethnic group—is striking.

- Based on the results, the authors suggest that faculty members consider implementing course policies and practices that would allow them to detect student disengagement in the absence of physical cues; that students be made aware that success rates are systematically lower in online than in face-to-face sections so that they can make informed enrollment decisions, and be introduced to study strategies and time management strategies that promote success in online formats; and that colleges may consider limiting how many online session are offered during the summer.
“The Influence of ‘High-Impact’ College Experiences on Early Career Outcomes”
Authors: Gregory C. Wolniak (New York University), Mark E. Engberg (Loyola University Chicago)
Contact: Gregory C. Wolniak (New York University)
Embargoed until: 2:45 p.m., Saturday, April 18

Study Snapshot:

- There is strong empirical evidence that what matters most in student learning and development during the college years are the activities in which students engage—in particular, “high-impact” practices understood to be uniquely effective at cultivating the kinds of learning and development students need for success. Included among these are undergraduate research, diversity/global opportunities, community-based learning, internships, and culminating senior capstone courses.
- This collection of college experiences has been found to positively affect learning and development among students, and employers have conveyed the view that college graduates are better prepared for the workplace if they experience such things as collaborative problem-solving, internships, senior projects, and community engagements.
- However, the question remains as to whether the kinds of experiences promoted as important for students’ learning and development and valued by employers, in fact help students realize the kinds of “better” jobs they desire when entering college.
- Study authors utilized nationally representative data from the 2012 follow-up to the Education Longitudinal Study to examine the influence of high-impact college experiences on several early career outcomes of graduates, including self-report earnings, continued job-related learning and challenge, job satisfaction, job commitment, and working in a supportive environment. The effects of college major and institutional selectivity were also examined.
- Results from the study highlight that specific college experiences differentially influence career outcomes in the years immediately following college, but that major field of study, college selectivity, and college major-current job congruence exert the most substantial influence on monetary and non-monetary early career outcomes.
- Students who participate in both internships and community-based projects report having more opportunities in their early career to learn more things, face new challenges, and find their work to be more useful for society than those students who did not participate in these high-impact experiences.
- There was also a positive, significant relationship between participating in a senior capstone experience and being employed in a supportive work environment.
- Students who participated in an outside research project, however, reported lower earnings and were less likely to report being in a supportive work environment; this was, in part, because these students had a greater likelihood of attaining a graduate degree after college in place of accumulating more work experience.
- There were no significant effects for students who participated in a study abroad experience, and no relationships were uncovered for any of the high-impact experiences and job satisfaction.
or job commitment. The authors note that given the high value placed on these practices, the lack of significant findings is an important and noteworthy result.

- The study confirms previous research by finding that attending a more selective institution substantially improves earnings in the years immediately following college. Attending a selective, rather than a moderate or inclusive, institution leads to 16 percent to 18 percent higher earnings within the first few years of college graduation. However, attending a more selective institution has no effect on non-monetary, attitudinal-based rewards.
- In comparison, the study found that college majors have a significant and strong effect on early career earnings and job attitudes, generally favoring majoring in STEM fields.
- While business majors enjoy comparative earnings benefits as STEM majors, they report significantly lower levels of learning and challenge on the job, as well as lower satisfaction.
- And while education majors earn substantially less than STEM majors, they are more satisfied and committed to their jobs.
- The study also found large and significant effects on both monetary and non-monetary career outcomes of college-to-career transitions, including working in a field closely related to one’s major and attaining a graduate degree.
- Congruence between college major and current job exerted the largest effect of any variable across the four attitudinal measures. In addition, students who work in jobs closely related to their major report, on average, more than 15 percent higher earnings.
- Given the evidence suggesting positive academic effects of participating in high-impact practices during college, the authors had anticipated finding more consistent and stronger evidence that high-impact practices exert a positive influence on earnings and other aspects of career success.
- The authors note that the results should not be used to call into question the importance of high-impact college experiences in terms of college student learning and development.
- The results, however, do suggest that caution should be applied before suggesting that the positive influence high-impact experiences have on learning will translate to career gains, as has been previously proposed in relation to broader notions of student engagement.
“Teacher and Principal Diversity and the Representation of Students of Color in Gifted Programs: Evidence from National Data”
Authors: Jason A. Grissom (Vanderbilt University), Luis Alberto Rodriguez (Vanderbilt University), Emily Kern (Vanderbilt University)
Contact: Jason A. Grissom (Vanderbilt University)
Embargoed until: 2:45 p.m. CDT, Saturday, April 18

Study Snapshot:

- Since the 1960s, research has shown that students of color are significantly underrepresented in gifted programs relative to their white peers.
- The study authors, using a nationally representative sample of elementary schools, found evidence that a critical mass of teachers of color is necessary for teacher race/ethnicity to be associated with higher minority representation in gifted programs.
- The authors paired two years of nationally representative data from the Schools and Staffing Survey (SASS) and survey data collected by the Office for Civil Rights (OCR) in the 2003-2004 and 2011-2012 school years for a final sample size of 2,170 public, non-charter, non-magnet elementary schools, in which approximately 6.2 percent of students were designated as gifted.
- The composition of the average elementary school gifted population was found to be 72 percent white, 9 percent black, and 10 percent Hispanic, in contrast to the composition of the average overall elementary school population at large of 62 percent white, 14 percent black, and 15 percent Hispanic.
- The percentage of the school’s gifted population that is black fell from nearly 11 percent in 2004 to only about 8 percent in 2011, perhaps reflecting a similar decline in the overall student population.
- In both waves of data, nearly 8 percent of white students were identified for gifted services compared to 3-4 percent of black and Hispanic students.
- A 10 percent increase in Hispanic teachers was found to be associated with a 3.1 percent increase in the representation of Hispanic gifted students.
- A 10 percent increase in the percentage of black teachers was found to be associated with a 3.2 percent increase in the representation of black students in gifted programs.
- A large jump in the percentage of students in gifted programs who are Hispanic—to about 25 percent – was found when the fraction of Hispanic teachers reaches between 20 percent and 30 percent. There is no evidence that the fraction continues to climb if the percentage of Hispanic teachers increases beyond 30 percent.
- The same jump was found for black students when the percentage of black teachers reached between 20 and 30 percent, with some evidence that the percentage may continue to increase.
- Schools with larger proportions of minority teachers were also found to be associated with less white representation in gifted programs; a 10 percent increase in either Hispanic or black teachers was found to be related to a 4 percent or 3 percent drop in the percent of gifted students who are white, respectively.
• The drop in white representation is consistent with the idea that assignment of a student to a gifted program approximates a zero-sum game—increases in the percentages of gifted students who are Hispanic or black are associated with a decrease in the percentage of gifted students who are white, holding other factors constant.

• While the race/ethnicity of the principal shows no evidence of a relationship with the proportion of gifted students who are Hispanic, the presence of a black principal was found to be associated with 3.8 percentage point increase in the share of gifted students who are black.

• Black principals magnify the effects of increased percentages of black teachers; when the percentage of teachers who are black is 30 percent, schools with black principals have approximately 20 percent of gifted students who are black, compared to only 13 percent under non-black principals.

• The presence of a Hispanic or black principal was not statistically associated with the proportion of gifted students who are white.

• These results point toward a greater need to understand the implication of teacher workforce diversity in American education, especially in light of shifting demographics: while the average school’s Hispanic population as measured by SASS grew by 4 percent, the fraction of Hispanic teachers increased by less than one percent and the percentage of Hispanic principals decreased.

• The authors note that additional research is needed to substantiate a causal relationship.
“Principal Licensure Exams and Future Job Performance: Evidence from the School Leaders Licensure Assessment”
Authors: Jason A. Grissom (Vanderbilt University), Hajime Mitani (Vanderbilt University), Richard S. L. Blissett (Vanderbilt University)
Contact: Jason A. Grissom (Vanderbilt University)
Embargoed until: 4:05 p.m. CDT, Sunday, April 19

Study Snapshot:

- Many states require prospective principals to pass a standardized licensure exam before they are licensed to work as a public school principal or assistant principal. However, little is known about the potential effects of principal licensure exams on the pool of available principals or whether exams are predictive of later job performance.
- Study authors investigated the most commonly used exam, the School Leaders Licensure Assessment (SLLA), which is designed to measure whether principal job candidates possess the knowledge and/or skills necessary to perform school administration competently in their initial years of school leadership.
- Data on all SLLA test takers in Tennessee from 2003 to 2013 was analyzed and compared to multiple principal performance metrics gathered from statewide evaluations, teacher survey, and administrative data.
- During that time span, 16 percent of nonwhite test takers, including multiple test takers, failed the test, while only five percent of white test takers did so.
- Eighty percent of nonwhite test takers passed the exam on their first try, compared to 93 percent of white test takers.
- Even after controlling for several confounding factors, nonwhite test takers are three to four times as likely to fail the exam as white counterparts.
- The authors note that Tennessee has the lowest cut score (i.e., minimum qualifying score)—160—among states that require the SLLA. They estimate that if the minimum qualifying score were raised to 163, the racial gap in failure rates would increase from the current 17-19 percentage points to 25 percentage points. If it were raised to 169, the gap would become 33 percentage points.
- In addition, male test takers are more likely to fail than female test takers, as are older test takers and those working at schools with a larger proportion of students eligible for the free/reduced lunch program. The odds of failure for test takers working in rural schools are 2.3 times higher than those working at suburban schools.
- The authors found no evidence that SLLA scores predict potential measures of principal job performance, including supervisor ratings from the statewide evaluation systems or leadership ratings from a statewide teacher survey.
- Across a variety of outcomes and different samples of principals by level of experience, the authors found that SLLA passage or overall score fails to consistently predict future principal job performance.
• The only outcome measures associated with SLLA scores were the 2012 scores from the Tennessee Educator Acceleration Model, the magnitude of which was small, and reading scores from the Tennessee Comprehensive Assessment Program, for which the association was negative.

• The authors note that it is unclear why the SLLA fails to predict potential principal job performance measures, but that the results indicate an important drawback that Tennessee and other states must consider in licensure policies involving the SLLA and potentially other licensure exams.

• The authors warn that the use of a cut score on a standardized exam to screen principal candidates disproportionately removes candidates with some immutable characteristics from the leadership pipeline.

• For states seeking to enhance racial and ethnic diversity in a school leader workforce that is overwhelmingly white, evidence from the Tennessee experience suggests that screening on the basis of the SLLA is inconsistent with this goal.
“The Effect of Preschool on Adolescent Physical Health”
Authors: Terri J. Sabol (Northwestern University), Lindsay Till Hoyt (University of California, San Francisco and Berkeley)
Contact: Terri J. Sabol (Northwestern University)
Embargoed until: 4:05 p.m. CDT, Sunday, April 19

Study Snapshot:

- Study authors examined the extent to which participation in preschool at age 4 is associated with healthy neuroendocrine, metabolic, and cardiovascular functioning at age 15.
- The study utilized data from the National Institute of Child Health and Human Development’s Study of Early Child Care and Youth Development to examine whether preschool type, quality, and dosage may become biologically embedded by adolescence among 615 children.
- The authors found that preschool participation is related to lower levels of waking cortisol. Lower waking cortisol may reflect lower overall levels of stress hormone exposure throughout the day.
- They also found that preschool participation is related to lower systolic blood pressure and reduced arterial pressure, indicating a reduced risk for cardiovascular disease.
- For low-income children, preschool participation seems particularly important for reducing systolic blood pressure and body mass index.
- Among children attending preschool, children who had high levels of participation (more than 32 hours per week) had lower diastolic blood pressure and lower arterial pressure, but higher body mass index at age 15.
- The authors found no consistent effect of preschool quality, as measured by teacher education, classroom size, and observed quality, on neuroendocrine, cardiovascular, and metabolic outcomes.
- To mitigate the issue that children’s early experiences may be related to numerous factors—including genetic predispositions shared with parents, stimulating home environments, and healthy behaviors, all of which could be linked with later health behaviors—the authors used statistical matching to identify groups of children who are similar except for the fact that one group of children attended preschool and one did not.
- The authors compared children in preschool (i.e., center-based care or Head Start) against children not in preschool (i.e., watched by parent or in home-based care elsewhere).
“Using Pot to Build Schools: An Analysis of Colorado’s Legalization of Recreational Marijuana”
Authors: Brooke Midkiff (University of North Carolina at Chapel Hill), Eric Houck (University of North Carolina at Chapel Hill)
Contact: Brooke Midkiff (University of North Carolina at Chapel Hill)
Emargoed until: 12:25 p.m. CDT, Monday, April 20

Study Snapshot:

- In January 2014, Colorado adopted Amendment 64, approved by the state’s voters in November 2012, making the sale of recreational marijuana legal. Supporters of Amendment 64 pledged the first $40 million raised annually toward Colorado primary school capital construction—language that was specifically included in the bill.
- However, study authors find that expectations for recreational marijuana as a funding mechanism for schools have not been met, with the excise tax raising far less than the $40 million pledged in the legislation.
- In 2014 the total transfer to the state’s Public School Capital Construction Assistance Fund from the 15 percent wholesale excise tax created by Amendment 64 was $13.3 million, or $14.96 per pupil.
- If trends from the last quarter of 2014 hold, with transfers remaining constant at $1.7 million a month, the 2015 transfers will total $20.4 million, or approximately $22.94 per pupil, using 2014 student enrollment counts.
- Current trends suggest that future annual contributions to the construction fund will fall short of the $40 million threshold established in legislation, and, at most, will minimally supplement existing school funding for capital construction.
- The authors find that the proposed “$40 million for school construction,” and the original underlying taxation plan for legalized, recreational marijuana, was fiscally sound at the outset, but conclude that the effectiveness of the funding plan was limited by the way in which Amendment 64 was implemented.
- After the approval of Amendment 64, it was necessary under state law for the Colorado legislature to bring to voters a ballot measure to enact the new tax called for by Amendment 64. This was done through Proposition AA, which was enacted as House Bill 13-1318 in November 2013.
- Had the taxation plan remained as was proposed in Amendment 64, the tax rate for recreational marijuana would have been only 15 percent higher than medicinal marijuana. However, Proposition AA nearly tripled the tax rate of recreational marijuana over medical marijuana, undermining the viability of the market and therefore revenues generated from it.
- Proposition AA included a 15 percent excise tax that was generally agreed upon; however, it also added an additional 10 percent extra sales tax. Additionally, localities can either ban the sale of recreational marijuana locally or collect a local sales tax in addition to the regular state sales tax and the additional special sales tax, as well as the excise tax.
- By radically increasing the tax rate for recreational marijuana, the authors conclude that Proposition AA suppressed growth in the market. The high tax rate likely contributed to some
users remaining in the medical market even when using recreationally. The high tax rate may also have contributed to a failure of black market users to transition into the legal market.

- Local decisions to add additional taxes or to opt out of the legalization of sales may have impacted the growth of the recreational marijuana market as well, and therefore depressed revenues generated by the excise tax earmarked for school construction.
- The authors note that even in its ideal form and meeting all of its commitments, contributions from the marijuana excise tax comprise a very small amount compared to statewide budgeting for capital reserves, building, and bonding.
- The state’s capital reserve fund for school construction equates to $188 per pupil in revenue and $230 per pupil in expenditures. Although this category makes up just a small portion of total state education spending, the per-pupil amounts still far exceed the approximately $15 per pupil contributed by the marijuana excise tax.
- The authors also conclude that while “$40 million school construction” was likely used by proponents as a political strategy, it was not a dominant strategy for garnering support for Amendment 64. Instead, it was an added-on measure that helped boost an already large body of support for marijuana legalization.