ASSOCIATION FOR INSTITUTIONAL RESEARCH
Data and Decisions for Higher Education

Dear Seth,

Thank you for submitting your proposal. A printable summary is below. Your confirmation number is 11418. A confirmation email will be sent to you within 24 hours.

Applicants will be notified of the status of the proposed project on February 2, 2016.

If you have questions or need assistance regarding your application please contact the AIR Grant staff at 850-385-4155 x109 or grants@airweb.org.

SUMMARY

Personal Information

Name	Seth Gershenson
Informal Name	Seth
Affiliation	American University
Unit/Department	School of Public Affairs
Title	Assistant Professor
Year began this position	2011
Email	gershens@american.edu
Cell Phone	
Preferred Mailing Address	
Secondary Address	

Demographics

Highest degree	
Discipline of highest degree	
Position description	
Staff members in IR office	
Campus type	
Years of experience in IR	
IR Roles	
Year of birth	
Race/Ethnicity	
Gender	

Grant Type

I am applying for a:

Research Grant

Financial Representative

Name

Jim Casey

Affiliation

American University

Department

Office of Sponsored Programs

Title

Director

Address

4200 Wisconsin Avenue NW, Suite 300F

Suite 300F

City

Washington

State or Province

DC

Zip or Postal Code

20016

Country

USA

Additional Contacts

Project Description

Project title:

A Law School Instructor Like Me: Gender, Race, and Ethnicity Dynamics in Law School Classrooms

Statement of the research problem and national importance (limit 750 words):

- What is the research problem this proposal intends to address?
- How does this topic relate to the research priorities areas of access, affordability, and value of legal or graduate/professional education?
- Why is this topic of national importance?
- Why is it timely to conduct this research at this time?

The proposed project will address the question of whether the demographic match between law school instructors and students affects students' course grades, future course-taking, or specialization decisions. Determining whether having a same-race or same-gender instructor affects students' academic performance and choice of specialization, particularly among students from demographic backgrounds that are underrepresented in the legal profession, will improve our understanding of the barriers to obtaining law degrees and employment in the legal profession faced by such students even after they have been admitted to law school. Identifying the educational inputs under law schools' control that influence the performance and decisions of female and racial and ethnic minority law students is important, as even among similarly credentialed students at top law schools, women and minorities often feel alienated in law school classrooms and are less likely to graduate than white men (e.g., Banks 1988; Guinier et al. 1994). These disparities in law school experiences contribute to the underrepresentation of females and racial and ethnic minorities in the legal profession, particularly in the highest paying, most visible positions (Holder, 2001).

Issues of representation among professionals in the legal system are timely and relevant to national policy debates for several reasons. First, longstanding racial inequities in the criminal justice system (e.g., Cole 2000) have recently come to the forefront of public policy discussions due to a series of highly publicized incidents in which unarmed black males have either been killed by white police officers or died in police custody (e.g., BBC 2015). The lack of representativeness of the judicial system and legal profession likely contribute to racial inequities, as research shows that black-white gaps in sentencing shrink in counties in which the number of black attorneys grows (King et al. 2010). Second, the proposed research has implications for our understanding of the gender wage gap, which is another dimension of socio-demographic inequality that has received much attention of late

(Morath, 2015). In particular, the gender wage gap is larger among individuals with professional degrees than among individuals with college or high school diplomas, and among lawyers women earn only 79 cents for every dollar earned by men (AAUW 2015). The relatively high pay, visibility, and prestige of lawyers in the US make the legal profession important to the movement for gender wage equality. If there are adverse effects of having a male law school instructor on female law students' academic success and course taking decisions, this might contribute to the gender wage gap among lawyers. Finally, at a more general level, there are likely numerous spillover effects of having more women and racial minorities in visible, high prestige positions in private law firms, law schools, and the judicial system. For example, such individuals can serve as role models and counteract stereotype threat and unconscious bias in these environments (Wilkins & Gulati 1996).

Review the literature and establish a theoretical grounding for the research (limit 1000 words):

- What has prior research found about this problem?
- What is the theoretical/conceptual grounding for this research?

There are several theoretical reasons to expect that the demographic match between students and instructors affects student grades and behaviors. First, there may be role model effects, whereby students exert extra effort or feel more comfortable in classrooms led by an instructor who looks like them. Similarly, if students perceive that demographically mismatched teachers have low expectations for performance, this may exacerbate the harmful effects of stereotype threat, whereby low expectations either cause emotional responses that directly harm performance or cause students to dis-identify with educational environments (Steele 1997). Second, stigmatized groups may modify their own expectations and behavior to conform to negative biases (Ferguson 2003). For example, a high-ability African-American student from a low-income household who is exposed to stigmatization may eventually conclude that law school is "too challenging" or "not for them" and fail to complete the degree. This is likely when, as is often the case, disadvantaged students have limited information and their peers and family lack the experience necessary to contradict stigmatization (Lareau, 2011; Lareau and Weininger, 2008). Finally, teachers who stigmatize certain types of students may (perhaps unconsciously) modify how they teach, evaluate, and advise them, again leading to poor educational outcomes for stigmatized students (Ferguson, 2003).

Indeed, there is strong evidence that observable characteristics affect how teachers perceive and evaluate students. For example, Riegle-Crumb and Humphries (2012) provides evidence that math teachers systematically under-estimate female students' mathematical aptitude. There is also robust evidence of gender, racial, and ethnic biases in how teachers grade exams in a variety of educational contexts (Burgess and Greaves, 2013; Cornwell, Mustard, and Van Parys, 2013; Hanna and Linden, 2012; Lavy, 2008). Finally, and most relevant to the proposed project, quasi-experimental evidence of a causal relationship between student-teacher demographic mismatch and students' short-run academic achievement is mounting in a variety of contexts. For example, Dee (2004) exploits random assignment of students and teachers to classrooms as part of the Tennessee STAR class-size experiment and finds that assignment to a race-congruent teacher is associated with a positive, significant effect on both math and reading achievement. Similarly, Dee (2007), Egalite, Kisida, and Winters (2015), and Clotfelter, Ladd, and Vigdor (2007) apply fixed-effects panel data methods to nationally representative survey data and longitudinal administrative data from Florida and North Carolina, respectively, and find positive, significant effects on test scores of being assigned to a demographically similar teacher.

Similar results have been found in the post-secondary context. For example, Hoffman and Oreopolous (2009) used administrative data from the University of Toronto to show that gender role models matter in post-secondary education: having a same-sex instructor significantly increased performance in the class and decreased the probability of the student dropping the class. Fairlie, Hoffman, and Oreopoulos (2014) used administrative data from a community college in California to estimate the causal effect of having a same-race instructor on non-white students' educational success. The authors found positive, significant effects on a variety of short- and long-run outcomes including course grades, course persistence, retention, and degree completion. Griffith (2014) finds similar results using administrative data from a private, liberal arts college.

However, while there is strong evidence that student-instructor demographic mismatch affects student outcomes and demographic achievement gaps in the primary, secondary, and post-secondary settings, researchers have yet to rigorously investigate its implications in law school or professional school settings. The proposed project will fill this gap in the literature by using rigorous quasi-experimental methods to isolate the causal relationship between student-instructor demographic mismatch and student outcomes in a private, selective law school. This research will complement extant qualitative and descriptive research on the topic, which generally finds that at least some female and non-white law students perceive a "chilly climate" due to differential treatment and expectations from white male classmates and instructors (e.g., Banks, 1988; Krauskopf 1994).

Describe the research method that will be used (limit 1000 words):

- What are the research questions to be addressed?
- What is the proposed research methodology?
- What is the statistical model to be used?

The proposed project will test whether the demographic match between law school instructors and students affects students' course grades, future course-taking, or specialization decisions. The independent variable of interest, demographic match, will be operationalized as a categorical variable that takes one of four mutually exclusive values: same race and same sex (omitted reference group), same race and different sex, different race and same sex, and different race and different sex. I will identify the causal effect of demographic match on various student outcomes using a quasi-experimental two-way fixed effects (FE) research design that exploits rich student-by-course level administrative data. Specifically, I will estimate linear regression models that simultaneously condition on both classroom and student FE, which are similar to the preferred specification used by Fairlie, Hoffman, and Oreopoulos (2014).

Note that the classroom FE make instructor, year, subject FE redundant, as well as classroom-specific aspects such as course start time, class size, room location, and so on, which are all subsumed by the classroom FE. These models are identified off of within-student and within-classroom variation in student-instructor demographic match and thus control for many possibly confounding factors associated with unobserved student and instructor characteristics. In other words, identification comes from comparing students of different demographic backgrounds who are in the same course at the same time, and from within-student variation in individual students' exposure to different types of law school instructors. I will also test for heterogeneous effects by student background by augmenting the baseline model to include interactions between student gender (or race) and the "demographic match" variable. The two-way FE models will be estimated using the method proposed by Mittag (2012) and statistical inference will be made robust to two-way (student and instructor) clustering (Cameron, Gelbach, & Miller 2011).

The remaining threat to the validity of the two-way FE estimates is endogenous sorting that systematically varies by instructor and student background. Intuitively, the student FE control for the possibility that white and nonwhite (or male and female) students are systematically different, or that the students assigned to white (male) instructors are systematically different from those assigned to nonwhite (female) instructors. However, if such differences vary by student and instructor race, such differential sorting might bias the two-way FE estimates. An example of such differential sorting is the scenario in which female students with high unobserved ability sort into classrooms taught by female instructors while male students with high unobserved ability sort into classrooms taught by male instructors.

Following Fairlie et al. (2014), I will test for the presence of this type of differential sorting on observables. Intuitively, if there is no systematic differential sorting on observable student characteristics and those observed student characteristics (e.g., undergraduate GPA, GRE score) are highly correlated with unobserved dimensions of student ability, then differential sorting on unobservables of the sort described above is unlikely to seriously threaten the validity of the preferred two-way student and classroom FE estimator. Implementing a Fairlie et al. (2014) style test for differential sorting by observables requires computing the demographic-specific (e.g., female and male, or white and non-white) mean value of each observed student characteristic of each classroom's students. I will then use two observations per classroom to estimate linear difference-in-difference style regressions that model the group-specific means as a function of the classroom instructor's race (or gender), an indicator for the demographic group, and the interaction between the two.

The coefficient on the interaction term represents the "difference-in-differences estimate" of the average difference in observed characteristics between black and non-black (or female and male) students who are assigned to black and non-black (or female and male) instructors. Intuitively, if the interaction term is significantly different from zero, there is differential sorting on observables by student race (sex) that varies with the race (sex) of the instructor. If this is occurring, it is likely that similar sorting occurs on unobservable dimensions as well, which would bias estimates of the preferred two way FE model. Alternatively, if the OLS estimate of the interaction term is statistically indistinguishable from zero, there is no evidence of differential sorting on observables, and thus differential sorting on unobservables in a way that would bias the two-way FE estimates is unlikely. I will further reduce the possibility that the results are driven by endogenous sorting by restricting the sample to courses in which students had no choice of instructor (i.e., courses that were offered once per semester, or by instructors from a single demographic group that semester).

Note: The main estimating equation and the sorting test equation are specified in the appendix.

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Steele, Claude M. (1997). A threat in the air: How stereotypes shape intellectual identity and performance. American Psychologist, 52(6), 613–629.

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Project Description - Appendix

- Appendix equations

Datasets

List the datasets that will be used and explain why they best serve this research (limit 500 words)

The proposed project will utilize rich student-by-course administrative data, including course title and grade earned, that is linked to instructor data from a private top 100 law school (LS). I also have access to students' application packets, so I can use things like LSAT scores and college GPAs in the sorting test described above. I currently have access to these data as part of a university-wide initiative to improve retention and performance among students from traditionally underrepresented backgrounds. A signed user agreement from the university's general counsel is attached.

These data are ideal for the proposed project for at least three reasons. First, in 2015, LS had a full time enrollment of over 1,000 students, which suggests that the sample sizes will be large enough to make valid inferences (over a 10 year span). Second, LS is unique among leading law schools in that women comprise more than half of each class and in that as many as one third of entering students are racial or ethnic minorities. Similarly, almost half of LS's 58 tenure-line faculty are female. This ensures that there is sufficient variation in students' and instructors' demographic backgrounds with which to identify the effects of student-instructor demographic mismatch on student outcomes.

Statement of use of restricted datasets (limit 250 words):

Applicants should provide a statement indicating whether the proposed research will require use of restricted datasets. If restricted datasets will be used, the plan for acquiring the appropriate license should be described.

If restricted datasets will not be used, leave this text box blank and click *Save and Continue*.

Timeline and Deliverables

Timeline:

Provide a timeline of key project activities.

The proposed project will run for one year, from March 1, 2016 – February 28, 2017.

In spring of 2016 I will prepare an outline of the manuscript and assemble the relevant data on American University's Zorro High Performance Computer (HPC).

The majority of the work will be conducted in summer 2016, when two doctoral research assistants will assist me in cleaning, coding, and merging the

data sets; running the preliminary empirical analyses; and writing a preliminary draft of the manuscript.

In fall 2016 I will submit a mid-year report on my progress and present the initial results at the Fall Meeting of the Association for Public Policy Analysis & Management (APPAM) (Nov. 3-5) and the Access Group Legal Education Research Symposium (AGLERS) (Nov. 16-17). I will then revise the manuscript and conduct any additional empirical analyses, incorporating feedback received at APPAM and AGLERS.

In spring 2016 I will prepare the manuscript for submission to a high impact, peer reviewed, academic journal such as the Journal of Human Resources. I will also write a non-technical overview of the results and policy implications for dissemination to practitioners and policymakers via an outlet such as Brookings Brown Center for Education's Chalkboard Blog, a venue that I have contributed to in the past. Finally, I will submit a final report to AIR.

Deliverables:

List deliverables such as research reports, books, and presentations that will be developed from this research initiative.

The proposed project will yield three deliverables in addition to the AGLERS presentation in Chicago and the mid-year and final reports to AIR:

1) One conference presentation (or poster) at APPAM's Fall 2016 Conference

2) One manuscript of the length and quality usually found in high impact, peer-reviewed, academic journals.

3) One 500-1000 word non-technical summary of the proposed project's main results and implications. This will be published in a public venue such as a Brookings Institution blog, or an outlet such as Education Next, that is widely read by the general public, practitioners, and policy makers.

Disseminate results:

Describe how you will disseminate the results of this research.
(Note: Costs of travel to meetings should be calculated on the budget page.)

I will use a three-pronged strategy to ensure wide dissemination of the proposed research to a variety of stakeholders, including policymakers, researchers, school administrators, and educators. First, I will present the findings and engage in dialogue at conferences attended by a diverse group of stakeholders, such as the Fall Meeting of the Association for Public Policy Analysis & Management (APPAM). Second, I will prepare a technical manuscript detailing the methodological innovations and empirical results for submission a top peer-reviewed economics journal, such as the Journal of Human Resources. I will also circulate the manuscript as an IZA discussion paper so that it is advertised by IZA and freely available. Third, I will prepare a non-technical overview of the proposed research that summarizes the findings and resulting policy implications, which I will submit to an outlet that has a broader audience interested in education policy, such as Education Next or Brookings Chalkboard.

IRB Statement

Statement of Institutional Review Board approval or exemption (limit 250 words):

As part of the proposal, a statement outlining a plan for Institutional Review Board (IRB) approval is required. The statement should outline the applicant's timeline and plan for submitting the proposal to an IRB or explain why IRB approval is not necessary. Final IRB action is not necessary prior to submitting the application.

I already have IRB approval to use these data to address research questions related to the academic success of traditionally underrepresented students. The proposed project, while new, is covered under the broad IRB approval and agreement with the university.

Biographical Sketch(es)

Biographical sketch (limit 750 words):

Dr. Seth Gershenson is the Primary Investigator and will manage the project and oversee its successful completion. He is currently an Assistant Professor in American University's School of Public Affairs, a Research Fellow of the Institute for the Study of Labor (IZA), and a faculty affiliate of American University's School of Education. Professor Gershenson earned a Ph.D. in Economics from Michigan State University in 2011 and was the 2010 recipient of the Association for Education Finance & Policy (AEFP) pre-doctoral new scholar award. He was a member of the 2014 cohort of Emerging Education Policy Scholars, a program supported by the Thomas B. Fordham and American Enterprise Institutes that aims to "increase understanding of how the worlds of policy and practice intersect with scholarly research in education." In the spring of 2014, he was a visiting scholar at the Institute for Health and Social Policy at Johns Hopkins University.

Professor Gershenson teaches masters- and doctoral-level classes in policy analysis, advanced quantitative methods, and microeconomics at AU and he received the 2014 AU School of Public Affairs Outstanding Teaching Award. His methodological training and experience teaching advanced graduate-level methods courses, along with his prior experience analyzing administrative data, suggest that Professor Gershenson is capable of overseeing and completing the empirical components of the proposed project.

Professor Gershenson's research focuses generally on issues related to K-16 education policy, including sources of socio-demographic achievement gaps, teacher labor markets, and the determinants of students' socio-behavioral and cognitive skills. He has published ten articles in peer-reviewed journals including some of the top education-policy journals, such as American Educational Research Journal, Educational Evaluation and Policy Analysis, Education Finance and Policy, Educational Researcher, Economics of Education Review, and Teachers College Record. He has similarly presented his

research at over 25 professional and academic conferences, including the annual meetings of the American Educational Research Association, American Economic Association, Society of Labor Economists, Society for Research on Educational Effectiveness, Association for Education Finance and Policy, and the Association for Public Policy Analysis and Management. His research has been featured in media outlets such as The Atlantic and Nate Silver's FiveThirtyEight.com. This track record provides further evidence that Professor Gershenson is well equipped and competent to effectively manage and successfully complete the proposed project in a timely manner. Moreover, it suggests that he is capable of producing high impact, journal-quality manuscripts that summarize the methodological innovations and policy-relevant results that are expected to emerge from the proposed project.

Professor Gershenson also has experience writing non-technical summaries of his research and publishing them in outlets read by policy makers and practitioners such as the W.E. Upjohn Institute's Employment Research newsletter Brookings' Brown Center Chalkboard Blog. This experience suggests that he will be able to produce and disseminate a non-technical overview of the policy-relevant results of the proposed project to relevant stakeholders.

It is also important to note that he has content knowledge in areas related to the proposed project. For example, he has previously written on the impact of student-teacher demographic mismatch on tenth graded teachers' educational expectations for their students and student-teacher racial match on primary school students' absences and suspensions. Similarly, he has experience analyzing administrative data. For example, his dissertation analyzed school district teacher-level administrative data and his recent research on student absences utilized longitudinal administrative matched student-teacher data from the state of North Carolina.

Finally, Professor Gershenson has experience managing and leading externally funded projects as the PI. He has successfully completed four such projects. For example, his research on the causes and consequences of student absences was funded by both the American Educational Research Association and the Spencer Foundation. Both grants are now completed and resulted in two publications in Education Finance and Policy and two spin-offs that are currently under peer review at similar journals. Another recently completed project, which was funded by an Early Career Research Grant from the W.E. Upjohn Institute, yielded a manuscript that is currently in the revise-and-resubmit process at the Journal of Policy Analysis and Management. In sum, Professor Gershenson has a solid track record of completing externally funded research projects in a timely fashion, publishing the results in high-impact peer-reviewed education policy journals, and widely disseminating the results to diverse, interdisciplinary audiences of researchers, policy makers, and practitioners.

Budget

- Budget Form

Funding History

Funding history (limit 250 words):

A statement of prior, current, and pending funding for the proposed research from all sources is required. The statement should also include a history of all prior funding from AIR to any of the PIs for any activity. Funding from other sources will not disqualify the application but may be considered in the funding decision.

I have no prior, current, or pending funding for the proposed project.

I have never received funding from AIR.

Dissertation Advisor Letter of Support

There are no files attached.

Appendix

Recall that the goal of the proposed project is to estimate the causal effect of instructor-teacher demographic mismatch (*mismatch*) on student outcomes (*Y*). Intuitively, then, interest is in the δ parameter in student-course multivariate regression models of the form

$$Y_{ijst} = \beta_0 + \beta_1 race\_sex_i + \beta_2 race\_sex_j + \delta mismatch_{ij} + \beta_3 X_i + \beta_4 Z_{jst} + \varepsilon_{ijst}, \quad (1)$$

where subscripts *i*, *j*, *s*, and *t* index students, instructors, subjects, and terms, respectively; *race_sex* is a set of mutually exclusive race and sex indicators; *X* is a vector of time-invariant student characteristics (e.g., parents' education, innate ability); *Z* is a vector of time-varying instructor and course characteristics (e.g., instructor's experience, teaching effectiveness, class size); and ε is an idiosyncratic error term comprised of unobserved determinants of *Y*.

Of course, OLS estimates of equation (1) are very likely biased by unobserved factors that jointly determine *mismatch* and outcomes *Y*. Accordingly, as described in the narrative, I augment equation (1) to include both student and classroom fixed effects (FE):

$$Y_{ic} = \delta mismatch_{ic} + \theta_i + \omega_c + \varepsilon_{ic}. \quad (2)$$

Equation (2) is the main estimating equation, in which student race, sex, and *X* are subsumed by the student FE (θ); teacher race, sex, and *Z* are subsumed by the classroom FE (ω); and the *j*, *s*, *t* subscripts collapse to a single classroom subscript (*c*).

~

The sorting test described in the narrative requires computing the mean value of student characteristic *L* of classroom *c*'s race-*r* students $\left(\overline{L}_c^r\right)$. The simplest form of the test lets *r* take two values (black, non-black) and uses a binary indicator (*B*) equal to one for the black student average, and zero for the non-black student average.[1] Then use two observations per classroom to estimate linear regressions of the form

$$\overline{L}_{ct}^r = \alpha Black_c + \gamma B^r + \pi Black_c \times B^r + \tau_t + e_{ct}^r, \quad (3)$$

where *c* and *t* index classrooms and terms, respectively; *Black* is a binary indicator equal to one if the instructor is black, and zero otherwise; τ is a term FE; and *e* is an idiosyncratic error term. The parameter of interest is π, which represents the "difference-in-differences estimate" of the average difference in observed characteristics between black and non-black students who are assigned to black and non-black instructors. If π is significantly different from zero, there is differential sorting on observables by student race. Alternatively, if the OLS estimate of π is statistically indistinguishable from zero, there is no evidence of differential sorting on observables, and thus differential sorting on unobservables in a way that would bias the two-way FE estimates from equation (2) is unlikely.

[1] It is straightforward to let *r* index the female and male averages, and similarly replace *Black* and *B* with *Male* and *M* indicators to test for endogenous sorting by gender.

Research Grant Proposal Budget Form

Personnel - Time on Project (Enter percentage as a decimal)		Personnel - Salary & Benefits			Personnel - Salary/Stipend (Time on Project x Salary and Benefits)	
Principal Investigator						
0.00%	% (FTE) academic year	academic year	$		academic year	$ 0.00
95.00%	% (FTE) summer	summer	$	34,344.00	summer	$ 32,626.80
Second Principal Investigator						
0.00%	% (FTE) academic year	academic year	$		academic year	$ 0.00
0.00%	% (FTE) summer	summer	$		summer	$ 0.00
Third Principal Investigator						
0.00%	% (FTE) academic year	academic year	$		academic year	$ 0.00
0.00%	% (FTE) summer	summer	$		summer	$ 0.00
Graduate Research Assistant						
0.00%	% (FTE) academic year	academic year	$		academic year	$ 0.00
100.00%	% (FTE) summer	summer	$	12,000.00	summer	$ 12,000.00

Total Salary and Wages (calculated from above fields) $ 44,626.80

Travel

2016 Acess Group Legal Education Research symposium: $ 1,500.00

Other research related travel: $ 500.00

(***Note***: Other planned travel should be listed in the "Timelines and Deliverables" section)

Other research expenses

$ 2,500.00

Please provide a breakdown of expenses below and add the total value in the box to the right. Allowable expenses include: materials, such as software, books, supplies, etc.; consultant services, such as transcription, analysis, external researchers, etc.; and costs for publishing articles in journals. The purchase of computer hardware, overhead or indirect costs, and living expenses are not allowable. If you have questions about specific expenditures please contact AIR.

Purchasing books, supplies, and printing materials: $500
Access to American University's High Performance Computing System: $2000

TOTAL REQUESTED $ 49,126.80