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Placement Director: Professor Scott Ashworth, sashwort@uchicago.edu, (773) 251-9563

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Personal Information: Colombia, US permanent resident; he/his

Appointments:

2020- Postdoctoral Scholar, Harris School of Public Policy, University of Chicago
2020- Research Affiliate, The University of Chicago Consortium on School Research

Education:

Ph.D., Public Policy, University of Chicago, 2019
Thesis Title: “*Essays on the Economics of Education*”

M.P.P., Public Policy, University of Chicago, *Honors*, 2014
M.A., Economics, Universidad de los Andes (Colombia), 2010
B.A., Economics, Universidad de los Andes (Colombia), *Cum Laude*, 2008

References:

Professor Seth Zimmerman
Yale University
seth.zimmerman@yale.edu

Professor Dan Black
University of Chicago
danblack@uchicago.edu

Professor Damon Jones
University of Chicago
damonjones@uchicago.edu

Professor Susan E. Mayer
University of Chicago
smayer@uchicago.edu

Professor Stephen Raudenbush
University of Chicago
sraudenb@uchicago.edu

Teaching and Research Fields:

Primary fields: Labor Economics
Secondary fields: Economics of Education, Behavioral Economics

Teaching Experience:

Economics of Education Policy, University of Chicago, Instructor (Spring, 2020)
Education Policy (undergrad), University of Chicago, Instructor (Spring, 2020)

Statistical Theory and Applications II, University of Chicago, Teaching Fellow (Winter, 2019/17/16)
Cost-Benefit Analysis, University of Chicago, Teaching Fellow (Winter, 2019; Fall, 2015/14)
Applied Regression Analysis, University of Chicago, Teaching Fellow (Fall, 2018)
Introduction to Economics (undergrad), Universidad de los Andes, Co-Instructor (Spring 2011/12)
Econometrics II (undergrad), Universidad de los Andes, Co-Instructor (Spring, 2010/ 09; Fall 2008)

Research Experience:

2014-19 Behavioral Insights and Parenting Lab (codirected by Professors Susan E. Mayer and Ariel Kalil), University of Chicago, graduate research assistant
2017-19 The University of Chicago Consortium on School Research, graduate research assistant
2015-17 Center for the Economics of Human Development (directed by Professor James Heckman), University of Chicago, graduate research assistant

Honors, Scholarships, and Fellowships:

2018 Behavioral Interventions Scholars Grant (\$25,000), awarded by the Administration for Children and Families at the U.S. Department of Health and Human Services
2008 *Los Mejores en Educación* award for ranking 1st out of 43,600 on the National Higher Education Quality Examination SABER PRO
2003 Valedictorian, Colegio Franciscano de Fray Damián González

Professional Activities:

Conference and Seminar Presentations:

AEA/ASSA (Jan. 2021), AEFPP (Mar. 2020), APPAM (Nov. 2019), Promising Math Conference at Erikson Institute (Nov. 2019), APPAM Regional Student Conference (Apr. 2019), APPAM (Nov. 2018), Advances with Field Experiments Conference (Oct. 2018)

University service:

2017 PhD Student Council (read PhD applications)

Languages:

English (Fluent), Spanish (native), French (intermediate), Portuguese (intermediate)

Research Papers:

“Heterogeneous Teacher Effects, Comparative Advantage, and Match Quality: Evidence from Chicago Public Schools” [Job Market Paper]

Abstract: This paper introduces a novel feature to value-added (VA) models of teacher quality and estimates potential benefits of using this feature as a policy tool. By capturing heterogeneity in teachers' causal impacts on student outcomes across student types (e.g., female and male), this feature identifies teachers' comparative advantage: the added effect on a student type relative to another. In turn, this feature helps estimate match quality: the causal effects of teachers when matched to different classrooms. Specifically, I ask (i) to what extent teachers' VA estimates vary across student types, (ii) whether these student-type specific VAs provide unbiased forecasts of teachers' causal impacts across student subgroups, and (iii) what efficiency gains (i.e., increase in student achievement) could be realized by incorporating student-type specific VAs in policy

decisions. First, I develop a flexible VA model with student-type specific teacher effects. By employing more than 1.7 million test scores from Chicago Public Schools, I estimate gender- and race-specific teacher VAs and construct comparative advantage measures (e.g., difference between female- and male-specific VAs) to capture cross-type heterogeneities in teacher VAs. I find a large unexplained variation in teacher comparative advantage (30--50 percent for gender and 40--80 percent for race) after controlling for traditional measures of teacher quality. Second, by exploiting changes in teaching staff as quasi-experiment, I find that comparative advantage measures accurately predict teachers' differential impacts across student subgroups. Third, counterfactual teacher retention and reallocation policies that incorporate comparative advantage measures indicate efficiency gains of up to 8 percent. Findings suggest that heterogeneity-based performance measures, in particular comparative advantage measures of teacher quality, could be a policy tool to improve efficiency.

“The Education Gradient in Maternal Enjoyment of Time in Childcare” (with Susan E. Mayer and Ariel Kalil)

Abstract: Studies document large differences in the amount of time mothers spend in childcare by maternal education, even when controlling for characteristics such as income, employment hours, and work schedules. One possible explanation for this observed difference is that highly educated mothers find time in childcare to be more enjoyable. To inform this hypothesis, we examine education-based differences in mothers' average feelings during their time in childcare using pooled data from the 2010, 2012, and 2013 Well-being Modules of the American Time Use Survey. Among all mothers, spending time in childcare is associated with higher positive feelings than is spending time in other activities. However, highly educated mothers do not enjoy their time in childcare more than less-educated mothers. Findings are robust to controls for mother fixed effects.

Work in Progress:

“Evaluator Bias: The Effects of Student Quality on Teacher Performance Ratings” (with Lauren Sartain and Andrew Zou)

Abstract: Evaluations should be a statement about teacher performance and not a reflection of the students that teachers have in their classrooms. Using a five-year panel of administrator ratings of teacher practice from 2012–13 to 2016–17 for teachers in grades 3–8, we exploit naturally occurring yearly variation in the composition of classrooms within teachers to examine the effects of classroom characteristics on teacher observation ratings. We find that having higher-achieving students and a higher proportion of special education students, even when the teacher remains in the same school, is associated with better observation scores. We also uncover a penalty that teachers in classrooms with larger proportions of Black students receive. We then simulate a policy that adjusts observation ratings for classroom characteristics, similar to value-added measures, and find that 25 percent (23 percent) of teachers at the bottom 5th (10th) percentile in the unadjusted observation score distribution, rank higher in the adjusted distribution. We perform similar analyses with student survey reports. Results suggest that student quality affects observer's and students' teacher performance ratings.

“The MPACT Initiative: Using Behavioral Tools to Improve Children's Early Math Skills” (with Susan E. Mayer and Ariel Kalil) [Registered in the [AEA RCT Registry, ID 2512](#)]

Abstract: We study the causal effect of a low-cost, behaviorally informed treatment intended to overcome present bias on parental engagement and child's early math skills. Present bias is the tendency to over-value immediate payoffs to one decision (i.e., to spend time in leisure) and under-value future greater payoffs to a different decision (i.e., to spend time in developmental activities with children), thus present-oriented parents would procrastinate and underinvest in their children.

We recruited more than 1,400 parents of preschool-age children attending 29 Head Start Centers in the City of Chicago. The intervention has four treatment arms in addition to a (C) control group, but here we focus on: (T1) provision of a game board and card deck (the MKit) illustrating everyday math activities parents could do with their child and (T2) the MKit plus text messages (four per week) designed to overcome parents' present bias. The intervention lasted for 12 weeks, and outcomes were measured right after the intervention, 6 months, and 12 months postintervention. We also estimate parental present bias through incentivized tasks. We are conducting analysis of data, and preliminary results show an increase in the math environment at home.

“Innovative Community Doula Intervention for Young, Vulnerable Mothers Impacts Child Cognitive and Behavioral Outcomes?” (with Jun Hyung Kim, Renee Clare Edwards, and Sydney Hans)

Pre-Doctoral Publications (non-academic):

[In Spanish] “*Retos del Desarrollo Humano Sostenible para el Departamento de La Guajira 2012-2015*”, 2012

[In Spanish] “*El Departamento de La Guajira frente a los Objetivos de Desarrollo del Milenio*” (with various co-authors), 2011