

# Personal Statement on Scholarship, Teaching, & Service

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## Introduction

As a teacher-scholar, I bridge multiple modes of scholarship in a manner that supports and reflects the ethos of a leading liberal arts institution. I conduct innovative research in behavioral economics, machine learning, and applied microeconomics, while simultaneously cultivating scholarship and best practice in teaching and learning through a commitment to data literacy, ethics and reproducibility, textbook writing, and the development and sharing of effective pedagogical practices. The latter form the core of my extensive service, which ranges from my role on the College's Working Group on Learning and Technology to leadership in the Teaching Integrity in Empirical Research (TIER) project.

I view my work through the lens of a first-generation college graduate from the global south (South Africa). My perspective and life trajectory were transformed in college through courses in game theory and behavioral economics. Economics offered tools that helped me understand the strategic and informational dynamics of social interactions in my home country. I continue to appreciate how economics explores real-world problems affecting individuals, businesses, communities, and governments, and fosters feasible solutions to improve equity, efficiency, and flourishing. Furthermore, as a former English major and published poet, I see economics as embedded in the liberal arts and humanities; economics is a humanitarian science recognizing the roles of history, psychology, sociology, and anthropology in formulating a wider understanding of the economic world.

## Scholarship

I address four components of my scholarship: behavioral and experimental economics and applied microeconomics; the textbook I have co-authored, *Microeconomics: Competition, Conflict and Coordination*; economics education and reform in the classroom; and scholarship that interweaves behavioral economics, history of economic thought, machine learning, and economics education. The following items demonstrate my productivity: four peer-reviewed published articles; one article accepted with revisions requested (re-submitted); a textbook forthcoming (2020) with Oxford University Press; a published chapter in a book with the Open University; three articles under review; and six working papers being prepared for submission. I also have substantial work in progress. I have student co-authors for two of my papers under review and for one ongoing project.

## Microeconomics: Behavioral, Experimental and Applied

Over the past generation economics has undergone a quiet revolution. The selfish “economic man” of the first half of the twentieth century has been re-characterized by a new, more empirically-based conception of humans, whose behavior can often be described by *social preferences*. Social preferences concern such pro-social aspects of behavior as trust, reciprocity and cooperation, along with such anti-social aspects of behavior as spite, distrust, racial animus, and deception. Social preferences were once overlooked, but mounting evidence demonstrates their salience in contexts as wide-ranging as work relationships, tax policy, and blood donations.

Since the 1970s psychologists have been interested in the question of incentives and supervision in the workplace: do people prefer autonomy or does a reciprocal relationship with one’s colleagues drive us to work well? In Burdin, Halliday and Landini (2018), we investigated which of these effects more strongly prevails. Our results showed that reciprocity drives behavior more than a preference for autonomy, suggesting that good treatment by managers, not simply being given autonomy over tasks, helps facilitate workplace productivity.

People’s social preferences do not exist in isolation, so people pursuing their own ends may seek to undermine the ethical commitments of others. Consider an email I recently received from Amazon telling me I could receive “free samples.” Amazon offers free samples hoping I will rate the products I receive and increases Amazon’s sales. In Halliday and Lafky (2019), we addressed this exact problem to see how such “free gifts” (bribes) can undermine ratings that would otherwise convey accurate information about quality to potential customers. We found that the gifts overrode any information about a good’s underlying quality and ratings break down as a useful information system.

Included among social preferences I study is an ethical commitment to honesty. For example, an honest person would feel badly about lying on their taxes. Do people therefore consider money they get by chance as subject to the same ethical strictures as money they earn? In work with a recent Smith graduate (Halliday and Koulouh (2019)), we examined how people respond to the choice to lie when their choices are based on money coming from chance or effort. Identifying lying behavior at the individual-level (rather than group-level as other research has done), we found people are equally honest across conditions and across different effortful tasks. Our results make a methodological contribution adding nuance to existing evidence and providing avenues for future research. Halliday, Lafky and Wilson (2019) asked whether subjecting our ethical principles to different outside forces might change them: do people lie more often or tell bigger lies when they compete with others? We found that when people have poor alternatives, competition drives them to lie more than they otherwise would; whereas improving their alternatives reduces their likelihood of lying.

This research ties to work I have done on stealing and punishment (Halliday (2019b)), an ongoing interest in the role of gender and risk in decision-making (Burns, Halliday and Keswell (2019)), and job satisfaction in the workplace (Yu, Halliday and Kaufman (2019)). In future work, Abdul Kidwai and I will develop an experiment investigating hiring choices when managers cannot clearly determine worker productivity before hiring workers. Burdin, Landini and I shall run new experiments investigating power, delegation and competition to understand the worker-manager relationships in competitive labor markets. Lastly, I shall continue cultivating a research agenda that actively involves student research to supplement the special studies, thesis, and doctoral advising I have already done, which has manifested in three research papers with students, student conference presentations, and many student presentations at Smith’s Celebrating Collaborations.

## **Textbook**

My textbook reflects my deep commitment to reforming the economics curriculum internationally, to participating in a diversifying endeavor for economics textbooks, and to an approach to economics embedded in the liberal arts (Bowles and Halliday (2020)). My textbook makes four fundamental contributions: First, our content reflects the vanguard of economics research. Second, each topic applies fundamental ideas in economics to real-world problems – the complex, urgent problems of Smith College’s own strategic vision – such as climate change, inequality, and student debt. Third, we address the extraordinary under-representation of women, minorities, and the global south in economics and economics textbooks by writing the book with an international and inclusive scope and emphasizing choices in the lives of people from historically under-recognized groups. Lastly, we aim to return economics to the heart of a liberal education, moving beyond simple mathematical problem-solving to foreground an inquiry into how society, particularly its economic aspects, may work in harmony or discord. As a work of scholarship, the book articulates our stance on the state of modern microeconomic theory, written in a manner accessible to undergraduates, graduate students, and faculty wanting to understand the field.

I am pleased to say the textbook, in its draft form, has been taught internationally in India, the UK, Ireland, South Africa, and many colleges and universities in the US. My co-author and I have received emails from students and instructors alike expressing their appreciation for the textbook’s modern approach and application to important problems. Students have told me how they have taken ideas from class and discussed them in job interviews, in Thanksgiving conversations, and in debates with friends.

The textbook manuscript is submitted to the publishers and is in active production. We are working with our team to produce the accompanying supplementary materials, including interactive graphics, instructional videos, and online support. I will be engaged in promoting and marketing the book in the next year.

## **Economics Education and Curriculum Reform**

Democracies today face problems like the proliferation of fake news and popular distrust in official statistics. It therefore behooves us to cultivate a citizenry that can think critically and understand data. I confront these challenges in my classes, emphasizing the demands for data analysis skills, for integrity in research, and for an inclusive classroom.

Data literacy – the ability to work with data and understand its components – is a core skill for many of our graduates. So how does one improve data literacy? In Halliday (2019a), I demonstrate how to teach students to handle spreadsheets and to represent data visually, developing step-by-step exercises, and concluding in the analysis of a household survey. A related problem emerges: does the research process have integrity and is the work reproducible? Can the same results be achieved by independent teams of researchers with the same data analysis code and data? In Dvorak, Halliday, O’Hara and Swoboda (2019), I led a collaboration across four campuses to demonstrate how teaching reproducible research practices to undergraduates, with the right infrastructure, is both feasible and ethical.

Tied to my commitment to diversity, equity, and inclusion in the classroom, I participated in the Sherrerd Center’s student-faculty partner project. In Halliday (2019c) I reflected on this process, showing how having a student partner can shape an instructor’s classroom while the instructor maintains rigor.

I hope to continue work in economics education especially with Project TIER, promoting ethics, reproducibility, and integrity in undergraduate research. We applied for an NSF grant in December 2018. Though initially

unsuccessful, we shall apply for other funding to evaluate student outcomes when taught reproducibility practices.

## **Behavioral Economics, Data Science & Economics Education**

My interests in education, behavioral economics, and data science have intertwined in ongoing research.

Addressing a gap in the literature and using a novel research design, we ran an experiment in economics and non-economics classes to see whether exposure to economics affects students' preferences and policy attitudes (Girardi et al. (2019)), showing that economics makes people neither "selfish" nor "conservative." In Bowles et al. (2019) we used topic modeling – an application of computational linguistics using machine learning algorithms – to map the research of the past 115 years in top economics journals and to locate contemporary textbooks in intermediate economics courses relative to the research frontier. Our results showed that what students learn and what economists do has diverged, suggesting that intermediate courses could be updated to narrow the divergence. Finally, in Halliday (2019d), providing instructors an opportunity to bring research into their classroom, I highlighted four ways an instructor can incorporate social preferences into an intermediate microeconomics course using standard models, but with new applications and evidence.

Continuing my collaborations using machine learning, we hope to interrogate the contrasting responses of researchers and policy-makers to the financial crisis by comparing policy documents with the research corpus post-2008. The research could lead to collaborations with Statistics and Data Science and to new courses as I become more familiar with applying machine-learning methods in economics.

Overall, my scholarship ties together many strands – from behavioral economics, to machine learning, to pedagogy – and each forms a part of the tapestry of work I shall continue to produce.

## **Teaching**

Since arriving at Smith I have taught six courses in the economics department, supervised six special studies and two theses, worked with STRIDE students and research assistants, and served on the committee of a PhD student. I regularly teach three core classes: Introduction to Microeconomics (ECO150), Intermediate Microeconomics (ECO250), and Introduction to Statistics and Econometrics (ECO220). I also regularly teach three electives: Economic Development (ECO211), Political Economy of Development in Africa (ECO311), and Behavioral Economics (ECO254).

I have teaching evaluations at the departmental average, though with high variation. In particular, high variation in ECO250, ECO220, and ECO254, which are quantitatively intense courses (which the research suggests correlates with lower average quantitative scores on teaching evaluations). I pair the rigor with flexibility and support – such as permitting students to re-do and reflect on exams where they did worse than hoped, thereby encouraging a growth mindset. I continue to teach challenging courses, while searching for ways to make them more inclusive for students at different stages and levels of preparation.

## **Pedagogy and Examples from Classes**

I employ a variety of pedagogical approaches in my teaching, from mini-lectures and participatory classes, to discussion-based seminars and student presentations. I approach teaching with the view that students study

economics to solve real-world problems and to apply the decision-making skills they learn in the classroom to business, policy, and personal choices.

My approach encompasses Smith's vision for embracing emerging pedagogies and giving students voice and agency. I situate my teaching in a participatory and problem-centric approach, asking students to solve in-class problems I've developed; I use polling questions to facilitate peer instruction, gauge where students stand, and spur discussion; I employ take-home exams where students encounter new data and have to produce professional-quality work; and I engage students in team projects to address research questions they conceive.

Economic models tell stories. To help tell those stories I use interactive graphics, such as a historical wages for London craftsmen from 1200 to 2010, a "hockey-stick" graph demonstrating how capitalism and increases in income have gone hand-in-hand (alongside other hockey-stick graphs showing, for example, increasing carbon emissions with the rise of capitalism).

Confronting economic choices directly helps a student understand economic theory, which is why my students participate in and write about classroom experiments, such as the prisoners' dilemma game.

Participating in experiments, students reproduce the results from published research, demonstrating to them both how their own choices reflect the theory and evidence we discuss in class. Altogether, my chosen in-class activities demonstrate how economics coheres around competition, conflict, and extraction but also coordination, cooperation, and mutual gain.

In the future, I can see my teaching going in several directions. First, building on my recent work using machine learning, I could teach a course in machine learning, text analysis, and economics. Second, behavioral economists often teach a lower-level elective in experimental economics and an upper-level elective in behavioral economics. Finally, related to my ongoing research, Personnel Economics explores the forefront of behavioral economics research in the workplace and I believe it would make a fascinating seminar attractive to many students.

## **Service**

My service reflects an ongoing commitment to understanding the relationship between research, inclusivity, technology, and learning. I ran for and was elected to the Committee on Educational Technology. I was then appointed by the provost to serve on the Ad Hoc Working Group on Learning and Technology until AY2019-20. On the latter committee I have been involved in surveying faculty about their technology use, presenting workshops on the use of technology to enhance pedagogy, designing surveys of student technology use (ongoing), and participating in decisions about the future of technology at Smith.

At the departmental level, I have served as the library liaison, the organizer of seminar speakers, an interviewer for job candidates, and a departmental ambassador.

My service encompasses service to the profession, from my textbook (available free of charge in pdf), to reviewing, to curricular reform and advocacy: my commitment to Smith and the Economics department reflects a wider commitment to service in and for students and the academy.

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