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THE COMMUNITY EFFECTS OF SERVICE-LEARNING

By

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ABSTRACT OF THE DISSERTATION

The Community Effects of Service-Learning

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The previous research on service-learning and community engagement in higher education demonstrates that the practice has a small, but consistent effect on college student participants. Far less is known about the effects of these practices on the communities where universities engage and most of the work to date has been descriptive in nature. This dissertation uses three nationally representative datasets to examine community outcomes in places that host members of the Campus Compact, the largest and the oldest organization supporting university-community engagement in the United States. The results point to measurable impacts on social mobility, social capital, and educational test scores attributable to the presence of engaged institutions of higher education and contributes among the first quantitative studies of community impact of engagement from higher education. This dissertation also tests the observable implications of the elimination of federal funding for higher education service-learning that demonstrates the important role that federal policy played in producing positive effects in communities.

DEDICATION

I dedicate this dissertation to my three favorite women: Kara, Liz, and Mom.

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Chapter 1 INTRODUCTION

Practitioners of service-learning in higher education are motivated by the concept of reciprocity: they anticipate that partnerships between their students and communities produce outcomes that mutually benefit both groups (Dostilio et al., 2012). Despite this emphasis on mutual benefit in the design of service-learning, the focus of research on these activities is primarily to examine the learning and developmental benefits accrued by students involved in these activities (Cruz & Giles, 2000; Stoecker, Beckman, & Min, 2010; Stoecker & Tryon, 2009).

By 2000, large scale studies of college service-learning suggested that the programs produce the intended effects on college student outcomes (Astin & Sax, 1998; Eyler & Giles, 1999; Gray, Ondaatje, & Geschwind, 2000). The service-learning field was broadly implemented in colleges and universities, supported by a presidents' consortium—the Campus Compact—and by federal funding through the Learn and Serve America Higher Education (LSAHE) Program. These developments lead some to refer to it as a movement in higher education (Ehrlich, 2000; Hollander & Hartley, 2000).

While the service-learning movement was growing and institutionalizing itself within higher education, Cruz and Giles (2000) pose the question “where’s the community in service-learning research?” in a special issue of the *Michigan Journal of Community Service Learning* focused on the future of the movement. They could point to few examples of studies of the impacts of service-learning and community engagement for the community. Even 10 years later, Stoecker, Beckman, and Min (2010) could still point to the focus on student development over community development, arguing “the achievement, or lack of achievement, of community change does not directly impact the

institution's resource base in the same way that student outcomes do" (pg. 180).

Dissatisfied with the quality of submissions to a leading journal on service-learning, in 2017, the section editor of the community impacts/partnerships section again called for researchers to focus on the community and its outcomes (Bloomgarden, 2017).

Statement of Purpose

The purpose of this dissertation is to address this gap in our understanding of the community impacts of service-learning. In the three studies contained in this dissertation, I present findings supporting a conclusion that the presence of publicly-committed institutions of higher education contributes to better places: places with more social mobility, more social capital, and better educational outcomes. The institutions at the focus of this dissertation were members of the Campus Compact, a Presidents' organization that supports college and universities in making institutional commitments to service-learning and community engagement.

In addition, two of the studies in this dissertation present evidence demonstrating a moderating influence of federal policy supporting the practice of service-learning. The federal government's Learn and Serve America Higher Education program provided roughly \$10 million per year from when it was founded in 1994 through 2011, when it was defunded. This retrenchment offers a useful structural break in the time series presented in two of the three studies in this dissertation.

These studies are the first nationally-representative, quantitative findings supporting the practice of service-learning and community engagement as an effective contributor to community outcomes. These studies also contribute to our understanding

of the role of public policy in promoting community outcomes and provide evidence that these investments were important for producing better places across the United States.

Study One

The first of three studies presented in this dissertation replicates and extends work by Raj Chetty and Nathaniel Hendren (2018; Chetty, Hendren, Kline, & Saez, 2014). In this project, I pose questions related to the density of higher education institutions in communities across the country, with specific focus on the number of Campus Compact members per capita against the number of other institutions per capita. I also show that place effects associated with the Campus Compact institutions are less biased by sorting flows, rather effects appear to be roughly the same for children that move to these communities as they are for children raised in these communities from birth. The results are robust to alternative classifications of higher education institutions. I also find that communities with more Campus Compact members per capita have other characteristics that are theoretically related to the social mobility outcomes investigated in the study, suggesting the need to investigate the contribution of the Campus Compact members to those community outcomes, as well. These results support the anchor institution theory, under the interpretation that anchor institutions make commitments to involve students in a common anchor/civic mission and thus produce better communities through these activities.

Study Two

Following on the first study, I present a longitudinal investigation of social capital in communities that host Campus Compact members. In this study, I exploit the retrenchment of funding for the Learn and Serve America Higher Education program to

test whether this federal policy produced social capital through the membership in Campus Compact. This study theorizes a policy feedback related to the policy's purposes to promote civic engagement. The findings are also consistent with streams of policy feedback research regarding the power of groups to sustain the policy's funding, suggesting that the small effects I uncover were too diffuse for the policy's beneficiaries to successfully act to preserve the funding. Despite the relatively small effects between places, the relative effects measured in the study suggest that the structural break had large consequences within the communities, with an overall swing of roughly 80% of a standard deviation from a positive effect to a net negative effect after the policy was defunded.

Study Three

The final study of this dissertation presents results from investigations of the effects related to the proximity and capacity of Campus Compact members to serve their nearest school district. Investigating test scores for grades three through eight in over 7,000 school districts, the findings point to very small contributions related to distance and capacity to school district's outcomes. This study also exploits the same structural break as the second study, and it successfully replicates the findings presented in the second study regarding the role of the federal policy in moderating the effects of the Campus Compact members on their communities.

Limitations and Delimitations

A major limitation of these studies is related to the availability of data. To conduct these studies, I constructed datasets related to the Campus Compact membership over time. While these data were fundamental to the operationalization of service-learning and

community engagement for these studies, they are limited in respect to the level of detail related to mechanisms that may be causing the variation uncovered in these studies. The first two studies use the density of Campus Compact members in communities, and while it is possible that the number of institutions per capita is causing some of the outcome, it is more likely that the practices of service-learning and community engagement that these institutions implemented in their communities are what truly generates the variation in the outcomes observed. To that end, my results are encouraging for future investigation, but somewhat incomplete, especially regarding implications for practice.

Furthermore, the third study is also compromised by the somewhat arbitrary assignment mechanism: the institution nearest to the geographic centroid of the school district. While this decision threatens the internal validity of that study, I justify my decision to assign districts to universities with the argument that the findings presented in that study contribute to our understanding of the community effects of service-learning and community engagement and are important for the field as it continues to refine its methods and theories.

Furthermore, I must delimit the findings in the second and third study to communities where one or more Campus Compact member was within a reasonable commuting distance. In the second study, my unit of analysis is the commuting zone (Tolbert & Sizer, 1996), and only commuting zones hosting at least one member of Campus Compact are included in the analyses. In the third study, I delimit the units of analysis to school districts located in commuting zones with a member of the Campus Compact. While this does limit the investigations somewhat, it is important to note that roughly 80% of the population of the US lived in a commuting zone with a Campus

Compact member, and the units of analysis include urban, suburban and rural areas across the United States, suggesting the effects uncovered have very high external validity despite the somewhat compromised internal validity discussed above.

Organization

This dissertation is organized as follows. I will present a review of relevant literature regarding community outcomes research in service-learning and community engagement and provide a historical overview of the Campus Compact and Learn and Serve America programs that are at focus in the studies. In addition, I present the theoretical bases for my studies, reviewing the determinants of social mobility: human capital and social capital. Then, I present each study as an independent chapter, each containing a brief review of literature, along with the study's methodology, findings, and discussion. I conclude with a chapter that draws the findings of each independent study together to discuss how these studies contribute to our understanding of community outcomes from service-learning and community engagement and are relevant for policy discussions. I also make recommendations for future research including the need for better public data about our practices to address the limitations outlined above.

Chapter 2 LITERATURE REVIEW

This literature review will serve two complementary purposes. First, it will describe the service-learning movement and the aims of the movement in providing the enhanced educational opportunities for youth in communities that hosted engaged institutions. Second, it examines the literature about determinants of social mobility with attention to two theoretical perspectives: social capital and human capital.

The conclusion will point to the theoretical links between the service-learning movement and social and human capital production that will be investigated in this dissertation. This research addresses the gap identified in Cruz and Giles (2000) regarding the lack of studies of community impacts of service-learning by examining the associated effects of growing up in an area with more Learn and Serve America Higher Education grant recipients. This dissertation extends our theoretical understanding of how this happened because of the human capital and social capital production that is associated with the practice of service-learning in communities.

Service-Learning

Service-learning is a pedagogical method that combines meaningful, mutually identified community service activities with structured learning opportunities through processes of reflection on the experience (Bringle & Clayton, 2012; Jacoby, 1996; The National Service Trust Act of 1993., 1993). Pollack (1999) traces the history of the term, as well as the implementation of the practice within higher education, to the 1960's and an internship program sponsored by the Southern Regional Education Board. Others (Harkavy & Puckett, 1994; Rocheleau, 2004) draw its philosophical origins in the progressive education and the settlement house movement. This theoretical foundation

places the practice firmly in the development of citizenship and democracy (Battistoni, 1997; Giles & Eyler, 1994; Jacoby, 2014; Morton & Saltmarsh, 1997; Saltmarsh & Hartley, 2011).

Growth of the Service Learning Movement

Pollack (1997) traces three decades of service-learning and discusses the development of service-learning. In the 1970's, this practice was supported by federally funded ACTION through the National Student Volunteer Program, which became the National Center for Service-Learning in 1979. However, this period of service-learning is juxtaposed to the current period of the service-learning movement because the earlier period was marked by an aversion to integrating service and curriculum guided by faculty involvement. Its emphasis was almost exclusively on internships guided by field experience coordinators. He traces the decline of the early service-learning movement with the rise of neo-liberal ideologies that retrenched funding for ACTION under Ronald Reagan. Pollack then traces the emergence of the new service-learning movement and its emphasis on curricular engagement in the late 1990's. Other scholars focusing on the more recent history of the movement have pointed to the emerging focus on engaged scholarship to legitimate community-engaged research practices and the co-creation of knowledge with communities beyond the academy (Hartley & Saltmarsh, 2016).

The literature on the growth of today's service-learning movement can be linked to two simultaneous developments: (1) the creation and expansion of Campus Compact, a consortium of institutions committed to developing the civic purposes of higher education, and (2) the implementation of the Learn and Serve America Higher Education (LSAHE) program through the Corporation for National and Community Service

(CNCS). In this section, I will review the published accounts of these developments, arguing that the rise in one is attributable to the implementation of the other.

The role of the Campus Compact.

The role of higher education in the crisis of America's civic life in the 1980's has been well documented (Bok, 1982; Boyer, 1987, 1990; Hollander & Hartley, 2000). Ronald Reagan's Secretary of Education, William Bennett, once commented that Generation X had no concern for the common good (Hollander & Hartley, 2000). This crisis precipitated the foundation of the Campus Compact. In 1985, three university presidents—of Brown University, Stanford University, and Georgetown University—along with Frank Newman, President of the Education Commission of the States, convened to form a new organization, the Campus Compact, to address public concern about the decline of moral and social commitment of college students (Morton & Troppe, 1996). This organization grew from 23 schools in 1985 to over 1,100 schools today ("Campus Compact," n.d.). Hollander and Hartley (2000) note that Campus Compact grew from "fewer than 200 in 1989" to "nearly 600 at the close of 1998" (p.348). Eyler, Giles, Stenson, and Gray (2001) cite 639 members in 1999 from a Campus Compact survey of members and faculty. (Heffernan, 2001) points to a count of 682 in 2000, with 21 state compacts and a Community College National Center for Community Engagement.

Many scholars attribute the rapid growth of service-learning and community engagement (SLCE) during the 1990's to the development of Corporation for National and Community Service and its Learn and Serve America Higher Education (LSAHE) grant program (Bringle & Hatcher, 2000; Hartley, 2011; Hollander & Hartley, 2000;

Morton & Troppe, 1996). Figure 2-1 summarizes this growth, in the period from 1986 to 1991 and the period from 1995 to 2000, the rate of growth for Campus Compact was roughly 30 institutions per year, but that between 1991 and 1995 the rate of growth was more than 60 institutions per year. These changes signal that as funding became available to higher education, more universities joined the largest consortium supporting their work.

[INSERT Figure 2-1 HERE]

In the early 2000's, a number of other organizations emerged to support engaged work (Hartley & Saltmarsh, 2016). A new International Association for Research on Service-Learning and Community Engagement to improve scholarship on the practice was founded in 2001. Imagining America, focused on the public engagement of scholars in the arts, humanities and design and held its first national meeting in 2001. The American Association of State Colleges and Universities launched its American Democracy project in 2003. By the mid-2000's, a new, elective Carnegie Classification was piloted and focused on indicators of institutionalization of engagement practice (Driscoll, 2008; McCormick & Zhao, 2005).

Throughout this time, Campus Compact remained relevant by securing funding from the federal government and philanthropic foundations to support work in civic engagement (Hartley, 2011; Hartley & Saltmarsh, 2016). Campus Compact sponsored a meeting of students at the Wingspread conference center that produced a student-authored work called *The New Student Politics* (Long, 2002). This work spawned an initiative of Campus Compact to engage students in civic and political processes through the *Raise Your Voice* campaign (Cone, Kiesa, & Longo, 2006). McGovern and Curley

(2010) assert that Campus Compact also played a leadership role in preparing faculty for engaged scholarship with communities in addition to its focus on university presidents and students. In addition, Campus Compact, its members, and others participated in national dialogues around the role of higher education to contribute to American democracy through a national task force that produced *A Crucible Moment* (2012).

Federal funding for service-learning.

In 1990, Congress passed the National and Community Service Act, which established the Commission on National and Community Service. This new commission awarded its first grants in 1992 and was soon followed by the National and Community Service Trust Act of 1993 that established the Corporation for National and Community Service (Melchior, Jastrzab, Bailis, & Frees, 1994).

The first grants to institutions of higher education as part of the first round of funding were for “Higher Education Innovative Projects (Subtitle B2) aimed at involving college students in community service and at promoting community service at educational institutions” (Melchior et al., 1994, p. 1). These authors note that roughly 22,000 participants in higher education programs participated as part of the first round of funding and averaged roughly 39 hours of volunteer service through the programs. Higher education programs emphasized education with nearly half (46%) of reported service hours focused on tutoring, mentoring, and classroom assistance.

The results of these early innovation projects resulted in the creation of Learn and Serve America Higher Education (LSAHE) under the 1993 National and Community Service Trust Act, to be located within the Corporation for National and Community Service (CNCS). An early report (Corporation for National and Community Service,

1996) by the newly formed CNCS detailed examples of projects funded by LSAHE again notes that the most frequent service activity was educational, mainly focusing on serving K-12 schools. The report also contains a listing of grantees with short synopses of projects. Within the listings are ten entries for projects of Campus Compact, including a project for 90 community colleges across the country, 28 subgrants in California, projects for 20 compact members in Colorado, a statewide project in Indiana in eight communities, seven colleges in Massachusetts, four community collaborations in Minnesota, at least five tribal colleges in Montana, 29 members in New Hampshire, 20 colleges in Pennsylvania, and a national grant program aimed at 28 other members of the National Campus Compact.

The funding for LSAHE provided roughly \$10 million per year to institutions of higher education to develop service-learning centers, support faculty and students, and to conduct community-based service and research projects according to a FOIA request to the Corporation for National and Community service (personal communication, January 19, 2018). In a contentious political climate in 2011, funding for the LSAHE program was eliminated (Ryan, 2012).

Aims of Service-Learning in Communities

The only national evaluation of LSAHE programs studied the first LSAHE grant cycle, conducted by the RAND corporation (Gray et al., 1999). Gray et al. (1999) found that as many as 458 institutions were supported by LSAHE each year of that first cycle. In addition, their results suggest that about 75% of all grantees and subgrantees focused their work on education, consistent with the CNCS 1996 report. From the community perspective, the top five “types of people served by student volunteers” included: K-12

students, economically disadvantaged, educationally disadvantaged, “At-risk” youth, and families/parents; in addition, nearly 80% of all programs were private non-profits or school districts, and the respondents were “most likely to focus on education” (Gray et al., 1999, p. 58).

The 2003 membership survey of Campus Compact members suggests that 93% of respondents (n=331) had partnerships with k-12 schools, and the average number across all member institutions ranged from 1 to 400 partnerships with an average of 18 partnerships per institution (Salgado, 2003). On average, 10 partnerships were with elementary schools (ranging from 1 to 125), 5 partnerships with middle schools (ranging from 1 to 87), and 6 partnerships with high schools (ranging from 1 to 113). Pickeral (2003) notes that in 2000, 89% of Campus Compact members reported working with elementary schools and 65% with high schools noting that “the basic tenets of service-learning—mutuality, reciprocity, authenticity, and democratic collaboration—make service-learning a natural connector of the two educational systems” (2003, p. 177).

Eyler, Giles, Stenson and Gray (2001) found only twelve studies that addressed community outcomes in an extensive review of service-learning research from 1993-2000. Cruz and Giles (2000) note that much of the extant literature had been “a mix of research and program evaluation... a significant part of the literature is anecdotal and descriptive”. Gelmon, Holland Seifer, Shinnamon, and Connors (1998) offer some guideposts for good assessment of community partnerships, focusing their work on case studies of partnerships. This method uses the community partnership as a unit of analysis and examines the outputs and outcomes from multiple perspectives, which Cruz and Giles suggest is a best practice. Other papers from the period sought to collect

community feedback through other mechanisms. Ferrari and Worrall (2000) and Vernon and Ward (1999) used surveys to capture feedback from community partners. These studies were limited due to the non-probability (convenience) sampling or their reliance on closed-ended questions. In Vernon and Ward (1999), the design did include follow-up interviews (though it is unclear how the sample of interviewees were selected), and they found both benefits and challenges for communities to work with service-learners.

Miron and Moely (2006) present improvements over earlier studies by developing a multi-item measure for theoretical constructs related to voice, benefit, relations and diversity, but their study is still limited by non-probability samples that were relatively small. Gazley, Littlepage, and Bennett (2012) offer an improved method by employing randomized sampling to collect information from non-profits in two Indiana counties and found that organizational capacity and previous experience with service-learners is a strong predictor of taking more service-learners, but did not investigate the initiation of service-learning partnerships nor outcomes related to benefits for community members.

Another notable approach is Clarke (2003), who presents a multi-method study of communities in service-learning. Examining the partnership as a process, Clarke identifies three stages: 'Initiator', 'Initiative', and 'Impact'; drawing from Patton's (1997) *utilization focused evaluation* methodology. By examining the initiator of a service project across multiple cases, she found that "university initiators did not initially solicit the opinions of the community nor administer any form of needs assessment" (Clarke, 2003, p. 139). The quantitative results also suggest that the ratings for "why university was involved" were among the lowest with only "helped residents feel more in control of their own community" receiving a lower rating by the "community leaders".

Other recent work takes a multiple case study approach to examining university-community relations in anchor institution partnerships. An early example is Maurrasse (2001) who explores four colleges and universities partnerships with their local communities. This work marked an important early attempt to document approaches to community partnerships, but the case selection methods lack focus and it is difficult to draw comparisons across the cases. An improvement over this attempt was Hodges and Dubb (2012) who select more than twice as many cases and begin to create typologies of approaches to university-community work. Applying a similar method and further focusing on a specific strategy identified by Hodges and Dubb, Yamamura and Koth (2018) describe the place-based strategy and provide insights into the various phases of implementation.

Despite this spadework, no extant quantitative studies have examined long-term impacts of service-learning. Stoecker, Beckman and Min (2010) argue the gap is related to a focus on student development over community development, arguing “the achievement, or lack of achievement, of community change does not directly impact the institution’s resource base in the same way that student outcomes do” (2010, p. 183). However, the emphasis on educational activities for youth evidenced above suggests that a long-term impact of this work may be improved social mobility of youth.

Determinants of Social Mobility

The study of intergenerational social mobility is an active area of research in sociology, economics, and public policy. Within sociology, the study of social mobility is closely associated with the study of social stratification and the formation of classes (Sorokin, 1927). A useful definition for social mobility is the “movement in time of social

units between different positions in the system of social stratification of a society” (Müller, 2001, p. 9918). Within the study of social mobility are two foci: 1) intergenerational mobility, or comparisons of adults’ social positions to those of their parents, and 2) intragenerational mobility, or comparisons of individuals across their lifespan in career position.

A major stream of research within the intergenerational mobility literature is regarding the equality of opportunity and the potential to provide greater opportunity to young people to improve their positions in life. This aim is seen as complementary with the notion of the American Dream (Putnam, 2015). This concept is normative within liberal democracies, and is a central tenet of social justice from a Rawlsian perspective (Rawls, 1999). From this perspective, it is essential to examine what produces intergenerational mobility and how service-learning may contribute to these facets of mobility.

The primary theory related to intergenerational mobility is human capital production (Becker, 1964; Black & Devereux, 2010; Solon, 1999). Increasingly, social capital is being investigated as an economic variable of interest, in addition to its traditional domain in the field of sociology (Bourdieu, 1986; Burt, 2000; Chetty & Hendren, 2018; Chetty et al., 2014; Coleman, 1988; Lin, 2000; Putnam, 1995, 2001; Rupasingha & Goetz, 2007; Rupasingha, Goetz, & Freshwater, 2006). This section of the literature review will examine these concepts and offer insight into their measurement and effect on social mobility.

Human Capital

The classic definition of human capital are the investments of individuals in education, training, and health care (Becker, 1964). These elements are conceived as capital as they are resources that can raise earnings, improve efficiencies, and operate as physical and financial capital in contributing to the growth of economies. However, they are distinct from physical and financial capital because they are inseparable from the individuals that make the investments.

Human capital may also be considered a kind of capability (Sen, 1997, 1999) and contributes to individuals' well-being beyond the relationship between access to resources (such as income) that have been traditionally associated with human capital. Building from this concept, Lanzi (2007) argues that the principles of the capabilities approach structure the kinds of educational systems and policies that give individuals crucial capabilities and that social networks are possible environments for the implementation of educational policies.

Human capital and intergenerational mobility.

Becker and Tomes (1979) pose a model of intergenerational mobility as a function of consumption and investment in their child. This model serves as a simplified model of how human capital is related to intergenerational mobility, with an expectation that the investments of a parent in a child's human capital is associated with the lifetime earnings of the child, and that the investments depend on the lifetime earnings of the parent.

Solon (1999) and Black and Deveraux (2010) summarize the extant literature on intergenerational mobility with extended discussions of issues related to measurement

and estimation of the effect of parents' earnings on that of sons, with Black and Deveraux including more recent examinations of effects on daughters. Black and Deveraux also point to recent investigations of the causal link, such as Oreopoulous, Page and Stevens (2006) investigation of parental education on a child's education that found increasing the parent's education by one year reduced the probability of repeating a grade by exploiting historical changes in compulsory schooling for parents.

Some authors (Spence, 1973; A. Weiss, 1995) demonstrate that while there are greater observed returns for more education, this is part of a process of signaling. Rather than attributing increased wages to learning, Weiss (1995) shows that the lack of information symmetry in hiring decisions provides support for a sorting mechanism that can be used by employers to decide who is less likely to quit. Individuals who acquire more education signal to employers that they have characteristics that make them more productive and therefore these individuals are better investments. While it is possible that some of the sorting that occurs in labor markets is signaled by attainment of degrees, Arcidiacono, Bayer and Hizmo (2010) demonstrate that attending college increases abilities of attendees. These abilities are not significantly improved with additional labor market experience for college attendees but are improved for those who enter the workforce directly out of high school, suggesting that educational attainment improves individual ability and contributes to human capital production.

Human capital, universities, and regional economic development.

Higher education is also a major area for human capital researchers. One major stream of research examines the impacts of human capital on regional economic development.

There is evidence that the presence of an institution contributes in meaningful ways to access and degree attainment. Shapiro's (2006) investigation uses the presence of a land grant institution as an instrumental variable to produce a causal estimate of the contribution of a greater share of college-educated individuals has on employment and wages in metropolitan areas. Other research has demonstrated that universities' role in producing highly skilled laborers and creating spillovers from knowledge generation and technology transfer have positive effects on regional economic development (Abel & Deitz, 2011).

A major gap in this literature on the role of universities effects on regional development concerns the impacts of other university activities, such as public service activities (Harris & Holley, 2016). Some refer to this kind of activity as "anchor institution activity" (Birch, Perry, & Taylor, 2013; Taylor & Luter, 2013). Practices of anchor institutions have been linked to service-learning (Hodges & Dubb, 2012; Kronick & Cunningham, 2013), but investigations of this impact on regional outcomes is limited to case study methods.

Social Capital

This section provides a definition of the concept of social capital, extant measures of social capital, introduces scholarly debate on the topic related to community development, and draws connections between social capital and service-learning. In doing so, it highlights the potential of this theory to offer service-learning as the link between findings by Chetty and Hendren (2018) between social mobility and social capital.

Social capital defined.

The concept of social capital emerged with Bourdieu (1986) who described it as a network of institutionalized relationships, or group memberships, providing members with what he terms the credential of access to collective capital. This notion was, in effect, used to explain the existence of social inequalities in society, with those advantaged by larger cache of social capital having greater access to other forms of capital and wealth.

Coleman (1988) presented a different take on the theory, suggesting that it is a resource characterized by relations among individuals for the purpose of collective action. These relations are marked by the mutual trust between actors and the norm of reciprocity. He observes these kinds of relations within voluntary associations. Furthermore, Coleman also attributes the social capital of parents to the development of human capital in their children.

Identifying the decline in civic engagement among Americans, Putnam (1995, 2001) points to decline of participation in voluntary associations as a primary driver. He characterizes Americans today as “bowling alone”, rather than in bowling leagues. This observation highlights the declines in participation that extends from mutual help to athletic clubs. He links these declines in participation to erosion of generalized trust. His primary recommendation for further research is to investigate the types of organizations and networks that most effectively generate social capital “in the sense of mutual reciprocity, the resolution of dilemmas of collective action, and the broadening of social identities” (1995, p. 76). In the policy arena, he points to ways in which policy may affect the production of social capital, arguing for investments in civics education.

Burt (2000) extends both the Bourdieu and Coleman arguments to develop his network theory of social capital, applying Granovetter's (1973) discussion of the role of social ties and the "strength of weak ties." Burt (1992, 1995) introduced the concept of structural holes in social networks that allow disparate networks to expand and create ties to other, denser networks; he then theorizes that the individuals that span these networks create a competitive economic advantage for themselves (Burt, 2000). These theories are primarily used to explain individual ties across organizations, instead of explaining patterns of social capital across communities, states or nations.

Woolcock (2004) introduces a typology of social capital: bonding, bridging, and linking. Bonding social capital occurs between friends and family members; bridging between members of a social network that differ in some way, such as ethnicity or social class; and linking social capital is between members with less power to those with more power (particularly with persons whose professional role is within some powerful institution in society). This conceptualization borrows from Lin (2001) who delineates homophilous and heterophilous social capital forms (based on the similarity of the actors in social networks), with the bridging and linking types being heterophilous are characterized by their ability to bring together dissimilar persons for shared aims.

Social capital and community development.

Putnam et al. (1993) argue that the associationalism observed in northern Italy did not cause the wealth of that part of the country but wealth was a result of the historic participation in voluntary associations. This finding generated a robust debate about the role of social capital in development studies internationally (Grootaert, Narayan, Woolcock, & Nyhan-Jones, 2004; Knack & Keefer, 1997) and domestically (DeFilippis,

2001, 2004; Putnam, 2001; Saegert, 2006; Sampson, 1999; Temkin & Rohe, 1998). Of interest is the discussion surrounding Putnam's operationalization of social capital.

DeFilippis (2001) argues that Putnam's social capital as associationalism is an ineffective strategy for community development unless it attends to inequities in power and access to other forms of economic capital. Applying Bourdieu's (1986) assessment of social capital, he argues that participation in voluntary organizations can only be an effective community development strategy when they build the power of low income communities to control the flows of financial capital.

Despite this claim, Sampson (1999) argues that communities high in social capital are "better able to realize common values and maintain effective social controls" (p. 333) primarily because of their collective efficacy (Sampson, Raudenbush, & Earls, 1997). DeFilippis (2004) refers to this pattern as part of the communitarian trend in what he refers to as neoliberal community development. Acknowledging that collective action is embedded in the neoliberal replacement of state provision of goods and services with those by voluntary means, Saegert (2006) points to social capital as an important resource in community development because it builds the collective action necessary to address problems that may be associated with retrenchment of welfare and state service provision.

Social capital and service-learning.

Considering the remarkable conceptual overlap between social capital and service-learning, few authors directly investigate the link. Despite this dearth of investigation, the theory does have antecedents in the literature. I will divide these works

into ways social capital has been linked to community outcomes and the ways it was linked to student outcomes.

Service-learning, social capital and the community.

Morton (1995) theorizes that service-learning is based on the “continuum of service.” Investments in relationships and concerns with the root causes of inequities bound the ranges of these various continuums or “paradigms” of service: charity, project, and social change/transformation. The practice of forming partnerships is based on “thin” and “thick” variations, rooted in the authenticity of the relationship and commitment. This aim is to “bring about change, quite often assessed as the redistribution of resources or social capital” (p. 20). Further theorizing on the topic, Enos and Morton (2003) generate a concept of transactional and transformational partnerships, based on the time investment and closeness of partners, wherein each partner learns and grows from their collaborative work.

Marullo and Edwards (2000) also discuss the potential for higher education to build social capital through their partnerships with communities, but cautions that service-learning programs and their partnerships must be oriented towards social justice. Seifer (2010) warns that service-learning is only an effective strategy for social capital production if work is long-term and sustained.

A handful of works from prior to 2000 substantiate the claims that are posed in Morton (1995). Investigating community outcomes from rural service-learning, Miller (1997) identifies social capital production as a primary outcome of university-community engagement. Miller presents vignettes about service-learning experiences in three rural communities describing how following a multi-step, community development focused

process leads to social capital production. Gelmon, et al. (1998) present ways in which collaborations between health care providers and universities produced “serendipitous opportunity to network with other community organizations”, pointing to the university as convener.

Although not explicitly grounded in social capital networks theory, Pigza and Troppe (2003) propose a three-phase model for service-learning infrastructure that strongly resembles the networked social capital of Burt (2000). The phases include concentrated, fragmented, and integrated, and are diagrams that feature a large oval representing the university, with smaller circles representing internal components (faculty, students, administrators) and squares representing community partners. Darker shading represents the commitment of resources invested in partnerships. Arrows represent the flow of communication between partners. Their diagrams demonstrate that as the network’s structural holes are closed, the strength of the partnerships improve consistent with Burt’s theory.

Ferman (2006) offers service-learning as a cogent bridge between the social networking theories of Burt (2000) and the associationalism of Putnam (1995). Discussing the role of her own service-learning project for youth in Philadelphia, she argues that the university plays an important role of broker in social networks and sponsor of the youth participants’ entry into networks. She writes “as a sponsor, the university can span age, class, cultural, and racial divides that all too often operate as barriers” (p. 88) to low-income student success. In contrast, Patterson (2006) discusses the role of the West Philadelphia Improvement Corps, an early service-learning initiative of the University of Pennsylvania that aimed to create community schools with the

assistance of the university faculty and students. This work takes the critical stance of James DeFilippis (2001) on the limits of social capital to produce community development, concluding that Penn's initiatives are laudable but cannot overcome structural barriers to improvement of distressed neighborhoods. These works provide the clearest theoretical link between service-learning and social capital as a community outcome from service-learning.

Service-learning, social capital and college students.

In addition to these investigations, several authors have focused on the conceptual link between social capital and service-learning participation for the students. Campbell (2000) presents data regarding the link between community service and "political activity", suggesting that involvement in non-political community serving activities does not replace political activity, but may bolster it. Hart, Donnelly, Youniss, and Atkins (2007) produce similar results for community service in youth as a predictor for future civic activity and adult volunteering, which are frequent proxies for social capital activities. D'Agosotino (2010) directly tests the link between social capital and service-learning as an outcome of service-learning using various self-report measures. Her findings suggest a weak relationship between service-learning and a multi-item measure of social capital, and significant but small relationships for a measure of social networks.

Maldonado, Rhoads and Buenavista (2005) theorize that the development of social capital among students of under-represented backgrounds can be an effective strategy for college student retention. Yeh (2010) poses service-learning as lever to increase social capital resources and lead to the success of low-income, first-generation students building from Maldonado, et al. Yeh investigates how service-learning

experiences for low income, first-generation college students build social capital resources, and finds social capital is integral to improving their own conceptions of personal resilience, identity, and success. Furthermore, she documents how service-learning develops a critical understanding of the social problems and structural inequalities for these students, permitting these students to maintain their own cultural and social identities.

Summary

The growth of the service-learning movement in the 1990's is linked to the development of the Campus Compact and implementation of the Learn and Serve America Higher Education programs. The extant literature features few studies that examine the impact of these programs on communities, suggesting a yawning gap in the field.

Social mobility is well-researched topic in the social sciences that may offer the field of service-learning a measurable impact of the work started under the Learn and Serve America Higher Education programs. The most commonly studied determinant of social mobility is human capital investment, and higher education institutions play an important role in that process. However, research also suggests that higher education institutions can also function as community anchors and contribute above and beyond their traditional role in preparing highly educated individuals.

Social capital is a contested concept in the study of community development but shows promise as a contributor to improving social mobility outcomes because of its role in promoting collective efficacy. Social capital also shares this conceptual relationship

with service-learning and may theoretically explain the link between social mobility and service-learning.

Figures

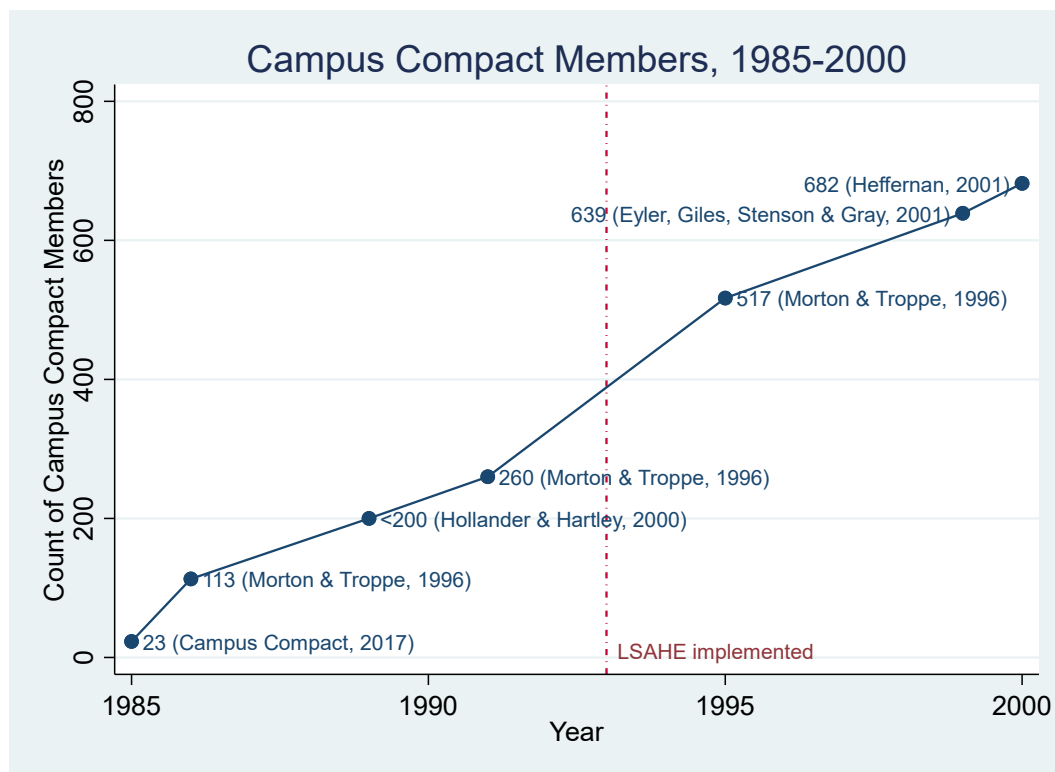


Figure 2-1. Campus Compact Members, 1985-2000.

Chapter 3 STUDY ONE

Higher Education Community Engagement and Place Effects

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Abstract

Recent advancements in the place effects literature suggest that community characteristics influence children's mobility outcomes. This paper contributes to that discussion by introducing new data and testing relationships regarding the density of colleges and universities that are members of the Campus Compact, a consortium of higher education institutions committed to promoting public and community service, against other colleges and universities. Results point to a modest correlation with better place effects that cannot otherwise be explained by sorting of individuals into better places and that are robust to various classifications of higher education, improving confidence in the influence of the socially responsible institutions on their places. Implications for this study include support for the anchor institution theory and the role of higher education in promoting better places.

Keywords: place effects, higher education, civic engagement, Campus Compact

Higher Education Community Engagement and Place Effects

Increasingly, scholars are calling for more examination of the equality of opportunity in the United States, suggesting the places that youth grow up influence their life outcomes (Putnam, 2015). Place effects are the relative advantages and disadvantages of growing up in a given neighborhood, and the experiences of growing up in certain neighborhoods have implications for intergenerational social mobility (Jencks & Mayer, 1990; Leventhal & Brooks-Gunn, 2000; Putnam, 2015; Sampson, Morenoff, & Gannon-Rowley, 2002; Wilson, 1990). Dreier, Mollenkopf, and Swanstrom (2004) discuss how places constrain individuals' opportunities and access to basic services, suggesting the need for more attention to what factors improve quality of life and promote opportunity.

In response to these calls for better research on the equality of opportunity, Raj Chetty and his colleagues developed publicly available datasets to examine the role of place (Chetty & Hendren, 2018; Chetty et al., 2014), race (Chetty, Hendren, Jones, & Porter, 2018), and higher education (Chetty, Friedman, Saez, Turner, & Yagan, 2017) in promoting social mobility. In their papers regarding place effects, they examine a set of covariates that may be related to social mobility, including the density of higher education institutions to population in the commuting zone. This paper further examines this relationship in the context of socially responsible institutions of higher education to explore potentially meaningful variation shared between these institutions and the mobility outcomes within their commuting zones.

By the year 2000, a subset of higher education institutions joined the Campus Compact, a consortium of college and university presidents committed to the public purposes of higher education, leading some observers to refer to this as a civic

engagement movement (Hollander & Hartley, 2000). These colleges and universities were present in nearly every state and in nearly every sector of higher education. Do commuting zones with a greater density of Campus Compact member institutions exhibit better outcomes related to social mobility than communities that host other colleges and universities? Are these effects more strongly related to subsets of colleges and universities (such as community colleges or research universities)? What can we learn about the communities in areas with more Campus Compact institutions?

When considering the role of higher education and place, much of the previous research investigated the proximity of research institutions to technology firms and university-industrial cooperation (Agrawal, Kapur, & McHale, 2008; Baptista & Mendonça, 2010), suggesting that metropolitan areas with research institutions produce better economic outcomes through processes related to access to university knowledge. Few studies have investigated the relationship between socially responsible, place-based community engagement from institutions of higher education and their effects on place, and these studies are generally limited to descriptive case study (Harris & Holley, 2016; Hodges & Dubb, 2012; Silka, Teisl, & Settele, 2015; Yamamura & Koth, 2018). The community impact of this engagement is identified as a major gap in the literature (Cruz & Giles, 2000; Stoecker et al., 2010). This study operationalizes the concept of higher education community engagement by measuring the density of colleges and universities in a given area that were members of the Campus Compact by the year 2000. This variable may offer a way to measure differences in the local impact that socially committed universities have on youth outcomes from their host communities.

The Campus Compact was founded in 1985 by the university presidents of Georgetown, Stanford, and Brown to promote public and community service among their students and institutions. The compact grew from 23 schools in 1985 to nearly 700 by 2000, leading some to refer to these colleges and universities as a movement in higher education (Hollander & Hartley, 2000). Supported by federal funding through the Learn and Serve America Higher Education program, the 1990's were a period of rapid expansion of the Campus Compact (Heffernan, 2001; Morton & Troppe, 1996). The schools that were funded by Learn and Serve America Higher Education were primarily committed to local youth and K-12 schools, signaling that these commitments may have implications for the place effects of growing up in these communities.

The results of this investigation point to two findings: 1) the density of Campus Compact institutions in a commuting zone is more strongly related to the observed outcomes of permanent residents of commuting zones and explains more about the observed relationship to place effects than the density of institutions of higher education writ large and 2) this relationship persists when compared to general classifications of higher education institutions suggesting that this relationship is not primarily driven by particular characteristics of institutions, but appears to be primarily related to their shared commitment to public service. The density of compact institutions also shares variation with other positive correlates of social mobility, suggesting that places with Campus Compact institutions are areas that experience better outcomes related to social mobility.

To demonstrate these results, this paper is laid out as follows: I review the literature regarding anchor institutions, place effects, and summarize the methodological advancements of Chetty and colleagues that I replicate in this paper. I discuss the data

and present the correlational methods that test the research questions posed. I conclude this paper with discussion of the relevant findings and propose avenues for future research to expand this area of inquiry on anchor institutions.

Literature Review

There is a robust debate regarding what constitutes an anchor institution. Webber and Karlstrom define anchor institutions as “those non-profit or corporate entities that, by reason of mission, invested capital, or relationships to customers or employees, are geographically tied to a certain location” (2009, p. 4). Other definitions of anchor institutions have focused on the relative size of these institutions as economic drivers in their communities and many definitions focus on their roles in major metropolitan areas (Harris & Holley, 2016; Taylor & Luter, 2013). Some observers note that in addition to geographic immobility and economic importance, anchor institutions must also exercise an intentional social justice mission to achieve their anchor goals (Hodges & Dubb, 2012; Maurrasse, 2001). Taylor and Luter (2013), however, argue that social justice is not a necessary condition for an anchor institution, but a clear social purpose mission often accompanies this label.

While there is no scholarly consensus about the social mission of anchors, one common approach for institutions of higher education that aspire to be community anchors is to encourage their students to be active citizens (Birch et al., 2013). This aim is often achieved through service-learning (Kronick & Cunningham, 2013). Service-learning’s theoretical foundation places the practice firmly in the development of citizenship and democracy (Battistoni, 1997; Giles & Eyler, 1994; Jacoby, 2014; Morton & Saltmarsh, 1997; Saltmarsh & Hartley, 2011). The growth of the service-learning

movement can be linked to two simultaneous developments: (1) the creation and expansion of Campus Compact, a consortium of institutions committed to developing the civic purposes of higher education , and (2) the implementation of the Learn and Serve America Higher Education (LSAHE) program through the Corporation for National and Community Service (CNCS) (Hartley, 2011; Heffernan, 2001; Hollander & Hartley, 2000; Morton & Troppe, 1996). Figure 3-1 represents the patterns of this growth from 1985 through 2000.

[INSERT Figure 3-1 HERE]

For many institutions, the primary focus of service-learning activities is developing partnerships with youth-serving non-profit agencies and school districts. Pickeral (2003) notes that in 2000, 89% of Campus Compact members reported working with elementary schools and 65% with high schools noting that “the basic tenets of service-learning—mutuality, reciprocity, authenticity, and democratic collaboration—make service-learning a natural connector of the two educational systems” (2003, p. 177). Ira Harkavy has argued for the development of university assisted community schools as a primary vehicle for anchor-based activity (Benson & Harkavy, 2000; Benson, Harkavy, & Puckett, 2007; Harkavy & Puckett, 1994). In addition, according to the national evaluation of the LSAHE program, nearly 80% of all programs were private non-profits or school districts, and the community agencies were “most likely to focus on education” (Gray et al., 1999, p. 58).

Harris and Holley (2016) summarize a research agenda for anchor institutions. They argue future research should investigate questions of the systemic effects of universities on the social development of cities and investigate the role that social justice

plays in the work of universities as anchors. In recent remarks by the president of Campus Compact, he argues that the university anchor mission and civic mission are essentially the same because “if students see their universities acting as responsible anchor institutions, the students are more likely to be open to seeing themselves as responsible civic actors than if they see their universities sitting on the sidelines” (Holland, Howard, & Seligsohn, 2018, p. 15).

Place Effects

Given the service-learning and community schools focus of higher education anchors, one potential effect that anchor institutions may have on their communities are what researchers call place or neighborhood effects. Neighborhood effects are the relative advantages and disadvantages of growing up in a given neighborhood (Jencks & Mayer, 1990; Wilson, 1990). The experiences of growing up in certain neighborhoods have implications for intergenerational social mobility (Leventhal & Brooks-Gunn, 2000; Putnam, 2015; Sampson et al., 2002). Places with positive influences (such as affluent neighbors) may have more robust effects in influencing youth behavior than the presence of a “contagion effect” related to proximity to lower income areas (Brooks-Gunn, Duncan, Klebanov, & Sealand, 1993). The presence of local institutions is also correlated with better community outcomes (Peterson, Krivo, & Harris, 2000). Dreier, Mollenkopf, and Swanstrom (2004) discuss how places constrain individuals’ opportunities and access to basic services, suggesting the need for more attention to what factors improve quality of life and promote opportunity. Sampson et al (2002) note that one of the biggest challenges confronting place effects research is the issue of selection bias. Furthermore, they argue that while experimental examinations of housing programs that randomly

assigned benefits to families identify the existence of place effects, they cannot identify why the effect is present. Sharkey and Faber (2014) echo this criticism and call for increased attention to the contexts that influence different place effects.

Chetty and Hendren's Place Estimates

Using a massive dataset containing records for every American taxpayer from 1996 through 2012, an advance of Chetty and Hendren (2018) was to determine a causal place effect from exposure to better or worse places that is separated from the effects of selection. They are able to determine these exposure effects by exploiting the discontinuities based on the timing of the move: for example, comparing the effect of an additional year in a given place for a person that moved from one commuting zone to another at age 6 to a person who moved at age 7, multiplying these effects by 20 to estimate the effect of growing up in that area from birth. They also decompose the movers' causal effects using the observed effects of individuals whose parents stayed in the same commuting zone from 1996 through 2012 (permanent residents), to determine how much of the causal effect of place is due to sorting (i.e. selection effect).

Chetty and Hendren (2018) impose three assumptions: 1) neighborhood effects do not vary across children; 2) neighborhood effects are additive and constant; and 3) the disruption costs associated with moving do not vary across neighborhoods. Under these assumptions, they combine information from all the movers to develop estimates that show causal effects for neighborhoods and identify which neighborhoods produce better effects than others.

Their design improves over their earlier work in several ways. They determine the rank position for the mean of parent's income between 1996-2000 relative to other

parents in the income distribution (Chetty & Hendren, 2018; Chetty et al., 2014). They then calculate a rank for children at age 26 relative to other children at age 26. They select this age because, at this point, the mean ranks for children level off, with the correlation between their income rank at age 26 and 32 being 0.93. They then calculate the rank-rank slope of the child's outcomes relative to others in the commuting zone and their parent's rank. Using a control function, they account for the various economic shocks that occurred for their sample (birth cohorts 1980-1986 at age 26, which covers the economic recession in 2008-2010), then produce fixed effects estimates for each origin-destination pair and this provides an estimate of the exposure effect for each origin relative to the destination. In a second step, they create a matrix of all the origin-destination pairs in their data and multiply this matrix by the place effects at a specified parental income rank (25th percentile) and weight the regressions based on the standard errors produced by their first equation. They use additional controls for changes in parental income and marital status that may precipitate moves and assess the sensitivity of these estimates. All estimates are then population-weighted and normalized, with a mean of zero so that estimates can be interpreted as the causal effect of each place relative to the mean of all commuting zones.

Chetty and Hendren (2018) validate their research design by implementing placebo effects on their estimators. First, they show that children whose parents move at 23 are similar to those for permanent residents because “they are less likely to move with their parents and...neighborhoods no longer have exposure effects after age 23” (2018, p. 18) and by demonstrating that children who participate in the labor force at age 16 do not have significantly different incomes across commuting zones, suggesting that their

estimates do not differ in a systematic way in their potential outcome. They also present alternative dependent variables, test subsets of their data, and other robustness checks that improve confidence in the preferred estimates they produce.

Chetty and Hendren (2018) observe that some component of these causal estimates is due to sorting. Based on the identifying assumption that place effects are constant and additive over time, they believe multiplying the estimates by a factor of 20 allows them to compare the permanent resident outcomes and the movers' estimates to determine what proportion of their measured causal effect is related to sorting. However, as discussed in Sampson, et al. (2002), selection effects are extremely complicated and involve multiple flows of individuals. It can be argued that if the effect is truly attributable to exposure to a better place, the effects among movers and permanent residents should be roughly the same. It is likely that individuals who are not upwardly mobile in terms of their social status may be "stuck" in worse neighborhoods within commuting zones, a negative selection bias (Jargowsky, 1997; Wilson, 2012). It is also likely that sorting of upwardly mobile individuals into better neighborhoods both within and across commuting zones are a different selection effect. Identifying characteristics of places that have meaningfully better outcomes for both the movers and the permanent residents provides better information about potential policy prescriptions while helping to identify better places net of these multiple selection biases.

By combining these estimates with those of permanent residents, they can decompose the sorting component from the permanent resident estimates to derive the true causal effect of the place on social mobility. They use these adjusted estimates described above to identify the characteristics of high opportunity areas by regressing

standardized covariates (with mean of zero and unit SD across all commuting zones) on both the movers and permanent residents' outcomes and decompose the causal effects for individuals whose parents ranked at the 25th percentile of income into both causal and sorting components. They argue that the stronger that both the causal and permanent resident correlations are for the observed covariate, the more confidence that these local conditions may be driving the relationships, and less of the observed causal relationship is due to sorting.

These authors caution that these observed correlates are not directly causal relationships to upward social mobility, because areas with worse observables on one covariate may share other negatively associated observables, thus interventions in one variable may not change the underlying relationship in the outcome.

Methods

This study replicates and extends previous findings regarding social mobility by introducing previously unexamined characteristics of colleges based on their participation in Campus Compact. The data produced by the Equality of Opportunity project (Chetty & Hendren, 2018; Chetty et al., 2014) provide estimates of the intergenerational mobility for each commuting zone in the United States, approximations of 741 labor markets determined by commuting patterns in the 1990 census (Tolbert & Sizer, 1996). While the original article examines families from both the 25th and 75th percentiles to demonstrate that better places for below median families are also better for above median families, I concentrate only on the 25th percentile, given the focus of service-learning and anchor institution activities is to support lower income communities proximate to institutions of higher education. The dataset also includes 40 measures of covariates used by Chetty and

his colleagues to investigate the correlates of their place effects (Chetty & Hendren, 2018; Chetty et al., 2014).

One of the covariates examined in the Equality of Opportunity project is the density of colleges per capita in each commuting zone. As in the previous study, college and university data used in this study were gathered from the Integrated Post-secondary Education Data System for the year 2000. These records were then matched by hand to lists of membership in the Campus Compact gleaned from snapshots of the Internet Archive (Internet Archive, n.d.). The Carnegie Foundation for the Advancement of Teaching (2001) also categorizes institutions based on their instructional and research programs, and I create three variables based on whether an institution is primarily an associates granting institution, baccalaureate granting institution, or masters/doctoral university. Using the 2000 population, I calculate the number of institutions per 1,000 population and then standardize this value with a population weighted mean of zero and a unit standard deviation. Table 3-1 presents descriptive information about these data.

[INSERT Table 3-1 HERE]

Correlational Analysis

This study uses correlational methods to further examine the data described above to extend the discussion in previous work (Chetty & Hendren, 2018). Like Chetty and Hendren, I am unable to draw causal conclusions about these data, but the purpose of this study is to introduce new data to our understanding of the role of higher education in communities as it relates to social mobility.

As mentioned above, Chetty and his colleagues correlate a set of 40 observable characteristics with both the permanent resident outcomes and the causal effect estimate

from the movers to find characteristics of places that seem to produce better mobility outcomes. Using both estimates, the authors decompose the place effect that is truly causal from a portion of the estimate that is due to sorting of individuals into better and worse places based on unobservable characteristics by observing how much of the causal effect is also shared by the permanent residents.

For example, they estimate the average K-12 test scores for a given commuting zone (conditional on family income, from the Global Report Card data, see *Figure 3-2*) has a correlation of .51 with the raw causal effect. For a standard deviation increase in test scores, the forecasted raw causal effect for 20 years exposure to better schools is an increase in income rank of 1.35 points, and using Chetty and Hendren's conversion of percentile income increases equal to roughly \$818, this is approximately \$1,100 additional income at age 26 relative to others from families in the 25th percentile. However, they observe that for permanent residents, this same amount of change in test scores leads only to an increase of .72 points increase in income rank. Therefore, roughly half of the benefit of moving to an area with better schools is related to unobserved characteristics that predispose the children of the movers to higher mobility, with these families sorting themselves into better places.

Using this same technique, this paper will demonstrate that the observed correlation for the causal effect of the number of colleges in an area per capita ($r=.60$) can be further decomposed among the group of institutions that had joined Campus Compact by the year 2000 and all other Title IV, post-secondary, undergraduate degree granting institutions. I will test the difference in a regression that pools all colleges per capita into a single variable against a model that tests Campus Compact institutions and

other colleges as separate variables. Using the sum of squared residuals and likelihood ratio chi square test, I will determine if the conditional model performs better than the unconditional model containing the pooled colleges variable (Gujarati & Porter, 2009).

I will further demonstrate that the shared characteristic of commitment to public service better explains the observed relationship of the decomposed place effect than the other characteristics of colleges such as the Carnegie Classification (Carnegie Foundation for the Advancement of Teaching, 2001). Following the procedures of taking bivariate regressions on the raw causal, sorting, and permanent resident effect will allow me to determine if any of these institution types seem to be driving the observed outcomes for the total college count. I will then fit a model with all three types in a single regression model to compare to the pooled college count model. In a final step, I will add the Campus Compact per capita variable to test if that characteristic has any predictive power over these other institutional characteristics, comparing the residual sum of squares of the last two models to determine which model provides better fit.

Finally, I will examine other covariates identified by the previous work (Chetty & Hendren, 2018; Chetty et al., 2014) and the relationship to the density of Campus Compact institutions per capita to offer insight into the overlapping relationships of the Campus Compact institutions to their communities circa 2000.

Results

This section presents results to answer the research questions posed by this study: Do commuting zones with a greater density of Campus Compact member institutions exhibit better outcomes related to social mobility than communities that host other colleges and universities? Is the relationship explained by other characteristics of those

colleges or the shared commitment to public service characteristic of Campus Compact institutions? Do communities with a greater density exhibit other community-level characteristics that are shown to have relationships with better social mobility outcomes?

Question One: Compact vs. Non-Compact

As stated earlier, the correlation with the raw causal effect of place for social mobility and the presence of higher education in a commuting zone was measured at .60. The forecasted effect of 20 years' exposure growing up in a commuting zone with 1 SD more institutions per capita increases the average income rank of a youth from the bottom 25th percentile by 1.5 points at age 26. However, using the decomposition method described above, this causal effect is dominated by sorting, with roughly 70% of the result explained by sorting: these places appeal to upwardly mobile people but do not appear strongly related to the outcomes of permanent residents across all places. This effect is represented in Figure 3-2, along with the relationships for test scores described above and the other variables of interest discussed below.

[INSERT Figure 3-2 HERE]

Among areas with a higher density of Campus Compact institutions per capita, there is a markedly smaller correlation with the raw causal effect of place, $r=.28$. For an increase of one SD in the number of compact institutions per capita, the income rank at 26 for youth from the bottom quarter of the distribution increases by only .75, roughly half as much as the average for the total count of colleges discussed above. However, when decomposed, this effect is shown to be nearly entirely related to the causal effect, only 4% of the result can be explained by a sorting effect.

In contrast, the balance of colleges and universities outside of Campus Compact's membership by 2000 exhibit a correlation with the causal effect of .49. Increasing the number of these non-compact institutions per capita by one SD leads to a forecasted increase in income rank of approximately 1.29 points at age 26. However, 90% of this effect can be explained by sorting.

While these three models show the bivariate relationship between different measures of per capita college counts, it is useful to consider that the compact and non-compact counts sum to the total college count, but the spatial variation of where Campus Compact and non-compact institutions are not equal. To that end, a model that is conditional on both the compact and non-compact counts as separate variables may do a better job of explaining the variation in places than a model that treats the total count of colleges as the same. The results of this investigation are summarized in Table 3-2 and discussed below.

[INSERT Table 3-2 HERE]

When the total college count is decomposed into compact and non-compact institutions, I observe very little improvement in terms of R^2 for the raw causal effect or for the sorting effect. However, when only the permanent residents are considered, the conditional model substantially outperforms the model with the pooled college count. The difference in the variation explained is .026 and this improvement is statistically significant at the $p < .001$ level ($LR\chi^2(df=2) = 15.7$).

Question Two: Classifications

For question 2, I investigate whether the effect discussed above may be more strongly related to whether the local institutions are doctoral/master's universities,

baccalaureate colleges, or associates/community colleges. As seen in *Figure 3-2*, bivariate correlations for three categories of institutions with the raw causal effect of place range from .33 to .45, which are smaller than the total college count. When decomposed, SD increases in the institutions per capita for the categories are associated with a raw causal increase of 1.19 for associate's colleges, 1.02 for baccalaureate colleges, and .87 for doctoral and master's universities. Each of these effects is predominated by sorting effect, 61% of the raw causal effect for associate-granting colleges is sorting, 71% of the effect for master's and doctoral universities is related to sorting. For each category, the observed permanent resident outcomes are roughly equivalent to or smaller than the total colleges per capita effect.

Testing all three sectors together, this model fails to outperform the unconditional model that pools the college count, as shown in Table 3-3. The differences in the R^2 in the models is .005 for the raw causal effect, the difference is .001 for the sorting model, and the permanent resident model has a difference of .006 in R^2 .

[INSERT Table 3-3 HERE]

Adding the variation related to the compact variable to the model with all three categories finds a pattern like the model comparing compact and non-compact variables. For the raw causal and sorting effects, adding the Campus Compact variable does not bring much new information about the pattern of variation. However, the permanent resident model improves by roughly the same amount as before ($\Delta R^2 = .023$). This finding provides additional support for the thesis that the differences observed are driven primarily by the members of Campus Compact and rather than other characteristics of these institutions.

Question Three: Correlations with Other Covariates

Table 3-4 presents bivariate correlations with other standardized covariates included in the Equality of Opportunity dataset (Chetty et al., 2014). These correlations suggest the density of Campus Compact institutions per capita has modest relationships with some of the more important covariates identified by the previous work, while the density of the non-compact members have smaller relationships and occasionally undetectable from random noise. Despite these interrelationships, when the variables of interest are included in a multiple regression with other predictors, they are completely muted, consistent with the discussions in Chetty and Hendren (Chetty & Hendren, 2018).

[INSERT Table 3-4 HERE]

Discussion

This study advances the discussion of the role of higher education in communities. In recent decades, higher education is increasingly seen as playing an important role in regional economies through the “anchor institution” theory (Harris & Holley, 2016). This theory suggests that unlike profit maximizing entities, institutions of higher education have missions that are often intertwined with the communities where they are located. Furthermore, they are often tied to these places by their physical plant, their specialized workforce needs, and other factors that make it difficult to move from place to place. Others have extended this theory to the public functions these institutions play in serving communities educational and social needs (Hodges & Dubb, 2012).

In addition, higher education’s civic mission has long been characteristic of many institutions of higher education. Beginning in 1986, the Campus Compact was founded as a coalition of college presidents committed to promoting public and community service

among their students and that association made major investments in college and university outreach and community education programs with funding from the federal Learn and Serve America program and other philanthropic support (Hartley, 2011). By the year 2000, roughly 700 institutions had joined the Campus Compact, signaling that there was a movement for the civic purpose of higher education (Hollander & Hartley, 2000). This study substantiates that claim with evidence about the place effects of these institutions.

The effects observed in this paper suggest that places with more institutions committed to the civic purpose of higher education are associated with only modest causal place effects compared to other places with a substantial number of colleges per capita. On average, places with more colleges drew families with characteristics that predisposed their children to be more upwardly mobile. Places with more Campus Compact institutions only associated with the raw causal effect of roughly half the size of the pooled count of colleges per capita.

The remarkable finding of this paper is related to the size of the correlation with the permanent resident's outcomes in comparison to the raw causal effect of place. When I consider the pooled estimate, 70% of the raw causal effect can be explained by the sorting of people into better and worse neighborhoods across places, whereas only 4% of the raw causal effect in places with Campus Compact institutions is plausibly explained by sorting flows. The remaining non-member institutions account for nearly all the sorting observed in the pooled estimate, these places had virtually no relationship with the observed outcomes of the permanent residents at all.

This study also finds that the institutional classifications of universities are not driving the relationships observed in this study. Community colleges appear to have the closest relationship to the variation of total count of colleges in any given area because there are more associates granting colleges than baccalaureate colleges, and far more than master's and doctoral universities. While this finding is somewhat counterintuitive given research on knowledge economies (Agrawal et al., 2008; Harris & Holley, 2016), it is important to recognize that the measure of colleges and universities used in this study does not reflect the size of the institution or the value of its research operation, only the count of institutions relative to the area's population.

This information about the institutional classification does no better than the pooled count of colleges in explaining the variation in social mobility, a reasonable conclusion is that access to higher education is more important than proximity to any specific type of institution, consistent with findings of previous work (Hillman, 2016). However, the model that includes the variation related to Campus Compact institutions explains almost the same proportion of the variance when tested against these subtypes of colleges as when it is compared to the pooled model, suggesting that the 2.3% to 2.6% of the variance explained by this variable are unique to the pattern of compact institutions per capita in the US.

The coefficients on the SD increase in Campus Compact members per capita can be interpreted as equivalent to roughly \$600 of additional yearly income using Chetty and Hendren's translation of the income rank changes to dollar changes, and this is equivalent to an increase of about 2.3% total income compared to their parent's income (Chetty and Hendren note that the average family at the 25th percentile have incomes of \$26,091, pg.

15). In practical terms, the average place in the data has a population of approximately 400,000 and roughly 1.2 Campus Compact institutions relative to that population. An increase of one standard deviation for a place with the average population would be equivalent to a total of four compact institutions relative to that population. In contrast, the average place has 7.2 institutions total, and an increase of one standard deviation in total colleges brings that total to roughly 16 institutions relative to the total population. To that end, encouraging more institutional leaders to join an organization like the Campus Compact with those leaders committing their institutions to participating in the kinds of anchor activities propagated by the Campus Compact is a potential policy recommendation stemming from this work.

[INSERT Figure 3-3 HERE]

Campus Compact institutions are primarily clustered in states with their own state-affiliate Campus Compact office. In 2000, the 22 states with compact offices included many states with strong permanent resident outcomes compared to the national average. The states without Campus Compact affiliates are concentrated in the southern and southwestern US where outcomes for permanent residents were particularly bad. This pattern may explain why the correlation is stronger for the permanent residents' model. The map in Figure 3-3 shows each commuting zone's average income rank for the youth from parents in the 25 percentile of income earners. The concentration of Campus Compact institutions is among the northeast and middle Atlantic states, in areas with better than median outcomes.

It is entirely possible that the observed outcomes for permanent residents are not a result of the commitment of institutions to public service but are merely an artifact of

other positive observable characteristics such as social capital and educational quality, or the lack of negatively associated characteristics such segregation and crime. As mentioned above, the inclusion of the college variables in a multiple regression completely mutes their contribution. However, given the aims of service-learning to build partnerships in communities and with schools, future research should investigate the relationship between social capital and test scores and the commitment of higher education to public service to improve the confidence that the relationships uncovered here are not spurious. Furthermore, this study suggests that these institutions contribute to the overall better place effects for youth growing up in these communities but cannot sharply identify the effects because of left out variable bias (Gujarati & Porter, 2009; Wooldridge, 2010). Despite this limitation, this paper empirically supports the anchor institution theory and provides estimates of the impact of this work consistent with theorists and practitioner accounts (Benson et al., 2007; Harris & Holley, 2016; Hodges & Dubb, 2012)

This paper continues a discussion about the role of higher education in improving places. It leverages recent data regarding social mobility and explores relationships to an under-studied contributor to better places. While constraints with the data do not permit a causal conclusion to be drawn at this time, the information in this study continues a vibrant scholarly debate about contributors to better places.

Tables

Table 3-1 *College Count Variables for 2000*

	Raw Count	Raw Mean	Pop. Weighted Mean	Standard Deviation	Pop. Weighted Minimum	Pop. Weighted Maximum
All institutions	3,587	6.01	0.01278	0.00725	0	0.24316
Compact Institutions	688	1.14	0.00244	0.00343	0	0.13932
Not Compact Institutions	2,899	4.87	0.01034	0.006770	0	0.19617

Note: Means, Standard Deviations, and Maximums are calculated at the Commuting Zone level for commuting zones with populations greater than 25,000 (n=588). Raw means are the average count of institutions per commuting zone. Other calculations are population weighted for 2000 population and reflect colleges per thousand population. The all institutions count is from (Chetty et al., 2014). Other calculations by author.

Table 3-2 *Comparing place effects of the total count of colleges per capita against compact and non-compact counts*

	Raw causal		Sorting		Permanent residents	
	(1)	(2)	(3)	(4)	(5)	(6)
Total Colleges per capita	1.592*** (4.68)		-1.139** (-3.32)		0.453 (1.57)	
Compacts per capita		0.941*** (3.51)		-0.194 (-0.63)		0.747*** (3.51)
Non-compacts per capita		1.411*** (4.21)		-1.198*** (-3.73)		0.214 (0.73)
_cons	0.0167 (0.04)	0.0165 (0.04)	43.98*** (98.34)	43.98*** (96.78)	44.00*** (106.84)	44.00*** (106.73)
<i>N</i>	595	595	595	595	595	595
<i>R</i> ²	0.065	0.066	0.040	0.045	0.015	0.040
ΔR^2	.001		.005		.026	
<i>LR</i> χ^2 (<i>df</i> =1)	.737		2.921		15.701 ***	

t statistics in parentheses, standard errors clustered at state level

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3-3 *Comparing place effects for density of various sectors of higher education and the density of Campus Compact institutions*

	Raw causal		Sorting		Permanent residents	
	(7)	(8)	(9)	(10)	(11)	(12)
Baccalaureate colleges per capita	0.888* (2.50)	0.844* (2.32)	-0.587* (-2.31)	-0.696** (-2.85)	0.301 (1.29)	0.147 (0.56)
Associates colleges per capita	0.964** (3.32)	0.948** (3.29)	-0.647* (-2.04)	-0.688* (-2.20)	0.317 (1.29)	0.260 (1.13)
Doctoral and master's universities per capita	0.824** (3.14)	0.781** (2.75)	-0.590* (-2.40)	-0.697** (-2.79)	0.234 (1.31)	0.0841 (0.38)
Compact members per capita		0.178 (0.66)		0.442 (1.61)		0.620* (2.41)
_cons	0.00998 (0.03)	0.0103 (0.03)	43.99*** (99.92)	43.99*** (98.61)	44.00*** (105.7)	44.00*** (105.9)
<i>N</i>	595	595	595	595	595	595
<i>R</i> ²	0.072	0.073	0.041	0.046	0.021	0.044
ΔR^2	0.005	0.001	0.001	0.005	0.006	0.023
<i>LR</i> χ^2	4.698	0.446	0.213	3.262	3.617	14.45***

t statistics in parentheses. Standard errors clustered at state level.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The change in R^2 and likelihood ratio tests for models 7, 9, and 11 are tested against the Table 3-2 unconditional models 1, 3, and 5 respectively, while models 8, 10, and 12 are testing against models 7, 9, and 11, respectively.

Table 3-4 *Pairwise Correlations of Observable Characteristics Across Commuting Zones*

Community Characteristic	1	2	3	4	5	6	7	8
1) Compact Institutions per capita	1							
2) Non-compact Institutions per capita	-0.133	1						
3) Proportion of African American Residents	-0.252 *	0.099	1					
4) Gini coefficient of inequality	-0.345 *	-0.153 *	0.438 *	1				
5) Proportion of middle-class families	0.342 *	0.261 *	-0.528 *	-0.713 *	1			
6) Test Scores (conditional on Parent Income)	0.259 *	0.110	-0.186 *	-0.450 *	0.503 *	1		
7) Violent Crime Rate	-0.229 *	-0.063	0.228 *	0.543 *	-0.442 *	-0.541 *	1	
8) Social Capital Index	0.353 *	0.201 *	-0.343 *	-0.665 *	0.529 *	0.525 *	-0.411 *	1
9) Log Population Density	-0.186 *	-0.302 *	0.308 *	0.570 *	-0.596 *	-0.123	0.323 *	-0.166 *

Note: * $p < .001$. Sources: (3,9) 2000 Census; (4-5) Chetty et al 2014; (6) George W. Bush

Global Report Card; (7) FBI Uniform Crime Report; (8) Rupasingha, Goetz &

Freshwater 2006

Figures

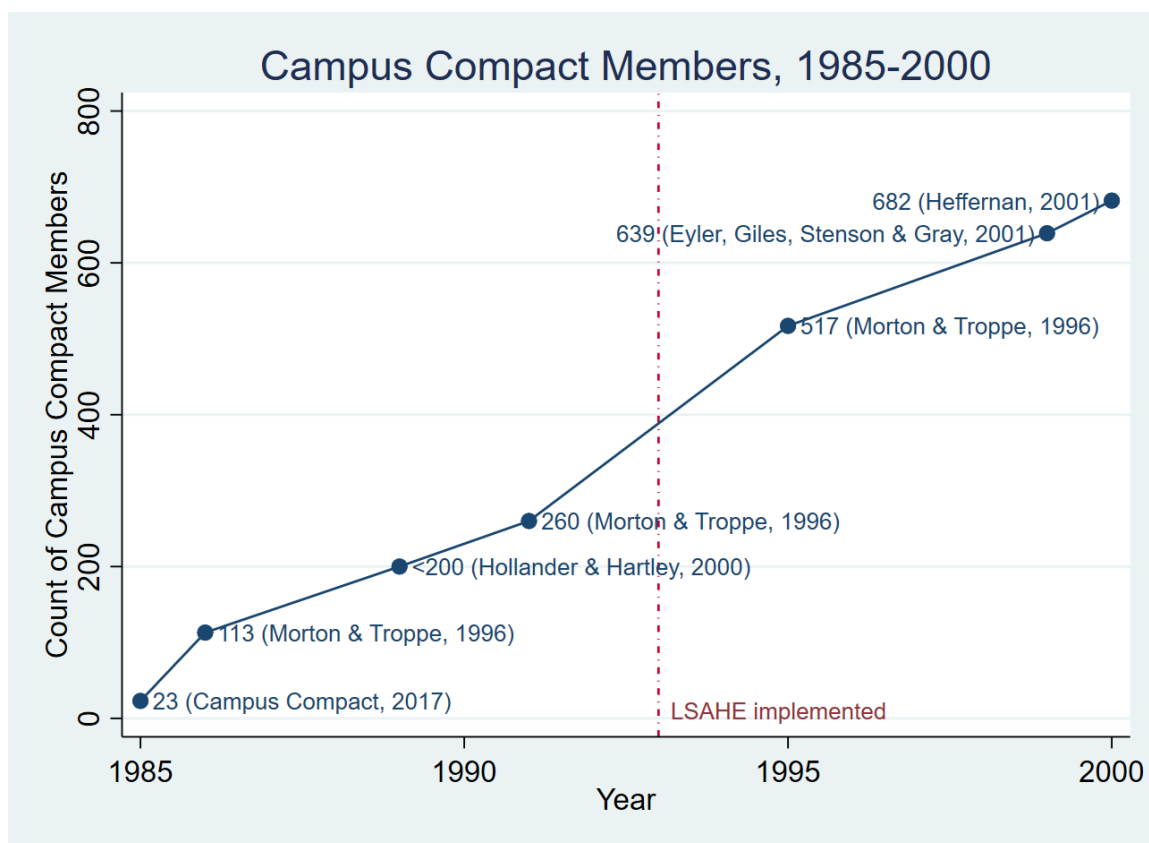


Figure 3-1. Campus Compact Members, 1985-2000

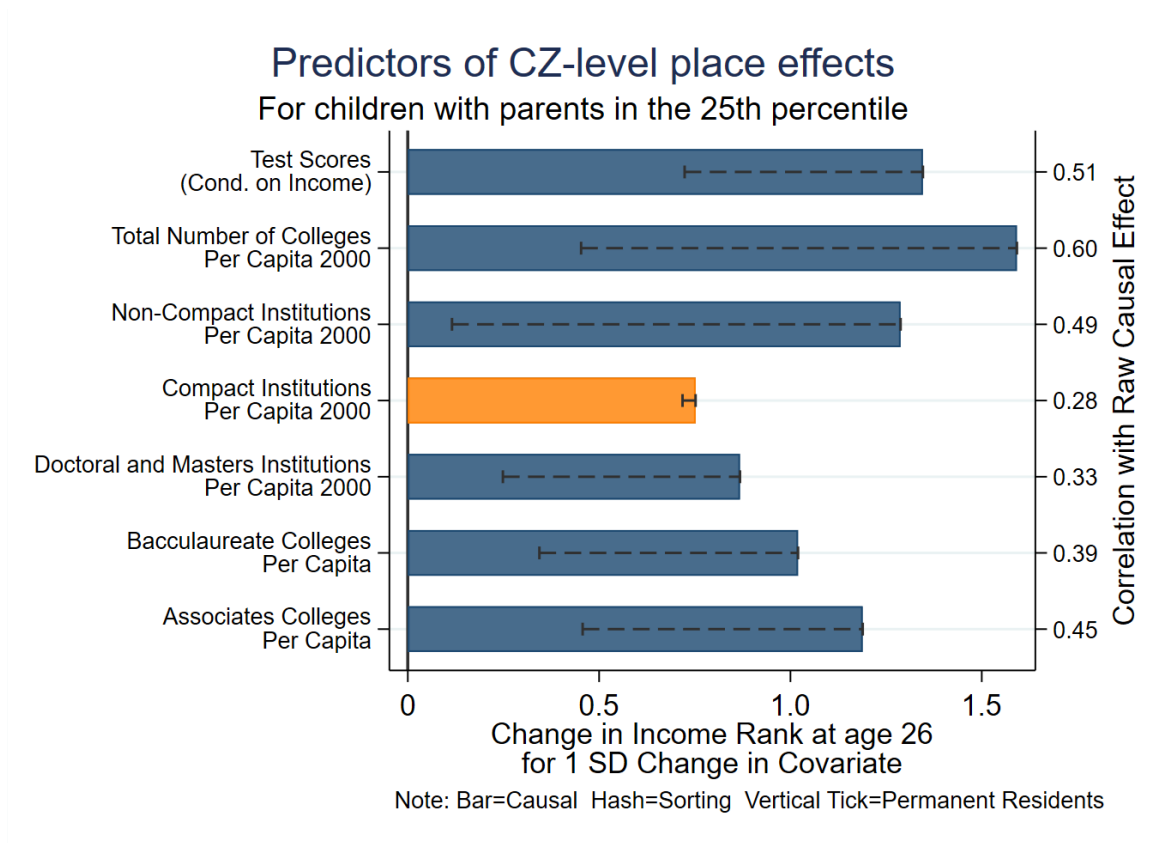


Figure 3-2. Predictors of CZ-level place effects for children with parents in the 25th percentile

Note: The figure plots coefficients from univariate OLS regressions of permanent resident outcomes $\bar{y}_{25,c}$ and causal effects $\hat{\mu}_{25,c}$ for below-median income families ($p = 25$) on CZ-level educational characteristics (x_c), weighting by population. The characteristics are normalized to have a (population-weighted) mean zero and unit standard deviation across CZs. The vertical tick marks plot coefficients from regressions of $\bar{y}_{25,c}$ on x_c . The solid bars plot coefficients from regressions of the causal effect of growing up in an area from birth (20 years of exposure), $20\hat{\mu}_{25,c}$ on x_c . The difference between the tick mark and the bar (depicted by the dashed horizontal line) therefore represents the coefficient from a regression of $\bar{y}_{25,c} - \hat{\mu}_{25,c}$ on the covariate x_c , which

can be interpreted as the association between selection effects and the covariate. The numbers on the right report the correlations between $\hat{\mu}_{25,c}$ and x_c , which are obtained by dividing the coefficient from regressing $20\hat{\mu}_{25,c}$ on x_c by 20 times the standard deviation of $\hat{\mu}_{25,c}$ (Chetty & Hendren, 2018).

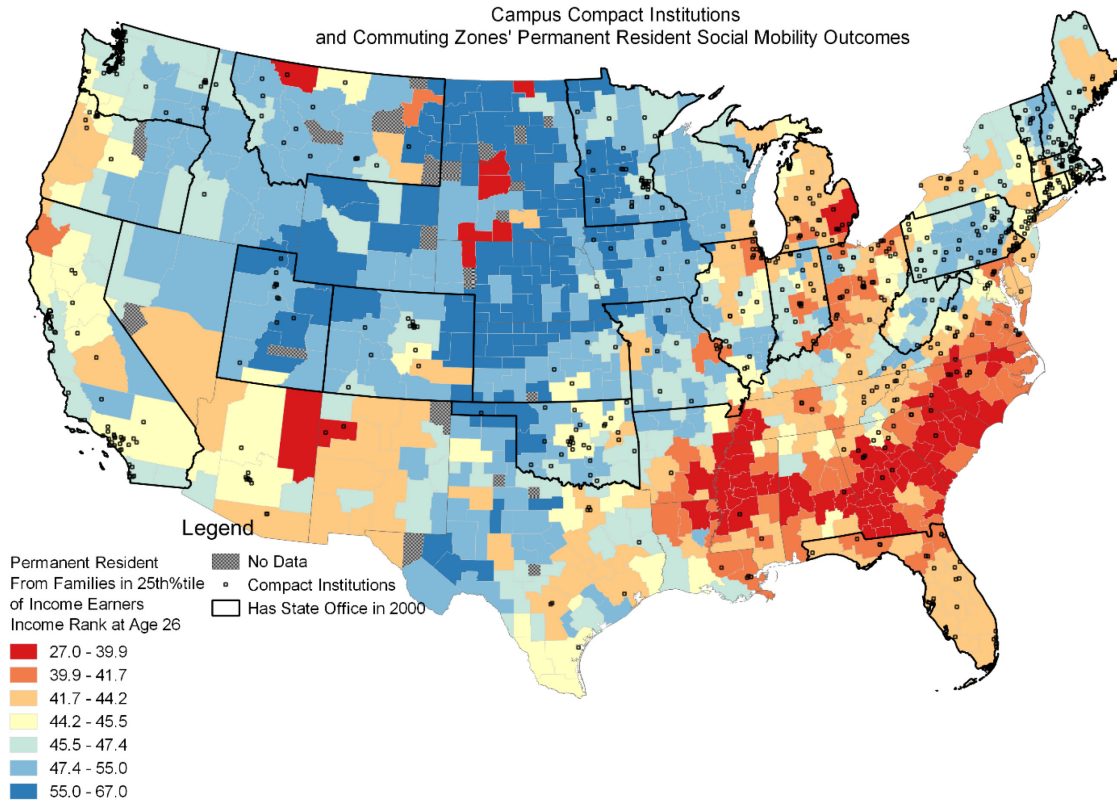


Figure 3-3. Campus Compact Institutions and Commuting Zones' Permanent Resident Social Mobility Outcomes

Note: The map portrays the commuting zones' average adult income ranks for youth from below-median income families. The map uses color gradient levels determined at the following population-referent percentiles: 10%, 25%, 50%, 75%, 90%, 99%. The dark blue outcomes in the North Central and Mountain regions of the map, therefore, represent only 1% of the nation's population. Campus Compact State Offices in 2000: California, Colorado, Connecticut, Florida, Hawaii (not shown), Illinois, Indiana, Massachusetts, Maine, Michigan, Minnesota, Missouri, Montana, New Hampshire, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Utah, Vermont, Washington, and West Virginia.

Chapter 4 STUDY TWO

Did Federal Policy on Post-Secondary Service-Learning Support Community Social
Capital?

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Abstract

Community social capital is an important mechanism for collective efficacy and civic engagement to address problems of public concern. This study contributes among the first national empirical measurements of the effects of service-learning on community social capital in communities that host engaged institutions and connects the higher education civic engagement movement to investigations of public policy. The paper investigates panel data from four periods spanning nearly 20 years for community social capital as measured by an index adapted from multiple indicators to investigate the effects of a federal policy supporting service-learning in higher education on that outcome. I use membership in the Campus Compact, a national organization of college and university presidents who commit their institutions to public and community service as a proxy for grantees of the service-learning policy and compare variation related to institutional members of the Campus Compact and the other postsecondary institutions in these communities. Results point to positive contributions of the engaged institutions consistent with a policy feedback mechanism followed by a modest decline in community social capital related to a structural break in the time series: the elimination of federal funding for service-learning through Learn and Serve America Higher Education in 2011.

Keywords: Community Impact, Service-Learning, Social Capital, Higher Education

Did Federal Policy on Post-Secondary Service-Learning Support Community Social Capital?

Public programs are rarely terminated (Daniels, 2015). In the wake of the Simpson-Bowles Commission, the 112th Congress took steps to reduce the federal deficit by making large spending cuts across numerous government agencies (Kogan, 2012; Washington Post Editors, 2011). One program that was eliminated from the budget that year was a relatively small domestic program that funded K-12 and higher education service-learning programs: The Corporation for National and Community Service's Learn and Serve America program.

Service-learning, as implemented in higher education over the last several decades, demonstrates small but positive effects on student participants (Astin & Sax, 1998; Celio, Durlak, & Dymnicki, 2011; Eyler & Giles, 1999). Far less is known about how service-learning impacts the communities where programs take place (Cruz & Giles, 2000; Stoecker et al., 2010). This paper attempts to address the gap in the service-learning literature by investigating changes in social capital over time in communities that host institutional members of the Campus Compact, a national organization that supports service-learning and civic engagement in higher education. This organization and its members received most of the funding provided by the federal service-learning policy and the membership offers meaningful proxy for the policy's grantees¹.

Campus Compact was founded in 1985 by the university presidents of Georgetown, Brown, and Stanford and has since catalyzed a movement in higher education for service-learning and civic engagement (Battistoni, 1997; Hartley, 2011; Hollander & Hartley, 2000; Saltmarsh & Hartley, 2011). The organization grew rapidly

with the implementation of the Learn and Serve America Higher Education (LSAHE) program in 1994, from fewer than 200 members in 1989 to nearly 700 in 2000 (Heffernan, 2001; Morton & Troppe, 1996). Hartley states “the very fact of governmental support lent credibility to the [service-learning] effort on campuses” (2011, p. 36). By the year 2009 when the Edward M. Kennedy Serve America Act passed and reauthorized the LSAHE program, more than 1,000 institutions were members of Campus Compact.

In 2011, a mere two years after the authorizing legislation for the LSAHE program was renewed under the Edward M. Kennedy Serve America Act, LSAHE was permanently defunded. As a result, the Campus Compact saw a small decline in institutional members domestically by 2014. Figure 4-1 demonstrates the domestic growth of the compact over the years for schools categorized by Integrated Post-secondary Education Data System (IPEDS) as Title IV post-secondary institutions that offer undergraduate degrees². In addition, comparisons of annual surveys of Campus Compact members demonstrate a decline in numbers of institutions reporting the service learning in their curricula (Campus Compact, 2005, 2014).

[INSERT Figure 4-1 HERE]

Using a fixed effects analysis of the variation in the number of institutions per capita in commuting zones and the exogenous break in the time series when funding is retrenched, I produce causal estimates of the effects of postsecondary service-learning on community social capital. I pose the following questions: Did federal policies supporting higher education service-learning contribute to community social capital through the density of higher education institutions in communities? Did elimination of the LSAHE funding effect community social capital through the density of colleges in a given

community? Were these effects related to the density of a subset of institutions that made commitments to public and community service or the density of any other institutions of higher education?

Results point to positive effects followed by a modest decline in social capital in communities hosting Campus Compact institutions following this federal program's elimination, consistent with a policy feedback mechanism (Mettler, 2002, 2005; Mettler & SoRelle, 2014; Mettler & Soss, 2004). The variation in other colleges and universities in these same communities do not produce the same effect either before or after retrenchment, suggesting that the policy or its elimination did not influence communities through these institutions in the same way. This study adds to our understanding of the impact of federal policy changes, demonstrates the contribution of institutions of higher education to their communities, and combines disparate data sources that may aid future investigations of the impact of service-learning.

This paper is laid out as follows: it explores the theoretical antecedents that explain how federal policies can contribute to civic engagement, discusses social capital as a kind of civic engagement outcome, and draws service-learning into that discussion as a potential contributor to that outcome. This theoretical discussion is followed by an outline of the methods used to answer my research questions. I present results demonstrating the structural break related to the policy termination and conclude with a discussion of the relevance of these findings from a policy feedback perspective and propose directions for new research to further enhance our understanding of the effects of service-learning on community social capital.

Theoretical Framework

This section reviews relevant literature to present the theoretical framework for understanding how service-learning in higher education produces social capital in communities but also why changes in federal policy may have influenced the effectiveness of the practice to promote that outcome. First, I introduce policy feedback theory, this theory explains how federal policies promoting service-learning may affect civic engagement and social capital. I present information about social capital theory, including how civic engagement and social capital are related, as well as how service-learning may influence civic engagement and social capital. I will conclude the section with a discussion of how social capital is operationalized in the literature.

Policy Feedback Theory

Policy feedback theory has a long theoretical and empirical history in the field of political science (A. L. Campbell, 2012). This theory suggests that past policy has effects on future policy decisions. Classic studies such as Pierson (1993) point to the example of social security as an example of a social policy whose historical design had implications for how political groups and actors would participate in the policy process over time.

Mettler and SoRelle (2014) point to four streams of inquiry within policy feedback theory: the meaning of citizenship, form of governance, the power of groups, and the political agenda and definition of policy problems. The power of groups in political processes explain how policies are preserved: citizens served by public policies will act in their interests to maintain or expand the benefits accrued. In cases where benefits are diffuse, policies may be terminated because no group coalesces around its maintenance, although this outcome is exceedingly rare (Bardach, 1976; Daniels, 2015).

Mettler and SoRelle (2014) also delineate the kinds of effects that policy feedback mechanisms may have on mass politics as resource effects and interpretive effects, with resource effects having influences on civic capacity and civic dispositions while interpretive effects may only influence civic predispositions. Resource effects may be seen through a lagged policy effect as in Mettler (2005) or as a driver of civic action for the self-interested (A. L. Campbell, 2002). Interpretive effects, such as the increased educational attainment resulting from policy feedback from the GI Bill uncovered by Mettler (2002), can promote civic engagement by providing policy beneficiaries the required civic disposition to participate in civic life.

Most political scientists that employ this theory are historical institutionalists relying primarily on case study methods (A. L. Campbell, 2012; Mettler & SoRelle, 2014). Mettler and SoRelle (2014) recommend improved methods that address critics of the research and its perceived endogeneity problems. They also recommend increased attention to the following question: “what impact does policy have on collective action?” (Mettler & SoRelle, 2014, p. 175).

Civic Engagement and Social Capital

The concept of social capital emerged with Bourdieu (1986) who described it as a network of institutionalized relationships, or group memberships, providing members with what he terms the credential of access to collective capital. Coleman (1988) presented a different take on the theory, suggesting social capital is a resource characterized by relations among individuals for the purpose of collective action. These relations are marked by the mutual trust between actors and the norm of reciprocity. He observes these kinds of relations within voluntary associations.

Identifying the decline in civic engagement among Americans, Putnam (1995, 2001) points to declines of participation in voluntary associations as a primary driver. Putnam drew from his earlier work (Putnam et al., 1993) in Italy where he noticed strong traditions of associationalism correlated with better economic and social conditions. Examining this idea in the US, he characterizes Americans today as “bowling alone”, rather than in bowling leagues. This observation highlights the decline of social capital because the decline in participation extends from mutual help organizations to athletic clubs. He links these declines in participation to erosion of generalized trust. His primary recommendation for further research is to investigate the types of organizations and networks that most effectively generate social capital “in the sense of mutual reciprocity, the resolution of dilemmas of collective action, and the broadening of social identities” (1995, p. 76). In the policy arena, he points to ways in which policy may affect the production of social capital, arguing for investments in civics education.

Woolcock (2004) introduces a typology of social capital: bonding, bridging, and linking. Bonding social capital occurs between friends and family members; bridging between members of a social network that differ in some way, such as ethnicity or social class; and linking social capital is between less powerful members to those with more power (particularly with persons whose professional role is within some powerful institution in society). This conceptualization borrows from Lin (2001) who delineates homophilous and heterophilous social capital forms (based on the similarity of the actors in social networks), with the bridging and linking types being heterophilous which are characterized by their ability to bring together dissimilar persons for shared aims.

Sampson (1999) argues that communities high in social capital are “better able to realize common values and maintain effective social controls” (p. 333) primarily because of their collective efficacy (Sampson et al., 1997). DeFilippis (2001, 2004) critiques social capital and refers to this pattern as part of the communitarian trend in neoliberal community development. Acknowledging that collective action is embedded in the neoliberal replacement of state provision of goods and services with those by voluntary means, Saegart (2006) points to social capital as an important resource in community development because it builds the collective action necessary to address problems that may be associated with retrenchment of welfare and state service provision.

Social capital and service-learning

Morton (1995) theorizes that service-learning is based on the “continuums of service” and its aim is to “bring about change, quite often assessed as the redistribution of resources or social capital” (p. 20). Marullo and Edwards (2000) also discuss the potential for higher education to build social capital through their partnerships with communities, but cautions that service-learning programs and their partnerships must be oriented towards social justice.

A handful of works substantiate the claims that are posed in Morton (1995). Investigating community outcomes from rural service-learning, Miller (1997) identifies social capital production as a primary outcome of university-community engagement. Miller presents vignettes about service-learning experiences in three rural communities describing how following a multi-step, community development focused process leads to social capital production. Gelmon, et al. (1998) present ways in which collaborations between health care providers and universities produced “serendipitous opportunity to

network with other community organizations”, pointing to the university as convener.

However, Seifer (2010) warns that service-learning is only an effective strategy for social capital production if work is long-term and sustained.

Ferman (2006) discusses the role of her own service-learning project for youth in Philadelphia and argues that the university plays an important role of broker in social networks and sponsor of the youth participants’ entry into networks. She writes “as a sponsor, the university can span age, class, cultural, and racial divides that all too often operate as barriers” (p. 88) to low-income student success. In contrast, Patterson (2006) takes the critical stance of James DeFilippis (2001) on the limits of social capital to produce community development. She discusses the role of the West Philadelphia Improvement Corps, an early service-learning initiative of the University of Pennsylvania that aimed to create community schools with the assistance of the university faculty and students, concluding those initiatives are laudable but cannot overcome structural barriers to improvement of distressed neighborhoods. These works provide the clearest theoretical link for social capital as a community outcome from service-learning.

Measuring social capital

Knack and Keefer (1997) utilize five items from the World Values survey to measure trust, as trust is identified by Putnam, et al. (1993) and Coleman (1988) as components of social capital and of societies with strong economic institutions. Putnam (1995, 2001) used state level measures of trust items on the General Social Survey to link trust with associational density in states, but measures this density as the civic and social organizations in a state per 1,000 population. Putnam also uses turnout in presidential

elections, self-reported information about volunteering, time spent visiting friends, and times a person entertained friends in their own home as other indicators of social capital.

Rupasingha, Goetz, and Freshwater (2006) operationalize a measure of social capital at the county level by identifying new data that form an index of social capital based on associational density, or the number of membership organizations per 1,000 population, but also includes other indicators such as percentage of voters in presidential elections, county-level census response rates, and the number of tax-exempt non-profits. They find that educational attainment (as measured by percentage of adults with college education) is the strongest predictor of increased social capital.

Methods

This section presents the current study's methodology, including the discussion of the data sources used as well as the research design that permits the fixed effects estimation of the impact of service-learning institutions on the community.

Data

The unit of analysis for this study is the commuting zone: areas developed by the USDA Economic Research Service using contiguous counties tied to an economic core via commuting patterns measured in the US Census (Tolbert & Sizer, 1996). Definitions of these areas for this study are from the 2000 census. I select this unit to represent the community because it can be thought of as a hierarchical structure, with individual towns and neighborhoods nested within counties nested within commuting zones. This strategy is often employed in urban and regional econometrics to overcome spillover effects (Baum-Snow & Ferreira, 2015). Commuting zones include densely populated urban areas

and expansive rural areas, making them an ideal unit to examine service-learning practices that occur in both urban centers and rural areas (Stoecker & Schmidt, 2017).

The estimation sample uses an unbalanced panel of 320 commuting zones measured in roughly three occasions each, for a total sample size of 950. It is limited to communities hosting a Campus Compact institution during one or more of the four periods under investigation, but it is worth noting that 38 of the 320 commuting zones are observed during the period immediately preceding the structural break and are missing following the structural break (see discussion of the independent variables below). Descriptive statistics for the estimation sample are presented in Table 4-1. Statistical power analyses conducted in advance of this study suggest a minimum detectable effect of Cohen's $f^2=.014$ for a joint test of significance of the addition of Campus Compact-related variables for the proposed models at an alpha level of $p=0.05$ and 80% power (Cohen, 1988). Therefore, this study has statistical power to detect even a trivial effect, should one be present.

[INSERT Table 4-1 HERE]

Dependent variable.

In this study, the dependent variable is an index is constructed to represent the stocks of social capital in communities developed via principal components analysis reducing multiple, correlated variables into a single component score representing the greatest shared variation (Rupasingha et al., 2006). The variables included in the original index include (1) the associational density of organizations' whose NAICS code indicate the organization is voluntary in nature including civic and religious organizations, athletic clubs (such as bowling centers and golf clubs), political and labor organizations, and

business and professional associations (Putnam, 1995); (2) the number of non-profit agencies per 10,000 population (“National Center for Charitable Statistics,” n.d.); (3) the voter turnout rate in the most recent presidential election (Alesina & La Ferrara, 2000); and (4) the response rate to the nearest decennial census (Knack, 2002). Rupasingha and his colleagues provide data available in the years 1997, 2005, 2009, and 2014.

For this study, I use three of the four components to construct the social capital index: the associational density, the non-profit organizations per capita, and the voter turnout rate. I exclude the census return rate from my calculation because its data is reused across the structural break I intend to test (see discussion below). As robustness checks, I present the full models described below predicting individual components of the index (including the census return rate) to see if one or more of the individual components is contributing to findings presented. Each of these variables is measured at the county-level, so a population-weighted mean of the index and the individual components is calculated at the commuting zone level, giving greater weight to more populous areas in the commuting zone when determining the area’s mean (Baum-Snow & Ferreira, 2015). Table 4-2 presents the results of the principal components analysis for 1997 at the county level, comparing the original index with the revised index used in this text.

[INSERT Table 4-2 HERE]

Covariates.

Rupasingha et al (2006) find social capital correlates closely to a set of theoretically related variables. Coleman (1988) and Putnam (1995, 2001) suggest that social capital has a bi-directional, mutually reinforcing relationship with educational

attainment. I control for the proportion of adults over the age of 25 with a bachelor's degree or higher. Given DeFillipis' (2001) reservations about social capital's influence on community development, this study controls for percentages of persons in poverty and unemployed to capture the variation that may be related to lower income communities. Putnam (2001) also observed that ethnic heterogeneity is negatively associated with social capital and ethnically homogenous areas have higher rates of social capital. To that end, this study controls for the percentage of African Americans in the community. Putnam (2000) also finds that social capital is higher in areas with older populations, so I control for the median age. Putnam (2000) also hypothesizes that tenure in a community may increase ties to that place and enhance social capital. For this reason, I control for the percentage of individuals living in the same home in the previous year (or in the previous 5 years for the 1997 period).

For percentage of bachelor's degrees, percentage African American, median age, and percentage in the same residence, I linearly interpolate or extrapolate the data to generate the time series observations for 1997 and 2005 consistent with other research (Weden, Peterson, Miles, & Shih, 2015). These inter/extrapolations use the 2000 census, along with the 2005-2009, and the 2010-2014 American Community Survey estimates. Estimates for poverty and unemployment come from the Department of Labor's local area unemployment statistics and the small area income and poverty estimates and are available yearly. Each variable is observed at the county level and aggregated to the commuting zone using a population-weighted mean.

Independent variables.

The Campus Compact represents a meaningful indicator of the presence of service-learning and of schools receiving LSAHE funding (Heffernan, 2001; Morton & Troppe, 1996). Over time, the increases in membership correspond with funding rounds from the LSAHE program. The 1997 membership list was published in the Compact's annual *Service Counts* monograph of their survey of members (Kobrin, 1997). For the periods 2005, 2009, and 2014, information about Campus Compact membership was gleaned from the Internet Archive (archive.org) snapshots of the compact's website. The lists of members were matched by hand to the IPEDS records for the corresponding year for characteristics of the members. I produce a per capita measure using the

To rule out alternative explanations for the outcomes observed in these communities and address my research questions, I also test a variable capturing all other colleges per capita (referred to as non-compacts) to see if the same effects are present. It is plausible that having any college locally generates some variation in the social capital variable observed in this study. Campus Compact members and non-compacts share many characteristics as institutions of higher education with one primary difference: compact members make explicit public commitments to community service and service-learning activities. To attribute changes in the outcome to these institutional commitments to service-learning, I expect that no effect will be present over the exogenous break in the time series for colleges outside of the Campus Compact as it is reasonable to expect they were not impacted by the policy change.

In this study, I use the natural log transformation of both institutions per capita variables to represent the density of these institutions in a given community. Natural log

transformation achieves three goals: 1) it produces a more symmetrical distribution and makes the relationship between the dependent and independent variable homoscedastic; 2) permits discussion of results in relative terms, because a unit increase for the untransformed per capita variables is deceptive ($\ln(x)$ in this study is negative, calculated from fractions between 0 and 1, see Appendix C); and 3) the derivative of y with respect to x is β/x , so for a 1% change in the untransformed x (an extremely small change, at the mean of x , a percentage change is roughly .00004), we can interpret the effect as $\beta/100$ (Wooldridge, 2010).

However, in cases where there are no Campus Compact institutions in the commuting zone (roughly 45% of commuting zones, see Table 4-1), the log of the variable is undefined, and therefore we cannot estimate an effect of the compact institutions. Given the centrality of this characteristic to this study, commuting zones without any compact institutions during any given period are omitted from this study. Based on the transition probabilities calculated, roughly 10% of the sample is missing during any period due to the number of Campus Compact institutions going to zero for that period.

Analytic Procedures

This study provides an unbiased estimate of the effects for the density of institutions on communities hosting Campus Compact members. Using fixed effect estimation, I control for unobserved heterogeneity and present a plausibly causal estimate of my variable of interest on the outcome of community social capital for the following questions:

- 1) Did federal policies supporting higher education service-learning contribute to community social capital through the density of higher education institutions in communities?
- 2) Did elimination of the LSAHE funding effect community social capital through the density of colleges in a given community?
- 3) Were these effects related to the density of a subset of institutions that made commitments to public and community service or the density of any other institutions of higher education?

An analytic procedure known as fixed effects estimation, taking advantage of the *within transformation*, is used to analyze the data in this study (Allison, 2009; Wooldridge, 2010). It is useful to consider the following equation

$$y_{it} = x_{it}\beta + z_{it}\gamma + \alpha_i + u_{it}, t = 1, 2, \dots, T$$

In this equation, y_{it} is the observed social capital index score for place i in time t . This variable is a function of $x_{it}\beta$, the compact and non-compact variables described above for place i in time t ; $z_{it}\gamma$ represents a vector of observable characteristics shown to be related to social capital for place i in time t ; α_i , unobserved heterogeneity unique to place i , assumed to be relatively constant over time; and u_{it} , a stochastic error term for each place and time. Averaging all these characteristics gives

$$\bar{y}_i = \bar{x}_i\beta + \bar{z}_i\gamma + \alpha_i + \bar{u}_i$$

And subtracting this equation from the original gives

$$(y_{it} - \bar{y}_i) = (x_{it}\beta - \bar{x}_i\beta) + (z_{it}\gamma - \bar{z}_i\gamma) + (\alpha_i - \alpha_i) + (u_{it} - \bar{u}_i)$$

In this equation, I show the unobserved heterogeneity that is unique to each place drops from the equation which leaves the new de-meaned equation

$$\dot{y}_i = \ddot{x}_i\beta + \ddot{z}_i\gamma + \ddot{u}_i$$

The estimators are now understood to be the unbiased estimates for β .

In addition, I test a dummy indicating the period for 2014 along with an interaction term for the institutions per capita variables, consistent with the hypothesis that the retrenchment of funding from the LSAHE program effected community social capital through higher education institutions. This structural break is tested via a Wald test, demonstrating that a comparison of the funding regime against the un-funded regime performs better than the pooling of all observations of the variable of interest across time (Gujarati & Porter, 2009). While this method shares some similarities with *difference-in-differences* regression (Angrist & Pischke, 2008), I am not truly comparing a treated group to an untreated group. I assume under the null hypothesis of no policy effect that there will be no difference in effects associated with the increases/decreases of compact and/or non-compact institution within the unit of observation across the structural break.

When the time dummy r represents the period following retrenchment, this model is expressed

$$\dot{y}_i = \ddot{x}_i\beta + r\delta + (r \times \ddot{x}_i)\zeta + \ddot{z}_i\gamma + \ddot{u}_i$$

I present graphical interpretations of the average marginal effect using the derivative $(\frac{\partial y}{\partial x})$ with respect to the per capita variables, comparing the reference category (i.e. the LSAHE funding regime) against the post-retrenchment regime. This contrast produces the interpretable statistic ζ (with a confidence interval) comparing the effect across the theorized structural break that summarizes the differences of the average of the instantaneous rates of change across all levels of the logged compact variable.

To adjust the predictions for spatial autocorrelation and provide improved inference, all estimates' standard errors are clustered at the state level. This clustering is also theoretically justified because some states are supported by state-level Compact offices, so some states received different levels of support resulting in what econometricians call heterogeneity of the treatment effects (Abadie, Athey, Imbens, & Wooldridge, 2017). By clustering the effects at the state level, the standard errors are inflated to a degree, thus increasing confidence against Type I errors. I also implement falsification tests to ensure temporal order by testing the lead of the variables of interest by one period, as future values of the compact or non-compact variable should have no effect on the dependent variable (Mills & Patterson, 2009).

Results

This section reviews the results of the empirical testing of the covariates against the revised social capital index discussed above, presented in Table 4-3. The results of the contrasted average marginal effects for both versions of the compact variables are presented in Figure 4-2. I also discuss briefly the results of individual components against the variables of interest, presented in Appendix A.

Base Models

The first model presented in Table 4-3 is a base model that includes only the theoretically relevant covariates. The covariate model does not find that any of the relevant controls are statistically significant.

[INSERT Table 4-3 HERE]

A potential reason that the theoretically relevant covariates do not appear to have significant contribution to the social capital index is there is very little variation within

the commuting zones across time (see Table 4-1). To that end, the parameter estimates produced for these variables are somewhat imprecise (Wooldridge, 2010). These variables are statistically significant contributors in the random effects framework, as found in previous work using that method (Rupasingha et al., 2006). However, diagnostic tests discussed below reject the random effects models, suggesting their coefficients may be systematically biased, whereas the fixed effects models produce consistent estimation with an associated loss of efficiency (Wooldridge, 2010). Furthermore, I am primarily interested in the within-unit variation for the higher education variables relationship to the outcome, the covariates are included to adjust the estimation to avoid confounding and as a check on the robustness of any findings discussed below (Allison, 2009).

Institutions Per Capita

A model that tests the two logged institutions per capita variables are not significant for either the compact variable or non-compact institutions across the four periods. This model explains only 1.2% of the total variance. Introducing the 2014 period indicator does not substantially improve the variance explained and none of these variables achieves statistical significance. A model interacting the 2014 indicator for the post-funding regime with the compact and non-compact variables produces theoretically relevant differences:

- the coefficient on the main effects of log-compacts per capita is significant ($\beta=0.076$, $t=2.17$, $p<0.05$),
- the coefficient on main effect for log-non-compacts per capita is not significant ($\beta=0.040$, $t=0.88$),

- the 2014 period indicator is significant, representing the shift of the intercept for the interaction effects ($\beta=-0.996$, $t=3.16$, $p<0.01$),
- the interaction of the non-compacts per capita with the 2014 indicator is not significant ($\beta=-.051$, $t=0.87$) and
- the interaction of the log-compacts per capita with the 2014 period is significant and negative ($\beta=-0.142$, $t=3.84$, $p<0.001$)

These differences persist in the full model that reintroduces the covariates. In the full model, a Wald test for the structural break for the compact institutions is statistically significant ($F(3,50)=7.11$, $p=0.0005$), however, a test comparing the compact and non-compact coefficients fails to reject that the coefficients are systematically different from each other ($F(1,50)=0.87$, $p=.357$). Compared to the base covariates model, the full model improves the overall fit of the model substantially ($LR\chi^2(5)=96.84$, $p<0.001$) and the effect size of this model is $f^2=0.107$ indicating a small to moderate improvement (Cohen, 1988).

Figure 4-2 demonstrates the relative differences across the structural break using the average of marginal changes in the logged compact and non-compact variable, summarizing the relative decline that is captured by the interaction effects. On average, the size of the difference is about -0.145 across all levels of the compacts per capita variable, which is small by conventional standards (Cohen, 1988). However, as stressed by Mummolo and Peterson (2018), analysts should compare the relative variation within units to better interpret their results. This change is substantial in terms of the overall observed variation in the outcome within communities because the standard deviation within units in the outcome is 0.173 (see Table 4-1), so an average change of -0.14 is

roughly 84% of a standard deviation within the unit and this effect size is slightly larger than the moderate change in the model's Cohen's f^2 . The same pattern is not present for the non-compact institutions, suggesting these institutions are not affected by the structural break in the same way.

[INSERT Figure 4-2 HERE]

These findings reject the null hypotheses undergirding two of the three research questions and partially reject the third: 1) during the funding regime, Campus Compact institutions are positively contributing to their communities; 2) the structural break associated with defunding the program reverses the effects for compact institutions; 3) there is not a statistically significant difference between compact and non-compact institutions, however I cannot reject the hypothesis that non-compacts systematically contribute to their community's social capital in the same ways that Campus Compact institutions do.

Model Diagnostics and Robustness Checks

Wooldridge (2010) recommends in cases where variation within units is small to also investigate random effects models. Hausman tests comparing the fixed and random effects versions of the models described above were rejected (see Appendix A, $H(10)=154.13, p<.001$), having systematic differences among the coefficients that were due to the correlation of the covariates with the unobserved error term.

Additional diagnostic tests indicate the errors for the models described in the previous sections are close to normally distributed but have thick tails, suggesting a few outliers. Plots of the residuals against fitted values and residuals against the key predictors do not suggest a systematic bias from outliers, and the clustered standard errors

correct for heteroscedasticity and spatial autocorrelation. The falsification test implemented using a period lead for the variable of interest is not significant ($t=1.17$), assuring temporal order and increasing confidence that the effects measured here are not spurious (Mills & Patterson, 2009). Furthermore, by sequentially adding variables to the model, we do not observe the presence of time fixed effects related to the last period, although this period is also during a period of defunded policies such as the American Recovery and Reinvestment Act, which may also exert some influence over the outcomes.

The robustness checks exploring the individual components are presented in Appendix B. Consistent with the findings above, the components each confirm the finding of the revised index. Also consistent with the methodological choice to exclude the census return rate, there is no effect in that component owing to its reuse of data in multiple time periods overlapping the structural break.

Discussion

This paper offers among the first nationally-representative empirical estimates of the impact of higher education service-learning on community social capital. Furthermore, it examines the impact of national policy on service-learning and offers evidence that federal support for service-learning promotes community social capital and the absence of federal support results in a decline of that outcome.

Community social capital is an important mediator of community well-being (Sampson, 1999; Sampson et al., 2002). It is also shown to be an important contributor to lower rates of poverty in communities (Rupasingha & Goetz, 2007) and a positive contributor to rates of per-capita income growth (Rupasingha, Goetz, & Freshwater,

2000). Previous research has examined education as an important contributor to community social capital (Coleman, 1988; Putnam, 1995, 2001; Rupasingha et al., 2006), but the role of institutions of higher education is absent from that conversation. Additionally, the service-learning field discusses social capital as a potential outcome (Ferman, 2006; Gelmon et al., 1998; Morton, 1995; Patterson, 2006; Seifer, 2010), but it lacks quantitative evidence supporting these claims.

This study demonstrates contributions of service-learning to community social capital during the periods the federal government offered support for the practice, especially in areas where the density of Campus Compact institutions was higher. This study finds a structural break resulting from the retrenchment in LSAHE in 2011, resulting in shifts in both the intercept for the 2014 period, and changes in slope when the variable is interacted. These effects are not present when the main effect of the period is not interacted, suggesting this relationship is associated with the policy change and not independent of it. The decline resulting from the structural break masks the positive effects prior to the break, which only emerge through the fully interacted model. The model itself performs moderately well in explaining the overall variance, suggesting the policy change had important implications for community social capital. The variation in social capital was not strongly associated with the other colleges in these same communities, so it can be concluded that effects of the federal policy occurred primarily through the Campus Compact membership.

As suggested by the previous literature (Hartley, 2011; Hartley & Saltmarsh, 2016; Hollander & Hartley, 2000), membership in the Campus Compact may have been a signal to the grantmakers that the university was committed to service-learning. It is also

reasonable that national and state compact offices would only subgrant to members, providing additional incentives for joining the organization when funding was available. A major funding strategy discussed in the LSAHE evaluation was to leverage both matching and in-kind funds from grantees and subgrantees (Gray et al., 1999), which also helps explain why a relatively small grant program can have such a seemingly outsize impact on social capital.

This pattern is consistent with a policy feedback mechanism described by Mettler and SoRelle (2014), with the presence of the policy having resource and interpretive effects in promoting civic participation. Mettler and SoRelle (2014) state “[policy feedback theory] brings political considerations to bear on policy analysis, assessing how policies affect crucial aspects of governance, such as whether they promote civic engagement or deter it” (p. 152).

The original purposes of the LSAHE program included “engage students in meeting the unmet needs of communities” and “to enhance students’ academic learning, their sense of social responsibility, and their civic skills through service-learning” (Gray et al., 1999, p. 7). This study finds that during the period when funding was available, members of the Campus Compact fulfill that policy goal. Similar to the policy feedback framework described by Mettler in her study of the GI Bill’s effects on beneficiaries’ belief in their own contributions to the polity, the social construction of service-learners as capable of meeting unmet needs and building civic skills translates into greater civic engagement in their communities (Mettler, 2002, 2005; Mettler & Soss, 2004). Other literature about the geography of higher education access suggests that 57% of all college students attend an institution within 50 miles of their home, so civic benefits of preparing

service-learners for engagement in their neighborhoods may explain some of the spillover effects observed here (Hillman, 2016).

The period following the retrenchment has opposite effects, eliminating the contributions towards social capital. The defunding of LSAHE played a role in a decline in social capital in communities hosting Campus Compact institutions, presumably because efforts were no longer being made at the same intensity as when funding was available. The observed decline in Campus Compact membership and numbers of institutions reporting service-learning to the Campus Compact between 2005 and 2014 signal that members no longer could sustain their programs in the absence of funding (Campus Compact, 2005, 2014), while others who remained in the network may have seen budgets shrink without external support (Ryan, 2012).

Results show the infrastructure of non-profits suffered from the lack of support, further exacerbating the decline in social capital, consistent with other accounts (Eikenberry & Kluver, 2004; Pettijohn, Boris, & Farrell, 2014; Salamon, 2012). This policy change weakens bonds necessary to promote service-learning partnerships and mutual trust between actors, consistent with accounts of service-learning (Morton, 1995; Pigza & Troppe, 2003; Seifer, 2010) and social capital theory (Lin, 2001; Putnam, 2001; Woolcock, 2004). A clear recommendation from this work is for a renewed discussion of the role of our federal and state governments in supporting service-learning and civic engagement to promote community vitality and social capital stocks.

The results in the voting component also signal observed relationships between service-learning and voter turnout is substantial, consistent with research on students (D. E. Campbell, 2000; Celio et al., 2011). Campus Compact invested significant resources

into supporting voter registration and campus voter drives during the early- and middle-2000's (Cone et al., 2006). These investments seem to positively contribute to higher turnout in communities hosting Campus Compact institutions, thus substantively influencing the social capital index in this study, consistent with the policy feedback mechanism (Mettler, 2002; Mettler & SoRelle, 2014).

One possible explanation for the program's elimination are the relatively small positive effects prior to termination that indicate the policy's benefits are diffuse. In these situations, policies may lack a natural constituency. Other policy feedback research demonstrates that college students tend to lack the organizing capacity for policy changes that affect them and their education (Mettler, 2014). The LSAHE program lacked a powerful enough interest group to advocate for the policy to remain funded, consistent with policy feedback theory (Jordan & Matt, 2014; Mettler, 2014; Mettler & SoRelle, 2014) and discussions of policy termination (Daniels, 2015). The structure of the LSAHE program also expressly prohibited "partisan political" acts by its grantees, and it is possible that grantees (including the Campus Compact) did not want to lobby for the policy and find themselves in violation of the law, consistent with how the non-profit sector approaches political activity (Hartley, 2011; Taliaferro & Ruggiano, 2013).

In late 2010 and early 2011, the National Task Force on Civic Learning and Democratic Engagement hosted five dialogues to produce "*A Crucible Moment: College Learning and Democracy's Future*" (2012). This document, submitted to the US Department of Education, contains a national call to action for educators to ensure broad civic participation and civic literacy to reinvigorate democracy. Despite this seemingly positive momentum, federal budget resolutions in FY 2011 and 2012 both lacked funding

for the existing Learn and Serve America budget and no request was made for the 2013 budget (Ryan, 2012). While this national task force attempted to coalesce multiple movements within higher education to build public support for civic engagement, it was unable to preserve federal support for a pedagogy that *Crucible's* authors identify as an effective practice for promoting civic engagement.

Surprisingly little has been written about the landscape of postsecondary service-learning in the wake of the defunded LSAHE, but future research might examine how the retrenchment of federal funding influenced service-learning programing in various sectors of higher education. An additional line of inquiry might investigate whether community organizations observed declines in engagement from colleges and universities, particularly in areas where colleges and universities no longer participate in the Campus Compact. The work associated with this paper in identifying and coding the membership of Campus Compact over the last two decades can help facilitate these future investigations.

Limitations

Without direct measures of service-learning, the proxy used in this study only approximates actual impacts of service-learning and unfortunately offers little in terms of implications for the practice of service-learning. Recent advancements such as the Carnegie Elective Classification for Community Engagement (Giles, Sandmann, & Saltmarsh, 2010; Janke & Domagal-Goldman, 2017; Saltmarsh, Giles, Ward, & Buglione, 2009; Sandmann, Thornton, & Jaeger, 2009) and the new National Inventory of Institutional Infrastructure of Community Engagement (Brown University, 2018; Welch & Saltmarsh, 2013) may provide future longitudinal researchers with additional

characteristics regarding the forms of service-learning and community engagement that are more effective in promoting social capital or other community outcomes.

Another limitation of this study is the choice of commuting zone as the unit of analysis. Previous authors (Bloomgarden, 2017; Cruz & Giles, 2000) argued for the community partnership as the unit of analysis, rather than using the broader community given difficulties in defining community and the participatory nature of service-learning. This study's use of the commuting zone reflects how the outcome is measured; captures potential spillover effects that may be present in the larger labor market (Baum-Snow & Ferreira, 2015); and also permitted analysis of both urban and rural areas, addressing other critiques of the emphases of service-learning research on urban universities (Stoecker & Schmidt, 2017).

This study's national scope provides baseline estimates for researchers to compare the possible measured effects of service-learning among their local community partners. However, another limitation is that these results are unable to generalize to communities without compact institutions and must be interpreted as changes observed in communities where these institutions were located. Although these places are only 56% of the commuting zones, they contain roughly 80% of the population of the United States. Finally, while fixed effects regression methods are a workhorse for social sciences causal inference (Allison, 2009), I acknowledge that interpretation of these estimates as a causal assumes that any time-varying unobserved heterogeneity is not also correlated with the increases or decreases of the membership in the Campus Compact. However, my inclusion of the non-compacts in these regressions serves as a robustness check, because

any of the endogenous variation that would be correlated with one class of colleges would likely also be present among the other class as well.

In conclusion, this work addresses a long-standing gap in empirical measurement of the impacts of service-learning on communities (Cruz & Giles, 2000; Stoecker et al., 2010) and addresses previous calls for research on the topic of social capital (Putnam, 1995). Furthermore, it tests relevant policy theories that explain the patterns observed (Mettler & SoRelle, 2014). These contributions build the theory base of how institutions influence social capital while connecting higher education service-learning to broader theoretical relevance. While the proxies for service-learning used in this study are unable to measure the effect directly, these findings can guide future work on measuring impacts and serve as bases for other exploratory analysis of service-learning's impacts in communities. By using panel data to explore the outcome of social capital, this study presents credible findings pointing towards the effectiveness of service-learning to produce positive effects in communities as well as identifying a pattern of decline consistent with the retrenchment of federal funding for service-learning programs.

Footnotes

¹ In January of 2017, the author initiated a FOIA request of the Corporation for National and Community Service for grantee records from the Learn and Serve America program. The results from their database only included the direct grantees with no information about subgrants. Nearly all the grants were directed to national or state-affiliate Campus Compact offices or had a primary fiscal agent that was a compact institution.

² Campus Compact membership includes central offices for state systems of higher education, international institutions, and members that exclusively serve graduate students, this study elects to investigate only those Title IV postsecondary institutions that offer undergraduate degrees.

Tables

Table 4-1 *Estimation Sample Characteristics*

variable	Mean	Sd (within)	N	Min	max
Census Response	.438	.689 (.240)	950	-2.331	2.270
Associational Density	-.373	.606 (.082)	950	-2.362	2.319
Non-Profits Per 10,000 population	-.349	.546 (.091)	950	-1.545	3.275
Voter Turnout Rate	.599	.085 (.055)	950	.274	.858
Revised Social Capital Index	-.299	.743 (.173)	950	-.882	.362
% with bachelor's degree or Higher	23.340	6.714 (1.710)	950	9.682	49.447
% African American	9.617	10.924 (.475)	950	.046	67.512
Median Age	36.921	3.945 (1.040)	950	23.2	53.5
% in same residence	73.437	15.057 (13.398)	950	28.232	91.175
% in poverty	14.839	4.399 (1.436)	950	6.516	40.694
% Unemployed	6.556	2.486 (1.907)	950	2.120	15.585
Compact Institutions Per Capita	.0067	.0062 (.0021)	950	.0003	.0774
Non-Compact Institutions Per Capita	.0112	.0066 (.0024)	950	.0006	.0774
% of CZ without Compact Institutions	59.287	49.139 (25.198)	2832	0	100

Notes. Unit of Observation is Commuting Zone. The compact and non-compact variables are log-transformed for analysis. The census response rate, associational density, and non-profits per capita variables were standardized for the entire sample ($n=709$, $t=4$) with means of 0 and unit standard deviations for each period. % Bachelor's, % African American, Median Age, % same residence are inter/extrapolated from the data source using 2000, 2009, and 2014 data. The values for Institutions per Capita are the original untransformed values.

Sources: Revised index and components, Rupasingha, et al (2006). % Bachelor's Degree or Higher 1997, Census 2000SF1. % Bachelor's Degree or Higher 2005 and 2009, ACS 5-year estimates 2005-2009. % Bachelor's Degree or Higher 2014, ACS 5-year estimates 2010-2014. % African American 1997, Census2000 SF1. % African American 2005 and 2009, ACS 5-year estimates 2005-2009. % African American 2014, ACS 5-year estimates 2010-2014. Median Age 1997, Census2000 SF1. Median Age 2005 and 2009, ACS 5-year estimates 2005-2009. Median Age 2014, ACS 5-year estimates 2010-2014. % in same residence for 5 years 1997, Census2000 SF1. % in same residence 2005 and 2009, ACS 5-year estimates 2005-2009. % in same residence 2014, ACS 5-year estimates 2010-2014. % in poverty 1997, 2005, 2009, 2014, Small Area Income and Poverty Estimates.

Compact variable 1997, Kobrin, 1997. Compact variables 2005, 2009, 2014, Internet Archive.

Table 4-2 *Principal Components Analysis for 1997 Social Capital Index*

Rupasingha et al. Social Capital Index				
Component	Eigenvalue	Difference	Variance Explained	
			Proportion	Cumulative
1) Associational Density	2.049	1.104	0.512	0.512
2) Census Response Rate	0.945	0.293	0.236	0.749
3) Non-profits per 10,000 population	0.652	0.298	0.163	0.912
4) Voter Turnout Rate	0.354		0.089	1.000
Component				
	1	2	3	4
Component Score	0.541	0.254	0.605	0.526
Revised Index excluding Census Return Rates				
Component	Eigenvalue	Difference	Variance Explained	
			Proportion	Cumulative
1) Associational Density	1.977	1.310	0.659	0.659
2) Non-profits per 10,000 population	0.667	0.310	0.222	0.881
3) Voter Turnout Rate	0.356		0.119	1.000
Component				
	1	2	3	
Component Score	0.548		0.630	0.550

Table 4-3 *Fixed Effects Estimates for Revised Social Capital Index and Compact Institutions Per Capita*

	(1) Model 1: Covariates	(2) Model 2: Inst. per Capita	(3) Model 3: After LSAHE	(4) Model 4: Interaction	(5) Model 5: Full
% Bach Deg	0.003 (0.017)				-0.004 (0.020)
% Black	0.027 (0.035)				0.016 (0.030)
Median age	-0.004 (0.016)				0.002 (0.019)
% Same res.	-0.001 (0.002)				-0.002 (0.003)
% Poverty	0.004 (0.014)				-0.000 (0.012)
% Unemployed	0.008 (0.007)				0.012 (0.007)
Compact Institutions per Capita		0.062 (0.040)	0.063 (0.039)	0.076* (0.035)	0.100* (0.039)
Non-Compact Institutions per Capita		0.051 (0.050)	0.051 (0.050)	0.040 (0.046)	0.059 (0.045)
LSAHE Defunded			-0.002 (0.044)	-0.996** (0.312)	-0.971** (0.312)
LSAHE Defunded # Compact Institutions per Capita				-0.142*** (0.036)	-0.145*** (0.040)
LSAHE Defunded # Non-Compact Institutions per Capita				-0.052 (0.058)	-0.052 (0.057)
Constant	-0.511 (0.544)	0.272 (0.389)	0.273 (0.385)	0.294 (0.339)	0.449 (0.809)
CZ Fixed effects?	Yes	Yes	Yes	Yes	Yes
N	950.000	950.000	950.000	950.000	950.000
N_clust	51.000	51.000	51.000	51.000	51.000
r2	0.011	0.012	0.012	0.094	0.107
F	0.527	1.225	0.875	6.433	4.957

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Cluster-robust standard errors reported in parenthesis based on standard errors clustered at the state level. R^2 reported is the within variation explained by the model's parameters.

Figures

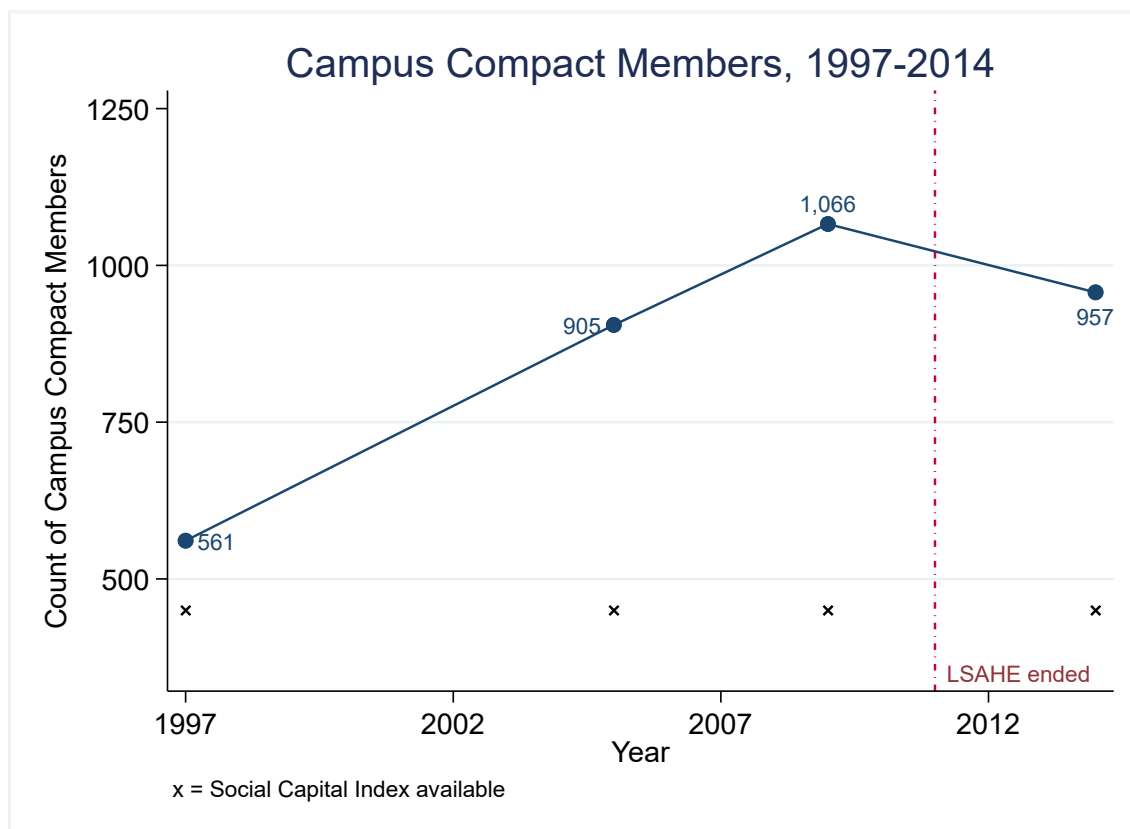


Figure 4-1: Campus Compact Members, 1997-2014

Note: Only institutions categorized in IPEDS as Title IV, postsecondary, undergraduate degree granting institutions are included in these counts.

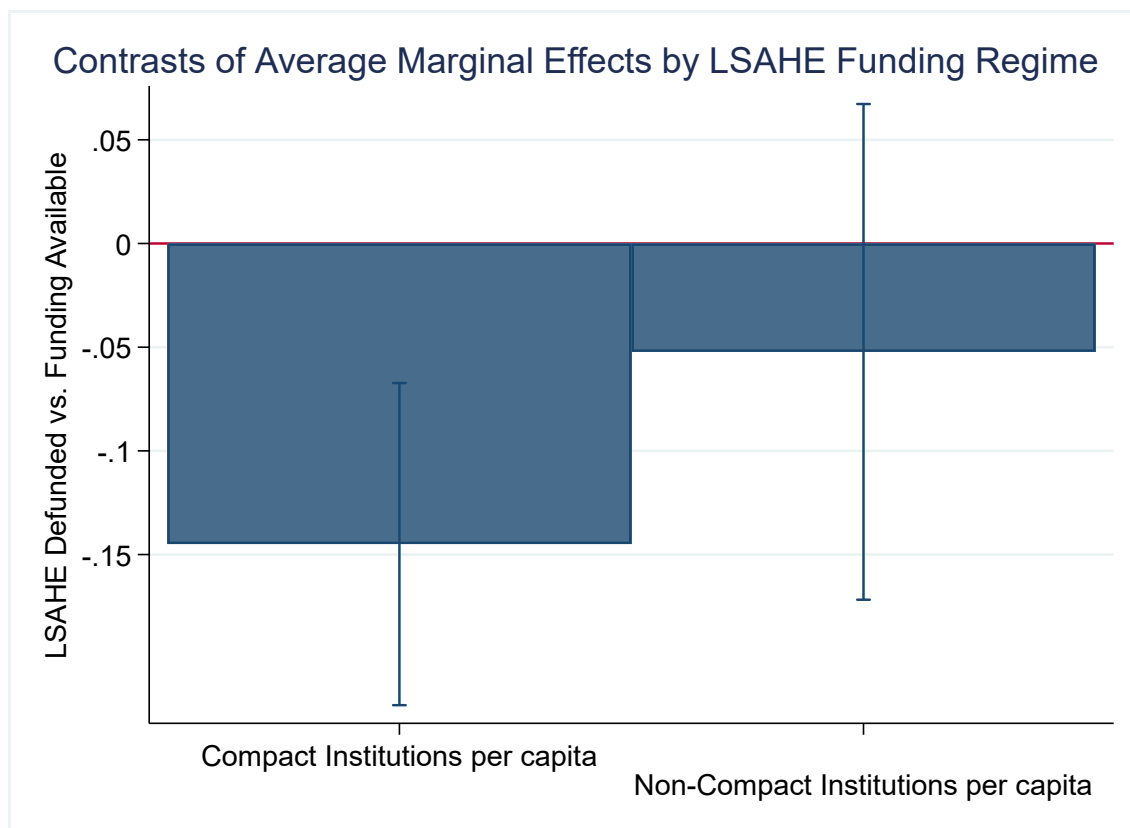


Figure 4-2: Contrasts of Average Marginal Effects by LSAHE Funding Regime

Note: 95% CI is shown. The bars represent the differences across the structural break in the average marginal effects the logged institutions per capita. It also compares the effects from the compact institutions against those that were not members of the compact to test if the structural break was present for all colleges, an alternative explanation to hypotheses that the effect is related to institutional commitments to community service and service-learning. In the interaction effects presented in Table 4-3, a positive effect captured in the main effect of the compact variables of interest (representing the period before the structural break), and a negative effect in the interaction effect which represents the effect after the structural break, but neither estimator can be readily understood on its own because of the non-linear specification of the variable of interest. These bars are the average of the differences expressed in standard deviations of social capital index scores between the funded and the un-funded periods, which can be understood as the magnitude of the effect of the structural break.

Appendix A

Hausman Test Comparing Fixed and Random Effects

	(1) sk4	(2) sk4
Pct. w/ Bach Deg in CZ	-0.00501 (-0.42)	0.0112* (2.35)
Pct. Black in CZ	0.0113 (0.69)	-0.00488 (-1.80)
Median age in CZ	0.00201 (0.16)	0.0404*** (5.58)
Pct. in same res. in CZ	-0.00221 (-1.51)	-0.00597*** (-5.30)
Pct. in poverty in CZ	0.00234 (0.31)	-0.0288*** (-4.82)
Pct. Unemployed	0.0111* (2.02)	0.0125* (2.22)
LSAHE Defunded	-0.891*** (-5.09)	-0.857*** (-4.61)
Compact Institutions per Capita	0.0996*** (3.65)	0.259*** (11.29)
Non-Compact Institutions per Capita	0.0640 (1.72)	0.215*** (6.61)
LSAHE Defunded # Compact Institutions per Capita	-0.147*** (-7.17)	-0.150*** (-6.82)
LSAHE Defunded # Non-Compact Institutions per Capita	-0.0341 (-1.02)	-0.0254 (-0.71)
Constant	0.503 (0.96)	1.148** (3.11)
Panel Model	Fixed	Random
Hausman Test		160.4
DF		11
P>chi2		1.13e-28

Notes: *t* statistics in parentheses

Errors are not robust to heteroskedasticity or spatial autocorrelation

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix B

*Full Models for Components of Rupasingha et al (2006) Index and Per Capita**Institutions*

	(1) Decennial Census Return Rate (std)	(2) Associational Density (std)	(3) Non-Profits Per Capita (std)	(4) Voter Turnout (%)
% Bach Deg in CZ	-0.028 (0.019)	-0.006 (0.011)	0.022 (0.011)	0.002 (0.004)
% Black in CZ	-0.027 (0.034)	-0.006 (0.013)	0.041 (0.020)	0.003 (0.005)
Median age in CZ	0.040 (0.021)	0.007 (0.013)	0.039*** (0.011)	-0.003 (0.003)
% Same res. in CZ	-0.001 (0.003)	-0.001 (0.001)	-0.005** (0.002)	0.001* (0.000)
% Poverty in CZ	0.015 (0.015)	-0.019*** (0.005)	-0.000 (0.006)	0.002 (0.002)
% Unemployed in CZ	0.030 (0.016)	0.003 (0.002)	0.001 (0.002)	0.002* (0.001)
LSAHE Defunded	-0.086 (0.345)	-0.211* (0.097)	-0.257 (0.144)	-0.087 (0.060)
Compact Institutions per Capita	0.000 (0.041)	0.021 (0.014)	0.048** (0.015)	0.011 (0.007)
Non-Compact Institutions per Capita	0.032 (0.060)	0.012 (0.023)	0.041 (0.021)	0.009 (0.009)
LSAHE Defunded #	-0.016 (0.031)	-0.033** (0.010)	-0.031** (0.011)	-0.021* (0.008)
Compact Institutions per Capita				
LSAHE Defunded # Non- Compact Institutions per Capita	-0.018 (0.060)	-0.018 (0.016)	-0.007 (0.023)	-0.014 (0.012)
Constant	-0.363 (0.854)	0.055 (0.522)	-1.841*** (0.383)	0.562** (0.167)
CZ Fixed effects?	Yes	Yes	Yes	Yes
N_clust	50.000	50.000	50.000	50.000
N	950.000	950.000	950.000	950.000
r2	0.096	0.108	0.121	0.735

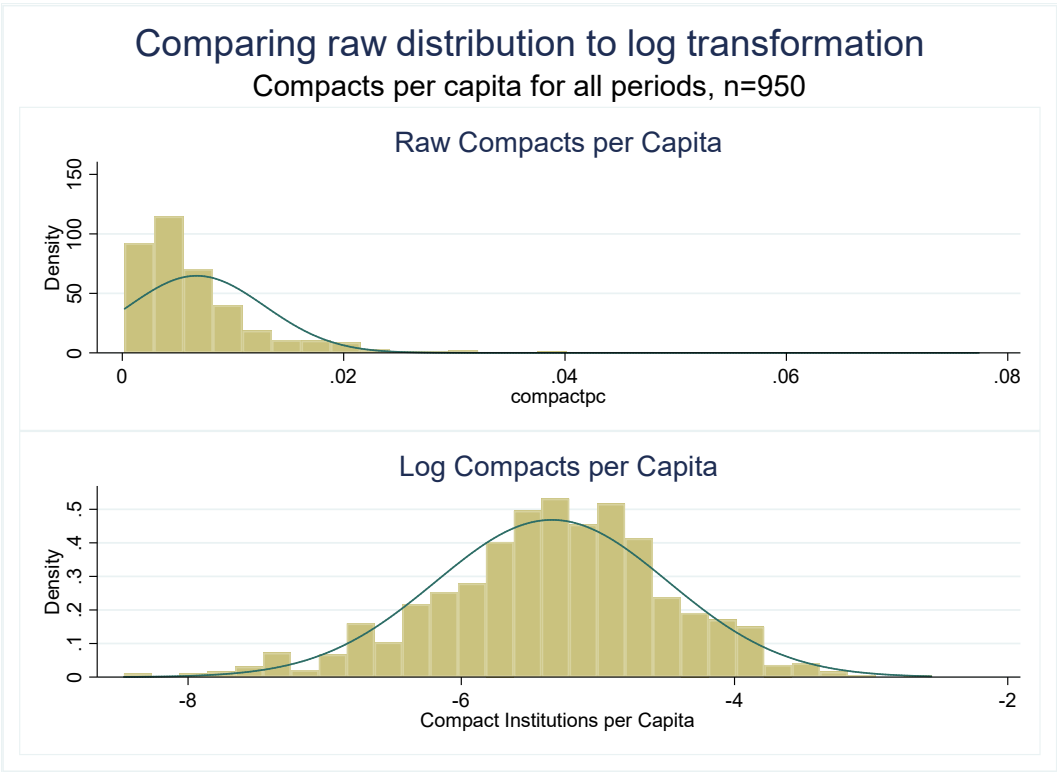
F	1.955	3.720	5.599	40.038
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Standard errors in parentheses

Standard errors clustered by state_id

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix C



Comparing Raw Distribution to Log Transformation

Notes: Normal density shown.

Chapter 5 STUDY THREE

Youth Outcomes in Communities Served by Engaged Institutions of Higher Education

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Abstract

This study investigates educational outcomes in over 7,000 school districts in communities nearby a member institution of the Campus Compact between 2009 and 2014 to investigate whether a relationship between engaged institutions and youth outcomes is present. Using a fixed effects approach to estimation, relationships between the capacity for colleges to serve their communities (measured as a ratio of college students to district students) and the distance from the school district to the college are investigated and effects are uncovered that are slightly larger than the study's minimum detectable effect. A test for the structural break associated with the retrenchment of a major federal funding source for higher education community engagement is detected consistent with the theoretically predicted direction of the effect. While the effects uncovered in this study are extremely small, they may represent the lower bound of the actual effects and support theoretical contributions to a field with a paucity of extant studies.

Keywords: service-learning, educational outcomes, youth, higher education

Youth Outcomes in Communities Served by Engaged Institutions of Higher Education

In a seminal paper in the field of service-learning, Cruz and Giles (2000) argue for increased attention to the outcomes of service-learning for the community by using the community partnership as a unit of analysis. Surveys of members of the Campus Compact, the largest organization supporting service-learning and community engagement, suggest that the most common partnership type is with local school districts (Campus Compact, 2014). Using the school district as a unit of analysis, this article examines outcomes for third through eighth students in school districts in the United States from 2009 through 2014 by examining the fixed effects of proximity to a Campus Compact institution, the ratio of students attending that institution to the total school district student population, and the timing of student testing to examine the effect of the defunding of the federal Learn and Serve America program. The findings suggest that school districts nearby more college students tended to experience slightly better outcomes after controlling for distance from the nearest college, grade-level fixed effects, and district and grade level-specific, time-varying observable characteristics including the proportion of students who are African American, the proportion of students who are on free/reduced lunch, the student-teacher ratio, and the per-pupil expenditures for the district. The trajectory of the effect changes after the elimination of funding for the Learn and Serve America program. Implications for this work demonstrate that universities can play a role in promoting better youth outcomes, although the methods used in this study likely present the lower bound of the possible effect.

Literature Review

In this study, the potential causal mechanisms are explored based on the theoretical relevance to service-learning: (1) the proximity of service-learning institutions to school districts, (2) the relative size of the nearest institution to the school district as a representation of the capacity to serve that district, and (3) timing of testing relative to the elimination of funding for the federal Learn and Serve America program, which funded both K-12 and higher education institutions to participate in service-learning activities.

Propinquity

Festinger, Schachter, and Back (1950), in a classical psychological study, examined the effects of physical distance on relationships, identifying a propinquity effect where individuals associate most often with those closest to them. Since then, the theory has also been used to explain neighborhood effects (Friedrichs, 1998), educational outcomes (Reagans, 2011), and social capital (Hipp & Perrin, 2009; Kwon & Adler, 2014).

Urban planning literature discusses the role of school siting in community development. Miles, Adelaja, and Wyckoff (2011) stress that where schools are sited matters for the health and well-being of communities. Miles (2011) notes that recent school siting practices may contribute to a vicious cycle of suburbanization in pursuit of better schools. McDonald (2010) discusses the role of school siting for community schools, arguing that individual communities consider school size tradeoffs between meeting regional planning needs and local neighborhood visions for school sites. Baum (2004) noted that there are complex interactions between race, schooling, and urban

development, arguing against small schools because they would draw from less diverse areas.

Service-learning researchers have raised issues related to the proximity of community partners and who is served by service-learning. Stoecker and Schmidt (2018) argue that there is a bias towards propinquity and demonstrates that in Wisconsin there were few agencies served by service-learning in rural parts of the state. Their findings suggested that “5.2 percent of urban nonprofits hosted service learners. While only 0.8 percent of rural nonprofits did so” (p. 34). Their findings suggest that service-learning programs target the communities close to campuses, often at the expense of public problem-solving in outlying areas. This work builds on the earlier work of Holton (2007) in examining the unique challenges and opportunities of rural campuses, especially community colleges, in developing and delivering service-learning programs.

These two divergent literatures share a common thread: distance may matter. Institutions of higher education seem to only engage with nearby communities, suggesting the associated effect of increasing distance from a university campus would diminish the potential effectiveness of service-learning. Conversely, it is possible that the patterns observed by Baum (2004), McDonald (2010), and Miles (2011) would mute potential relationships between the distance from a college and the quality of the school, regardless of service-learning effects. And for suburban or rural colleges and universities, proximity to a nearby district may matter less compared to other concerns regarding the focus of service-learning activities.

Capacity to Serve

Institutions of various sizes participate in service-learning. In 2014, Campus Compact provided reports from their member survey disaggregated into various “affinity” groupings, including grouping institutions by size in terms of FTE student enrollments: 15,000+ (18% of respondents); 7,501-15,000 (16% of respondents); 3,001-7,500 (28% of respondents); and under 3,000 FTE (38% of respondents). The total response rate from their 1,080-member campuses was approximately 40% and it is unclear if these proportions are representative of the non-respondents.

Despite this evidence of variety among institutions participate and how, relatively few studies have investigated institutional context in service-learning (Janke & Domagal-Goldman, 2017). In studying the effects that institutional size may have on college students, there is inconsistent evidence that the institution’s size has any effect on student outcomes at all (Mayhew et al., 2016; Ro, Terenzini, & Yin, 2013). So-called “between-college” effects are not shown to be substantial predictors of students’ developmental outcomes.

However, due to the paucity of studies on community outcomes from service-learning, no extant studies investigate the role of institution size as a potential contributor to community outcomes observed. It is possible that size matters in specific contexts: the relative size of an institution may have differential effects for youth growing up in communities served by institutions in Campus Compact. Smaller school districts nearby institutions of higher education may be more well-served than large districts, regardless of the size of the institutions nearby.

This principle is similar to the role of class size in academic achievement: students in smaller classes tend to have better outcomes (Hoxby, 2000; Krueger, 1999, 2002). The Tennessee Student-Teacher Achievement Ratio (STAR) project is the most well-known class-size experiment (Hanushek, 1999; Krueger, 2002) and various analyses of these data suggest that smaller classrooms produce better effects for children.

Other fields have ratio variables that demonstrate the association of the effectiveness of the services provided. In medicine, physician: patient ratios are used to calculate “practice panels” to optimize the delivery of health care (Murray, Davies, & Boushon, 2007). This ratio has also been used to designate places as medically underserved (Ricketts et al., 2007). In both cases, there is information about the quality of care delivered in relation to patient outcomes is absent, but this ratio proxies that effect.

Defunding Learn and Serve America

Learn and Serve America was a federal program established under the National and Community Service Trust Act of 1993 (Melchior et al., 1994). The Corporation for National and Community Service, which oversaw the administration of the Learn and Serve America program enjoyed bipartisan support when it was established. Learn and Serve America programs were broadly implemented in K-12 and Higher Education settings through grant programs to fund the development of service-learning programming (Gray et al., 1999; Melchior, Frees, LaCava, Kingsley, & Nahas, 1999). In 2009, the Edward M. Kennedy Serve America Act reauthorized Learn and Serve America programs as part of its legislation.

In a contentious political climate only two years later, congress defunded the Learn and Serve America grant programs for the 2011 fiscal year. President Obama

submitted a budget request in 2012 to fund programs under Learn and Serve America but, again, Congress excluded funding for the programming. In the wake of this retrenchment of funding, school districts and higher education saw declines in service-learning programming (Ryan, 2012). The number of member campuses in the Campus Compact dropped in the wake of this policy change (Campus Compact, 2011, 2014).

Methods

This section presents the analytic procedures of this study. I begin by discussing the data used in this study, including the procedures for determining distance and the college student: district student ratios used in the analysis. I also present the fixed effects estimation used to analyze the data.

Data

This study's unit of analysis is a geographic unit developed by the Stanford Education Data Archive to represent over 10,000 school districts in the U.S. SEDA created shapefiles for each of these geographic school districts and made them publicly available. In addition, they produced grade-year-subject estimates at the cohort level for the English/language arts (ELA) score on a grade-level scale. These average scores are derived from each state's standardized testing program that is required by federal law. More information about the SEDA data is available at their website.

Using the SEDA "cohort standardized" scale, I predict the relative effect of the independent variables on the district average achievement in a given grade and year to the national average in that grade from a specific cohort. This scale is normalized to the performance of the 4th grade cohort in 2009 (also in 8th grade in 2013) because this specific cohort's performance over time can be benchmarked to the National Assessment

of Educational Progress. The technical documentation states “this metric is interpretable as an effect size, relative to the grade-specific standard deviation of score in one cohort” (Fahle et al., 2017, p. 24). The scale has a mean near 0 and ranges from -1 to +1. For my analyses, each regression is weighted by the harmonic mean number of students in the district across the grade levels because it is less sensitive to outliers than the arithmetic mean (Bloom, 2005).

Covariates.

Along with the test score data, SEDA provides information about districts such as the per-pupil instructional expenditures, the percentage of students on free/reduced lunch, and the percentage of students from various ethnicities. Controlling for differences in these variables over time removes the heterogeneity related to this variation from the estimation of my variables of interest and produces a more consistent estimate of the effect of campus compact variables (Allison, 2009).

In addition to the district fixed effects, I also control for grade-level fixed effects by including dummies for each grade in the equation. By including grade-level fixed effects, I control the variation related to the quality of teachers at each grade within the districts and further reduce the unobserved heterogeneity that may vary within units across time.

Campus Compact variables.

To construct the primary variables of interest, a database of all Campus Compact institutions was constructed using lists obtained from snapshots of the Campus Compact website for years 2009-2014 gathered from the Internet Archive (Internet Archive, n.d.). These lists were then matched by hand to the Integrated Post-Secondary Education Data

System (IPEDS) record for the corresponding year, which contains the total enrollment and the total first-time full-time undergraduate enrollment, the Carnegie classifications relevant to the institution, and the geographic coordinates of the institution.

Using QGIS v2.18, I geocoded all the Campus Compact Institutions in the US using the coordinates provided by IPEDS for each year, 2009-2014. I also geocoded the centroid of each school district in the SEDA shapefile. Using these points, I was able to calculate a distance matrix from the center point of each district to the nearest Campus Compact institution for each year, 2009-2014. These data were then joined to the complete SEDA database and to my IPEDS files to create a file for analysis.

Only records where the college was within the same commuting zone as the school district were retained under the assumption that any school district outside of the same commuting zone would not plausibly be served by that nearest college. Commuting zones use the 2000 definition from the USDA Economic Research Service (Tolbert & Sizer, 1996). These commuting zones are like metropolitan areas but also include rural districts and are based on patterns from the US Census's Journey to Work survey. Once joined, the distances were log-transformed to reduce skewness and increase interpretability from miles to relative distance. This variable will be referred to below as log-distance and the variation for this variable is described in Table 5-1.

[INSERT Table 5-1 here]

Using the IPEDS reported first-time, full-time undergraduate population and the SEDA reported total district enrollment, a ratio of college students per 100 district students was created. The variable was then log-transformed, to be interpreted as relative increases in college students to district students in the regression models. For example,

the intercept is interpretable as a 1 college student:100 district students ratio ($e^0 = \ln(1)$) and as the ratio of college students increases exponentially, I measure the unit changes in these terms. This variable will be referred to below as log-ratio.

Finally, this study overlaps an exogenous structural break during its time series. The primary federal funding program for service-learning at both the K-12 and higher education sectors was the Learn and Serve America program. Funding for this federal program was eliminated from the 2011 and 2012 federal budgets and was not sought after in 2013 (Ryan, 2012). Using 2012 as the theoretical break in the time series may also explain the variation caused by defunding Learn and Serve America. In pooling observations across multiple years and interacting it with the two variables described above, it is possible to identify whether the change is related to a secular trend in better test scores or if it is associated with a change in the relative effect of service-learning before and after federal funding is offered.

Power and Sample Size

This study's use of nearly every school district in the United States permits very precise estimates of the conditional mean effect of the variables of interest (log-distance and log-ratio). The dataset has over 220,000 observations grouped by grade-level and year for 7,721 school districts across the United States. Clustering the standard errors at the school district level (so-called "robust" errors), this study can identify a minimum detectable effect of a change in R^2 of 0.00128. The minimum detectable effect (MDE) size is an approach to assess the design of a research project find any impact of an estimator on a pre-determined outcome (Bloom, 1995). An effect of this size might be traditionally dismissed as trivial but given the paucity of research on the community

effects of service-learning, it is imperative for an estimate with a high level of precision set expectations for the field regarding an effect.

To that end, if this study cannot achieve a statistically significant result, it is reasonable to believe that the number of college students attending the nearest Campus Compact institution or the distance of that institution to the geographic center of the district has no effect on the community's schools (I discuss the validity of these measures below). If the effect is as small as the MDE, it is reasonable to conclude that the effect (whether positive or negative) is so small that communities must weigh the cost of permitting service-learners into their schools against the potentially trivial effects of the efforts of the college students. For this study to measure a meaningfully sized effect, the change in R^2 should be substantially larger than the MDE. To that end, the discussion of effect size will be relative to the MDE.

Fixed Effects Estimation

This study uses the *within transformation* to investigate how changes in the Campus Compact variable influence the district-level test score outcomes. It is useful to consider this equation

$$y_{igt} = x_{igt}\beta + z_{igt}\gamma + p_t + v_g + \alpha_i + u_{igt}, \quad t = 1, 2, \dots, T \text{ and } g = 3 \rightarrow 8$$

In this model, the district i test score y for grade g in year t is a function of:

- the column matrix $x_{igt}\beta$, where x are the college related variables log-distance and log-ratio and β are the relative effects of these variables,
- the column matrix $z_{igt}\gamma$ where z is a set of district specific, time-varying observables and γ are the effects of these variables,

- the period indicator p represents the defunding of the Learn and Serve America Program
- the indicator v for each grade g , represents the fixed effects within the grade level, and
- the unobserved heterogeneity within each district, α_i , which is assumed to be constant across time,
- and a stochastic error term for each district, grade and year, u_{igt} .

Using the within transformation, the data is time-demeaned, eliminating the unobserved heterogeneity, leaving only the observable part of the equation which produces a somewhat conservative causal effect of these observable variables as long as they meet the assumption of strict exogeneity (Wooldridge, 2010). The variation captured in x meets the strict exogeneity assumption of fixed effects and represents the relative effects of distance and ratio based exclusively on the entry and exit of institutions from Campus Compact membership whose variation is conditioned on variables explicitly modeled.

To identify the additive effect of the two compact variables, these variables are added sequentially. A base model controlling only for the fixed effects of grade level and the time-varying district observables will be tested. In the next model I introduce the period indicator, the log-distance and log-ratio variables. The third model will interact the period indicator with the log-ratio and with the log-distance variable. The fourth model combines the first and second model. The final model will combine the first model with the test for the interaction of the indicator for the Learn and Serve America defunding and the log-ratio and log-distance variables.

This study will use a weighted least squares approach to estimation, weighting each observation by the harmonic mean of the total students tested across the grades in the district because it is less sensitive to outliers than the arithmetic mean (Bloom, 2005). The study also adjusts for heteroskedasticity by implementing Eicker-Huber-White (EHW) robust variance-covariance structure. Econometricians (Abadie et al., 2017) have recently argued that analysts should only use clustered standard errors (Liang-Zeger adjustments) in cases where the errors stem from either sampling or experimental design reasons. This study makes use of nationally representative data that does not have either of these constraints. To that end, the robust EHW standard errors are correct inference in the context of this study's design.

Limitations

Despite the wealth of data this study will draw from, it is still constrained by the available information. It is useful to consider the following example: Colton Joint Unified School District near Riverside, CA, has University of California, Riverside assigned as the closest institution for years 2009-2012, but in 2013, UC-Riverside leaves the Campus Compact, and this district's next closest compact institution is Riverside City College, an additional mile away. This study exploits the relatively small changes in the enrollments while UC-Riverside is the closest Campus Compact institution and the larger relative changes when Riverside City College's relationship is measured against the observed outcomes in the district. These relative within effects of size and distance from a Campus Compact institution will produce a conservative estimate of the causal effect of service-learning on the educational outcomes for youth.

This choice of assignment in the example above points out a substantial shortcoming of this study. During the period when UC-Riverside was a member of Campus Compact, Riverside City College was also a compact member. The somewhat arbitrary assignment of UC-Riverside to the values of x during these periods is only a reflection of its distance to the centroid of the geographic polygon representing Colton Joint Unified School District. While it is more likely that a large, public research institution had a more robust partnership with a nearby district than a smaller public two-year institution, the values assigned to that partnership in this study are merely a result of the arbitrary assignment mechanism for this study, and therefore underestimate the total potential number of service-learners proximate any given school district. Had the distances been reversed, Riverside City College would be the institution assigned during all periods, regardless of the effects that the larger institution was having in the district.

While these limitations undermine the internal validity and credibility of these estimates to an extent, I argue that examining this topic advances the discussion about better methods for identifying the effects of service-learning on communities. If using the community partnership as the unit of analysis is the most appropriate strategy as argued by Cruz and Giles (2000), this study offers a potential operationalization for that unit of analysis. For this study, operationalization comes at the cost of making arbitrary decisions about which college to assign the partnership in the analysis until more robust data regarding these partnerships are publicly available. I speculate this bias's estimates towards zero.

Notwithstanding these limitations, this study does examine three theoretically important characteristics to estimate the effect of service-learning on communities. The

theory that proximity matters discussed by Stoecker and Schmidt (2017) is tested in this study. Based on their theory, it is expected that school districts in closer proximity to members of Campus Compact are served differentially from others. In using the fixed effects estimator, only the within-unit variation related to these distances will be detected, directly testing this hypothesis. Similarly, we can only speculate that institution size may matter to school districts, but it stands to reason that smaller districts that are proximate compact members may benefit while large districts will experience less effect regardless of the size of the institution proximate. By using the ratio of college to school district students, I am testing the theory that size matters in these relationships. Finally, demonstrated in the example above, UC-Riverside exits the Campus Compact after 2012, reflecting a pattern of schools leaving Campus Compact in response to the elimination of the federal Learn and Serve America funding. This study will test the post-2012 period to see if it reflects a structural break in the time series associated with differential effects in the communities served by Campus Compact members.

Results

The results of this investigation show that, conditional on distance and the percentage of within-grade district students on free or reduced lunch and controlling for grade level fixed effects, relative increases in the ratio of college to district students variable produced positive outcomes for students during the period before the retrenchment of Learn and Serve America funding. I present these models in Table 5-2 and discuss these models in depth below.

[INSERT Table 5-2 HERE]

The first model tested includes the grade-level fixed effects, the average district student-teacher ratio, percentage of students in the grade on free/reduced lunch, the percentage of African American students in the grade, the percentage of students within the district attending charter schools, and the districts per pupil total expenditure. The percentage of free/reduced lunch in the grade, the percentage of blacks in the grade, and the percentage of students in charter schools are significant and large influences on student test scores in English and Language Arts. These within-grade measures better explain the variation than the fixed effects of grade-levels within the district. The student-teacher ratio and the per-pupil expenditures are not significant and are very small. An indicator of the post-LSA period is significant, suggesting a secular trend of better test scores over time.

The second model retains the grade-level fixed effects but removes the district and grade-level covariates. This model also includes an indicator of the period after the retrenchment of Learn and Serve America, the log-ratio variable and the log-distance variables. The time indicator shows a positive, sizeable relationship to test scores, suggesting that there is a positive trend within districts across time of increasing test scores. Neither the log-ratio nor log-distance variables is significantly different than zero.

The third model interacts the time indicator for the post-LSA period with the log-ratio and log-distance variables. The main effect of the post-LSA indicator increases in size because of this new specification. The main effect of the log-ratio variable is now significant ($\beta=0.007$, $t=2.48$, $p=0.016$). The interaction effect of the log-ratio in the post-LSA period is significant but in the opposite direction ($\beta=-0.008$, $t=-2.86$, $p=0.008$). The

main and interaction effects on the log-distance variable are not significant, however, these variables are in the theoretically predicted direction.

The fourth model combines the first and second models. In this specification, the covariates from model 1 retain their significance and direction. Including the covariates also causes the period indicator to be smaller than in model 2, which means that some of the variation represented in this indicator is picking up within district heterogeneity that is varying over time. Like model 2, the log-ratio and log-distance measures are not significant

The fifth and final model combines the first and third models. Like the third model, the main effects of the period are significant, the main effect of the log-ratio variable is significant, and their interaction is significant and in the theoretically predicted direction. The relative size of the main effects for the log-ratio main effect are similar, but for the period indicator and the interaction effect, the coefficients are smaller. This model also changes the significance of the log-distance variables. The main effect is now significant and in the theoretically predicted direction supporting the hypothesis that closer districts are better served than further districts ($\beta=-0.008$, $t=-2.15$, $p=0.032$). The interaction effect is also significant in the opposite direction ($\beta=0.007$, $t=3.26$, $p=0.008$).

This final model improves the model fit over the first model. The final model performs better in a likelihood ratio chi-square test compared to the first model for the five additional parameters ($\lambda=9681.24$, $p<.0001$). A Wald test for the structural break is significant ($F(3,11612) = 45.92$, $p<.0001$). Cohen's *f-squared*, a standardized effect size measure for comparing nested regression models (Selya, Rose, Dierker, Hedeker, & Mermelstein, 2012), is 0.0014 for the comparison of the first and final models.

Discussion

This paper takes a novel approach to identify an effect of service-learning on communities by exploring three theoretical links: distance, capacity, and federal support. Using the nation's school districts as a unit of analysis permits the examination of potential effects because this unit of analysis is similar to treating community partnerships as unit of analysis (Cruz & Giles, 2000). Previous research discussing community partnerships often point to relationships between universities and their local schools as a major focus of the partnership work (Hodges & Dubb, 2012; Pickeral, 2003). By using membership in Campus Compact to develop proxies for service-learning, this study attempts to examine the impact of higher education community engagement that is identified as a major gap in that literature (Stoecker et al., 2010).

In the absence of information about individual partnerships, this study uses an algorithmic approach to assigning school districts to colleges and universities to explore the relationships with the measured outcomes within those school districts. This approach faces threats to internal validity that cannot easily be reconciled: some school districts may not be served by any local college or university; the arbitrary assignment mechanism of this study may confound how the causal mechanism operates; and while some schools within districts are the focus of major efforts of university partnerships, others may not be served at all. As other advancements in the field of service-learning emerge, such as the National Inventory of Institutional Infrastructure for Community Engagement (Welch & Saltmarsh, 2013), measurement of the structures that are desirable for institutionalization of service-learning in higher education may improve future investigation of the impacts of service-learning with better and more direct measures of service-learning partnerships

with the community. Future research should continue to seek opportunities to measure the effectiveness of service-learning using large, national datasets and this study represents an advance in that direction.

Colleges and universities are distributed across the country in a way that maximizes their ability to educate adults. In research on the returns to education, Card (1993) used the almost random variation in where individuals live relative to institutions of higher education as an instrumental variable to estimate the benefit (in increased wages) to attending higher education. This study uses that same randomness in the geographic variation to examine whether school districts that are proximate to members of Campus Compact experience better outcomes. The assignment mechanism of school districts to members of the compact matches the district based on the closest member in any given year. While this mechanism may seem arbitrary, it essentially randomly assigns school districts to universities to examine if there may be an effect associated with distance or capacity.

Previous scholars have argued that service-learning has a bias towards communities that are proximate to the campus (Stoecker & Schmidt, 2017). This study does not find that this potential bias is systematically influencing the outcomes of school districts. This study finds a relationship that can confirm the hypothesis advanced by Stoecker and Schmidt, it is worth noting that the results were in a theoretically predicted direction: as the relative distance from the university increased, the effect of that relationship is negative, suggesting that the effects are higher for closer districts than those further away. The practical effect of this change is minor, and only detectable when the interaction effect is tested. Future investigations may consider alternative ways to

measure the distances or attempt alternative methods such as geographically-weighted regression to examine how distance is related to the effects on communities (Fotheringham, Brunsdon, & Charlton, 2003).

The second theory under investigation is the campus' capacity to serve its community. This study approximates the capacity of the university to serve its community using the ratio of first-time, full-time undergraduate college students to district students. This approach is similar to how hospitals determine their capacity to serve the public with physician: patient ratios (Ricketts et al., 2007). This study finds that places with more college students per district students perform better. The practical effect of relative increases of college students in these places are extremely small, only slightly larger than the minimum detectable effect. However, this effect may represent the lower bound of the effect because, as pointed out earlier, some school districts may have schools that are not served by the local colleges and universities. A recent randomized control trial of an AmeriCorps program in Minnesota found substantial gains resulting from volunteer-led interventions (Markovitz, Hernandez, Hedberg, & Silberglitt, 2015), but the program evaluation assigns participants to interventions. Future investigations should develop better, direct measures of the relationships and focus on particular partnerships to demonstrate a larger effect.

This study also explores the policy change that resulted from the retrenchment of funding for the Learn and Serve America program. The findings of this study support the theory that regardless of the local capacity of institutions to serve their proximate school districts, in the period following the retrenchment of funding, this capacity is affected by the policy change consistent with other discussions of the post-Learn and Serve America

landscape in education (Ryan, 2012). I demonstrate that the direction of the coefficient on the capacity variable changes in direction and that this period represents a structural break in the time series. The shifts in the intercept for the post-funding time period indicate that the secular trend in the performance of school districts are improving over time consistent with other research on K-12 outcomes (Bryk, Gomez, Grunow, & LeMahieu, 2015). These changes suggest that while schools were improving over time, these changes were independent of the support they may have received from institutions of higher education. At the same time, the potential for colleges and universities to contribute to better outcomes was influenced by the policy change.

An implication for this research is that Learn and Serve America funding for higher education did contribute in small ways to better outcomes for youth, in addition to the outcomes that have been documented for the college students that participate in the practice (Celio et al., 2011; Gray et al., 1999). Policy makers should reconsider making public support available for higher education service-learning and require designated ways to measure direct impacts of engagement from colleges and universities on school-age youth.

Tables

Table 5-1 *Variation within and between school districts on the variables of interest.*

Variable	Variation	Mean	SD	Min	Max	N
First-Time Full-Time Undergrads per 100 district students	Overall	117.814	207.074	0.009	5037.5	223,041
	Between		268.267	0.037	4553.495	7,721
	Within		57.132	-1897.615	3115.022	28,888
Log-Ratio	Overall	3.843	1.475	-4.718	8.525	223,041
	Between		1.490	-3.469	8.418	7,721
	Within		0.346	-0.467	7.574	28,888
Distance from district centroid to nearest compact institution in miles	Overall	16.071	14.044	0.058	235.454	223,041
	Between		15.007	0.097	178.557	7,721
	Within		2.056	-41.904	73.920	28,888
Log-Distance	Overall	2.387	0.973	-2.851	5.462	223,041
	Between		0.966	-2.336	5.185	7,721
	Within		0.170	-1.311	5.014	28,888

Note: Overall *N* includes observations available for district across years and grades.

Between *n* indicates the count of districts. Within *n* the average number of observations per district across years and grades.

Table 5-2 *Fixed effects regressions: Cohort-scale English/Language Arts scores*

	(1) Base conditional	(2) Not conditional	(3) Not cond. Interaction	(4) Conditional	(5) Conditional Interaction
afterLSA=1	0.0478*** (16.86)	0.0591*** (16.77)	0.0667*** (6.71)	0.0482*** (16.81)	0.0471*** (4.98)
Pupil- teacher ratio	0.000280 (1.01)			0.000284 (1.02)	0.000278 (1.02)
Percent free lunch in the grade	0.0664** (2.93)			0.0665** (2.95)	0.0645** (2.85)
Percent blacks in the grade	-0.962*** (-10.73)			-0.964*** (-10.77)	-0.955*** (-12.96)
Percentage of 3-8 Students in Charters (all)	0.179* (2.54)			0.183** (2.58)	0.153* (2.55)
Per Pupil Total Expenditures	0.0000003 (0.32)			0.0000003 (0.31)	0.0000005 (0.62)
Log-Ratio		0.00243 (0.74)	0.00680* (2.05)	0.00368 (1.56)	0.00712* (2.53)
Log- Distance		-0.00472 (-1.11)	-0.00726 (-1.88)	-0.00453 (-1.12)	-0.00823* (-2.15)
afterLSA=1 # Log-Ratio			-0.00773** (-2.76)		-0.00576* (-2.13)
afterLSA=1 # Log- Distance			0.00385 (1.82)		0.00662** (3.26)
Constant	0.166*** (10.32)	0.0460*** (4.00)	0.0379*** (3.85)	0.168*** (9.17)	0.166*** (9.81)
District Fixed effects?	Yes	Yes	Yes	Yes	Yes
Grade Fixed effects?	Yes	Yes	Yes	Yes	Yes
N	223041	223041	229167	223041	223041
N clusters	7721	7721	7765	7721	7721
Adjusted R ²	0.174	0.157	0.159	0.174	0.176
F	208.5	238.6	317.0	178.9	246.5

Notes: t statistics in parentheses, standard errors clustered at district-level, regressions weighted by harmonic mean of students per grade within district.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Cohort scale based on 2009 4th grade students scores benchmarked against National Assessment of Educational Progress data. Scores range from approximately -1 to 1 with a mean of zero.

Chapter 6 CONCLUSION

The practice of service-learning continues to be implemented by institutions of higher education across the United States. The Campus Compact celebrated its 30th year anniversary in 2016, signaling that the movement it started in 1986 continues to serve communities. This dissertation affirms claims that institutional commitments of Campus Compact's members to their communities had a net positive effect. This chapter summarizes those findings and discusses the theoretical contributions that this dissertation makes to our understanding of the community effects of engaged higher education. I also discuss the limitations of this work considering the availability of data to study engagement of higher education institutions with publicly available data. I will also present the directions of future research to address these limitations and make recommendations for policy related to support for service-learning and community engagement for higher education.

Summary of Findings

This dissertation presents three studies of higher education community engagement. I find relationships with three outcomes: social mobility, social capital, and educational test scores. Considering the literature regarding the first outcome and its theoretical relationship to the second and third, the findings of this dissertation make a credible contribution to our understanding of the community impacts of higher education community engagement.

Social Mobility

The current literature on social mobility suggests two things: 1) places influence the mobility outcomes of children; 2) better places share characteristics that have positive

influences on social mobility. In the first study of this dissertation, I find that one such characteristic that better places share is a greater density of institutional members of the Campus Compact, or the number of this subset of colleges per capita in commuting zones. I find that it has a small effect that is not due to the sorting of individuals into better and worse places, explaining roughly 2% of the variance in social mobility. This effect is not shared in places with other institutions of higher education and was robust to alternative ways to categorizing institutions of higher education. The pairwise correlations of this characteristic with others suggested a moderate relationship with other theoretical antecedents of social mobility, including higher levels of social capital and better test scores.

This finding is a modest improvement over the previous findings for higher education presented in studies by Chetty and Hendren (Chetty & Hendren, 2018; Chetty et al., 2014), which I replicated and extended. I attribute this effect to the “anchor institution” qualities that members of the Campus Compact may have for their communities. Anchor institutions play important roles in their regional economies (Harris & Holley, 2016). But beyond their economic role, anchor institutions have important roles to play in fostering public service and meeting community needs beyond economic development (Birch et al., 2013; Hodges & Dubb, 2012; Maurrasse, 2001; Yamamura & Koth, 2018). Previous observers have pointed to commitments to service-learning as a practical vehicle for these roles to be enacted by anchor institutions (Benson et al., 2007; Harkavy & Puckett, 1994; Kronick & Cunningham, 2013). As noted by the Campus Compact president, Andrew Seligsohn, in recent remarks to the Coalition of Urban and

Metropolitan Universities, “the anchor mission and the civic mission are essentially the same.”

Social Capital

The second study of this dissertation examined the effects of a public policy that promoted service-learning in higher education on community-level social capital. As observed in the first study of this dissertation and in the literature on neighborhood effects, social capital is an important mediator of positive community outcomes, including social mobility.

Study 2 uses fixed effects estimation to provide unbiased estimates of the effect of service-learning on community social capital. It exploits a structural break in the time series when federal funding for service-learning was retrenched, providing an opportunity to examine the patterns both during the funding regime and after. I find that in the period when Learn and Serve America Higher Education (LSAHE) was available, communities with a greater density of members of Campus Compact contributed positively to their community’s social capital stocks. This effect is moderated in the period after retrenchment, with an overall average swing equivalent to 80% of one standard deviation within communities. The fully interacted model testing both the variables of interest and covariates improves over a model with only the covariates by an increase of 11% more total variation explained using Cohen’s f^2 statistic, which is a moderate improvement (Cohen, 1988; Selya et al., 2012).

By demonstrating the theoretical link between social capital, civic engagement, and service-learning, my second study provides a credible estimate of the effects of service-learning to promote civic engagement in communities. Drawing on policy

feedback theory from the field of political science, I am confident that the observed effects may be a result of the federal support for the practice of service-learning. Policy feedback theory suggests that policies have implications for mass politics and the engagement of individuals in the polity (Mettler, 2002, 2005; Mettler & Soss, 2004). Institutions in the Campus Compact made substantive commitments to promoting civic agency among their students and in their communities (Cone et al., 2006; Zlotkowski, Longo, & Williams, 2006). Furthermore, contemporaneous accounts of the role of federal funding and accounts by historians of the civic engagement movement point to the period of funding from Learn and Serve America as important to the growth of the movement (Hartley, 2011; Hartley & Saltmarsh, 2016; Heffernan, 2001; Hollander & Hartley, 2000; Morton & Troppe, 1996).

The current literature on higher education service-learning has not yet addressed the period after the retrenchment (Ryan, 2012). As discussed in my second study, policy feedback may also explain why the policy was terminated. The power of groups to preserve policies that benefit them has often been a focus of policy feedback literature, while policies where benefits are diffuse or poorly understood are targets of elimination (Mettler & SoRelle, 2014). Mettler (2014) also has demonstrated that, as an interest group, college students tend to be very weak. The second study of this dissertation shows that while the effects were sizable considering the variation within communities, their overall size was relatively small, suggesting they were diffuse. Furthermore, if institutions of higher education could have played a role in preserving the LSAHE policy, the original policy design prohibited grantees from partisan political acts, possibly

limiting their desire to lobby for the policy and find themselves in violation of the law (Hartley, 2011; Taliaferro & Ruggiano, 2013).

Educational Outcomes

The third study of this dissertation has certain fundamental differences from the previous two studies, while continuing to examine the effects of institutional members of Campus Compact on their communities. The third study focuses on the effects of these institutions on their local school districts. To that end, instead of using the broader commuting zone as a unit of analysis, the third study employed the school district as the unit of analysis, a close approximation to using the community partnership as the unit of analysis (Cruz & Giles, 2000). In addition to using a lower level of aggregation for analyses, the study's unit of observation was even lower: each observation was a district-grade-year unit that was observed for six grade levels (3rd through 8th grade) across six years (2009-2014). This period overlapped the structural break discussed above, so it was also possible to test the retrenchment regime against the funded regime, replicating the theory tested in my second study.

The findings of the third study were extremely small, which was expected. The use of the large dataset provided the statistical power to detect what might otherwise be dismissed as a trivial effect, but as argued in that study, this detected effect may both represent the lower bound of the effect and is still relevant given the paucity of community outcomes research in the literature on service-learning and community engagement. I speculate the effect is biased towards zero because my identification strategy uses all districts within a reasonable commuting distance from a Campus Compact member to identify the effect. As I discuss in the study, this would include some

districts not directly served by the university, or include districts served but whose partnerships with universities may include only a subset of the schools in each district.

The first of three theories investigated in the third study is propinquity. The results demonstrate that during the LSAHE funding regime, the effect of distance was negative, the theoretically predicted direction. As the relative distance from the school district to the nearest Campus Compact member increased, their test scores decreased. This finding provides support for the thesis that communities in closer proximity to an engaged institution of higher education are better served by these institutions. This finding aligns with an argument advanced by Stoecker and Schmidt (2017) regarding geographic disparities in access to higher education service-learning. They state, “to the extent that good service learning is based on strong relationships, the further the distance, the greater the effort needed” (p.35). My finding provides further evidence that the efforts seem to be related to distance. Other recent work discusses anchor institution strategies promoting university-assisted community schools and place-based engagement provide additional support for the idea that impacts on proximate communities are more attainable and sustainable approach (Hodges & Dubb, 2012; Yamamura & Koth, 2018).

The second theory examined in the third study is regarding capacity. Testing the relative ratio of college students attending the nearest Campus Compact institution to the school district’s total student population is posed as a kind of server: served ratio, similar to a physician: patient ratio (Ricketts et al., 2007). This variable has a positive relationship: increases in the number of university students relative to district students produced a net positive effect on test scores within districts. This finding marks an important advance in our understanding of how universities may influence their

communities. In the last section of this chapter, I will discuss directions for future research in this area.

Finally, replicating the findings of the second study, I find that the LSAHE retrenchment regime moderates the effects of both distance and capacity to support school district test scores. This finding has policy relevance for how we understand the positive effects of service-learning and the federal policies that supported it.

Limitations

As discussed above, the limitations posed by availability of public data present a major barrier to the studies in this dissertation. The decision to operationalize service-learning and civic engagement using the number of institutions per capita, or even the ratio of college students to district students, seriously limits my ability to make recommendations for the practice of service-learning and civic engagement. These operationalizations fail to explain why the effect is present, they only give us confidence of the presence of some effect. While two of the three studies demonstrate a relevant policy finding, it is essential that future research develop better resources to measure and describe the mechanisms producing the effects measured in this study.

Policy Implications

This dissertation provides evidence that higher education service-learning and community engagement—represented in these studies by variables derived from the membership in the Campus Compact—is an effective strategy for promoting community outcomes in social mobility, social capital, and educational outcomes. Beyond that, these studies also test how public policy may have been a facilitator of those outcomes.

The Learn and Serve America Higher Education (LSAHE) policy provided support for service-learning and community engagement from 1994 to 2012 (Ryan, 2012). In preparation for this research, I issued a Freedom of Information Act request of the Corporation for National and Community Service to be provided records of the LSAHE grants. In their reply to my request were records of 703 total grants to 164 grantees for a total of over \$178 million. On average, the federal government allocated roughly \$10 million per year to support the practice of service-learning and community engagement. This funding was a vital part of expanding the engagement practice at colleges and universities. The funding also provided researchers with the ability to conduct some of the most important research on student outcomes from participation (Astin & Sax, 1998; Eyler & Giles, 1999; Eyler et al., 2001).

Unfortunately, during the period when the policy was funded, insufficient attention was given to the potential effects that the policy had on community outcomes. When the policy was defunded in 2012, the field was largely unable to point to evidence that the policy made an impact. This dissertation provides evidence that the policy was impactful, and while the effects were small, the funding allocated was minor compared to size of the federal budget. The primary policy recommendation from this dissertation is to refund the LSAHE program.

If federal service-learning policy is refunded, the funding agencies should make requirements regarding the reporting of activities a mandatory part of the funding process. This reporting accountability can facilitate future investigation of the policy's effects, and I discuss recommendations for this kind of accountability below.

Recommendations for Future Research

This dissertation contributes to a topic within the field of service-learning and community engagement research that was identified as a major gap in the literature in 2000, again in 2010, and yet again in 2017 (Bloomgarden, 2017; Cruz & Giles, 2000; Stoecker et al., 2010). Despite these calls for more research using engaged methods to examine community outcomes, the field continues to lack attention to this area. This dissertation cannot be construed to be engaged research by any stretch, but it does contribute to the line of inquiry focused on community outcomes. This section aims to propose areas for engaged research to investigate guided by the findings of this work and makes recommendations regarding the need for public data to be made available to further examine the claims I make in this dissertation with improved information that can have more implications for practice.

Small-N Research

This dissertation explored higher education service-learning and community engagement in every community in the United States with three large-N, quantitative studies. The findings show, on average, the institutional members of Campus Compact have positive impacts on their communities. While these findings are an important contribution to our understanding of community outcomes, they are wanting of more detail and more nuance.

Case studies and other qualitative research designs are used in naturalistic settings to explore and interpret experiences, cultures, practices, and aim for rich description of the world (Lincoln & Guba, 1985; Merriam & Tisdell, 2009; Strauss & Corbin, 1990). These approaches are common in educational research and research on service-learning

(Jones & Foste, 2016). Beyond qualitative research, others have made calls for action research, community-based participatory research, and other methods aimed at empowering the communities involved in service-learning and research on that practice to better realize the outcomes that are associated with service-learning (Bloomgarden, 2017; Cruz & Giles, 2000; Stoecker et al., 2010). I acknowledge their critiques of the philosophical paradigm guiding my approach to this research, but I see my approach as complementing their calls for engaged research to tackle this problem. I believe that this dissertation research can contribute to those methods and approaches to knowledge creation.

This research systematically investigated community outcomes using publicly available data. I intend to make these findings publicly accessible to our field to guide the selection of case studies for small-N research. Case selection in studies of university-community engagement focused on partnerships led by “nationally recognized” institutions (Hodges & Dubb, 2012, p. xx), institutions that “reached a level of success and maturation” (Yamamura & Koth, 2018, p. 30), or institutions that “had expressed civic commitments” (Orphan, Romero, & Diaz-Solodukhin, 2018, p. 7). While these are acceptable choices for case selection, they are threatened by selection on the dependent variable. I recommend future research use the findings from these dissertation studies to guide site selection, and I will publish the residuals of my research studies as online appendices to help facilitate selection that might enable researchers to identify cases whose values on my independent variables were negative, average, or above average. This approach can complement the case selection decisions that researcher make in designing future research. It may be a fruitful line of inquiry to intentionally investigate

the ratio of college students to school district students to better understand if smaller districts benefit more from universities or if larger universities are reliably producing larger effects.

Future research should continue to investigate the mechanisms that produce the outcomes reported in these studies. While it is certainly plausible that some of the effects I measure in these studies can be explained by the density of institutions that commit to service-learning and civic engagement, it is much more likely that the commitments and practices of the individuals within those institutions are leading to the outcomes. These effects may spillover as civically engaged students become adult citizens in their home communities. I approximate those activities with my variable operationalizations, but future research should disentangle what practices within those communities might be transferable across contexts and provide more description of how these activities lead to the findings presented in this dissertation.

More Public Data

In addition to providing my results and findings for other researchers, I believe that more publicly accessible data is necessary to facilitate more and better investigations of community outcomes. As demonstrated in these studies, community-level measurements are becoming increasingly available. However, the publicly available information about community engaged practices is lacking. In these studies, I have discussed various emerging sources for information about university practices such as the National Inventory of Institutional Infrastructure for Community Engagement and the Carnegie Elective Classification for Community Engagement. Future research would

benefit from increased participation in these data collection initiatives and from these sources being encoded and released for research purposes.

The federal government also has mechanisms through which it collects information about student enrollments, tuitions, graduations, and other areas. These information are compiled by institutional researchers on college campuses as part of compliance with their mandatory reporting under laws such as the Student Right to Know and Campus Security Act of 1990 (National Center for Educational Statistics, 2018). The community engagement field would further benefit from identifying specific practices that are representative of community engagement that can be tracked by universities and reported as part of this compliance process (H. A. Weiss & Norris, 2019).

One such practice may include reporting on partnerships with school districts, including which schools are partners. School districts also report to the federal government as part of the Common Core of Data (National Center for Educational Statistics, n.d.). As I discuss above and in the third study, a major limitation to my data was that universities were arbitrarily assigned to school districts. While many formal organizations and voluntary organizations serve as partners with universities to engage in schools, it may be possible to collect this information in a systematic way as well. A federal reporting mandate that requires both universities and school districts to name their partners would go a long way towards building a data infrastructure to intentionally investigate questions like those posed in my dissertation.

BIBLIOGRAPHY

- Abadie, A., Athey, S., Imbens, G., & Wooldridge, J. (2017). *When Should You Adjust Standard Errors for Clustering?* (No. w24003). <https://doi.org/10.3386/w24003>
- Abel, J. R., & Deitz, R. (2011). The Role of Colleges and Universities in Building Local Human Capital. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1952100>
- Agrawal, A., Kapur, D., & McHale, J. (2008). How do spatial and social proximity influence knowledge flows? Evidence from patent data. *Journal of Urban Economics*, 64(2), 258–269. <https://doi.org/10.1016/j.jue.2008.01.003>
- Alesina, A., & La Ferrara, E. (2000). Participation in heterogeneous communities. *The Quarterly Journal of Economics*, 115(3), 847–904.
- Allison, P. D. (2009). *Fixed Effects Regression Models*. Thousand Oaks, CA: SAGE Publications.
- Angrist, J. D., & Pischke, J.-S. (2008). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.
- Arcidiacono, P., Bayer, P., & Hizmo, A. (2010). Beyond Signaling and Human Capital: Education and the Revelation of Ability. *American Economic Journal: Applied Economics*, 2(4), 76–104. <https://doi.org/10.1257/app.2.4.76>
- Astin, A. W., & Sax, L. J. (1998). How Undergraduates Are Affected by Service Participation. *Journal of College Student Development*, 39(3), 251–263.
- Baptista, R., & Mendonça, J. (2010). Proximity to knowledge sources and the location of knowledge-based start-ups. *The Annals of Regional Science*, 45(1), 5–29. <https://doi.org/10.1007/s00168-009-0289-4>
- Bardach, E. (1976). Policy Termination as a Political Process. *Policy Sciences*, 7(2), 123–131.
- Battistoni, R. M. (1997). Service Learning and Democratic Citizenship. *Theory into Practice*, 36(3), 150–156.
- Baum-Snow, N., & Ferreira, F. (2015). Causal Inference in Urban and Regional Economics. In G. Duranton, J. V. Henderson, & W. C. Strange (Eds.), *Handbook of Regional and Urban Economics* (pp. 3–68). <https://doi.org/10.1016/B978-0-444-59517-1.00001-5>
- Becker, G. S. (1964). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*. New York: Columbia University Press.

- Becker, G. S., & Tomes, N. (1979). An Equilibrium Theory of the Distribution of Income and Intergenerational Mobility. *Journal of Political Economy*, 87(6), 1153–1189. <https://doi.org/10.1086/260831>
- Benson, L., & Harkavy, I. (2000). Integrating the American System of Higher, Secondary, and Primary Education to Develop Civic Responsibility. In T. Ehrlich (Ed.), *Civic Responsibility and Higher Education* (pp. 174–196). Phoenix, AZ: Oryx Press.
- Benson, L., Harkavy, I. R., & Puckett, J. L. (2007). *Dewey's Dream: Universities and Democracies in an Age of Education Reform : Civil Society, Public Schools, and Democratic Citizenship*. Temple University Press.
- Birch, E., Perry, D. C., & Taylor, H. L. (2013). Universities as Anchor Institutions. *Journal of Higher Education Outreach and Engagement*, 17(3), 7–17.
- Black, S. E., & Devereux, P. J. (2010). *Recent Developments in Intergenerational Mobility* (Working Paper No. 15889). <https://doi.org/10.3386/w15889>
- Bloom, H. S. (1995). Minimum Detectable Effects: A Simple Way to Report the Statistical Power of Experimental Designs. *Evaluation Review*, 19(5), 547–556. <https://doi.org/10.1177/0193841X9501900504>
- Bloom, H. S. (2005). *Learning More from Social Experiments: Evolving Analytic Approaches*. New York: Russell Sage Foundation.
- Bloomgarden, A. H. (2017). Out of the Armchair: About Community Impact. *The International Journal of Research on Service-Learning and Community Engagement*, 5(1).
- Bourdieu, P. (1986). The Forms of Capital. In *Handbook of Theory and Research for the Sociology of Education* (pp. 241–258). Westport, CT: Greenwood Publishing Group.
- Brooks-Gunn, J., Duncan, G. J., Klebanov, P. K., & Sealand, N. (1993). Do Neighborhoods Influence Child and Adolescent Development? *American Journal of Sociology*, 99(2), 353–395. <https://doi.org/10.1086/230268>
- Brown University. (2018). Completing the NI³CE. Retrieved June 20, 2018, from <https://www.brown.edu/swearer/ni%C2%B3ce/complete-ni%C2%B3ce-now>
- Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). *Learning to Improve: How America's Schools Can Get Better at Getting Better*. Cambridge, MA: Harvard Education Press.
- Burt, R. S. (1992). *Structural Holes: The Social Structure of Competition* (SSRN Scholarly Paper No. ID 1496205). Retrieved from Social Science Research Network website: <https://papers.ssrn.com/abstract=1496205>

- Burt, R. S. (1995). *Structural Holes*. Cambridge, MA: Harvard University Press.
- Burt, R. S. (2000). The Network Structure Of Social Capital. *Research in Organizational Behavior*, 22, 345–423. [https://doi.org/10.1016/S0191-3085\(00\)22009-1](https://doi.org/10.1016/S0191-3085(00)22009-1)
- Campbell, A. L. (2002). Self-Interest, Social Security, and the Distinctive Participation Patterns of Senior Citizens. *American Political Science Review*, 96(3), 565–574. <https://doi.org/10.1017/S0003055402000333>
- Campbell, A. L. (2012). Policy Makes Mass Politics. *Annual Review of Political Science*, 15(1), 333–351. <https://doi.org/10.1146/annurev-polisci-012610-135202>
- Campbell, D. E. (2000). Social Capital and Service Learning. *PS: Political Science and Politics*, 33(3), 641–645. <https://doi.org/10.2307/420872>
- Campus Compact. (2005). 2005 Annual Membership Survey. Retrieved June 25, 2018, from Campus Compact website: <https://compact.org/resource-posts/2005-annual-membership-survey/>
- Campus Compact. (2011). *2010 Annual Membership Survey Results: Executive Summary*. Boston: Campus Compact.
- Campus Compact. (2014). 2014 Member Survey Executive Summary. Retrieved June 25, 2018, from Campus Compact website: <https://compact.org/resource-posts/2014-member-survey-executive-summary/>
- Card, D. (1993). *Using Geographic Variation in College Proximity to Estimate the Return to Schooling* (Working Paper No. 4483). <https://doi.org/10.3386/w4483>
- Carnegie Foundation for the Advancement of Teaching. (2001). *A Classification of Institutions of High Education: 2000 Edition*. New York: Carnegie Foundation for the.
- Celio, C. I., Durlak, J., & Dymnicki, A. (2011). A Meta-Analysis of the Impact of Service-Learning on Students. *Journal of Experiential Education*, 34(2), 164–181. <https://doi.org/10.1177/105382591103400205>
- Chetty, R., Friedman, J. N., Saez, E., Turner, N., & Yagan, D. (2017). *Mobility Report Cards: The Role of Colleges in Intergenerational Mobility* (Working Paper No. 23618). <https://doi.org/10.3386/w23618>
- Chetty, R., & Hendren, N. (2018). The Impacts of Neighborhoods on Intergenerational Mobility II: County-Level Estimates. *Quarterly Journal of Economics*. <https://doi.org/10.1093/qje/qjy006>
- Chetty, R., Hendren, N., Jones, M. R., & Porter, S. R. (2018). *Race and Economic Opportunity in the United States: An Intergenerational Perspective* (Working Paper No. 24441). <https://doi.org/10.3386/w24441>

- Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014). Where is the land of Opportunity? The Geography of Intergenerational Mobility in the United States. *The Quarterly Journal of Economics*, 129(4), 1553–1623. <https://doi.org/10.1093/qje/qju022>
- Clarke, M. (2003). Finding the Community in Service-Learning Research: The 3-'I' Model. In S. H. Billig & J. Eyler (Eds.), *Deconstructing Service-Learning: Research Exploring Context, Participation, and Impacts. Advances in Service-Learning Research*. Greenwich, CT: Information Age Publishing Inc.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, N.J.: L. Erlbaum Associates.
- Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology*, 94, 95–120.
- Cone, R. E., Kiesa, A., & Longo, N. V. (2006). *Raise your voice: A student guide to making positive social change*. Providence, RI: Campus Compact.
- Corporation for National and Community Service. (1996). *Learn and Serve America. Higher Education Program Descriptions, 1996*. Retrieved from <https://eric.ed.gov/?q=learn+%26+serve+america+higher+education&id=ED403861>
- Cruz, N. L., & Giles, D. E. (2000). Where's the Community in Service-Learning Research? *Michigan Journal of Community Service Learning*.
- D'Agostino, M. J. (2010). Measuring Social Capital as an Outcome of Service Learning. *Innovative Higher Education*, 35(5), 313–328. <https://doi.org/10.1007/s10755-010-9149-5>
- Daniels, M. R. (2015). *Terminating Public Programs: An American Political Paradox: An American Political Paradox*. London: Routledge.
- DeFilippis, J. (2001). The myth of social capital in community development. *Housing Policy Debate*, 12(4), 781–806. <https://doi.org/10.1080/10511482.2001.9521429>
- DeFilippis, J. (2004). *Unmaking Goliath: Community Control in the Face of Global Capital*. London: Routledge.
- Dostilio, L. D., Harrison, B., Brackmann, S. M., Kliwer, B. W., Edwards, K. E., & Clayton, P. H. (2012). Reciprocity: Saying what we mean and meaning what we say. *Michigan Journal of Community Service Learning*, 19(1), 17–33.
- Dreier, P., Mollenkopf, J. H., & Swanstrom, T. (2004). *Place Matters: Metropolitcs for the Twenty-first Century*. Lawrence, KS: University Press of Kansas.

- Driscoll, A. (2008). Carnegie's Community-Engagement Classification: Intentions and Insights. *Change: The Magazine of Higher Learning*, 40(1), 38–41.
<https://doi.org/10.3200/CHNG.40.1.38-41>
- Ehrlich, T. (2000). *Civic Responsibility and Higher Education*. Phoenix, AZ: Oryx Press.
- Eikenberry, A. M., & Kluver, J. D. (2004). The Marketization of the Nonprofit Sector: Civil Society at Risk? *Public Administration Review*, 64(2), 132–140.
<https://doi.org/10.1111/j.1540-6210.2004.00355.x>
- Eyler, J., & Giles, D. E. (1999). *Where's the Learning in Service-Learning?* San Francisco, CA: Jossey-Bass, Inc.
- Eyler, J., Giles, D. E., Stenson, C., & Gray, C. (2001). *At A Glance: What We Know about The Effects of Service-Learning on College Students, Faculty, Institutions and Communities, 1993- 2000: Third Edition* [Annotated Bibliography]. Retrieved from Vanderbilt University website:
<https://digitalcommons.unomaha.edu/slcehighered/139>
- Fahle, E., Shear, B., Kalogrides, D., Reardon, S. F., DiSalvo, R., & Ho, A. D. (2017). *Stanford Education Data Archive: Technical Documentation* [Technical Documentation]. Stanford, CA: Stanford University.
- Ferman, B. (2006). Leveraging Social Capital: The University as Educator and Broker. In R. Dilworth (Ed.), *Social Capital in the City: Community and Civic Life in Philadelphia* (pp. 81–100). Philadelphia, PA: Temple University Press.
- Ferrari, J. R., & Worrall, L. (2000). Assessments by Community Agencies: How “the Other Side” Sees Service-Learning. *Michigan Journal of Community Service Learning*, 7, 35–40.
- Fotheringham, A. S., Brunsdon, C., & Charlton, M. (2003). *Geographically Weighted Regression: The Analysis of Spatially Varying Relationships*. San Francisco, CA: John Wiley & Sons.
- Friedrichs, J. (1998). Do poor neighborhoods make their residents poorer? Context effects of poverty neighborhoods on their residents. In H.-J. Andress (Ed.), *Empirical poverty research in a comparative perspective* (pp. 77–99). Farnham, UK: Ashgate.
- Gazley, B., Littlepage, L., & Bennett, T. A. (2012). What About the Host Agency? Nonprofit Perspectives on Community-Based Student Learning and Volunteering. *Nonprofit and Voluntary Sector Quarterly*, 41(6), 1029–1050.
<https://doi.org/10.1177/0899764012438698>
- Gelmon, S. B., Holland, B. A., Seifer, S. D., Shinnamon, A., & Connors, K. (1998). Community-University Partnerships for Mutual Learning. *Michigan Journal of Community Service Learning*, 5, 97–107.

- Giles, D. E., & Eyler, J. (1994). The Theoretical Roots of Service-Learning in John Dewey: Toward a Theory of Service-Learning. *Michigan Journal of Community Service Learning*, 1(1), 77–85.
- Giles, D. E., Sandmann, L., & Saltmarsh, J. (2010). Engagement and the Carnegie classification system. In H. E. Fitzgerald, C. Burack, & S. D. Seifer (Eds.), *Handbook of engaged scholarship: Contemporary landscapes, future directions* (Vol. 2, pp. 161–176). East Lansing: Michigan State University Press.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360–1380.
- Gray, M. J., Ondaatje, E. H., Fricker, R. D., Geschwind, S. A., Goldman, C. A., Kaganoff, T., ... Klein, S. P. (1999). *Combining Service and Learning in Higher Education* [Evaluation Report]. Santa Monica, CA: RAND.
- Gray, M. J., Ondaatje, E. H., Jr, R. D. F., & Geschwind, S. A. (2000). Assessing Service-Learning: Results From a Survey of “Learn and Serve America, Higher Education.” *Change: The Magazine of Higher Learning*, 32(2), 30–39. <https://doi.org/10.1080/00091380009601721>
- Grootaert, C., Narayan, D., Woolcock, M., & Nyhan-Jones, V. (2004). *Measuring social capital : an integrated questionnaire* (Working Paper No. 28110; pp. 1–61). Retrieved from The World Bank website: <http://documents.worldbank.org/curated/en/515261468740392133/Measuring-social-capital-an-integrated-questionnaire>
- Gujarati, D. N., & Porter, D. (2009). *Basic Econometrics*. (5th ed.). Boston: McGraw-Hill Irwin.
- Hanushek, E. A. (1999). Some findings from an independent investigation of the Tennessee STAR experiment and from other investigations of class size effects. *Educational Evaluation and Policy Analysis*, 21(2), 143–163.
- Harkavy, I., & Puckett, J. L. (1994). Lessons from Hull House for the Contemporary Urban University. *Social Service Review*, 68(3), 299–321. <https://doi.org/10.1086/604061>
- Harris, M., & Holley, K. (2016). Universities as anchor institutions: Economic and social potential for urban development. In M. B. Paulsen (Ed.), *Higher education: Handbook of theory and research* (Vol. 31, pp. 393–439). New York: Springer.
- Hart, D., Donnelly, T. M., Youniss, J., & Atkins, R. (2007). High School Community Service as a Predictor of Adult Voting and Volunteering. *American Educational Research Journal*, 44(1), 197–219.
- Hartley, M. (2011). Idealism and Compromise and the Civic Engagement Movement. In J. Saltmarsh & M. Hartley (Eds.), *“To Serve A Larger Purpose”: Engagement for*

- Democracy and the Transformation of Higher Education* (pp. 27–48). Philadelphia, PA: Temple University Press.
- Hartley, M., & Saltmarsh, J. (2016). A brief history of a movement: Civic engagement and American higher education. In M. A. Post, E. Ward, N. V. Longo, & J. Saltmarsh (Eds.), *Publicly Engaged Scholars: Next-Generation Engagement and the Future of Higher Education*. Sterling, VA: Stylus Publishing.
- Heffernan, K. (2001). Campus Compact: Developing Partnerships for Community Service. *Community & Junior College Libraries*, 10(2), 55–59.
- Hillman, N. W. (2016). Geography of College Opportunity: The Case of Education Deserts. *American Educational Research Journal*, 53(4), 987–1021. <https://doi.org/10.3102/0002831216653204>
- Hipp, J. R., & Perrin, A. J. (2009). The simultaneous effect of social distance and physical distance on the formation of neighborhood ties. *City & Community*, 8(1), 5–25.
- Hodges, R. A., & Dubb, S. (2012). *The Road Half Traveled: University Engagement at a Crossroads*. East Lansing: Michigan State University Press.
- Holland, B., Howard, T., & Seligsohn, A. J. (2018). Voices from the Field: 2017 CUMU Annual Conference Opening Plenary Remarks. *Metropolitan Universities Journal*, 29(2), 5–18.
- Hollander, E., & Hartley, M. (2000). Civic Renewal in Higher Education: The State of the Movement and the Need for a National Network. In T. Ehrlich (Ed.), *Civic Responsibility and Higher Education* (pp. 345–366). Phoenix, AZ: Oryx Press.
- Hoxby, C. M. (2000). The effects of class size on student achievement: New evidence from population variation. *The Quarterly Journal of Economics*, 115(4), 1239–1285.
- Internet Archive. (n.d.). Wayback Machine APIs | Internet Archive. Retrieved February 11, 2018, from https://archive.org/help/wayback_api.php
- Jacoby, B. (2014). *Service-Learning Essentials: Questions, Answers, and Lessons Learned*. San Francisco, CA: John Wiley & Sons.
- Janke, E. M., & Domagal-Goldman, J. M. (2017). Institutional Characteristics and Student Civic Outcomes. In J. A. Hatcher, R. G. Bringle, & T. W. Hahn (Eds.), *Research on Student Civic Outcomes in Service-Learning: Conceptual Frameworks and Methods* (pp. 252–261). Sterling, VA: Stylus Publishing, LLC.
- Jargowsky, P. A. (1997). *Poverty and Place: Ghettos, Barrios, and the American City*. Russell Sage Foundation.

- Jencks, C., & Mayer, S. E. (1990). Social Consequences of Growing Up in a Poor Neighborhood. In National Research Council (Ed.), *Inner-City Poverty in the United States*. Washington, DC: National Research Council.
- Jones, S. R., & Foste, Z. (2016). Qualitative research on service learning and student civic outcomes. In J. A. Hatcher, R. G. Bringle, & T. W. Hahn (Eds.), *Research on Student Civic Outcomes in Service Learning: Conceptual Frameworks and Methods* (pp. 238–251). Sterling, VA: Stylus Publishing.
- Jordan, A., & Matt, E. (2014). Designing policies that intentionally stick: policy feedback in a changing climate. *Policy Sciences*, 47(3), 227–247.
<https://doi.org/10.1007/s11077-014-9201-x>
- Knack, S. (2002). Social Capital and the Quality of Government: Evidence from the States. *American Journal of Political Science*, 46(4), 772–785.
<https://doi.org/10.2307/3088433>
- Knack, S., & Keefer, P. (1997). Does Social Capital Have an Economic Payoff? A Cross-Country Investigation. *The Quarterly Journal of Economics*, 112(4), 1251–1288.
- Kobrin, M. (1997). *Service Counts: Revitalizing Literacy Efforts in American Higher Education*. Denver, CO: Campus Compact.
- Kogan, R. (2012). *Congress Has Cut Discretionary Funding By \$1.5 Trillion Over Ten Years* [Research Report]. Washington, DC: Center for Budget and Policy Priorities.
- Kronick, R. F., & Cunningham, R. B. (2013). Service-Learning: Some Academic and Community Recommendations. *Journal of Higher Education Outreach and Engagement*, 17(3), 139–153.
- Krueger, A. B. (1999). Experimental Estimates of Education Production Functions*. *The Quarterly Journal of Economics*, 114(2), 497–532.
<https://doi.org/10.1162/003355399556052>
- Krueger, A. B. (2002). Understanding the magnitude and effect of class size on student achievement. *The Class Size Debate*, 7–35.
- Kwon, S.-W., & Adler, P. S. (2014). Social capital: Maturation of a field of research. *Academy of Management Review*, 39(4), 412–422.
- Lanzi, D. (2007). Capabilities, human capital and education. *The Journal of Socio-Economics*, 36(3), 424–435. <https://doi.org/10.1016/j.soc.2006.12.005>
- Leventhal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: the effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin*, 126(2), 309–337.

- Lin, N. (2000). Inequality in Social Capital. *Contemporary Sociology*, 29(6), 785–795.
<https://doi.org/10.2307/2654086>
- Lin, N. (2001). *Social capital : a theory of social structure and action*. Cambridge, UK: Cambridge University Press.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Thousand Oaks, CA: SAGE.
- Long, S. E. (2002). *The new student politics*. Providence, RI: Campus Compact.
- Maldonado, D. E. Z., Rhoads, R., & Buenavista, T. L. (2005). The Student-Initiated Retention Project: Theoretical Contributions and the Role of Self-Empowerment. *American Educational Research Journal*, 42(4), 605–638.
<https://doi.org/10.3102/00028312042004605>
- Markovitz, C. E., Hernandez, M. W., Hedberg, E. C., & Silberglitt, B. (2015). *Outcome Evaluation: Minnesota Reading Corps PreK Program. Full Report* [Evaluation Report]. Corporation for National and Community Service.
- Marullo, S., & Edwards, B. (2000). From Charity to Justice: The Potential of University-Community Collaboration for Social Change. *American Behavioral Scientist*, 43(5), 895–912. <https://doi.org/10.1177/00027640021955540>
- Maurrasse, D. J. (2001). *Beyond the Campus: How Colleges and Universities Form Partnerships with Their Communities*. Independence, KY: Routledge.
- Mayhew, M. J., Rockenbach, A. N., Bowman, N. A., Seifert, T. A., Wolniak, G. C., Pascarella, E. T., & Terenzini, P. T. (2016). *How College Affects Students: 21st Century Evidence That Higher Education Works*. San Francisco, CA: John Wiley & Sons, Incorporated.
- McCormick, A. C., & Zhao, C.-M. (2005). Rethinking and reframing the carnegie classification. *Change: The Magazine of Higher Learning*, 37(5), 51–57.
<https://doi.org/10.3200/CHNG.37.5.51-57>
- McGovern, D. P., & Curley, M. F. (2010). Campus Compact: Engaged Scholarship for the Public Good. In H. E. Fitzgerald, C. Burack, & S. D. Seifer (Eds.), *Handbook of Engaged Scholarship: Contemporary Landscapes, Future Directions* (Vol. 2, pp. 339–348). East Lansing: Michigan State University Press.
- Melchior, A., Frees, J., LaCava, L., Kingsley, C., & Nahas, J. (1999). *Summary Report: National Evaluation of Learn and Serve America* (p. 36) [Evaluation Report]. Washington, DC: Corporation for National and Community Service.
- Melchior, A., Jastrzab, J., Bailis, L., & Frees, J. W. (1994). *Serving America. The First Year of Programs Funded by the Commission on National and Community Service* [Evaluation Report]. Washington, DC: Corporation for National and Community Service.

- Merriam, S., & Tisdell, E. (2009). *Qualitative Research: A Guide to Design and Implementation*. San Francisco: John Wiley & Sons.
- Mettler, S. (2002). Bringing the State Back in to Civic Engagement: Policy Feedback Effects of the G.I. Bill for World War II Veterans. *The American Political Science Review*, 96(2), 351–365. Retrieved from JSTOR.
- Mettler, S. (2005). *Soldiers to Citizens: The G.I. Bill and the Making of the Greatest Generation*. Oxford: Oxford University Press, USA.
- Mettler, S. (2014). *Degrees of Inequality: How the Politics of Higher Education Sabotaged the American Dream*. New York: Basic Books.
- Mettler, S., & SoRelle, M. (2014). Policy feedback theory. *Theories of the Policy Process*, 3, 151–181.
- Mettler, S., & Soss, J. (2004). The Consequences of Public Policy for Democratic Citizenship: Bridging Policy Studies and Mass Politics. *Perspectives on Politics*, 2(1), 55–73. <https://doi.org/10.1017/S1537592704000623>
- Miller, B. A. (1997). Service-learning in support of rural community development. In A. S. Waterman (Ed.), *Service-Learning: Applications from the Research*. Mahwah, NJ: L. Erlbaum Associates.
- Mills, T., & Patterson, K. (2009). *Palgrave Handbook of Econometrics: Volume 2: Applied Econometrics*. New York: Springer.
- Miron, D., & Moely, B. E. (2006). Community Agency Voice and Benefit in Service-Learning. *Michigan Journal of Community Service Learning*, 12(2), 27–37.
- Morton, K. (1995). The Irony of Service: Charity, Project and Social Change in Service-Learning. *Michigan Journal of Community Service Learning*, 2, 19–32.
- Morton, K., & Saltmarsh, J. (1997). Addams, Day, and Dewey: The Emergence of Community Service in American Culture. *Michigan Journal of Community Service Learning*, 4, 137–149.
- Morton, K., & Troppe, M. (1996). From the Margin to the Mainstream: Campus Compact's Project on Integrating Service with Academic Study. *Journal of Business Ethics*, 15(1), 21–32.
- Müller, W. (2001). Mobility: Social. In N. J. Smelser & P. B. Baltes (Eds.), *International Encyclopedia of the Social & Behavioral Sciences* (pp. 9918–9924). <https://doi.org/10.1016/B0-08-043076-7/01919-7>
- Mummolo, J., & Peterson, E. (2018). Improving the Interpretation of Fixed Effects Regression Results. *Political Science Research and Methods*, 6(4), 829–835. <https://doi.org/10.1017/psrm.2017.44>

- Murray, M., Davies, M., & Boushon, B. (2007). Panel Size: How Many Patients Can One Doctor Manage? *Family Practice Management*, 14(4), 44.
- National Center for Charitable Statistics. (n.d.). Retrieved May 16, 2018, from <http://nccs.urban.org/>
- National Center for Educational Statistics. (2018). Statutory Requirements for Reporting IPEDS Data. Retrieved February 17, 2019, from <https://surveys.nces.ed.gov/ipeds/ViewIPEDSStatutoryRequirement.aspx>
- National Center for Educational Statistics. (n.d.). Common Core of Data (CCD) - CCD Quick Facts. Retrieved February 17, 2019, from <https://nces.ed.gov/ccd/quickfacts.asp>
- National Task Force on Civic Learning and Democratic Engagement. (2012). *A crucible moment: College learning and democracy's future*. Washington, DC: Association of American Colleges and Universities.
- Oreopoulos, P., Page, M. E., & Stevens, A. H. (2006). The Intergenerational Effects of Compulsory Schooling. *Journal of Labor Economics*, 24(4), 729–760. <https://doi.org/10.1086/506484>
- Orphan, C., Romero, D., & Diaz-Solodukhin, L. (2018). Fostering Collective Impact: Measuring and Advancing Higher Education's Contributions to Civic Health and Equity in Colorado. *International Journal of Research on Service-Learning and Community Engagement*, 6(1), 1–20.
- Patterson, M. (2006). Community-Based Education in West Philadelphia: The Promise and Limits of Social Capital Production. In R. Dilworth (Ed.), *Social Capital in the City: Community and Civic Life in Philadelphia* (pp. 101–121). Philadelphia, PA: Temple University Press.
- Patton, M. Q. (1997). *Utilization-Focused Evaluation: The New Century Text*. Thousand Oaks, CA: SAGE Publications.
- Peterson, R. D., Krivo, L. J., & Harris, M. A. (2000). Disadvantage and Neighborhood Violent Crime: Do Local Institutions Matter? *Journal of Research in Crime and Delinquency*, 37(1), 31–63. <https://doi.org/10.1177/0022427800037001002>
- Pettijohn, S. L., Boris, E. T., & Farrell, M. R. (2014). *National Study of Nonprofit-Government Contracts and Grants 2013: State Profiles* [Research Report]. Retrieved from Urban Institute website: <https://www.urban.org/research/publication/national-study-nonprofit-government-contracts-and-grants-2013-state-profiles>
- Pickeral, T. (2003). Partnerships with Elementary and Secondary Education. In B. Jacoby & Associates (Eds.), *Building Partnerships for Service-Learning* (pp. 174–191). San Francisco, CA: Jossey-Bass Publishers.

- Pierson, P. (1993). When Effect Becomes Cause: Policy Feedback and Political Change. *World Politics*, 45(4), 595–628. <https://doi.org/10.2307/2950710>
- Pigza, J. M., & Troppe, M. (2003). Developing an Infrastructure for Service-Learning and Community Engagement. In B. Jacoby & Associates (Eds.), *Building Partnerships for Service-Learning* (pp. 106–130). San Francisco, CA: Jossey-Bass Publishers.
- Pollack, S. S. (1997). *Three Decades of Service-Learning in Higher Education (1966-1996): The Contested Emergence of an Organizational Field*. (Doctoral Dissertation). Stanford University, Stanford, CA.
- Putnam, R. D. (1995). Bowling Alone: America's Declining Social Capital. *Journal of Democracy*, 6(1), 65–78.
- Putnam, R. D. (2001). *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.
- Putnam, R. D. (2015). *Our Kids: The American Dream in Crisis*. New York: Simon and Schuster.
- Putnam, R. D., Leonardi, R., & Nanetti, R. (1993). *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
- Rawls, J. (1999). *A Theory of Justice*. Oxford: Oxford University Press.
- Reagans, R. (2011). Close encounters: Analyzing how social similarity and propinquity contribute to strong network connections. *Organization Science*, 22(4), 835–849.
- Ricketts, T. C., Goldsmith, L. J., Holmes, G. M., Randy, M. R. P. R., Lee, R., Taylor, D. H., & Ostermann, J. (2007). Designating Places and Populations as Medically Underserved: A Proposal for a New Approach. *Journal of Health Care for the Poor and Underserved*, 18(3), 567–589. <https://doi.org/10.1353/hpu.2007.0065>
- Ro, H., Terenzini, P., & Yin, A. (2013). Between-College Effects on Students Reconsidered. *Research in Higher Education*, 54(3), 253–282. <https://doi.org/10.1007/s11162-012-9269-0>
- Rupasingha, A., & Goetz, S. J. (2007). Social and political forces as determinants of poverty: A spatial analysis. *The Journal of Socio-Economics*, 36(4), 650–671. <https://doi.org/10.1016/j.socec.2006.12.021>
- Rupasingha, A., Goetz, S. J., & Freshwater, D. (2000). Social Capital and Economic Growth: A County-Level Analysis. *Journal of Agricultural and Applied Economics*, 32(3), 565–572. <https://doi.org/10.1017/S1074070800020654>

- Rupasingha, A., Goetz, S. J., & Freshwater, D. (2006). The production of social capital in US counties. *Journal of Behavioral and Experimental Economics (Formerly The Journal of Socio-Economics)*, 35(1), 83–101.
- Ryan, M. (2012). *Service-learning after Learn and Serve America: How five states are moving forward* [Research Report]. Denver, CO: Education Commission of the States.
- Saegert, S. (2006). Building Civic Capacity in Urban Neighborhoods: An Empirically Grounded Anatomy. *Journal of Urban Affairs*, 28(3), 275–294.
<https://doi.org/10.1111/j.1467-9906.2006.00292.x>
- Salamon, L. M. (2012). The Resilient Sector: The State of the Non-Profit Sector. In L. M. Salamon (Ed.), *The State of Nonprofit America* (2nd ed., pp. 3–86). Washington, DC: Brookings Institution Press. JSTOR.
- Salgado, D. M. (2003). *2003 Campus Compact Annual Membership Survey*.
- Saltmarsh, J., Giles, D. E., Ward, E., & Buglione, S. M. (2009). Rewarding community-engaged scholarship. *New Directions for Higher Education*, 2009(147), 25–35.
- Saltmarsh, J., & Hartley, M. (2011). *“To Serve a Larger Purpose”: Engagement for Democracy and the Transformation of Higher Education*. Philadelphia, PA: Temple University Press.
- Sampson, R. J. (1999). What “Community” Supplies. In J. DeFilippis & S. Saegert (Eds.), *The Community Development Reader*. (pp. 328–338). New York: Routledge.
- Sampson, R. J., Morenoff, J. D., & Gannon-Rowley, T. (2002). Assessing “Neighborhood Effects”: Social Processes and New Directions in Research. *Annual Review of Sociology*, 28(1), 443–478.
<https://doi.org/10.1146/annurev.soc.28.110601.141114>
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science (New York, N.Y.)*, 277(5328), 918–924.
- Sandmann, L. R., Thornton, C. H., & Jaeger, A. J. (2009). The first wave of community-engaged institutions. *New Directions for Higher Education*, 2009(147), 99–104.
- Seifer, S. D. (2010). Community-Campus Partnership Development. In H. E. Fitzgerald, C. Burack, & S. D. Seifer (Eds.), *Handbook of Engaged Scholarship: Contemporary Landscapes, Future Directions* (Vol. 2, pp. 199–200). East Lansing: Michigan State University Press.
- Selya, A. S., Rose, J. S., Dierker, L. C., Hedeker, D., & Mermelstein, R. J. (2012). A Practical Guide to Calculating Cohen’s f^2 , a Measure of Local Effect Size, from

- PROC MIXED. *Frontiers in Psychology*, 3.
<https://doi.org/10.3389/fpsyg.2012.00111>
- Sen, A. (1997). Editorial: Human capital and human capability. *World Development*, 25(12), 1959–1961.
- Sen, A. (1999). *Development as Freedom*. Oxford: Oxford University Press.
- Shapiro, J. M. (2006). Smart cities: Quality of life, productivity, and the growth effects of human capital. *SMART CITIES*, 12.
- Sharkey, P., & Faber, J. W. (2014). Where, When, Why, and For Whom Do Residential Contexts Matter? Moving Away from the Dichotomous Understanding of Neighborhood Effects. *Annual Review of Sociology*, 40(1), 559–579.
<https://doi.org/10.1146/annurev-soc-071913-043350>
- Silka, L., Teisl, M., & Settele, J. (2015). Place-Based Approaches to Engagement. In W. J. Jacob, S. E. Sutin, J. C. Weidman, & J. L. Yeager (Eds.), *Community Engagement in Higher Education* (pp. 89–102). https://doi.org/10.1007/978-94-6300-007-9_6
- Solon, G. (1999). *Intergenerational mobility in the labor market* (pp. 1761–1800) [Handbook of Labor Economics]. Retrieved from Elsevier website:
<https://econpapers.repec.org/bookchap/eeelabchp/3-29.htm>
- Sorokin, P. A. (1927). *Social Mobility*. New York: Taylor & Francis.
- Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, 87(3), 355–374. <https://doi.org/10.2307/1882010>
- Stoecker, R., Beckman, M., & Min, B. H. (2010). Evaluating the community impact of higher education community engagement. In H. E. Fitzgerald, C. Burack, & S. D. Seifer (Eds.), *Handbook of Engaged Scholarship: The Contemporary Landscape* (Vol. 2, pp. 177–196). Michigan State University Press.
- Stoecker, R., & Schmidt, C. (2017). Geographic Disparities in Access to Higher Education Service Learning. In R. Stoecker, N. Holton, & C. Ganzert (Eds.), *The Landscape of Rural Service Learning, and What It Teaches Us All* (pp. 29–40). East Lansing: Michigan State University Press.
- Stoecker, R., & Tryon, E. (2009). *The Unheard Voices: Community Organizations and Service Learning*. Philadelphia, PA: Temple University Press.
- Strauss, A., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Thousand Oaks, CA, US: Sage Publications, Inc.
- Taliaferro, J., & Ruggiano, N. (2013). The “L” Word: Nonprofits, Language, and Lobbying. *The Journal of Sociology & Social Welfare*, 40(2).

- Taylor, H. L., & Luter, G. (2013). Anchor institutions: An interpretive review essay. *Anchor Institutions Task Force*, 14.
- Temkin, K., & Rohe, W. M. (1998). Social Capital and Neighborhood Stability: An Empirical Investigation. *Housing Policy Debate*, 9(1), 61–88.
- Tolbert, C. M., & Sizer, M. (1996). *U.S. Commuting Zones and Labor Market Areas: A 1990 Update* [Technical Documentation]. Washington, DC: Economic Research Service, Rural Economy Division.
- Vernon, A., & Ward, K. (1999). Campus and Community Partnerships: Assessing Impacts and Strengthening Connections. *Michigan Journal of Community Service Learning*, 6, 30–37.
- Washington Post Editors. (2011, April 12). What's getting cut in the FY 2011 budget? *Washington Post*. Retrieved from https://www.washingtonpost.com/blogs/federal-eye/post/whats-getting-cut-in-the-fy-2011-budget/2011/04/11/AFMIynLD_blog.html
- Webber, H. S., & Karlstrom, M. (2009). *Why Community Investment Is Good for Nonprofit Anchor Institutions: Understanding Costs, Benefits, and the Range of Strategic Options*. Chicago: Chapin Hall.
- Weden, M. M., Peterson, C. E., Miles, J. N., & Shih, R. A. (2015). Evaluating Linearly Interpolated Intercensal Estimates of Demographic and Socioeconomic Characteristics of U.S. Counties and Census Tracts 2001–2009. *Population Research and Policy Review*, 34(4), 541–559. <https://doi.org/10.1007/s11113-015-9359-8>
- Weiss, A. (1995). Human Capital vs. Signalling Explanations of Wages. *The Journal of Economic Perspectives*, 9(4), 133–154.
- Weiss, H. A., & Norris, K. E. (2019). Community Engagement Professionals as Inquiring Practitioners for Organizational Learning. *Journal of Higher Education Outreach and Engagement; Vol 23, No 1 (2019)*. Retrieved from <http://openjournals.libs.uga.edu/index.php/jheoe/article/view/2196/1137>
- Welch, M., & Saltmarsh, J. (2013). Current Practice and Infrastructures for Campus Centers of Community Engagement. *Journal of Higher Education Outreach and Engagement*, 17(4), 25–56.
- Wilson, W. J. (1990). *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy*. Chicago: University of Chicago Press.
- Wilson, W. J. (2012). *The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy, Second Edition*. Chicago: University of Chicago Press.

- Woolcock, M. (2004). Why and how planners should take social capital seriously. *Journal of the American Planning Association*, 70(2), 183–189.
- Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*. Cambridge, MA: MIT Press.
- Yamamura, E. K., & Koth, K. (2018). *Place-Based Community Engagement in Higher Education: A Strategy to Transform Universities and Communities*. Sterling, VA: Stylus Publishing, LLC.
- Yeh, T. L. (2010). Service-Learning and Persistence of Low-Income, First-Generation College Students: An Exploratory Study. *Michigan Journal of Community Service Learning*, 16(2). Retrieved from <http://hdl.handle.net/2027/spo.3239521.0016.204>
- Zlotkowski, E., Longo, N., & Williams, J. (2006). *Students as Colleagues: Expanding the Circle of Service-Learning Leadership*. Providence, RI: Campus Compact.

CURRICULUM VITAE

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5/6/2019

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901 Merrick Ave.
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EDUCATION

In Progress	Rutgers University – Camden, Department of Public Policy and Administration, Camden, NJ Ph. D., Public Affairs with Community Development concentration. ABD, May 2018. Expected May 2019. Dissertation Title: <i>The Community Effects of Service-Learning</i>
2011	Drexel University, School of Education, Philadelphia, PA M. S., Teaching, Learning, and Curriculum
2006	University of Florida, College of Liberal Arts and Sciences, Gainesville, FL B. A., Political Science

PROFESSIONAL EXPERIENCE

2012 – Present	Rutgers University – Camden, NJ Director, Student Academic Success (2018-Present) Research Analyst, Office of Institutional Research (2015-2018) Program Coordinator, Academic Civic Engagement (2012-2015)
2007 – 2012	Drexel University, Philadelphia, PA Program Director, High School Mentoring Programs (2010-2012) Program Director, Community Partnerships (2007-2010)

AWARDS

2017	Chancellor's Strategic Initiative Fund, \$1,500 to attend IARSLCE in Galway, Ireland
2017	International Association for Research on Service-Learning and Community Engagement Graduate Student Network Scholarship, \$500
2015	Higher Education Civic Engagement Award for Rutgers–Camden, \$10,000 (primary author)
2014	Presentation Scholarship, New Jersey Campus Compact, \$200
2007	Eli Segal AmeriCorps Education Award, \$4,750

PUBLICATIONS

In preparation	Dahan, T. <i>Higher Education Community Engagement and Place Effects</i> . Target journal: <i>Economics of Education Review</i> .
In preparation	Dahan, T. <i>Did Federal Post-secondary Service-Learning Policy Influence Community Social Capital?</i> Target journal: <i>Journal of Higher Education Outreach and Engagement</i> .
In preparation	Dahan, T. <i>Youth Outcomes in Communities Served by Engaged Institutions of Higher Education</i> . Target journal: <i>Educational Researcher</i> .

- In review Vanacore, S. M. & **Dahan, T.** *Assessing the Effectiveness of an Academic Probation Improvement Program*. Target journal: Journal of College Reading and Learning.
- In press, Winter 2019 **Dahan, T.**, Cruz, K., Perry, A. Hammell, B. & Danley, S. *"I live both lives": Exploring Double Consciousness in Resident-Students at an Engaged Institution*. Michigan Journal of Community Service Learning.
- 2017 Danley, S., **Dahan, T.**, & Benson, K. *Publishing as social capital: Amplifying community with digital tools*. Journal of Scholarly Publishing Vol 48, no. 2.
- 2016 **Dahan, T.** *Revisiting Pedagogical Variations in Service-Learning and Student Outcomes*. International Journal of Research on Service-Learning and Community Engagement Vol. 4, no. 1. [pdf](#)
- 2013 **Dahan, T.** & Seligsohn, A. *Engaged civic learning course design workbook*. LEAP Campus Toolkit. Washington, DC: Association of American Colleges and Universities. [pdf](#)

CONFERENCE PRESENTATIONS, POSTERS AND SESSIONS

- 2019 (accepted) **Dahan, T.** "Did Federal Service-Learning Policy Influence Community Social Capital" in session *Democratic Education? How Schooling Shapes Civic Engagement and Social Capital*. To be presented at American Political Science Association Convention, Washington, D.C., August 28-September 1, 2019.
- 2018 **Dahan, T.** "Exploring Double Consciousness of Resident-Students from a Racialized City." Panel convener, *How Place Matters* with A. Perry, S. Danley, and M. D'Italia. Presented at International Association for Research on Service Learning and Community Engagement, New Orleans, LA, July 18, 2018.
- 2017 **Dahan, T.** "Resolving Selection Bias in Service-Learning". Poster Presented at North East Association for Institutional Research, Jersey City, NJ, November 20, 2017.
- 2017 **Dahan, T.** "Resolving Selection Bias in Service-Learning". Poster Presented at the International Association of Research on Service Learning and Community Engagement, Galway, Ireland, September 15, 2017.
- 2016 Schweitzer, J. & **Dahan, T.** "Tell a story: Visualizing student success regression models." Presented at North East Association for Institutional Research, Baltimore, MD, November 14, 2016.
- 2016 **Dahan, T.** "Assessing the institutional readiness for civic learning." Presented at Campus Compact Civic Action Planning Institute, Princeton, NJ, September 19, 2016.
- 2015 **Dahan, T.** "Revisiting pedagogical variations in service-learning: A replication study." Presented at the International Association for Research on Service-Learning and Community Engagement, Boston, MA, November 18, 2015.
- 2015 **Dahan, T.** "Is Engaged Civic Learning an Effective Strategy for Student Success?" Poster Presented at Eastern Region Campus Compact, Newark, NJ, October 15, 2015.
- 2014 **Dahan, T.** & Bergere, C. "Developing graduate students as future engaged faculty." Presented at Eastern Region Campus Compact, Jacksonville, FL, October 17, 2014.
- 2014 **Dahan, T.** "Engaged civic learning by design: A framework for faculty development and student learning assessment." Invited presentation at ACPA Symposium on Service Learning, Louisville, KY, June 3, 2014.
- 2013 Seligsohn, A., **Dahan, T.**, Obi, E., & Rogers, M. "Engaging students in K-12 partnerships." Presented at Coalition of Urban and Metropolitan Universities Conference, Louisville, KY, October 28, 2013.

- 2013 Simons, L. & **Dahan, T.** “Lessons learned: A comparison of academic service-learning at two undergraduate institutions.” Presented at Eastern Region Campus Compact Conference, Philadelphia, PA, October 25, 2013.

OTHER RELEVANT PRESENTATIONS AND AUTHORSHIP

- 2018 **Dahan, T. A.** “Higher Education Community Engagement and Place Effects.” Presented to Department of Public Policy and Administration Social Science Brown Bag, October 11, 2018.
- 2017 **Dahan, T.** & Lim, J. “New Jersey Association for Institutional Research Special Interest Group Session.” Presented at North East Association for Institutional Research, Jersey City, NJ, November 20, 2017.
- 2017 **Dahan, T. A.** & Bowler, G. “Investigating High Impact Practices at Rutgers–Camden.” Presented at the Raptor Impact Student Success Retreat, March 24, 2017.
- 2017 **Dahan, T. A.** “Estimates of the Effects of Reflection During a Service-Learning Class on Student Civic Engagement.” Presented to Department of Public Policy and Administration Social Science Brown Bag, March 23, 2017.
- 2016 Amon, J., Schweitzer, J. & **Dahan, T. A.** “Who R Our Undergraduates: Examining Student Outcomes and Determinants of Retention and Graduation.” Presented to Raptor Impact Student Success Retreat, April 3, 2016.
- 2014 Rutgers University–Camden Application for the Carnegie Community Engagement Classification. (Committee Convener and Primary Author)

EVALUATION AND RESEARCH PROJECTS

- 2017 Changing Place-Identity: Students Who Stay, Principal Investigator: Stephen Danley.
- 2016 An Evaluation of the Rutgers-Camden “Bridging the Gap” Program, Principal Investigator: Jason Schweitzer.
- 2013 Engaged Civic Learning Evaluation Project, Principal Investigator: Jane Siegel
- 2011 Promoting Mentor Efficacy in a High School Mentoring Program: An Action Research Project, Instructor: Kenneth Mawritz, Drexel University.

CONSULTING

- 2014 Making College Happen, College Access and Success Webguide. Boston, MA: Campus Compact.
- 2014 Program Evaluation Tool Design. Silver Spring, MD: Community Bridges, Inc.

GRANTS AND FUNDED PROJECTS (PI unless otherwise indicated)

- 2012 Summer Bridges Program, funded by School District of Philadelphia \$10,000
- 2011 Summer Bridges Program, funded by School District of Philadelphia \$15,000
- 2010-2012 High School Mentoring Program, sponsored program funded by Philip B. Lindy. Project Director, \$140,000 (PI: Daniel Dougherty)
- 2010 Learn and Serve America Subgrant: Student Designed Economic Development Activities, funded by Philadelphia Higher Education Network for Neighborhood Development (Co-investigator, PI: Daniel Dougherty) \$10,000
- 2009 AmeriCorps VISTA Member Grant, funded by Pennsylvania Campus Compact
- 2008 AmeriCorps VISTA Member Grant, funded by Pennsylvania Campus Compact

TEACHING AND CURRICULUM DEVELOPMENT

- 2017 Teaching Assistant, Problems of Markets and Community Development (Lead Instructor: Shoko Kato)
- 2013 – 2015 Civic Engagement Faculty Fellows Workshops

	Two-day faculty development workshop in designing high-quality engaged civic learning courses. Total faculty trained: 58.
2013	Civic Engagement Graduate Fellows Orientation Training Introductory workshop for competitive graduate fellowship offered by Office of Civic Engagement surveying topics germane to facilitating service-learning reflection
2013	Office of Civic Engagement Student Development Workshops Six-week workshop series for students in Civic Scholars and Education Ambassadors programs focusing on relevant topics for intensive civic engagement work.
2010 – 2011	High School Mentoring Training Three-day intensive training to prepare College Access Fellows for placements as coordinators of high school mentoring programs in four Philadelphia High Schools.
2008	LEAD 100: Eyes of a Citizen (Co-instructor, Lead Instructor: Albert Moseley) Service-learning course focusing on the development of leadership skills through mentoring high school students.

PROFESSIONAL MEMBERSHIPS

2019 – Present	American Political Science Association
2017 – Present	NJ Association for Institutional Research
2016 – Present	Association for Institutional Research
2016 – Present	North East Association for Institutional Research
2015 – Present	International Association for Research on Service Learning and Community Engagement
2013 – Present	NASPA – Student Affairs Administrators in Higher Education
2011 – Present	ACPA – College Student Educators International
2006 – Present	University of Florida Alumni Association.

SERVICE AND ENGAGEMENT

2017	PhD committee student representative, Department of Public Policy and Administration
2017	Proposal Reviewer, International Association for Research on Service Learning and Community Engagement (2016-present)
2017	Proposal Reviewer, North East Association for Institutional Research
2016-2018	Steering Committee, NJ Association for Institutional Research, Chair, 2017-2018
2016, 2017	Planning Committee for Student Success Retreat, Rutgers–Camden.
2014	Evaluation consultant, Community Bridges, Inc.
2012 – present	Member, Chancellor's Civic Engagement / Experiential Learning Committee
2013	Advisor, Local Alternative Break Trip, Rutgers University–Camden
2008-2014	Volunteer Coordinator, President, Immediate Past President, Secretary, Philadelphia Gator Club, UF Alumni Association
2006 – 2007	Drexel University, Philadelphia, PA Pennsylvania Campus Compact AmeriCorps VISTA