## Postsecondary Pathways Out of Poverty: City University of New York Accelerated Study in Associate Programs and the Case for National Policy



DIANA STRUMBOS, DONNA LINDERMAN, AND CARSON C. HICKS

A postsecondary education holds the promise of higher lifetime earnings and social mobility, but too many low-income students never complete their degrees. We propose a set of policy recommendations based on the highly effective Accelerated Study in Associate Programs (ASAP) at the City University of New York (CUNY). CUNY ASAP is a comprehensive and integrated program that addresses multiple barriers to student success by providing students with enhanced advising as well as academic and career services, financial support, and a highly structured degree pathway. ASAP has been shown to have large positive effects on associate degree graduation rates and to cost less per graduate than regular college services. A national policy based on the ASAP model could serve as a highly effective anti-poverty strategy.

Keywords: community college, postsecondary education, associate degree

In the United States, education has the potential to serve as a major pathway out of poverty. Postsecondary education in particular can be

a powerful driver of mobility, resulting in social, health, and economic benefits (Hout 2012). Research consistently finds that individuals

**Diana Strumbos** is director for research and evaluation for Accelerated Study in Associate Programs (ASAP) at the City University of New York (CUNY). **Donna Linderman** is university dean for Student Success Initiatives at CUNY's Office of Academic Affairs and executive director of ASAP. **Carson C. Hicks** is deputy executive director of the New York City Mayor's Office for Economic Opportunity.

© 2018 Russell Sage Foundation. Strumbos, Diana, Donna Linderman, and Carson C. Hicks. 2018. "Postsecondary Pathways Out of Poverty: City University of New York Accelerated Study in Associate Programs and the Case for National Policy." RSF: The Russell Sage Foundation Journal of the Social Sciences 4(3): 100-17. DOI: 10.7758 /RSF.2018.4.3.06. The authors would like to thank John Mogulescu, Veronica White, Kristin Morse, and Matthew Klein for their leadership, support, and vision and the many others at the City University of New York and the Mayor's Office for Economic Opportunity who have made and continue to make ASAP a success. We are very grateful for the tremendous support of former and current CUNY chancellors Matthew Goldstein and James B. Milliken and the outstanding staff of ASAP who work everyday on behalf of students. In addition, we would like to thank Zineta Kolenovic and Alex Tavares for their excellent research and evaluation work; and MDRC and Center for Benefit-Cost Studies of Education for their thorough studies of ASAP, all of which allow us to write with confidence about the program and its effectiveness. We also thank the issue editors, conference participants, and two anonymous reviewers for their helpful feedback. Direct correspondence to: Diana Strumbos at diana.strumbos@cuny.edu, City University of New York, 16 Court St., Room 417, Brooklyn, NY 11241; Donna Linderman at donna.linderman@cuny.edu, City University of New York, 16 Court St., Room 3202, Brooklyn, NY 11241; and Carson C. Hicks at CHicks@cityhall.nyc.gov, Mayor's Office for Economic Opportunity, 253 Broadway, 10th Floor, New York, NY 10007.

Open Access Policy: RSF: The Russell Sage Foundation Journal of the Social Sciences is an open access journal. This article is published under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License.

who earn a postsecondary degree have higher earnings and better labor market outcomes (Belfield and Bailey 2011). It remains difficult, however, for many, as demonstrated by the very low postsecondary degree rates nationwide. The problem of low degree attainment is especially pronounced among those from lowincome households and those who matriculate at community colleges, the institutions that students from low socioeconomic status (SES) backgrounds primarily attend (Kena, Musu-Gillette, et al. 2015). For postsecondary education to function as an anti-poverty strategy, policies must be implemented to ensure that more students from low-income backgrounds stay enrolled and complete their degrees.

In this article, we present a proposal to increase postsecondary access and success rates by implementing a set of policies based on the highly effective Accelerated Study in Associate Programs (ASAP) at the City University of New York (CUNY). CUNY ASAP is a comprehensive and integrated program that addresses multiple barriers to student success by providing students with enhanced advising as well as academic and career services, financial support, and a highly structured degree pathway that includes carefully planned course schedules and course-taking with program peers. The program requires students to attend school full time and strongly encourages them to take developmental courses early so that they have a pathway to graduation within three years. The CUNY ASAP model has been shown to dramatically increase associate degree graduation rates in both experimental and quasi-experimental studies and to maintain these positive impacts for all subgroups of students examined, including all racial and ethnic subgroups and students from low-income households. Given the labor market returns to a postsecondary degree, a widespread policy intervention based on the ASAP model could have a profound impact on students' lifetime earnings and economic mobility (Levin and García 2017).

#### **BACKGROUND AND LITERATURE**

Individuals with a college degree earn more than those with only a high school education. In 2015, median weekly earnings for full-time workers with a bachelor's degree was \$1,137 and \$798 for those with an associate degree, relative to \$678 for those with a high school diploma (Bureau of Labor Statistics 2015). In other words, workers with an associate degree had 18 percent higher earnings than those with a high school diploma. Going beyond descriptive statistics, many researchers have attempted to estimate returns to education using statistical controls for family background and ability, instrumental variables, and twin studies, looking at both additional years of education and degrees earned (Kane and Rouse 1995; Marcotte et al. 2005; Dadgar and Trimble 2015; Jepsen, Troske, and Coomes 2014; Card 1999). This research has found largely consistent evidence of positive earnings gains from an associate degree—with average estimates of a 13 percent increase for males and a 22 percent increase for females (Belfield and Bailey 2011).

Focusing specifically on mobility, Ron Haskins finds that a college degree has a large impact on the likelihood of moving up the economic ladder. With a college degree, children born into the bottom income quintile had a 41 percent chance of making it to the top two quintiles, relative to just a 14 percent chance without a college degree (Haskins 2008). Furthermore, the changing economy now demands employees with more education and training and provides fewer opportunities for those with only a high school education. Anthony Carnevale, Nicole Smith, and Jeff Strohl predict that 50 percent of U.S. job growth expected by 2018 would require at least an associate degree, underscoring that an associate degree may be even more essential for employment than it has been historically (2010).

A postsecondary education also has noneconomic benefits. Researchers have found evidence of social and health benefits, including better health outcomes, reduced welfare receipt, and a decrease in criminal involvement (Belfield and Bailey 2011). Other benefits include positive effects on the community, family life, and reported levels of happiness, as well as increases in social capital (Hout 2012).

#### **Postsecondary Degree Attainment**

Although evidence suggests that postsecondary education can lead to social and economic mobility, the unfortunate reality is that many individuals from low-income families struggle to earn a college degree (Haskins, Holzer, and Lerman 2009). Low-income students are less likely to enroll in postsecondary education in the first place, which has led to calls for policies and programs designed to increase access to college (Ellwood and Kane 2000; Haveman and Smeeding 2006). However, access is not the only problem—there are also stark inequalities in college completion. Martha Bailey and Susan Dynarski find that students from low-income families were six times less likely to have earned a bachelor's degree by age twenty-five than those from high-income families, with only 9 percent of low-income students earning a degree by that age (2011). These differences remained when controlling for prior academic performance and the gap has grown over time. Part of these differences arises from the fact that low-income students are more likely to begin their path to a bachelor's degree by first enrolling at a community college with the intention of transferring. Few make it to that point.

#### **COMMUNITY COLLEGES**

Low-income students are more likely to attend community colleges than other types of institutions, both because they are less expensive and because many of them are open access institutions, allowing students to enroll who do not meet college readiness standards required by other types of institutions. Between 6.7 and 7.7 million students nationwide enroll at community colleges in degree-seeking programs each year, about 40 percent full time (National Center for Education Statistics 2016). Unfortunately, most of them do not complete a degree. National statistics show that only 19.8 percent of first-time, full-time degree-seeking students at public two-year institutions had earned a certificate or associate degree from their initial institution three years after entry (Snyder and Dillow 2015). Looking more broadly to consider students who transfer and over a longer time frame, only 35.1 percent of students who began at two-year public institutions had earned a degree from any institution six years later (Snyder and Dillow 2015).

A large percentage of students at community colleges nationwide are low income, with over half in receipt of federal Pell grants, which

are predominately awarded to students with less than \$20,000 in household income (National Center for Education Statistics 2014: U.S. Department of Education, Office of Postsecondary Education 2014). Students at community colleges, and low-SES students more specifically, face many barriers to completion (Attewell, Heil, and Reisel 2011; Goldrick-Rab 2010). Many students are not academically prepared for college-level courses, and must take remedial or developmental coursework that is difficult and time-consuming before they can even begin credit-bearing courses. This presents an immediate challenge to building academic momentum and decreases a student's chance of success because the number of credits earned in the first year is a key predictor of degree completion (Adelman 2006). In addition, many students struggle with financial issues, and need to work while in school or have family responsibilities that require them to balance school, work, and family-or both. Work and family obligations sometimes force students to attend part time, which can again lead to a loss in momentum and decrease their likelihood of graduating. Students may also struggle to feel integrated into college life and achieve a sense of belonging (Tinto 1993; Karp and Bork 2014). In particular, first-generation college-goers may not have the social capital or networks of family and friends familiar with the demands of college to help guide them.

Community colleges themselves are often not structured to support student success and could benefit from large-scale institutional changes (Bailey, Jaggars, and Jenkins 2015; Complete College America 2016). Despite enrolling students with the greatest financial, academic, and frequently personal needs, community colleges receive low public funding relative to other types of institutions (Kahlenberg 2015). A key structural problem is lack of good academic advisement, as advisors often have very large caseloads and are unable to provide personalized and frequent attention to students in need of support. High-quality advisement is important. Without it, students often do not know what course work to take to complete their degree, which delays degree completion.

Other institutional barriers include: lack of

coordination between the many departments and offices that serve students; an overabundance of degree options with a lack of structure to help students make decisions; policies for remedial placement and exit that prevent many students from moving into college coursework; and limited resources to provide high-quality experiences for students (on other institutional barriers, see Holzer 2018). The many barriers to postsecondary completion underscore the need for a transformative policy proposal. The CUNY ASAP model was designed specifically with these barriers in mind and seeks to address them with a comprehensive and integrated package of supports and resources.

#### **ASAP Program Model**

Accelerated Study in Associate Programs was created through a partnership between CUNY and the New York City Office of the Mayor with the explicit goal of addressing poverty by improving educational outcomes for low-income students. The majority of ASAP students are low-income and more than 80 percent receive Pell grants (Strumbos and Kolenovic 2016). Key ASAP program components include full-time enrollment, consolidated scheduling, cohort course-taking, comprehensive advisement, career and employment services, tutoring, summer and winter course-taking, and immediately and continuously addressing any remedial needs. Financial resources include tuition waivers (for any gap need beyond need-based financial aid awards), New York City transit cards (MetroCards), and free use of textbooks.

ASAP was designed to operate as a consortium of partner colleges and the CUNY Office of Academic Affairs (OAA). Colleges manage recruitment and direct service to students, tracking of student data to monitor progress and engagement, and campus integration and communication. CUNY OAA provides overall program administration and fiscal oversight, program-wide evaluation and data management, cultivation of external partnerships, management of common resource needs (such as MetroCards for transportation, textbooks, and promotional materials), citywide outreach, and coordination of program-wide activities including staff training. CUNY OAA and campus staff meet on a monthly basis, are in weekly

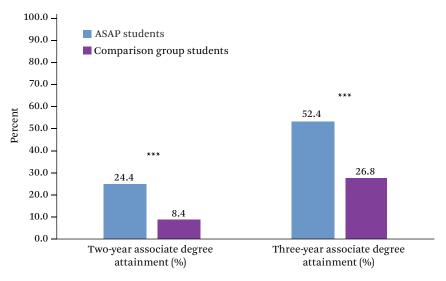
contact about program and evaluation matters, co-present at conferences, co-plan program-wide events, and identify professional development needs for staff at varying levels. This division of labor and collaboration between program stakeholders from advisors to career specialists to directors has allowed ASAP to operate at maximum efficiency with a strong focus on program quality.

ASAP is deeply committed to the use of data for both evaluation and program management purposes. A fully dedicated ASAP research and evaluation team is embedded at CUNY OAA and collects and produces a wide range of data for program stakeholders, who meet often to review data, share challenges, and discuss best practices. ASAP has an established set of program benchmarks to monitor student progress toward three-year degree completion and determine if the program is delivering services as planned to all students. Examples of data indicators to monitor academic progress include semester retention rates, credit accumulation, enrollment in developmental courses, and rates at which students become fully skills proficient. Another key data point reviewed regularly is the frequency of contact with ASAP advisors. Data are collected and reviewed monthly and drive all decision-making regarding issues from delivery of services to program expenditures.

## Evidence of ASAP's Outcomes and Cost-Effectiveness

The primary goal of ASAP is to graduate at least 50 percent of its students within three years, more than double the three-year graduation rate at the time the program was launched. CUNY OAA staff conducted a rigorous internal evaluation of its first cohort using quasiexperimental methods and found that ASAP students who entered in fall 2007 had a threeyear graduation rate of 54.6 percent, versus only 26.4 percent for a comparison group of similar students (Kolenovic, Linderman and Karp 2013). These rates were impressive, but they were for a subset of students, because the initial cohort entered ASAP with no developmental course needs (although more than 40 percent had a need when first accepted to CUNY). Following the exceptional outcomes of this first

Figure 1. Associate Degree Attainment



Source: Authors' calculations using CUNY administrative data.

*Note:* A two-tailed t-test was applied to differences between ASAP and comparison group students. Total sample size was 6,462 (3,231 in the ASAP group and 3,231 in the comparison group). Estimates are adjusted by college and cohort using fixed effects.

\*\*\*p < .001

cohort, ASAP expanded its eligibility criteria in 2009 to accept students with up to two developmental course needs at time of entry into the program.

An analysis of the most recent five cohorts with graduation data (fall 2009, spring 2010, fall 2010, fall 2011, and fall 2012) using propensityscore matching found that ASAP students had a three-year graduation rate of 52.4 percent, which was 25.6 percentage points higher than the comparison group graduation rate of 26.8 percent (figure 1). In addition, ASAP students had a higher two-year graduation rate (24.4 percent versus 8.4 percent); and those students who graduated within three years completed their degrees in slightly less time (4.7 semesters compared to 5.0 semesters on average). ASAP effects on three-year associate degree attainment were found for all cohorts, as well as for students who entered with developmental need, and for all admissions types (see table 1). Previous internal research has also shown that ASAP effects were found for all subgroups of race-ethnicity and gender, and for Pell recipients (Strumbos and Kolenovic 2016). Of particular note, African American male students in ASAP had a three-year graduation rate of 47.0 percent (versus 20.8 percent for the comparison group), Hispanic male students had a rate of 46.7 percent (versus 18.2 percent), and Pell recipients a rate of 52.7 percent (versus 27.3 percent) (Strumbos and Kolenovic 2016).

Third-semester outcomes (shown in table 2) demonstrate that ASAP students were already ahead of comparison group students early on in their degree studies. ASAP students reenrolled at a higher rate (81.3 percent) than comparison group students (73.8 percent) and were enrolled full time at a higher rate (77.4 percent of all students who started versus 60.4 percent). ASAP students also had accumulated more credits by the end of their third semester—31.9 credits to 26.9. Looking only at students who were still enrolled at the end of the third semester, the cumulative grade point average (GPA) was quite similar for ASAP students (2.72) and comparison group students (2.65).

ASAP has also been studied by external researchers using rigorous methods. MDRC, a nonprofit, nonpartisan education and social

Table 1. Three-Year Associate Degree Attainment by Characteristics at Entry

		Comparison		
		ASAP	Group	
Outcome	N	Students	Students	Difference
Cohort/semester of entry <sup>a</sup>				
Fall 2009 cohort	834	53.7	22.8	30.9***
Spring 2010 cohort	758	46.8	20.1	26.8***
Fall 2010 cohort	980	42.7	30.4	12.3***
Fall 2011 cohort	886	56.8	25.5	31.3***
Fall 2012 cohort	3,004	55.5	28.8	26.6***
Admission type				
First-time freshmen	4,238	50.4	24.0	26.4***
Transfer students	389	52.5	21.0	31.5***
Continuing students	1,835	57.0	34.4	22.6***
Developmental need at entry				
Fully proficient at entry	2,164	64.0	35.7	28.4***
At least one developmental course need at entry	4,298	46.6	22.4	24.2***

Source: Authors' calculations using CUNY administrative data.

Note: A two-tailed t-test was applied to differences between ASAP and comparison group students.  $^{a}$ For the ASAP cohorts that entered in fall 2009, spring 2010, and fall 2010, prior year students were used for the comparison group. Starting with the fall 2011 ASAP cohort, students from the same year were used for the comparison group. Estimates are adjusted by college and cohort using fixed effects.  $^{***p} < .001$ 

Table 2. Third Semester Outcomes

Outcome	ASAP Students	Comparison Group Students	Difference
Retention (%)	81.3	73.8	7.5***
Full-time enrollment (%)	77.4	60.4	17.1***
Cumulative credits earned (end of semester)	31.9	26.9	5.0***
Sample size	3,231	3,231	
Cumulative GPA (end of semester)	2.72	2.65	0.07**
Sample size	2,625	2,379	

Source: Authors' calculations using CUNY administrative data.

*Note:* A two-tailed t-test was applied to differences between ASAP and comparison group students. Cumulative GPA is measured out of those who were still enrolled at the end of the third semester. Estimates are adjusted by college and cohort using fixed effects.

policy research organization, conducted an evaluation of ASAP using an experimental (random assignment) design to reduce the chances that selection bias and student motivation were the true causes behind ASAP's apparent effects. The MDRC study included students from three

community colleges—Borough of Manhattan Community College, LaGuardia, and Kingsborough—who entered in spring 2010 and fall 2010. All students in the MDRC study entered ASAP with at least one developmental course need. MDRC found that program group stu-

<sup>\*\*\*</sup>p < .001; \*\*p < .01

dents, those who had the opportunity to participate in ASAP, had nearly double the three-year graduation rate of control group students, at 40.1 percent versus 21.8 percent, an effect of 18.3 percentage points. The study authors noted that "ASAP's effects are the largest MDRC has found in more than a decade of research in higher education" (Scrivener et al. 2015, ES-2). They also found that program group students had higher rates of enrollment every semester, higher rates of full-time enrollment, higher levels of total credit accumulation, and higher rates of transfer to four-year colleges during the study period.

Finally, ASAP's cost-effectiveness and benefits have also been examined in two reports by the Center for Benefit-Cost Studies in Education at Teachers College, Columbia University. The first report found that, although ASAP costs considerably more per student, its higher graduation rates result in a lower cost per graduate. The cost per graduate for ASAP students is \$6,500 less than the cost per graduate for comparison group students (Levin and García 2012).1 The second report, a benefit-cost analysis also by Henry Levin and Emma García, estimated benefits to students and taxpayers. It found that the investment in ASAP generates millions of dollars in net benefits through increased lifetime earnings and tax revenues, as well as reduced spending on public health, criminal justice, and public assistance (2013, 2017). Levin and García estimated a benefit-cost ratio of 3.5:1 for each ASAP graduate and further estimated that an enrollment of one thousand students in ASAP would produce total net benefits of approximately \$46 million more than the net benefits for the same comparison group enrollment.

Preliminary evidence of longer term outcomes of the first two cohorts of ASAP students suggest that they continue to pursue further education after completing the associate degree. Six years after entering ASAP, 61.3 percent of students had earned an undergraduate degree (associate or bachelor's), 57.8 percent of students had transferred to a baccalaureate program, and 25.2 percent had earned a bachelor's degree (Strumbos and Kolenovic 2017). These transfer and degree attainment rates were significantly higher than the rates for a propensity-score matched comparison group. For first-time freshmen, the ASAP student transfer rate was 19 percent higher than the comparison group and the bachelor's degree attainment rate was 49 percent higher. This suggests that ASAP not only helps students earn their associate degrees, but also helps them transfer and better prepares them for success in earning the bachelor's degree, even more critical for long-term economic mobility.

#### POLICY PROPOSAL BASED ON ASAP

The ASAP model consists of a package of supports and policies that have been shown effective when delivered in a comprehensive and integrated way. The program has only been tested and proven successful when it is offered as a complete package, and we believe all components are essential to its success. Our policy proposal is based on the key features of ASAP and includes the following nine recommendations.

Encourage and support full-time enrollment for all students

Build degree momentum through use of winter and summer course-taking and a focus on addressing remedial needs

Provide financial supports to students, including transportation and textbook assistance

Provide comprehensive advisement focused on building strong and deep relationships with students

1. Levin and García used estimated graduation effects from a propensity-score analysis of ASAP's first cohort, showing that ASAP students had a three-year graduation rate of 55 percent versus 24 percent for the comparison group of similar students at CUNY (2012). They estimated the costs of producing associate degrees for both ASAP and comparison group students by calculating the costs of the aggregate, full-time equivalent (FTE) enrollments over three years for both groups using an ingredients-based approach and budgetary information provided by CUNY. The costs were then divided by the numbers of graduates in each group to determine the cost per graduate.

Develop tools and resources to guide students, such as course sequences and degree maps

Build a connected community through a summer institute to orient students and by blocking at least two first-year courses

Integrate academic support and career development services into the menu of mandatory services

Build strong relationships between advisors and faculty and enable interdepartmental coordination across college units

Promote a culture of ownership and accountability at all levels

#### **Encourage and Support Full-Time Enrollment**

An essential piece of a national policy proposal based on the ASAP model is that students must be encouraged, if not required, to enroll full time each semester. This requirement should be coupled with supports to enable students to take on a full-time course load (as described in subsequent sections). ASAP students are required to enroll full time each semester they are in the program, which means a minimum of twelve credits per semester at CUNY community colleges.

Full-time enrollment is a key predictor of degree completion (Attewell, Heil, and Reisel 2011). Adelman's research on academic momentum demonstrates how important it is for students to enroll in and earn credits in their first year (2006). However, many institutions do a poor job of communicating to students how important it is to enroll full time each semester or to explain the implications of enrolling part time. At CUNY, like many other institutions, most associate degree programs require sixty credits. This means that a student must earn at least fifteen credits each semester (or thirty credits per calendar year) to graduate in two years, the presumed time frame for community colleges. However, the message to students is often that they can enroll in twelve credits or choose to go part time without pointing out that this could delay their graduation significantly and potentially impact time-stamped financial aid. It is critical to provide students who want to earn a degree in a timely fashion with a clear message about enrolling full time

and the expectation to graduate in three years or less

Yet, it is not enough to encourage or require students to enroll full time—it is also important to support students so that they are able to take a full-time course load. Many community college students are working while in school or have family responsibilities, or both, making it difficult to take a full-time course load. If provided with appropriate and relevant supports, many students with these outside responsibilities are in fact able to enroll full time—ASAP has shown that through delivery of the full program model, students are able to remain enrolled full time at higher rates. The MDRC study found that students in ASAP were enrolled full time at higher rates each semester than the control group. In the second semester, 85.6 percent of program group students were enrolled full time relative to 65.2 percent of control group students, for an estimated effect of 20.4 percentage points (Scrivener et al. 2015). Given that this was a random assignment study in which program group students and control group students had an equal likelihood and ability to enroll full time prior to the study, this finding indicates that ASAP's robust combination of supports, structures, and resources enabled students to stay enrolled full time.

Some may argue that full-time enrollment is not a realistic option for all students. However, without enrolling full time, it is virtually impossible to complete a degree in a timely manner. For students who want to earn an associate degree within three years, the message should be clear that in order to graduate within this time, they will need to earn at least twenty credits per year. Evidence from evaluations of ASAP shows that when students are supported with financial resources and provided with robust advisement, integrated support services and flexible course-taking options, continuous full-time enrollment is attainable for many more students. Rather than operating under the premise that full-time enrollment is not possible for most students, institutions should work to make it possible for more students to do so. This can be accomplished by offering consolidated course schedules at different times including evening and weekends, reimagining student support services, and providing financial supports, such as textbook and transportation assistance, to reduce the hours needed for work.

#### **Build Degree Momentum**

A national ASAP-like model should provide opportunities to build degree momentum through use of winter and summer course-taking and an immediate and continuous focus on addressing remedial needs. When appropriate, students in ASAP are encouraged to enroll in winter and summer courses with ASAP covering their tuition for these courses. This helps students maintain academic momentum so that they can earn at least twenty credits each year, the critical threshold found to predict completion (Adelman 2006).

The MDRC study found that by the end of the third semester, program group students had earned an average of 30.3 total credits (including developmental education credits) compared to the control group average of 24.1 total credits (Scrivener et al. 2015). Part of this difference was due to winter and summer enrollment. MDRC also found that program group students enrolled during the winter and summer sessions at much higher rates than control group students in the first two years (Scrivener et al. 2015).

Colleges should be resourced to offer free or discounted intersession courses that would help students build academic momentum. For example, CUNY offers developmental education courses and select STEM (science, technology, engineering, and mathematics) courses free of charge in the summer to matriculated students. Other credited summer courses have been offered by CUNY colleges at discounted rates through "buy one course, get one free" initiatives or by offering winter and summer courses as "waiver" courses whereby colleges only pay instructional costs and do not charge separate tuition.

Perhaps more critically, ASAP students with remedial needs are required to address these needs immediately and continuously until they become fully proficient. ASAP carefully tracks enrollment in remedial courses each semester and examines pass rates to monitor progress through remediation. MDRC found that after one year, 63.9 percent of program group members had completed their developmental education requirements, compared with 41.5 percent of control group members (Scrivener et al. 2015).

We recommend that colleges create and effectively market free developmental education interventions in the summer and winter that will help students eliminate or reduce developmental need before matriculation. Such interventions will require an ambitious communication campaign targeting faculty, student support staff, high school or HSE counselors, students and parents. ASAP messaging in this area is aggressive and focuses on how addressing developmental needs quickly puts students on their degree pathway and moves them toward their goals faster. We recommend strong messaging in this area at a national level.<sup>2</sup>

#### Provide Financial Supports to Students, Including Transportation and Textbook Assistance

While many students receive financial aid toward their tuition, one of the most commonly cited challenges that students face is paying for transportation and textbooks. ASAP provides students with transportation assistance in the form of free MetroCards for the New York City subway and bus system. In addition, ASAP works with the official bookstores/vendors for each college to provide \$500 per year for each student to be used toward textbooks. Students who use up more than half of this amount in their first semester may be eligible for additional textbook funds based on their course enrollments and needs. These financial supports are very important to ASAP students—in some cases, they allow students to work fewer hours and concentrate on their course work. In an-

2. Other types of remediation reforms are being implemented around the country that reduce or eliminate the need for remediation or provide alternate pathways through remediation. We strongly support institutional reforms in these areas, although they are not a component of the existing ASAP model, which is focused on services and supports outside the classroom.

nual student surveys, ASAP students consistently report that financial supports are one of the most important program components (Linderman and Kolenovic 2012).

#### **Provide Comprehensive Advisement**

Advisement is at the heart of the ASAP model and is an area where substantial improvements are needed at many community colleges nationwide. ASAP advisors build strong and deep relationships with students and remain with them for the entire time they are in the program, from entry to graduation.3 As cited in a 2013 study of ASAP, the number of contacts between students and their ASAP advisors was found to be a key predictor of timely degree completion (Kolenovic, Linderman, and Karp 2013). Though the need to improve college advisement is a much discussed topic, recommendations are often vague and without a strong evidence base. Our policy proposal recommends several concrete ways to improve advisement.

#### Advisor-Student Ratios of 1:150 with an Accompanying Triage Model to Ensure That High Needs Students Have Necessary Support

ASAP advisors have a maximum caseload of 150 students per advisor to ensure that they can meet with students frequently and provide personalized and timely support. By contrast, nationally community college advisors have an average caseload of 441 students (Robbins 2013). In the first semester of the program, all ASAP students are considered high-need students and are required to meet with their advisor twice per month. After the first semester, students are sorted into needs groups each semester based on a combination of academic progress, personal resiliency, and program compliance factors. The requirement to meet with an advisor is then adjusted based on their needs group. This allows advisors to manage their caseloads by "triaging" students so they can provide more frequent assistance to students who are in need of greater support. A policy based on the ASAP model would cap the

maximum number of students assigned to each advisor at 150 and encourage the use of a similar triage model to guide caseload management

Training for Advisors Beyond the Scope of Traditional Academic Advisement That Focuses on Personal Development and Helping Students with Long-Term Goals

ASAP advisement is much more in-depth than traditional community college academic advisement. ASAP advisors are trained to use a developmental advisement approach recommended by National Academic Advising Association (NACADA), which considers the needs of the whole student, aims to help advisors build rapport with students, and focuses on fostering goal-setting and self-advocacy skills. In advisement sessions, ASAP advisors cover topics such as long-term planning, career goals, time management, and strategies for addressing personal issues, in addition to focusing on traditional academic advisement tasks like helping students select and register for classes. MDRC found that students who received ASAP advisement reported a much broader range of topics discussed with their advisor than control group students who received regular college advisement (Scrivener et al. 2015). Given that many students at community colleges are the first in their family to attend college, they may not have personal or family networks that can provide this type of guidance. Advisement that covers these topics is crucial for many community college students and is lacking at most institutions.

#### Advisor Assignments to Ensure the Same Advisor Remains with the Student Through Graduation

Ensuring that the same advisor remains with a student from acceptance through graduation helps build strong and deep relationships so that students feel comfortable with their advisors, trust their guidance, and are willing to follow their recommendations. We recommend a staffing structure that allows advisors to stay

3. More details on the ASAP advisement model are provided in "Inside ASAP: A Resource Guide on Program Structure, Components, and Management" (Boykin and Prince 2015).

with students throughout the course of their academic career.

# Expectations Clearly Communicated to Students of the Requirement to Meet Frequently with Advisor and Compliance Encouraged by Incentives

As mentioned, ASAP students are required to meet with their advisor twice per month in the first semester. After that semester, depending on their need, the requirement may be lowered to as little as once every other month. Advisors meet with students in a variety of ways-individual in-person meetings, small group meetings, large group meetings, and by phone. The mandatory nature of advisement in ASAP also removes the guesswork for students when assessing when and how to reach out for support from an advisor when the service is optional. Melinda Karp points out that many first-generation, low-income students are unsure of where and how to reach out for help when they arrive at college and therefore do not reach out at all (2011). ASAP students are informed of the requirement to meet with their advisor during the recruitment process and commit to meeting the requirement as a step to enrollment. To ensure that students meet this requirement, incentives are used. Students who do not meet with their advisors as required may have their MetroCard deactivated. Early on in their academic careers, before students realize the value of advisement, the MetroCard serves as an important incentive to ensure that students meet program requirements. We recommend a clear message to students about the advisement meeting requirements and a mechanism to incentivize students to attend these meetings.

#### Data Systems to Track Advisement and to Create Accountability for Participation and Outcomes

Finally, the use of data serves as a key component of the ASAP advisement model in several ways. First, ASAP advisors have access to a custom database that allows them to monitor student academic progress and to carefully track contacts with students and notes from meetings. Advisors can use this database to run reports to identify students who did not have a meeting in a given period of time and to review

prior meetings and notes. Advisors are trained and strongly encouraged to use data to better serve students. Second, ASAP campus directors and program management staff make frequent use of data to monitor the program and to make decisions. Monthly reports are run to track how many students are meeting with their advisors and how frequently, types of meeting topics (using meeting codes entered by the advisors), and types of action taken (using action codes entered by the advisors). Reports are also run to track student enrollment and success in developmental courses, semester-to-semester retention, credit accumulation, GPA, and graduation. Aggregate reports help program administrators ensure the program is on track to meet benchmarks, while student-level reports help advisors identify students in need of support. Developing or refining data systems that can be used across multiple levels to support advisement and program management is also an essential piece of ensuring that advisement is delivered effectively.

#### **Develop Tools and Resources**

At many community colleges, students are provided with a vast array of options of degree programs and little guidance or detailed information about the requirements. Thomas Bailey, Shanna Jaggars, and Davis Jenkins lay out the main issues with what they refer to as the "cafeteria college" and the need for guided pathways to better support students (2015). In ASAP, each major is carefully mapped out with course sequences and semester-by-semester plans of what courses to register for in order to graduate in three years or fewer. These tools help students see the long-term plan and path to their degree and help advisors provide appropriate guidance and support. They also help ensure that students do not waste time, energy, and financial aid dollars taking courses and earning credits that will not count toward their degree. Making easy-to-understand course sequences and degree maps available to students is an essential piece of our policy proposal.

#### **Build a Connected Community**

Building a sense of community can be very difficult in a community college setting, which makes it hard for students to feel integrated and

connected to peers, faculty, and staff on campus. When students feel connected to each other and to the staff and have a sense of belonging at the institution, they are more likely to stay enrolled and graduate. ASAP works to build this sense of community and connection by creating opportunities for students to meet each other and to build a sense of belonging with other students in their cohort. For students entering in the fall, a summer institute is held prior to the start of the semester where students have a chance to meet each other and learn more about what it means to be a part of the ASAP community. In their first year, students take three to five blocked classes with other ASAP students—classes are considered blocked if they have at least ten ASAP students. We recommend an orientation prior to enrollment to begin to build a sense of community and placing students in at least two courses in their first year with the same group of other students.

## Integrate Academic Support and Career Development

Many community colleges have tutoring centers and career services offices, but too often students do not take advantage of these resources. In ASAP, students are required to attend tutoring while they are taking remedial courses, or if they are struggling academically, or if their advisor deems it necessary. Tutoring attendance is tracked and, as with advisement, students must meet the tutoring requirement to continue to receive the financial resources provided by the program.

ASAP also provides a dedicated career and employment specialist (CES) at each college. Students are required to meet with the CES individually or in workshops several times prior to graduation and are expected to meet a series of career development benchmarks. Again, meetings and benchmarks are tracked to ensure that students receive these services. We recommend that academic support, such as tutoring or supplemental instruction, and career development services are provided to students and communicated as a required activity.

#### **Build Strong Relationships**

Coordination across departments is often lacking in community colleges, which makes navi-

gating college life difficult and confusing for students. ASAP staff work closely with all offices in the college, including admissions, financial aid, bursar, and the registrar to ensure that supports are in place for students and that the college is working effectively as an integrated institution. In addition, ASAP advisors build strong relationships with faculty and gather faculty feedback about students on a scheduled basis so they can intervene promptly to help students if they are struggling. This effectively creates a team of faculty and staff working jointly to support students. Establishing fully integrated, coordinated institutional communication systems to better support student success is an important element of our policy proposal.

#### **Promote Ownership and Accountability**

The last crucial piece of developing a national ASAP-like model is promoting a culture of ownership and accountability at all levels of the institution. Having leadership buy-in and investment in the success of students is necessary for the program model to work. From inception, ASAP was identified as a top priority for CUNY: and CUNY Office of Academic Affairs and college leadership were actively engaged in establishing optimal conditions for the program to launch and operate efficiently on an ongoing basis. Examples included expediting staff hiring, identifying appropriate program space, encouraging timely recruitment and enrollment of students, and supporting communication and coordination across academic departments and other college units.

ASAP also has a strong management structure with a data-driven culture that encourages accountability for clearly articulated student outcomes and program service delivery benchmarks that are constantly reviewed to allow for continuous improvement. As mentioned, data on program activities and student outcomes are carefully collected and progress toward goals is tracked and reviewed on a scheduled basis. Stakeholders at all levels, including ASAP campus directors and their immediate program team members such as advisors, recruitment staff, and career specialists, meet regularly to review their own local data (pulled from the ASAP database or produced by the CUNY OAA

ASAP research and evaluation team), delivery of services, and student needs. Each staff member is clear on the benchmarks they are individually working toward from enrollment targets to the number of advisement contacts with students.

Partner college directors come together monthly with CUNY Central ASAP staff to discuss program-wide trends, review data produced on an annual schedule, share best practices, and consider strategies for addressing challenges and improving program impact. Finalized semester and annual program data are collated and shared with college and CUNY leadership as well as funders to ensure that all stakeholders are fully aware of program successes and areas for potential improvement. Only with this type of systemic buy-in and sustained support will these policy recommendations result in program success that leads to higher graduation outcomes.

#### **COST AND EXPECTED IMPACT**

Such a program could be implemented and funded at a national level several ways. One is a competitive federal grant process, such as the "Race to the Top" grant program proposed in this double issue (Holzer 2018). In a competitive grant process, states or institutions could apply for funding to implement an ASAP-like program or to restructure their institution based on the key components of the ASAP model. Each year, around 1.2 million students enroll in community colleges for the first time and between 60 and 65 percent enroll full time when they begin. If an ASAP-like program were provided to all first-time full-time students at community colleges, roughly 750,000 students would have been enrolled in fall 2013 (Kena, Hussar, et al. 2016).4 On top of this, a group of students would become able to enter full time with the proper supports.

A detailed cost analysis for this proposal has

not been conducted, but we estimate that, with 750,000 students served, a national policy based on ASAP could cost between \$2.25 and \$4.88 billion in the first year. If the retention rates are similar to ASAP rates (80 percent in second year and 40 percent in third year) and 750,000 new students enrolled each year, second year costs would be between \$4.05 and \$8.78 billion and third year and ongoing costs would be between \$4.95 and \$10.73 billion per year.

These estimates are based on costs that range from \$3,000 to \$6,500 per student per year. When ASAP began with just over a thousand students, the additional annual cost per student above usual CUNY community college full-time equivalent allocations was \$6,500. That cost dropped dramatically as the program has expanded. As of academic year 2016-2017, the annual cost per student was \$3,700 with additional savings expected as the program grows to serve more students and further economies of scale are realized. The ASAP demonstration in Ohio was estimated to cost \$3,000 per student per year above regular college costs (Sommo and Ratledge 2016). Of course, the costs to implement ASAP-like programs would depend on many factors, including the amount of existing state, system, and institutional resources and the ability to marshal those resources, local differences in personnel and other program expenses, and the level of investment dedicated to building and maintaining a strong data system and effective program management structure.5 As discussed, even at its highest cost, ASAP has proven to be extremely cost effective (Levin and García 2012; Scrivener et al. 2015) and to demonstrate strong return on investment (Levin and García 2017).

In terms of potential impact, national data show that more than half of all students entering public two-year institutions were at or below 200 percent of the federal poverty level in

- 4. Ideally, all community college students could eventually receive ASAP-like services. However, the simplest way to estimate the costs and potential impact of a nationwide expansion is to consider how many students would be served if all students were provided with the program as they entered a community college. For this reason, we focus our estimates on first-time students.
- 5. For example, the State of New York recently launched the Excelsior Scholarship program to provide free public college tuition for students from families making less than \$125,000 annually who are not fully covered by existing federal and state financial aid.

2011–2012, an estimated 32 percent below 100 percent, and another 23 percent between 100 and 200 percent (National Center for Education Statistics 2017). The ASAP model has been found to be effective for all students, including those from lower income quintiles and those who receive federal Pell grants. Doubling graduation rates for students below the poverty level would increase the number of individuals with associate degrees, better situating them for higher earnings and increased employment opportunities throughout their lifetimes. A college degree nearly triples the chances of an individual moving from the lowest income quintile to the top two income quintiles (Haskins 2008). A human capital approach such as this one would likely enable far more individuals to move out and stay out of poverty.

#### LIMITATIONS AND ALTERNATIVES

The ASAP model has limitations, of course, and colleges could consider alternative approaches. The most frequent criticism is that not all students can enroll full time because some students must work to support themselves. As mentioned, we strongly believe, based on the evidence from ASAP, that many more students could in fact attend full time if they were properly supported or if courses were scheduled and offered in the evenings, on weekends, or online to enable working students to enroll in at least twelve credits per semester. The model would also work for parttime students if they enroll during summer and winter sessions and if courses are available during those times. Institutions committed to success for working students should ensure they offer course options that make it possible for students to enroll in enough credits each year. Unfortunately, if students do not enroll in enough credits to earn at least twenty credits per year, it is not possible for them to graduate with an associate degree within three years. Institutions are responsible for ensuring they communicate this message clearly to students so they can make an informed decision. In addition, students who attend part time may be eligible for less financial aid and, again, institutions should ensure that they properly communicate the financial aid implications of different choices to students.

A second limitation of the model is that it costs more than traditional community college services and requires a significant investment in staff, training, and space. ASAP costs are higher, but as several studies have shown, the costs are actually less per graduate when the large increase in graduation rates are considered. A more robust upfront investment in an evidence-based program model offers a more efficient use of public funding than current spending practices that have consistently yielded low completion rates.

There has been discussion of other interventions at the national level that could and do have an impact on community college success, such as free community college tuition, expansion of Pell grant awards, implementation of guided pathways models, and stricter accountability for colleges in the form of performance funding. Currently no proposed interventions have the robust evidence base and consistent strong track record of success as ASAP. Free community college tuition initiatives, expansion of Pell and year-round Pell, are highly beneficial to students; however, it is important to keep in mind that students have many expenses beyond tuition (such as for transportation and books, which ASAP covers). It is also worth repeating that providing financial resources alone is also not enough to help students overcome barriers. In addition to having financial needs, many students are in need of wraparound services and coordinated supports. In many cases, interventions that are purely financial may not be enough to help students succeed.

#### HISTORY AND FUTURE OF ASAP

CUNY ASAP originated out of a partnership between CUNY and the New York City Office of the Mayor and provides a solid example of how close collaboration and strong commitment from government can enable successful rollout of a complex postsecondary initiative. The story of how ASAP was created underscores the importance of strong buy-in from key stakeholders. An evidence-based program model is a clear necessity, but without the right commitments and players at the table, even a robust model has little chance of success.

## The Center for Economic Opportunity and Education as Pathway to Economic Opportunity

Early in 2006, New York City Mayor Michael Bloomberg convened a commission composed of leaders from the academic, public, philanthropic and business sectors to create a set of recommendations about how New York City (NYC) could better address the issue of poverty. Among other strategies, education was identified as a crucial pathway for increasing economic opportunity and moving people out of poverty. Notably missing at the time were programs that provided adequate supports for students in the community college setting. Many students enrolled at CUNY community colleges were stuck in remedial or developmental education courses and the six-year graduation rate hovered around 20 percent.

For the commission, focusing on evidence-based programming was key to ensuring that the interventions proposed would have impact. The commission recommended close monitoring of all initiatives as well as evaluation to determine efficacy. The NYC Center for Economic Opportunity (CEO) was created as a unit within the Office of the Mayor to implement, monitor, and evaluate effective solutions to poverty, bringing forth the recommendations of the commission. It was funded with public and private dollars—with an annual allocation of approximately \$80 million to be used for demonstration projects, monitoring, and evaluation.

#### Creation of ASAP and History to Date

CUNY's then Chancellor Matthew Goldstein saw an opportunity with the efforts of the commission and the creation of CEO and approached the mayor with the idea for ASAP. With this support from CEO, ASAP was created in January 2007 to address poverty by radically improving the associate degree attainment rates of low-income New Yorkers. Rather than initiate a small pilot program at one or two colleges, all community colleges in the CUNY sys-

tem were included from the beginning, to ensure the model could be effective in a variety of settings. ASAP began with an initial cohort of 1,132 students across CUNY's then six community colleges: Borough of Manhattan, Bronx, Hostos, Kingsborough, LaGuardia, and Queensborough.

CEO worked closely with staff at CUNY on program development, and helped build a rigorous evaluation agenda to effectively monitor outcomes and determine impact. The program had strong support within the mayor's office and high visibility. These factors were extremely valuable in problem-solving and ensuring that CUNY ASAP received the necessary funding and attention required for successful implementation. Based on its early results, funding from CEO was made a permanent allocation to CUNY in 2011 and the University expanded ASAP to 4,300 students over the next three years. To date, ASAP has served more than thirty-three thousand students across eleven cohorts between 2007 and fall 2017. The close collaboration between City government and a postsecondary institution was a key ingredient in the successful implementation of ASAP and serves as a model for how a similar program could be rolled out in other cities and states.

## ASAP Expansion, Replication, and as National Policy Model

In 2014, Mayor Bill de Blasio and the City of New York made an even larger investment in ASAP's expansion so that it can help even more low-income students earn an associate degree. With an additional \$77 million in new annual city funding, ASAP is undergoing a major expansion across CUNY to enroll twenty-five thousand students per year by 2018–2019 and beyond across nine colleges. Program growth will include a specific focus on serving more STEM majors to position more students for projected in-demand job opportunities across multiple employment sectors in the region. The expansion will also include the ultimate proof of the ASAP concept through a campus-

- 6. The Center for Economic Opportunity has since been merged with another unit in the mayor's office and renamed the Mayor's Office for Economic Opportunity.
- 7. Medgar Evers College became part of ASAP in fall 2014; College of Staten Island and New York City College of Technology joined ASAP in fall 2015.

wide expansion at Bronx Community College that will place most first-time, full-time students who enter the colleges into an ASAP pathway. The ASAP model is also being replicated at CUNY at the bachelor's level. In fall 2015, John Jay College of Criminal Justice, one of eleven CUNY senior colleges, launched an ASAP-like program called Accelerate, Complete, and Engage (ACE) that incorporates all core elements and resources of ASAP and aims to double the four-year bachelor's completion rates of participating students. Early findings from the first cohort are promising: ACE students are demonstrating significantly higher credit momentum toward a degree than matched comparison group students after four semesters. The New York City Mayor's Office for Economic Opportunity and a private funder have supported an additional ACE cohort in fall 2017. CUNY is pursuing additional funding opportunities to further expand ACE and assist other CUNY senior colleges to create similar programs.

Additionally, ASAP is being replicated beyond CUNY through a demonstration project in Ohio at three community colleges. CUNY provided technical assistance to partner colleges and the Ohio Department of Higher Education, which serves in a convening capacity. MDRC is leading a random assignment study of the Ohio programs and early findings suggest they are realizing promising impacts (Sommo and Ratledge 2016). CUNY is also providing technical assistance to two community colleges in California and New York (Skyline Community College and Westchester Community College) that aim to replicate and rigorously evaluate their own ASAP-like programs.

A national policy based on the ASAP model would take these efforts to the next level—leading to a dramatic increase in associate degree completion rates. ASAP has been recognized by the U.S. Department of Education as an example of a promising intervention to increase low-income student success (U.S. Department of Education, Office of the Under Secretary 2016). Already, members of the House Committee on Education and the Workforce have announced a bill, the Community College Student Success Act, to fund community colleges to "develop and implement programs modeled after ASAP to improve degree completion"

(Committee on Education and the Workforce 2017). Bringing ASAP to national scale could be a transformative anti-poverty strategy with broad social and economic effects. Millions of students attend America's community colleges every year with aspirations to create a better life for themselves and their families by earning a college degree. They deserve nothing less than the country's collective best efforts to help them realize these goals building on proven, evidence-based practice.

#### REFERENCES

Adelman, Clifford. 2006. The Toolbox Revisited:
Paths to Degree Completion from High School
Through College. Washington: U.S. Department
of Education.

Attewell, Paul, Scott Heil, and Liza Reisel. 2011. "Competing Explanations of Undergraduate Noncompletion." *American Educational Research Journal* 48(3): 536–59.

Bailey, Martha J., and Susan M. Dynarski. 2011. "Inequality in Postsecondary Attainment." In Whither Opportunity: Rising Inequality, Schools, and Children's Life Chances, edited by Greg Duncan and Richard Murnane. New York: Russell Sage Foundation.

Bailey, Thomas R., Shanna Smith Jaggars, and Davis Jenkins. 2015. *Redesigning America's Community Colleges: A Clearer Path to Student Success*. Cambridge, Mass.: Harvard University Press.

Belfield, Clive R., and Thomas Bailey. 2011. "The Benefits of Attending Community College: A Review of the Evidence." *Community College Review* 39(1): 46–68.

Belfield, Clive R., and Henry M. Levin. 2007. *The Price We Pay Economic and Social Consequences of Inadequate Education*. Washington, D.C.:
Brookings Institution Press.

Boykin, Daniela, and Amy Prince. 2015. *Inside ASAP:* A Resource Guide on Program Structure, Components, and Management. New York: City University of New York. Accessed October 22, 2017. http://www1.cuny.edu/sites/asap/wp-content/uploads/sites/8/2015/05/Resource-Guide.pdf.

Bureau of Labor Statistics. 2015. "Earnings and Unemployment Rates by Educational Attainment, 2015." *Employment Projections*. Washington: Government Printing Office. Accessed September 21, 2016. http://www.bls.gov/emp/ep\_table 001.htm.

- Card, David. 1999. "The Causal Effect of Education on Earnings." In *The Handbook of Labor Economics*, vol. 3, edited by Orley Ashenfelter and David Card. Amsterdam: Elsvier Science.
- Carnevale, Anthony P., Nicole Smith, and Jeff Strohl. 2010. *Help Wanted: Projecting Jobs and Education Requirements Through 2018*. Washington, D.C.: Georgetown University Center on Education and the Workforce.
- Committee on Education and the Workforce. 2017. 
  "Democrats Unveil Legislation to Boost College Completion." Press release, June 20. Accessed September 2, 2017. http://democrats-edwork force.house.gov/media/press-releases/democrats-unveil-legislation-to-boost-college-completion.
- Complete College America. 2016. *New Rules: Policies to Strengthen and Scale the Game Changers*. Indianapolis, Ind.: Complete College America.
- Dadgar, Mina, and Madeline Joy Trimble. 2015. "Labor Market Returns to Sub-Baccalaureate Credentials: How Much Does a Community College Degree or Certificate Pay?" Educational Evaluation and Policy Analysis 37(4): 399–418.
- Ellwood, David, and Thomas J. Kane. 2000. "Who Is Getting a College Education: Family Background and the Growing Gaps in Enrollment." In Securing the Future: Investing in Children from Birth to College, edited by Sheldon Danziger and Jane Waldfogel. New York: Russell Sage Foundation.
- Goldrick-Rab, Sara. 2010. "Challenges and Opportunities for Improving Community College Student Success." *Review of Educational Research* 80(3): 437–69.
- Haskins, Ron. 2008. "Education and Economic Mobility." In *Getting Ahead or Losing Ground: Economic Mobility in America*, by Julia Isaacs, Isabel Sawhill, and Ron Haskins. Washington, D.C.: Pew Charitable Trusts, Economic Mobility Project.
- Haskins, Ron, Harry Holzer, and Robert Lerman. 2009. *Promoting Economic Mobility by Increasing Postsecondary Education*. Washington, D.C.: Pew Charitable Trusts, Economic Mobility Project.
- Haveman, Robert, and Timothy Smeeding. 2006. "The Role of Higher Education in Social Mobility." *The Future of Children* 16(2): 125–50.
- Holzer, Harry J. 2018. "A 'Race to the Top' in Public Higher Education to Improve Education and Employment Among the Poor." RSF: The Russell Sage Foundation Journal of the Social Sciences 4(3): 84–99. DOI: 10.7758/RSF.2018.4.3.05.

- Hout, Michael. 2012. "Social and Economic Returns to College Education in the United States." *Annual Review of Sociology* 38(2): 379–400.
- Jepsen, Christopher, Kenneth Troske, and Paul Coomes. 2014. "The Labor-Market Returns to Community College Degrees, Diplomas, and Certificates." *Journal of Labor Economics* 32(1): 95– 121.
- Kahlenberg, Richard D. 2015. How Higher Education Funding Shortchanges Community Colleges. New York: Century Foundation.
- Kane, Thomas J., and Cecilia Elena Rouse. 1995. "Labor-Market Returns to Two- and Four-Year College." *American Economic Review* 85(3): 600–14.
- Karp, Melinda M. 2011. "Towards a New Understanding of Non-Academic Support: Four Mechanisms for Encouraging Positive Student Outcomes in the Community College." CCRC working paper no. 28. New York: Community College Research Center, Teachers College, Columbia.
- Karp, Melinda M., and Rachel H. Bork. 2014. "'They Never Told Me What to Expect, So I Didn't Know What to Do': Defining and Clarifying the Role of a Community College Student." Teachers College Record 116(5): 1-40.
- Kena, Grace, William Hussar, Joel McFarland, Cristobal de Brey, Lauren Musu-Gillette, Xiaolei
   Wang, Jijun Zhang, et al. 2016. The Condition of Education 2016. NCES 2016-144. Washington:
   U.S. Department of Education, National Center for Education Statistics.
- Kena, Grace, Lauren Musu-Gillette, Jennifer Robinson, Xiaolei Wang, Amy Rathbun, Jijun Zhang, Sidney Wilkinson-Flicker, Amy Barmer, and Erin Dunlop Velez. 2015. *The Condition of Education 2015*. NCES 2015-144. Washington: U.S. Department of Education, National Center for Education Statistics.
- Kolenovic, Zineta, Donna Linderman, and Melinda M. Karp. 2013. "Improving Student Outcomes via Comprehensive Supports: Three-Year Outcomes from CUNY's Accelerated Study in Associate Programs (ASAP)." Community College Review 41(4): 271-91.
- Levin, Henry M., and Emma García. 2012. "Cost-Effectiveness of Accelerated Study in Associate Programs (ASAP) of the City University of New York (CUNY)." New York: Center for Benefit-Cost Studies of Education, Teachers College, Columbia University.

- 2013. "Benefit-Cost Analysis of Accelerated Study in Associate Programs (ASAP) of the City University of New York (CUNY)." New York: Center for Benefit-Cost Studies in Education, Teachers College, Columbia University.
- ——. 2017. "Accelerating Community College Graduation Rates: A Benefit-Cost Analysis." *Journal of Higher Education* online March 27, 2017. DOI: 10 .1080/00221546.2017.1313087.
- Linderman, Donna, and Zineta Kolenovic. 2012. "Results Thus Far and the Road Ahead: A Follow-Up Report on CUNY Accelerated Study in Associate Programs (ASAP)." New York: City University of New York.
- Marcotte, Dave E., Thomas Bailey, Carey Borkoski, and Greg S. Kienzl. 2005. "The Returns of a Community College Education: Evidence from the National Education Longitudinal Survey." Educational Evaluation and Policy Analysis 27(2): 157–75.
- National Center for Education Statistics. 2014. "Digest of Education Statistics 2014." Table 331.90. Washington: U.S. Department of Education. Accessed October 22, 2017. http://nces.ed.gov/programs/digest/d14/tables/dt14\_331.90.asp?current=yes.
- 2016. "Digest of Education Statistics, 2015." NCES 2016-014. Table 303.70. Washington: U.S. Department of Education. Accessed October 22, 2017. https://nces.ed.gov/programs/digest/d15/tables/dt15 303.70.asp?current=yes.
- ——. 2017. "2011-12 Beginning Postsecondary Students Longitudinal Study, First Follow-up." (BPS:12/14). Computation by NCES QuickStats. February 1, 2017.
- Robbins, Rich. 2013. "Implications of Advising Load."
  In 2011 National Survey of Academic Advising.
  Monograph no. 25. Manhattan, Kan.: National
  Academic Advising Association. Accessed October 22, 2017. http://www.nacada.ksu.edu

- /Resources/Clearinghouse/View-Articles /Advisor-Load.aspx.
- Scrivener, Susan, Michael J Weiss, Alyssa Ratledge, Timothy Rudd, Colleen Sommo, and Hannah Fresques. 2015. "Doubling Graduation Rates: Three-Year Effects of CUNY's Accelerated Study in Associate Programs (ASAP) for Developmental Education Students." New York: MDRC.
- Snyder, Thomas D., and Sally A. Dillow. 2015. "Digest of Education Statistics 2013." NCES 2015-011. Washington: U.S. Department of Education, National Center for Education Statistics.
- Sommo, Colleen, and Alyssa Ratledge. 2016. "Bringing CUNY Accelerated Study in Associate Programs (ASAP) to Ohio Early Findings from a Demonstration in Three Community Colleges."

  New York: MDRC.
- Strumbos, Diana, and Zineta Kolenovic. 2016. "ASAP Graduation Rates by Race/Ethnicity, Gender and Pell Status." ASAP evaluation brief. New York: City University of New York.
- ——. 2017. "Six-Year Outcomes of ASAP Students: Transfer and Degree Attainment." ASAP evaluation brief. New York: City University of New York.
- Tinto, Vincent. 1993. Leaving College: Rethinking the Causes and Cures of Student Attrition, 2nd ed. Chicago: University of Chicago Press.
- U.S. Department of Education, Office of Postsecondary Education. 2014. "2012–2013 Federal Pell Grant Program End-of-Year Report." Washington:
  U.S. Department of Education. Accessed October 22, 2017. Accessed February 3, 2017. https://www2.ed.gov/finaid/prof/resources/data/pell -2012-13/pell-eoy-2012-13.html.
- U.S. Department of Education, Office of the Under Secretary. 2016. "Fulfilling the Promise, Serving the Need: Advancing College Opportunity for Low-Income Students." Washington: Government Printing Office.