IMPACT AUDIT

Opportunity Junction
Job Training and Placement Program (J.T.P.P.)
Findings

Job Training and Placement Program

Mission
To help low-income Contra Costa residents better support themselves and their families with earnings from employment.

Problem
Pockets of unemployment and under-employment in the Contra Costa area have left families impoverished.

Intervention
A job training program that consists of: Computer and life skills training necessary for administrative positions; a paid internship; case management and counseling; job placement; and ongoing career services for alumni.

Engagement
Participants trained.

Impact
Earnings boost.

Impact and Cost
$3 in additional earnings over five years per $1 spent.

Impact and Cost Calculation
A 3:1 benefit/cost ratio indicates that for every $1 that society spends on J.T.P.P., participants collectively earn about $3 more over a 5 year period than they would have had they not enrolled in J.T.P.P. Our analysis examined the change in participants’ median earnings using a dataset that tracks annual earnings of California residents through their W-2 forms. The costs incurred include those borne by Opportunity Junction, participants, non-J.T.P.P. participants and Alumni Advancement Academy (A.A.A.) participants to volunteer, and Opportunity Junction’s hiring partners.

Confidence in Estimate
We have a medium level of confidence in the data used to estimate impact. Interrupted time series is considered to be a high quality approach to estimating program impact over time. However, several assumptions in our model raise issues of precision: (1) analysis is done with group-level data, rather than individual-level data; (2) all available data could not be used due to limitations of the methodology; (3) earnings trends are assumed to be linear when they may not be in reality; and (4) a number of assumptions are made to account for missing observations in the dataset.
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EXECUTIVE SUMMARY

Program Description and Key Findings

Opportunity Junction aims to help low-income Contra Costa residents better support themselves and their families with earnings from employment. In our model, we operationalize this mission by estimating the degree to which its Job Training and Placement Program (J.T.P.P.) boosts the median earnings, net of counterfactual effects, of participants after they exit the program. We use the median because it is less sensitive to extreme outliers (people who earn much more or much less than most others).

J.T.P.P. offers participants intensive training in the computer and life skills necessary for administrative positions; a paid internship; case management and counseling; job placement; and ongoing career counseling and networking opportunities for graduates of the program (alumni).

This impact audit reviews the J.T.P.P. program implemented during the 2016–17 fiscal year. ImpactMatters estimates that the 58 participants who enrolled in J.T.P.P. during the 2016–17 fiscal year collectively earned at least an additional $2,500,000 as a result of the program — about $44,000 per participant over five years. Limitations in the data and statistical methodology confined the estimate to the five year window, but if the impact of the program lasts longer than five years, the total impact would be larger. Literature on workforce development programs suggest that many have no impact or rapidly decreasing impacts. However, workforce development programs with training components are among the most promising. Job training programs are more likely to have positive impacts, with a few standout programs showing persistent effects.

Accounting only for the costs incurred by Opportunity Junction, we estimate a benefit/cost ratio of 3:1. A second version of the ratio takes a society-wide perspective. This ratio accounts for all costs caused by the program, including those of Opportunity Junction, program participants, program volunteers and Opportunity Junction’s hiring partners (employers that consider J.T.P.P. alumni for vacant positions). This benefit/cost ratio is 3:1. These ratios are similar to a comparable job training program that has been rigorously evaluated.
We judge the evidence behind our estimates to be of medium quality. ImpactMatters used wage data from W-2 tax forms, collected by the California Employment Development Department (E.D.D.), to estimate earnings of J.T.P.P. alumni over time. Interrupted time series, which was used for this analysis, is often considered among the top quasi-experimental designs for estimating program impact. And we are confident in the accuracy of the E.D.D. earnings data, which are derived from federal tax forms (W-2s). The likelihood of systematic errors in reporting on W-2s is low. However, our model relies on several assumptions that raise issues with statistical precision: (1) analysis is done with group-level data, rather than individual-level data; (2) because of limitations of the analysis methodology, the analysis does not use all of the available data; (3) the trends in earnings are assumed to be linear when they may not be in reality; and (4) a number of assumptions are made to adjust for missing observations in the dataset used to estimate impact.

Impact and Cost

BENEFIT/COST RATIOS

We estimate two benefit/cost ratios, both with the same numerator: a total of $2,500,000 in additional net earnings for 58 participants, earned over five years. The two benefit/cost ratios differ in the denominator, which changes depending on whose perspective defines the calculation. In the first, the denominator is Opportunity Junction’s cost of delivering the program during the 2016–17 fiscal year: $1,000,305. The resulting benefit/cost ratio is 3:1, meaning that for every $1 that Opportunity Junction spends on J.T.P.P., participants collectively earn about $3 more than they would have had they not enrolled in J.T.P.P.

The benefit/cost ratio is 3:1 if we take account of all costs caused by the program, regardless of who bore them. In total, Opportunity Junction, participants, volunteers, and Opportunity Junction’s hiring partners bore a cost of about $986,000.

We generally calculate the benefit/cost ratio from the perspective of the client. In this case, Opportunity Junction has compensated participants for all of the costs they bore. As a result, this ratio is not calculated as participants are gaining benefits without incurring any costs.
THIRD-PARTY AND OTHER EFFECTS

ImpactMatters sees several third-party effects that may result from J.T.P.P. First, it is possible that program graduates take jobs away from other, similarly low skilled workers or from better qualified individuals. Second, the dependents of J.T.P.P. clients who enjoy higher earnings and more stable jobs may see health, educational, and economic benefits. Third, if alumni are employed in better jobs, they may receive better health benefits and experience reduced stress about finances. These may affect health outcomes such as life expectancy. Finally, for every J.T.P.P. participant that goes from being unemployed to employed, or who substantially increases her income, it is likely that additional income tax dollars will go to the federal and California state governments. Any such impacts are not captured by the audit’s current estimates.
Confidence in Estimate ★★★★★☆

We conclude that the evidence that lies behind these estimates is of medium quality, equivalent to a rating of four out of five stars. For internal data, we use wage data from W-2 tax forms, collected by the California Employment Development Department (E.D.D.), to estimate earnings of J.T.P.P. alumni over time. We analyse the data using interrupted time series (I.T.S.) analysis, which is considered among the top quasi-experimental designs for estimating program impact. And we are confident in the accuracy of the E.D.D. earnings data, which are derived from federal tax forms (W-2s). The likelihood of systematic errors in reporting on W-2s is low. However, our model relies on several assumptions that raise issues with statistical precision.

First, our I.T.S. analysis is carried out on the change in median earnings of a group before and after the intervention rather than the change in individual earnings before and after the intervention. Group data introduces imprecision. In addition, I.T.S. assumes that there are no other events around the time of the intervention that might also affect the outcome variable. If there are other events, one runs the risk of mis-attributing changes in the outcome variable to the intervention when they are actually the result of the unrelated events. Another limitation arises from the fact that more than five or six years of pre- and post-intervention data generally should not be used in I.T.S. analyses. I.T.S. models assume that the trends in outcomes (in this case, earnings) are linear. If more years are included, we can no longer assume the linearity of trends. As a result, our I.T.S. analysis does not use all of the available data, but rather uses just five pre-intervention and five post-intervention years. Finally, the E.D.D. dataset is missing many observations, and we made several simplifying assumptions to address the missing values.

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1 The addition of a suitable comparison group can alleviate this problem.
NONPROFIT COMMENT

At Opportunity Junction, we pride ourselves on being nimble and responsive both to qualitative and quantitative evidence of impact, challenges, and opportunities. We collect feedback from participants and alumni, and alumni participate in the governance of the organization. We look to our database for answers when we observe a decline or increase in placements, wages, enrollments, and applications. With the support of Tipping Point Community, we were the first workforce organization in California to access Employment Development Department (E.D.D.) wage data to open a window into long-term impact.

We are grateful to the team at ImpactMatters for their fresh perspective, pointed questions, and rigorous analysis. Throughout the course of the two Learning Audits and two Impact Audits they conducted, we were exposed to new ways to view our process of program iteration and to areas in which we can improve our data collection. Most of the recommendations from their Management Letter summarizing the recommendations from the Learning Audits have been incorporated into our FY2018-19 Annual Plan.

The Job Training and Placement Program (J.T.P.P.) Impact Audit ran up against the key challenge of not having a control group. The people we accept into the program are those we think will be best served by it: those who will have difficulty launching a career without the training, support, and connections we provide but who we judge to have a good probability of success if they do participate. We exclude those who don't need the intervention (i.e., who we suspect will do well even in the absence of our program) and those whose barriers we do not think we can address during a maximum of seven months onsite (e.g., currently having a severe mental illness, those with reading levels are at 4th grade level or lower). We consider the ImpactMatters team's use of the Interrupted Time Series (I.T.S.) analysis to be a creative and brilliant way to estimate the counterfactual.

However, because the I.T.S. analysis relies on assumptions of linearity, ImpactMatters limited the estimate of impact to the first five years post-intervention. Impact over a longer period – which we at Opportunity Junction not only know from the stories of alumni who are many years post program and but, more importantly, from the EDD wage data suggesting income increases even 10 years following program graduation - was excluded.

We appreciate that the team at ImpactMatters has rigorously catalogued their assumptions calculating the impact based on the I.T.S. methodology. Lifelong impact is what we seek for our participants, so our sights are set on including long-term impact in the analysis. We look to the field of workforce development research to help us best
understand our data, perhaps using different methodologies, which we believe shows evidence of long-term impact.
PROGRAM DESCRIPTION

This section summarizes the program’s mission and constructs a theory of change that describes the problem, Opportunity Junction’s intervention and ImpactMatters’ chosen measure of impact.

Mission

ImpactMatters assesses the impact of Opportunity Junction against the following mission: To fight poverty by helping low-income Contra Costa residents better support themselves and their families with earnings from employment.

Opportunity Junction’s stated mission is “to fight poverty by helping low-income Contra Costa residents gain the skills and confidence to get and keep jobs that support themselves and their families.” We use the mission statement above, which emerged from our conversations with Opportunity Junction, for the purpose of this learning audit.

Theory of Change

PROBLEM

Opportunity Junction operates in Contra Costa County in the San Francisco Bay Area, California. Though the county has low unemployment (around 3 percent) and high average annual earnings (around $70,000), upon entering the program J.T.P.P.
participants earn, on average, only $8,000 a year, and unemployment is over 6 percent in communities where J.T.P.P. operates.\textsuperscript{3,4}

Several factors contribute to the area’s low earnings and high unemployment. Residents in areas served by Opportunity Junction lack education and skill-based training. Thirty-two percent of adults aged 25 and older in the communities served, Bay Point, Antioch, and Pittsburg, have not earned a high school diploma or its equivalent and 26 percent have completed high school or equivalent courses of study but no further education.\textsuperscript{5} A lack of so-called “soft” skills like time management and self-motivation further lowers their success in the job market, as does a history of personal trauma, substance abuse and criminal convictions.

**ACTIVITIES**

J.T.P.P. offers participants intensive training in the computer skills and soft skills necessary for administrative positions; a paid internship; case management and counseling; job placement; and ongoing career counseling and networking opportunities for graduates of the program (alumni).

J.T.P.P. participants undergo a rigorous recruitment process, whereby applicants are screened for both 1) “addressable” barriers to employment and 2) motivation to be employed (explained in Annex 3). Over three weeks, the applicant pool is narrowed to 24–28 applicants. These applicants participate in the first week of the program, during which between four and eight decide to exit or are dropped. The remaining 20 individuals officially enroll in the program and become the cohort for which J.T.P.P. holds itself accountable.

The successful applicants participate in five components of J.T.P.P.:

1. Three months of intensive job-training in administrative, computer and life skills\textsuperscript{iv}

\textsuperscript{1} To calculate the $8,000 estimate, we used earnings data from the California Employment Development Department (E.D.D.). We analyzed the mean earnings of participants from the year before they entered J.T.P.P. To adjust for missing observations, we assume that some of the individuals for whom there is no E.D.D. data are unemployed while others work informally. We presume that half of those for whom there is no data are informally employed (nannying or housekeeping, for example), and earned an average of $5,000 a year from that informal labor. We assume that the remaining half of the individuals for whom there is no E.D.D. data were unemployed. We assign them an annual income of $0. We used data from cohorts 2013–2015 to calculate the estimate.

\textsuperscript{3} Bay Point Census Designated Place (C.D.P.)

\textsuperscript{4} Life skills are personal and professional skills that Opportunity Junction considers necessary for finding and sustaining gainful employment. Personal life skills include goal setting, stress management and self-
2. Part-time paid internship lasting a maximum of four months with Opportunity Junction or one of its partners. During this phase, participants also receive training in career skills as well as personalized support in searching for a job (e.g., assistance with resumes, cover letters and interview skills).

3. Case management and counseling

4. Job placement

5. Ongoing career counseling and networking opportunities for alumni

In addition, J.T.P.P. participants are required to volunteer for Opportunity Junction for a total of 20 hours over their time in the program (12 hours during the job training phase and eight hours during the internship). Participants might volunteer at evening classes at the Technology Center (a different program run by Opportunity Junction) or clean up after the lunch provided by Opportunity Junction each day of the job training phase. The volunteer requirement is intended to reduce the extent to which participants think of the program as “free.” It is also meant to develop participants’ appreciation for community service and allow them to gain an understanding of Opportunity Junction as an organization.

JOB TRAINING

The job training component consists of three months of full-time classes in a classroom or computer-lab setting, during which participants are taught technical and life skills that are central to administrative work. Participants learn to use computers, with an emphasis on administrative software like Salesforce, the Microsoft Office Suite and Google Docs. Simultaneously, participants are trained in various soft skills: goal setting, problem solving, managing change, self-care, financial literacy, communication, Business English and Business Math. Finally, to prepare participants for expectations of professionalism in the workplace, Opportunity Junction requires that participants be punctual, attend all classes possible and dress in business casual attire.

The training is participatory in style and requires that participants engage in classroom activities and complete regular homework assignments. Participants are assessed regularly and must pass final assessments on computer skills to graduate.

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awareness. Professional life skills include financial literacy, business etiquette, and communicating and receiving feedback.
INTERNSHIP

Graduates of the training complete an internship with Opportunity Junction. In some cases, graduates complete an externship with Opportunity Junction partners, lasting up to four months. The internship is designed to give participants on-the-job experience performing administrative tasks, cementing the skills acquired during training and making participants more marketable as they apply for full-time employment.

Participants are required to submit weekly reports detailing their progress toward their professional learning goals and job search. Additionally, supervisors complete weekly performance evaluations, which are documented and tracked in Salesforce.

CASE MANAGEMENT AND COUNSELING

Participants receive case management services, including referrals to health care, transportation assistance and other support. Additionally, a psychologist evaluates all participants and offers brief therapy or referrals to psychiatrists as needed.

JOB PLACEMENT

Opportunity Junction’s case managers prepare participants for the job application process, for instance by helping participants write resumes and practice for interviews. Participants also have access to a job board that includes targeted job postings from employers who partner with Opportunity Junction. Additionally, Opportunity Junction’s director of business development seeks individualized job placements for participants through relationships with hiring partners. Hiring partners are employers who have an ongoing relationship with Opportunity Junction, and who agree to consider J.T.P.P. alumni for vacancies in their organizations, whether formally (signing an agreement to do so) or informally. The strong relationships between Opportunity Junction and its hiring partners makes Opportunity Junction unique compared to other employment organizations. Because Opportunity Junction has an impressive reputation for appraising participants and producing quality graduates, J.T.P.P. participants are often preferred to non-J.T.P.P. applicants who may have more experience.

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* Opportunity Junction refers to “job placement” when it helps a participant secure employment with a hiring partner. Opportunity Junction refers to “job assistance” when it helps a participant secure employment with an employer that is not a hiring partner. About 35 percent of participants are placed in positions with hiring partners.
ALUMNI SERVICES

J.T.P.P. alumni have access to the following services:

1. The Alumni Advancement Academy (A.A.A.), wherein dedicated Opportunity Junction staff help alumni progress in their careers (details below)

2. The Active Alumni Job Seekers Program, wherein alumni receive help to obtain a job (details below)

3. Ongoing case management and career counseling from the manager of alumni programs

4. Use of the Alumni Center — a computer lab

5. Networking events and recreational activities as a group

Opportunity Junction staff help A.A.A. alumni in three ways: they (1) advise alumni on how to ask for a promotion or raise; (2) encourage alumni to pursue professional development to become eligible for a promotion or raise; and (3) help alumni find new employment when career advancement with their current employer is unlikely. A.A.A. participants meet once a month on a Saturday as a cohort moderated by the manager of alumni programs to check in on their progress.

The Active Alumni Job Seekers Program grants participants priority consideration for new positions that enter Opportunity Junction's database as well as access to the manager of alumni programs, director of business development and Job Seekers Club. Additionally, weekly workshops offer guidance on building application materials, practice interviews and networking. To participate in the program, alumni must attend weekly meetings, regularly check email and spend four weekly hours either: searching for jobs; reinforcing computer skills; tutoring current J.T.P.P participants; or volunteering for Opportunity Junction in another capacity.

MEASURES OF IMPACT

Opportunity Junction aims to help low-income Contra Costa residents better support themselves and their families with earnings from employment. In our model, we evaluate J.T.P.P.’s impact against this mission by estimating the degree to which J.T.P.P. boosts participant earnings, net of counterfactual levels (that is, what individuals would have earned had they not participated in J.T.P.P.).
Program Details

GEORGAPHY

J.T.P.P. supports unemployed and low-income residents of east and central Contra Costa County in the San Francisco Bay Area, California.

STAGE

**J.T.P.P. is at the “scale” stage.**vi Opportunity Junction delivers J.T.P.P. to a consistent number of participants with only minor adjustments to program design from one cohort to another.

AGE AND SCALE

Opportunity Junction has offered J.T.P.P. for 18 years, since its incorporation in 2000. The program serves three cohorts annually, each with between 16 and 21 participants. J.T.P.P. is not expected to grow in the near term.

FUNDING

Opportunity Junction allocated approximately $1,000,000 — about 59 percent of its annual spending — to J.T.P.P. during the 2016–17 fiscal year. It allocated a bit more to J.T.P.P. during the 2015–16 fiscal year, $1,100,000, which was about 65 percent of its annual spend.vii

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vi ImpactMatters classifies programs on a continuum from “design” stage to “validation” and “scale.” At the “design” stage, the program is focused on discovering the right way to implement intervention. Programs at the “validation” stage are focused on testing that the intervention is cost-effective, before expanding access to the program. Programs at the “scale” stage are focused on expanding access to the program, to the extent warranted by its cost-effectiveness.

vii In Opportunity Junction’s 2015-16 and 2016-17 financial audits, the expenses for J.T.P.P. are reported as $887,136 and $846,192, respectively. We adjusted these numbers to include a portion of organization-wide administration and fundraising expenses. To make this adjustment, we multiplied the total organizational spending on fundraising and administration by the J.T.P.P. occupancy ratio. The J.T.P.P. occupancy ratio is calculated as the J.T.P.P. occupancy expense divided by the total occupancy expense for all Opportunity Junction programs. We understand the occupancy ratio to be a proxy for the ratio of J.T.P.P. staff to all Opportunity Junction staff, and use it as an approximation for the proportion of organization wide expenses that can be attributed to J.T.P.P.
Figure 1. Opportunity Junction funds allocated to J.T.P.P. in 2016–17 fiscal year
IMPACT AND COST

WHY WE ESTIMATE

Impact audits estimate the philanthropic impact and cost of a nonprofit’s programmatic interventions. We base those estimates on best available evidence, however imperfect, drawn from the auditee (internal evidence) and research literature (external evidence). As such, our estimates are the best possible evidence-based gauge of philanthropic success.

HOW WE ESTIMATE

First, we identify outcomes that best capture the auditee’s mission. We then settle upon ways to measure progress against those outcomes, relying on the tools of modern social science.

Second, we report our estimate of “impact,” the change in outcomes that can be attributed to the auditee’s intervention over a designated period of time. We take explicit account of counterfactual success — the change in outcomes that would have occurred without the program. And whenever possible, we take explicit account of third-party effects, especially unintended harm to vulnerable individuals because of the auditee’s intervention. For benefits that accrue over time — for example, the increased earnings from high school graduation — we discount these future benefits (at a 5 percent discount rate, the rate used by the World Bank). The length of time over which benefits are assumed to accrue is based on the specifics of the intervention under review and available internal and external data.

Third, we report total costs. Total costs include marginal costs (direct costs of delivering the intervention) and fixed costs (for example, administrative overhead) regardless of who bears those costs (nonprofit, public agencies, private funders or participants). For programs that generate commercial revenue, the revenue is treated as a subtraction of costs. For costs that kick in over time, we discount (as we do benefits). The length of time over which costs accrue depends on the specifics of the intervention under review and available internal and external data.

Fourth, we report the ratio of impact to cost (a benefit/cost ratio).
Finally, we analyze key factors — for example, stage of development, whether the nonprofit be in pilot phase or expansion phase — relevant for understanding the audit findings.

Typically, impact is estimated on a single outcome. However, if an auditee’s intervention affects several outcomes, we report impacts on distinct outcomes separately. Concretely, suppose that a program seeks to raise incomes and improve health status. We do not, as yet, attempt to combine the impact on multiple outcomes into a single aggregate outcome — concretely, by combining the value of the income effects and health-status effects. To aggregate, we would need weights — the relative value of outcomes — that would reflect the nonprofit’s or funder’s values (not those of ImpactMatters as auditor).

Findings

ImpactMatters measures the impact of Opportunity Junction’s Job Training and Placement Program (J.T.P.P.) as the increase in participant earnings, net of the increase or decrease in earnings they would have experienced had they not in fact participated in the program.

ImpactMatters estimates that J.T.P.P. increased the collective earnings of the 58 participants served during the 2016–17 fiscal year by $3 for every $1 that Opportunity Junction spent on the program (a benefit/cost ratio of 3:1). Each participant earned an additional $44,000 in net revenues over a projected five years.

From the perspective of society, earnings increased by $3 collectively over a projected five years for every $1 that society as a whole invested in the program.

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viii All figures are presented in 2018 U.S. dollars.
The question that guides our analysis of impact and cost: what are the impacts and costs of serving J.T.P.P. participants?

This guiding question was selected by Opportunity Junction and one of its funders, Tipping Point Community, over an alternative, question: what are the impacts and costs that would be generated by expanding J.T.P.P. to serve additional participants. Because Opportunity Junction expects J.T.P.P. to stay at roughly the same scale of operation in the foreseeable future current costs and impacts are used.

As discussed above, Opportunity Junction aims to help low-income Contra Costa residents better support themselves and their families with earnings from employment. In our model, we operationalize this mission by estimating the degree to which J.T.P.P. boosts the median earnings, net of counterfactual effects, of participants after they exit the program. We use the median because it is less sensitive to extreme outliers (people who earn much more or much less than most others).

We measured impact for a set of three cohorts, which coincides with the number of cohorts that graduate from J.T.P.P. in a single year.

We estimate the benefit/cost ratio for J.T.P.P. from two perspectives: the nonprofit and society as a whole. Increase in earnings of J.T.P.P. participants net of counterfactual effects, the numerator of these estimates, is the same for each ratio. The cost of intervention seen in the denominators differ.
The denominator of the benefit/cost ratio of J.T.P.P. calculated from the perspective of the nonprofit accounts for costs borne exclusively by Opportunity Junction to implement the program.

The denominator in the benefit/cost ratio calculated from the perspective of the entire society accounts for: 1) costs incurred by Opportunity Junction to implement the program; 2) costs incurred by participants; 3) the value of volunteer time spent by non-J.T.P.P. participants and Alumni Advancement Academy (A.A.A.) participants (alumni who are receiving coaching from J.T.P.P. counselors on pursuing a promotion or raise); and 4) costs and savings to other organizations like Opportunity Junction’s hiring partners (employers that agree to consider J.T.P.P. alumni for vacancies in their organizations).

We generally calculate the benefit/cost ratio from the perspective of the participant. In this case, this ratio is not calculated as participants gain benefits without incurring costs.

**STRATEGY FOR ESTIMATING IMPACT**

We estimate J.T.P.P.’s impact by examining the change in participants’ median earnings. To do this, we use a dataset collected by the California Employment Development Department (E.D.D.), which tracks annual earnings of California residents through their W-2 forms.ix

Panel data follows individuals over time, rather than tracking population totals or averages. This opens up a rare opportunity to track the impact of interventions on individual participants. While Opportunity Junction does not have access to E.D.D.’s individual data, they can access group-level data on earnings of participants, applicants, and dropouts from 1995 through 2016. The groups are formed by cohorts who enter J.T.P.P. at the same time and proceed to training together. Three cohorts are served each year.

In effect, the data made available to Opportunity Junction tracks mean earnings of a cohort before, during and after participation. For example, for the three cohorts that graduated from J.T.P.P. in 2005, E.D.D. tracks earnings for participants starting in 1995 (10 years before entering the program) and until 2016 (11 years after exiting the program).

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ix We expect that, of the individuals for whom there are no E.D.D. data, some portion are earning income (we assume $5,000 on average) in an informal capacity and the remainder are unemployed (i.e. earning $0).
This time span allows us to assess impact by using a statistical technique called interrupted time series (I.T.S.). I.T.S. works best if data is based on tracking individuals before, during and after an intervention. In this ideal case, I.T.S. makes an all-important prediction: based on earnings data of individuals before they enter J.T.P.P., I.T.S. makes a prediction of what the future earnings of these individuals would have been had they not — contrary to fact — gone on to participate in J.T.P.P. — if it truly has an effect on earnings — interrupts an existing trend in an individual's earnings. Any such shift in an individual's earnings trend can be reasonably attributed to J.T.P.P. After all, the individual participant is the same before and after the intervention in all respects except for their participation in J.T.P.P.

More precisely, were the entire E.D.D. dataset available to Opportunity Junction, we would be able to track median earnings of future participants for the years before they participated in J.T.P.P. That pre-intervention trend in a participant’s outcome is projected forward using regression analysis\(^x\) to create a prediction of earnings in the absence of the intervention — so-called counterfactual earnings. The statistical tool of regression analysis allows for a refined prediction of counterfactual earnings by taking into account the impact on earnings of factors other than the intervention. The post-intervention trend is then compared to the counterfactual projection to identify the effect of the program.

The effect of the program can take three forms.

First, the intervention might affect the level of the outcome variable immediately after the intervention (graph 1); that is, it might increase the participants’ earnings bracket. Second, the intervention might change the slope of the outcome variable (graph 2); that is, the rate of increase in participants’ earnings. Third, the intervention might change both the level and the slope of the outcome variable (graph 3). Figure 1 illustrates each of these scenarios.

\(^x\) Regressions estimate the relationship between an outcome and potential explanatory factors. The outcome and explanatory factors are referred to as “variables,” as their values change across observations in a sample.
The I.T.S. analysis of J.T.P.P. uses data on all participants invited to enroll in the program, regardless of whether they actually completed the program, yielding an “intent-to-treat” (I.T.T.) estimate of impact. These estimates more accurately reflect the impact of offering a program to many people, not all of whom can be expected to complete the program.

Figure 3 illustrates the findings of the I.T.S. analysis. The green line shows that participant earnings were decreasing during the five years prior to the treatment. We assume this trend continues linearly and project it forward five years (green dashed line). During the intervention year, J.T.P.P. participants’ earnings increase by about $1,600. They continue to increase during the second, third, and fourth post-intervention years, though the rate of increase decreases each year (blue line). After four years post-intervention, we can no longer assume that the trends estimated by the I.T.S. continue to be linear indefinitely.

This is because I.T.S. analysis uses local linear regression—that is, it linearly predicts counterfactual earnings. While the overall trend in the outcome variable may be non-linear, the I.T.S. model can still be useful as it is reasonable to assume that a trend is linear over a small window of time. This is known as “local linearity.” However, it would be incorrect to assume that the trend continues to be linear outside of that window: The risk obtaining biased estimates of impact becomes substantially higher if more years of post-
program data are included. Said differently, the near future is more likely to follow the same (linear) trend established in the recent past, but the probability that the more distant future exhibits the same trend diminishes as we try to predict further into the future. [Conversely, the near future is also less likely to resemble the distant past.]

As a result, we have a reasonable idea of what happens over a five year span, but very little indication of what happens beyond that period.

The academic literature on workforce development programs suggest that the benefits of most intervention types are relatively small and do not last very long. Evaluations of these programs typically show zero impact or a small impact that declines within a one to two years. However, job training programs have shown promising results. A few evaluations of job training programs have even shown persistent impacts — benefits that continue to accrue indefinitely — though these evaluations have only conducted a maximum of three to four years of follow up.

While the academic literature offers some indication of whether benefits continue to accrue over time, without additional data, we do not quantify the impacts beyond five years. The boost in yearly earnings may disappear, as most programs’ do, or they may stay at a stable level. If the increase in annual earnings does persist at some level beyond five years, our impact figure would be an underestimate.

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xi To better establish the counterfactual trends of the outcome variable, we could theoretically conduct a comparative I.T.S. analysis. Unfortunately, no data on suitable comparison groups is currently available. The E.D.D. data included data on dropouts and rejected applicants for only a subset of the time period of interest. Moreover, the two groups are likely very different from the groups who were accepted to and completed J.T.P.P. This is because applicants are rejected when they are either over- or under-qualified for the program, making them systematically different from the accepted participants. Program dropouts would not serve as a comparison group either. Comparing participants to dropouts would only provide insights about the differential impact of partially completing the program versus fully completing it.

xii For more details on the I.T.S. analysis, see the chapter on “Confidence in Estimate.”
Figure 3. Effect of J.T.P.P. on median earnings over time.

The total impact is estimated by calculating the difference between the treatment group and counterfactual earnings during the five year span (the area between the green and blue lines). After adjusting for inflation and the social discount rate, we estimate that the 58 participants who enrolled in J.T.P.P. during the 2016-17 fiscal year earned an additional $2,500,000 in total as a result of the program — about $44,000 per participant.xiii

COST CALCULATIONS

The benefit/cost ratio calculated from the nonprofit perspective reflects all program costs reported in Opportunity Junction’s 2016-17 independent financial audit: $1,000,305. This figure includes a portion of overhead expenses proportional to their contributions to J.T.P.P.xiv

xiii To better establish the counterfactual trends of the outcome variable, we could theoretically conduct a comparative I.T.S. analysis. Unfortunately, no data on suitable comparison groups is currently available. The E.D.D. data included data on dropouts and rejected applicants for only a subset of the time period of interest. Moreover, program dropouts would be a poor comparison group. Comparing participants to dropouts would only provide insights about the differential impact of partially completing the program versus fully completing it.

xiv From 2016-17 audited financials: “Certain indirect costs have been allocated directly to programs and administration based upon ratios determined by management. These costs primarily include salaries, fringe
The benefit/cost ratio calculated from the societal perspective includes costs borne by Opportunity Junction, the opportunity costs borne by participants, the opportunity costs borne by alumni to volunteer, and the costs and savings borne by hiring partners.

Because both the training and internship components of the program were full-time, a handful of participants who were working prior to the program had to quit their jobs or reduce their hours to participate. As a result, we consider the foregone wages an opportunity cost of the program for the subset of participants who were employed before the program. In total, the participants that had to quite or reduce their hours during the training phase of the program bore an opportunity cost of about $5,000. The participants who had to quit or reduce their hours during the internship phase bore an opportunity cost of about $3,000.

Participants are paid during their internship for four hours of administrative labor each weekday. They receive an hourly wage between $11.00 and $12.50\(^{xv}\) — $11.75 on average. This means each participant earns a total of $235 per week for the duration of the internship phase, or about $1,300 in total. Together, the 58 participants earned a combined sum of about $76,000.

The internship wages act as a program subsidy rather than an opportunity cost. It effectively compensates participants for the costs they incur to participate.

We are unable estimate the opportunity cost of the participants’ time spent participating in the following components of the program: (1) time spent by applicants admitted to the program to complete the application process, (2) time spent by applicants rejected from the program to complete the application process (3) time spent by alumni who participate in A.A.A. to attend Saturday meetings, and (4) time spent by alumni participating in the Alumni Job Seekers’ Club to attend meetings.

Normally, time is quantified using the value of the wages that a person could be earning were they to spend their time working. In the case of J.T.P.P. participants, 72 percent of 2016-17 J.T.P.P. participants were unemployed and the remaining 28 percent were underemployed (working 19 hours per week on average). As a result, basing the opportunity cost of the clients’ time on their foregone wages does not make sense.

\(^{xv}\) Interns are paid minimum wage (currently $11/hour) plus an additional 50 cents per hour for Microsoft Office Certification in Word and/or Excel, plus an additional 50 cents per hour for typing 45 words per minute.

benefits, occupancy and other expenses.” According to Opportunity Junction, those ratios were headcounts of staff dedicated to each functional department of the organization.
In addition, we believe that the time clients spend participating in the program has very little value on the margin.

This is, in part, because the time requirements of some of these activities are very small — at most, four hours spent by applicants during the application process.

Because J.T.P.P. participants are either unemployed or underemployed, they likely have additional free time that is of little monetary value to them.

A.A.A. meetings are held on Saturday. We expect that most alumni who participate in A.A.A. are not working on Saturdays, and that alumni that are working on Saturdays choose not to participate in the program.

Alumni spent a total of 111 hours volunteering for J.T.P.P. during the 2016–17 fiscal year.\(^{xvi}\) To estimate the opportunity cost of this time, we note that alumni that were employed could have been working. We argue that the value of their time is equal to the wages that the alumni could have been earning had they not been volunteering.

In the case of the alumni volunteers, the subset of 2014–15 J.T.P.P. graduates that were employed during their 18-month follow-up were earning $17.22 per hour on average. That subset — about 71 percent of alumni volunteers — bore a total opportunity cost of about $1,300.

Similarly, non-participants spent a total of 1,348 hours volunteering during the 2016-17 fiscal year. To estimate the opportunity cost of this time, we make the same assumption as above: the value of the volunteers’ time can be approximated by their hourly wages. We do not have data on the wages of the non-participant volunteers. In lieu of this information, we assume that the volunteers earn the median income in Contra Costa county, $82,881 ($39.85 per hour). In total, the non-participant volunteers bore an opportunity cost of about $58,000.

Additionally, conversations with hiring partners have led us to believe that hiring partners save $125-$150 per J.T.P.P. alum they hire. By hiring from J.T.P.P., hiring partners avoided having to post job advertisements. Instead, they simply notify J.T.P.P. that they have a vacancy. Similarly, hiring partners also save about 30 minutes per J.T.P.P. placement, as they spend less time recruiting than they would otherwise. We value the time saved by hiring partners at $39.85 per hour, again based on the median wage in the Contra Costa area. We estimate the total savings of hiring partners is about $3,000.

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\(^{xvi}\) Note that while some alumni are required to volunteer, the 111 hours mentioned here were contributed by alumni who were under no obligation to volunteer.
In total, the societal costs of the J.T.P.P. program during the 2016-17 fiscal year were about $986,000.

We combine these cost estimates with the impact estimate described above to produce two benefit/cost ratios, where \( \text{B/C} = \frac{\text{Impact}}{\text{Costs}} \).

The benefit/cost ratio from the perspective of the nonprofit is 3:1. This means that for every $1 that Opportunity Junction spends on J.T.P.P., participants collectively earn about $3 more than they would have had they not enrolled in J.T.P.P.

The benefit/cost ratio from the societal perspective is 3:1. For every $1 that society spends — no matter who bears the costs, including volunteers and J.T.P.P. partners — participants collectively earn $3 more than they would have were the program not to exist.

**BENCHMARKING**

A 1:1 benefit/cost ratio would imply that every $1 spent on the intervention translates into $1 worth of benefits for participants; that is to say that, all stakeholders who bear any costs break even. For J.T.P.P., the benefit/cost ratio from the perspective of Opportunity Junction is about 3:1. This suggests that every dollar spent on the intervention generates three times as much benefit. For reference, we present the benefit/cost ratio of a comparable career counseling intervention below.

Per Scholas is a sectoral training and advancement initiative similar to J.T.P.P. The program includes pre-employment and career readiness services, occupational skills training, job development and placement services, and retention and advancement services. The two main differences between Per Scholas and J.T.P.P. are: 1) the program's eligibility requirements (Per Scholas participants must have higher technical skills going into the program) and 2) the program's target populations. For example, as illustrated in Figure 3, Opportunity Junction's population is generally less educated than Per Scholas's target population. Nonetheless, the benefit/cost ratios using the impacts estimated by Per Scholas may still offer a valuable comparison.
Evidence from a randomized evaluation conducted by Hendra et al. suggests Per Scholas produces sizeable effects on earnings and employment status. Further, the authors found that the effects persisted, increasing over time, for the duration of the study (three years). We use the impact and cost figures reported by the authors to calculate the benefit/cost ratio of the program.

In order to improve the comparability of the J.T.P.P. and Per Scholas benefit/cost ratios, we adjust the impacts and costs for inflation and apply the same social discount rate for both programs (the social discount rate accounts for the fact that most people value having money in the present more highly than they do in the future, all else equal).

We find the benefit/cost ratio of the Per Scholas program is 2:1. This indicates that for every $1 invested in Per Scholas, program participants earn an additional $2 in earnings, net of counterfactual effects.

Important, the benefit/cost ratios for both J.T.P.P. and Per Scholas are imprecise — we have uncertainty around a number of parameters in both ratios. As a result, either or both of the programs’ ratios could be somewhat greater or somewhat smaller. This degree of uncertainty makes it difficult to distinguish between the two programs’ benefit/cost ratios. As a result, despite Per Scholas’s apparently higher benefit/cost ratio, we cannot say this reflects a meaningful improvement over the J.T.P.P.’s benefit/cost ratio. Instead, we consider the most important take away to be that the programs have benefit/cost ratios of roughly the same order of magnitude.
Third-Party and Other Effects

This section discusses effects of the Job Training and Placement Program (J.T.P.P.)—both positive and negative—that are not captured in the impact and cost estimate of the program.

DISPLACEMENT EFFECT: SMALL

J.T.P.P. aims to secure high-quality jobs for low income residents of Contra Costa County who enter the program with relatively few skills. It is possible that the graduates take jobs away from other, similarly low skilled workers or from individuals who have somewhat better qualifications. Any such impacts are not captured by the audit’s current estimates.

Also possible, employers pay J.T.P.P. alumni less than non-J.T.P.P. job-seekers who have more experience and education. This suggests that the entry of J.T.P.P. alumni onto the market of administrative workers in Contra Costa County could push wages down—a loss to workers but offsetting gain to employers and consumers. However, at the moment, there may be little cause for concern. J.T.P.P. graduates about 60 graduates a year and there appears to be high employer demand for administrative jobs.

HEALTH EFFECT: POSITIVE AND SUBSTANTIAL (FOR INDIVIDUAL GRADUATES)

There are several ways in which earnings may affect health outcomes. It is likely that program graduates who earn higher wages and escape poverty will enjoy longer lives. Any such benefit is not captured by the audit’s quantitative estimates.

J.T.P.P. participants who secure jobs will also likely enjoy greater employer benefits. In their impact evaluation of a comprehensive workforce program in San Francisco, Walter et al. found that program participants were 4.8 percentage points more likely to have employer-based health insurance compared to non-participants. However, the magnitude of the effect was quite small—12.2 percent of program participants and 7.5 percent of control group had employer-based health insurance coverage one year after the intervention.9
TAX REVENUE

EFFECT: LIKELY POSITIVE

For every J.T.P.P. participant that goes from being unemployed to employed, or who substantially increases her income, it is likely that additional income tax dollars will go to the federal and California state governments. This assumes that the employment of J.T.P.P. participants is not just displacing other workers and that the entry of J.T.P.P. participants on the administrative job market does not push down wages.

The effect of J.T.P.P. participants increased tax revenue is likely to be very small, as the number of J.T.P.P. participants served annually is low. Given that the population of Contra Costa County is over a million, and already includes many affluent individuals, it is unlikely that the increased earnings of J.T.P.P. participants will have a substantial impact on local, state, or federal tax revenue.10 Similarly, it is possible that additional earnings from program participants might lead to a rise in sales tax revenue as their purchasing power increases. Here too, the effect is presumed to be modest. Taken in the context of the program’s costs, however, these effects could be relatively large. Without additional data, we can only speculate.

INTERGENERATIONAL EFFECTS

EFFECT: POSITIVE

Children who grow up in poverty face an array of challenges. In their analysis of state-level data, Olson et al. found low family income and income inequality to negatively affect infant health outcomes including preterm births, low birth weight, and infant mortality rate.11 Moreover, the qualitative research on children that grow up in poverty indicate poor children are more likely to be unemployed, have poorer health, and be involved in criminal activity as adults.12

Duncan et al. analyzed panel data to estimate the impact of child poverty. They found that childhood poverty had statistically significant detrimental effects on adult earnings and work hours. A $3,000 annual increase in income between a child’s prenatal year and fifth birthday was associated with 19 percent higher earnings for the child as an adult.12 If J.T.P.P. program graduates enjoy significantly higher earnings, their young children may benefit economically in the long-run.
CONFIDENCE IN ESTIMATE

Rating ★★★★☆

In the previous chapter, this audit set forth two distinct benefit/cost estimates for Opportunity Junction’s Job Training and Placement Program (J.T.P.P.). The two calculations differed according to the perspective governing the calculation: that of Opportunity Junction, program participants and their families, or society as a whole.

First, from the perspective of Opportunity Junction, we estimate that every $1 they spend, participants collectively earn about $3 more than they would have had they not enrolled in J.T.P.P. Second, from the perspective of program participants and their families, we estimate a benefit/cost ratio of 1,000:1. This calculation takes account of only those costs borne by participants and their families. Third, from the perspective of society at large — therefore taking account of all costs and savings no matter who bears them — the benefit/cost ratio is 3:1.

How confident is ImpactMatters in these numerical estimates? Below, we conclude that the evidence that lies behind these estimates is of medium quality (equivalent to a rating of four out of five stars). For internal data, we use wage data from W-2 tax forms, collected by the California Employment Development Department (E.D.D.), to estimate earnings of J.T.P.P. alumni over time.

Specifically, we used the following data source in our quantitative analysis:


We use the data from E.D.D. to estimate the impact of Opportunity Junction's intervention. The question to which we now turn is how good is this evidence for the purpose of analyzing J.T.P.P.? To answer this question, we evaluate the quality of the data source and analysis conducted to estimate the program’s impact. The table below lists the specific evidentiary outcomes borrowed from the data source as well as its quality.
Note that the quality rating of a data source reflects more than just the quality of each work in and of itself. It characterizes the confidence with which we can borrow results from the data in question to estimate the impact of J.T.P.P. For example, if a study analyzes an intervention that does not closely mirror that of J.T.P.P. or is conducted in a setting far removed from that of Opportunity Junction — say, on a mostly white population in a wealthy area — we would rate the quality of the study low for the purpose of assessing the study’s evidentiary value for our audit. [This is not the case with the study used here.]

**Review**

In this section, we discuss the data source used to inform our calculation of impact. As described in previous chapters, Opportunity Junction aims to help low-income Contra Costa residents better support themselves and their families with earnings from employment. To estimate earnings over time of J.T.P.P. alumni, we use wage data from the Employment Development Department (E.D.D.) of California. We summarize the main results used in our impact calculation and discuss source quality below.

**E.D.D. DATA: RESULTS**

In the previous chapter, we use data from the Employment Development Department (E.D.D.) of California to model earnings over time. Opportunity Junction secured a dataset of historical (1995-2016) annual wages for all J.T.P.P applicants, alumni, dropouts and applicants for whom the program was deemed unsuitable. The E.D.D. annual wage data come from W-2 tax forms – forms that employers must file for all formally employed members of their staff. Our interrupted time series analysis shows that each J.T.P.P. participant earns about $44,000 in additional earnings over the five years following the intervention year, net of counterfactual effects.
E.D.D. DATA: CONFIDENCE

We have a medium level of confidence in using the E.D.D. earnings data to estimate impacts over time. Interrupted time series is often considered among the top quasi-experimental designs for estimating program impact. And we are confident in the accuracy of the E.D.D. earnings data, which are derived from federal tax forms (W-2s). The likelihood of systematic errors in reporting on W-2s is low. However, our model relies on several assumptions that raise issues with statistical precision.

First, though E.D.D. tracks earnings at the individual level, Opportunity Junction has access only to group averages and medians, where the group is defined as a cohort (the participants that graduate from the program during a single fiscal year). This means that our I.T.S. analysis is carried out on the change in median earnings of a group before and after the intervention rather than the change in individual earnings before and after the intervention. Group data introduces imprecision.

In addition, I.T.S. assumes that there are no other events around the time of the intervention that might also affect the outcome variable. If there are other events, one runs the risk of mis-attributing changes in the outcome variable to the intervention when they are actually the result of the unrelated events. However, the E.D.D. data has earnings information for cohorts that participated in J.T.P.P. during different years — some during economic downturns, and others during economic booms. When we aggregate the effects of the program on multiple cohorts, the effects from external factors that had positive effects on earnings (favorable economic conditions) will roughly cancel out the effects from external factors that had negative effects on earnings (unfavorable economic conditions). Therefore, our results should reflect the average impact during a range of historical contexts.

Another limitation arises from the fact that more than five or six years of pre- and post-intervention data generally should not be used in I.T.S. analyses. I.T.S. models assume that the trends in outcomes (in this case, earnings) are linear. If more years are included, we can no longer assume the linearity of trends. Fitting a linear trend to additional years would therefore likely greatly overestimate impact. As a result, our I.T.S. analysis does not use all of the available data, but rather uses just five pre-intervention and five post-intervention years.

Finally, the E.D.D. dataset is missing many observations. We make several assumptions to address missing data. We assume that some of the individuals for whom there is no

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xvii The addition of a suitable comparison group can alleviate this problem.
E.D.D. data are unemployed while others work informally. We presume that half of those for whom there is no data are informally employed (nannying or housekeeping, for example), and earning an average of $5,000 a year from that informal labor. We assume that the remaining half of the individuals for whom there is no E.D.D. data are unemployed. We assign them an annual income of $0.

**Conclusion**

From the analysis above, we conclude the following:

1. The data from EDD on wages over time of J.T.P.P. participants and non-participants is of medium quality.

We therefore judge the overall quality of evidence to be medium as the analysis used to be medium.
Nonprofit Information

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<td>ADDRESS</td>
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Audit Information

| RELEASED | |
| PERMALINK | |
| STANDARD | Version 0.3 |
| ACTIVITIES | Literature review, document and data review, senior management interviews, field staff interviews and key informant interviews. |
| AUDIT TEAM | Tamsin Chen, Luisa Rodriguez and Catherine Darin |
| REVIEW TEAM | Stephen Nuñez, Elijah Goldberg and Michael Weinstein |
| CONFLICT DISCLOSURES | None |
J.T.P.P. target population

To be eligible to participate in J.T.P.P., participants must face “addressable” barriers to employment and demonstrate motivation to obtain employment.

- Addressable barriers, as described in Opportunity Junction’s documents:
  - Boundary issues (overshare, too personal)
  - Inappropriate interactions ([lack of] basic interpersonal skills)
  - [Inappropriate] appearance
  - Lacks a high school diploma or General Equivalency Diploma (G.E.D.)
  - Lacks relevant work experience
  - Criminal conviction
  - Transportation barrier
  - History of domestic violence
  - Past substance abuse
  - Lacks reliable child care
  - Past trauma or significant emotional distress
  - Health issues/disabilities that affect ability to work
  - Terminated from past employment
  - Lacks applicable work skills for employment goals
  - Unstable or temporary housing

Opportunity Junction considers individuals ineligible if they face barriers that cannot be addressed by J.T.P.P. and may require other specialized assistance to solve, e.g. cognitive problems, ongoing or recent substance abuse problems and homelessness (without access to any temporary shelter).

Participants are considered motivated to obtain employment if they fulfill the following criteria, as described in Opportunity Junction’s documents:
- Accepts responsibility for past behavior/experience
- Arrives on time
- Displays effort before applying to Opportunity Junction
- Shows effort during application phase
- [Is] prepared for meetings
- [Has] realistic employment expectations
- Lacks additional breadwinner

Opportunity Junction recruits participants using a screening tool that reflects the eligibility requirements above. According to Opportunity Junction’s 2017 data, 71 percent of
participants are Extremely Low Income and the remaining 29 percent are Very Low Income. Additionally, 46 percent of participants are long term unemployed. 94 percent of participants are women and 80 percent of participants are non-white (37 percent Latino, 22 percent African American, 20 percent white, and 21 percent multi-racial or classified with other ethnicities). Finally, 76 percent of participants suffer from depression, anxiety and other mental health problems.

Glossary

Bias
Bias is a non-random error in a statistical estimate. Whenever estimates are based on a sample from a larger population, there will be random error in that estimate: no two samples will produce exactly the same estimates. An estimate is biased when those errors lead it to be consistently above or below the true value that is being estimated.

Comparison Group; Control Group
A comparison group, in contrast to the treatment group, is a group that did not receive the intervention. Comparison groups enable nonprofits and researchers to compare what happened to participants of their program to what might have happened if they were not in the program. ImpactMatters refers to comparison groups as “control groups” if they were constructed using probabilistic sampling, meaning if control-group members were chosen at random from the same population as the treatment group.

Counterfactual; Counterfactual Evidence
The counterfactual is what would have happened in the absence of a program or other event. Understanding the counterfactual is essential to understanding the impact of a program. Participant outcomes may change over time for many different reasons not related to the program. By comparing the difference between participant outcomes and counterfactual outcomes, the impact of a program can be estimated.

The counterfactual cannot be directly measured, as researchers cannot observe the same participant both participating and not participating in the program. However, it can be

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xviii Extremely Low Income is defined as family income that is below 30 percent of the Area Median Income (A.M.I.).

xix Very Low Income is defined as family income that is below 20 percent of the A.M.I.
approximated by randomizing participants into an intervention group and a control group, and then comparing outcomes across the two different groups.

**Discount Rate**
People tend to value benefits in the future less than benefits in the present, for three primary reasons. First, benefits today can be reinvested and generate some return. Second, the future is uncertain, and we are often uncertain if future benefits will actually materialize. Third, most people are impatient, and prefer immediate gratification over future gratification. A discount rate captures this by discounting or reducing future benefits compared to current benefits.

**Effect Size**
How large the measured impact was on outcomes in the group receiving the program compared to a similar group that did not receive the intervention.

**GRADE**
Grading of Recommendations Assessment, Development and Evaluation (GRADE) is an approach to rating the quality (or certainty) of evidence and strength of recommendations. ImpactMatters' assessments of our confidence in estimate are inspired by the GRADE approach.

**Impact**
Impact is a change in beneficiary outcomes attributable to a nonprofit’s intervention, net of counterfactual effects.

**Independent Evaluator**
An independent evaluator can include a research organization or academics engaged to analyze the impact of a program. Independent evaluators are not directly employed by the program, although they may be paid through program resources.

**Intervention**
An intervention is what researchers study and nonprofits implement. An intervention includes anything from a medical procedure to a conditional cash grant. ImpactMatters studies the intervention that a nonprofit implements, mapping that intervention to the evidence base on that particular intervention. Also referred to as the nonprofit’s program.
Pre-post Comparison
Comparing the outcomes of a treatment group before and after receiving the intervention. The pre-intervention outcomes serve as a (poor-quality) estimated counterfactual. Synonyms: before-and-after comparison; reflexive comparison.

Purchasing Power Parity
The purchasing power of a currency is the quantity of the currency needed to purchase a common basket of consumer goods and services. P.P.P. equalizes the purchasing power of two given currencies by accounting for differences in the cost of living and inflation in the two countries.

Quasi-experimental Design
A study with a quasi-experimental design tests a causal hypothesis, but lacks random assignment of test subjects to treatment and control groups, perhaps due to logistical or ethical constraints.

Randomized Controlled Trial (R.C.T.)
A randomized control trial is an evaluation design by which individuals (or groups) are randomly allocated into treatment and control groups, where the treatment group receives the program. The outcomes of the two groups are then compared in order to estimate effect size.

Sample; Sample Size
The sample is the portion drawn from a population for testing or analysis that is intended to enable statistical estimates of the behavior or attributes of the whole population. The sample size is the number of units that comprise the sample; a large enough sample size allows inferences about the whole population to be made.

Social Costs or Societal Costs
Social costs include all costs incurred by society as a result of the nonprofit's program. Different from accounting costs, which include just the costs that appear on the nonprofit's accounting statements, social costs may include, for instance, the opportunity costs of participants' time spent in the program and the costs to other organizations and governments of helping to delivering the program.
Statistical Power
Statistical power is the probability that a test will correctly reject the null hypothesis (the hypothesis that there is no statistically significant difference between the samples being compared). An underpowered test will likely yield large p-values and confidence intervals, and will lack the evidence to reject the null hypothesis.

Statistical Significance
A statistically significant result (often a difference of means of the main outcome of interest) is a result that is unlikely to arise as a result of chance. This doesn't mean the finding cannot be due to chance – just that it is very unlikely.

Systematic Review
A type of literature review that collects and analyzes multiple research studies in order to answer a research question. After a research question is defined and appropriate research studies identified, data from the studies are extracted, assessed for their quality, analyzed, sometimes statistically combined in meta-analyses, and reported in such a way as to address the research question.

Theory of Change
A theory of change connects the problem to the intervention the nonprofit runs to expected process and outcome metrics. The objective of a theory of change is to provide a testable hypothesis for why the intervention is solving some problem that will lead to positive changes for the targeted beneficiaries.

Treatment Group
In an experiment, the treatment group is comprised of experimental subjects that receive the treatment being evaluated.
References


ImpactMatters, a 501(c)(3), conducts “impact audits” of nonprofits to rigorously estimate their philanthropic impact, enabling them and their funders to make evidence-based decisions.

Learn more at www.impactm.org.