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**From the Selected Works of REBECCA A MAYNARD**

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October, 2022

# Improvement Testing in the Year Up Professional Training Corps Program: Final Grant Report. Title

David Fein  
REBECCA A MAYNARD



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# Improvement Testing in the Year Up Professional Training Corps Program: Final Grant Report



**October 2022**

Submitted to:  
Shrutika Sabawal, Project Officer  
Arnold Ventures  
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Submitted by:  
Abt Associates  
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## About This Report

This report provides impact analyses for two small studies of Year Up’s college-based Professional Training Corps—an adaptation of the organization’s highly effective stand-alone program for young adults. The studies measure PTC’s overall effects and test enhancements in coaching devised to improve program retention. The investigation provides an example of how randomized controlled trials can be used in improvement research. Rather than reach a final verdict on effectiveness, the study sought to inform work on a still developing program.

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Finally, we are deeply grateful to current and former members of the research team – including Doug Walton, Emily Roessel, Azim Shivji, Raymond Feng, Phomdaen Souvanna and Rebecca Baelen – for their many fine contributions to this work.

The report's findings and interpretations are solely the authors' and do not necessarily reflect the views of Year Up, IES, Arnold Ventures, or ACF.

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## Overview

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The Professional Training Corps (PTC) is an adaptation of Year Up’s stand-alone (“core”) program for college settings. In a large randomized controlled trial (RCT), the core program proved highly effective in raising young adults’ earnings (Fein & Dastrup 2022).

Year Up developed PTC to reduce its original program’s costs and improve scalability. The newer model utilizes college capacity – mainly, instruction, space, and student financial aid – and, in the process, provides colleges an opportunity to expand enrollment, increase completions, and strengthen connections with local employers. Launched in Baltimore in 2010, PTC was serving about 2,000 young adults annually from 15 sites across the U.S. by 2020.

### *Evaluating PTC*

In 2015, Abt Associates received a [grant](#) from the Institutes for Education Sciences (IES) for a five-year “Development and Innovation” study of PTC. The purposes of the study were to gauge progress in implementing PTC and to develop and test improvements where needed. Fein et al. (2020) summarize the IES study’s approach and findings.

As part of the IES study, the research team worked with Year Up staff to design and implement two small randomized controlled trials (RCTs). Study 1 estimated PTC’s short-term impacts for a small sample of applicants. Study 2 designed and iteratively tested enhanced academic coaching strategies aimed at reducing a 10-percentage point gap in program retention between Year Up’s core and PTC programs.<sup>1</sup> Each experiment operated at three sites, with one site participating in both experiments (during different time periods).<sup>2</sup>

A subsequent grant from Arnold Ventures provided support for extending the two analyses—to three follow-up years for Study 1 and to four years for Study 2. This report provides findings from these longer-term analyses.<sup>3</sup>

The purposes of Studies 1 and 2, respectively, were: 1) to get a sense of PTC’s overall effects on post-program earnings and college enrollment at a relatively early stage in its operation and 2) to develop and test strategies for closing a gap in retention between the PTC and core programs. The studies’ aim was to inform Year Up’s work on an evolving program and not to reach a final verdict on its effectiveness. The research is innovative in this respect—researchers and practitioners traditionally use impact evaluations to judge the effectiveness of programs in their intended steady states of operation.

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<sup>1</sup> In addition to the two RCTs analyzed in the current report, the IES project conducted quick turn-around improvement studies focused on two other challenges: 1) balancing PTC goals related to college persistence and employment and 2) ensuring that the quality of internship experiences was uniformly high. The latter studies used a mix of qualitative and descriptive statistical analyses, as reported in Fein et al. (2020).

<sup>2</sup> There was no overlap between cohorts participating in Study 1 and 2 in this site.

<sup>3</sup> The research team preregistered analysis plans for both follow-up studies on the Open Science Framework website. The plan is available at <https://osf.io/xy9dh/>. In preparing this report, we noticed that the sample size given in the analysis plan for Study 1 was incorrect. The correct sample size is 552 (as in our final IES report—see Fein et al. 2020, Exhibit 4-1).

### *Summary of Findings*

Study 1 found no difference in average earnings or months enrolled in college in follow-up Years 2 and 3 between young adults assigned to PTC and their control group counterparts. (As expected, the PTC group earned less and spent more time in college than the control group in Year 1, when participants were still in the program.) The results also show modest increases in receipt of credentials (mostly short-term certificates based on credit earned at partner college during PTC).

We offer several possible explanations for the absence of earnings impacts in Study 1. For example, compared to Year Up's core program, PTC's young adults were somewhat more disadvantaged, had lower program completion rates, and were more likely to continue in college after the program.

In Study 2, enhanced academic coaching produced a 10-percentage point overall increase in completion of PTC's initial six-month training phase—the proximate target for this intervention. Impacts on average months in college, the fraction with any college, and average annual earnings in Years 2-4 were modest in size and mostly statistically insignificant.

Cohort comparisons revealed substantial favorable impacts for the second, but not the first, of two cohorts enrolled in Study 2. Favorable effects for Cohort 2 included increases in the fraction with any college (in Year 3) and average earnings (in Years 2-4). The shift from little/no impact for Cohort 1 coincided with purposeful strengthening of the coaching enhancements based on experience in the first cycle of the experiment. The modifications provided coaches with improved training and tools for identifying and responding to students struggling with their schoolwork and at risk of failing (see section on “Cohort Differences” for Study 2 below). An implication is that multiple rounds of design and refinement may be needed to achieve desired outcomes for improvement strategies.

In sum, the two studies identified: 1) a need for program improvement and 2) an improvement strategy that appears to hold promise for meeting that need. Based on initial findings from Study 2, Year Up has taken steps to encourage wider adoption of the enhanced coaching strategies used with the second cohort. Year Up also is piloting a series of other strategies to strengthen program performance and scalability.

### *Future Research*

Once PTC reaches its intended steady state, a larger summative evaluation is needed to gauge its effectiveness. In light of the time required to plan, implement, and collect sufficient follow-up data, planning for this more robust RCT should begin soon. Given the small sample sizes in Study 2, it also would be valuable to attempt to see if promising results for the second cohort can be replicated for a wider set of PTC offices.

Finally, having demonstrated the value of rigorous, iterative improvement testing, similar studies of a wider range of enhancements at Year Up and elsewhere could be highly informative.

## Study 1: Overall Impacts at Three PTC Sites

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### *The PTC Model*

The basic logic and components of the Year Up's PTC and core programs are very similar (see Appendix A). Both programs target young adults aged 18-24 with a high school or equivalency credential and screen for interest in Year Up and manageable life challenges. Both programs train for jobs in information technology (IT) and financial services, as well as sales and customer support, business operations and software development and support, and both follow the same sequence of activities. They start with six months of classroom training and supports, follow with six-month internships at major firms, and finish with four months of post-program job search and placement assistance.<sup>4</sup>

One major difference is that community college faculty teach English and occupational courses in PTC, while Year Up instructors teach these subjects in the core program. PTC staff retain responsibility for teaching Year Up's professional skills courses, coaching, and coordinating PTC learning community activities. PTC programs operate from space donated by college partners, while core programs use rented office space. PTC puts more emphasis on helping participants secure student financial aid (e.g., Pell grants) and, at the time the study sample was in the program, provided lower stipends than the core program. Fein et al. (2020) describe the PTC program in greater detail.

### *Research Methods*

For Study 1, Year Up staff selected three offices they judged to have relatively good capacity to achieve the over-recruitment needed to implement random assignment. Recruitment extended from mid-2017 to early 2019, with two offices recruiting from two successive biennial cohorts of applicants and the third recruiting from a single cohort. The study randomly assigned 552 young adults to treatment (389) and control (163) groups. Local staff encouraged treatment group members to enroll in PTC, whereas control group members were not allowed to participate. The main analyses compare outcomes for the full treatment and control groups—including treatment group members who did not enroll or finish the program.<sup>5</sup>

This study addressed two **confirmatory** research questions:

- Is assignment to PTC associated with higher average total earnings in the second and third follow-up years?
- Is assignment to PTC associated with higher average months of college enrollment in the second and third follow-up years?

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<sup>4</sup> Since the time of this study, several of these elements have changed somewhat. For example, both programs now target a somewhat wider age range (18-29).

<sup>5</sup> As noted below, 24 percent of treatment group members did not enroll in PTC and, of those enrolling, 32 percent did not complete the program.

It also addressed four **exploratory** questions:

- What is the time path of impacts on earnings and employment in successive quarters over the three-year follow-up period?
- What is the time path of impacts on college enrollment over the three-year follow-up period?
- What is the impact on cumulative receipt of college credentials over the three-year follow-up period?
- What are the impacts on the study outcomes for the sample that actually enrolled in PTC?

Outcome data were obtained through matches to two administrative databases: 1) wage records in the National Directory of New Hires (NDNH), maintained by the federal Administration for Children and Families, Office for Child Support Enforcement (OCSE), and 2) college records in the National Student Clearinghouse (NSC). The matches occurred July 2022 for NDNH and in April 2022 for NSC. OCSE screened out some identifiers as insufficient for matching, reducing the sample available for NDNH matching to 519 individuals (367 treatment and 152 control).

Impact analyses adjust treatment-control comparisons of means using ordinary least squares regression models. Regression adjustments help to improve the precision of impact estimates and guard against chance differences in characteristics arising during randomization. Covariates in these models include a 1/0 indicator for treatment/control status and a series of baseline characteristics. The latter include indicators for PTC office; enrollment cohort; and a series of demographic and social characteristics measured in Year Up's admissions process: age, race-ethnicity, gender, an index of barriers assessed by admissions staff, and a "success factors" index averaging staff assessments of four psychosocial qualities (critical thinking, interpersonal awareness, persistence, and commitment to learning). Models for NDNH outcomes (employment and earnings) also include measures of employment and earnings in the two quarters preceding random assignment. Models for NSC outcomes add two measures of pre-random assignment college enrollment: prior college (no college/under 1 year of FTE enrollment/1+year) and credential receipt (ever/never received a credential).

As the NDNH and NSC databases covered all matchable sample members, outcomes were not subject to missing data. Some baseline characteristics measured using Year Up's administrative database were missing for a small fraction of participants. For these cases, the research team assigned the mean value for non-missing cases with the same treatment-control status and included a variable indicating whether values were missing on the respective covariates.

The sample design allowed treatment-control assignment ratios to vary across the three sites and over time to ensure that offices were able to fill available program seats. The analysis adjusts for varying assignment ratios by weighting individual sample members by the inverse of their probability of assignment to the treatment condition.

With this adjustment, treatment and control group members were very similar on most baseline characteristics (see Appendix B). The notable exception is average earnings in the two quarters prior to random assignment, which were markedly higher for treatment than control group members. The most likely explanation for this difference is chance—careful checking found no defects in the lottery process.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

Regression adjusted estimates of earnings and employment impacts control for earnings and employment in the two pre-randomization quarters and, thus, should yield unbiased estimates.<sup>6</sup>

Recruitment and random assignment typically preceded the start of the program by some months. For varying reasons, including difficulties establishing eligibility in a timely way, 24 percent of treatment group members ultimately did not enroll in the program. For this reason, the fraction of treatment group members completing PTC (52 percent)—a key performance measure—is substantially lower than the 66 percent completion rate for participants who enrolled program-wide (i.e., at all PTC sites) during the same period. After adjusting the 52 percent figure to account for no shows in the study sample, completion in the three experimental sites (68 percent) was very similar to the program-wide rate. By comparison, sites running Year Up’s core program achieved a 75 percent completion rate during the same period.<sup>7</sup>

### Impacts on Annual Outcomes

Table 1 shows that PTC had no detectable impacts on average annual earnings in Years 2 or 3 (the first confirmatory outcome domain). These results differ markedly from findings for Year Up’s core program, which showed large, statistically significant positive impacts in follow-up Years 2 and 3 (\$5,222 and \$7,011, respectively).<sup>8</sup>

**Table 1. Impacts of PTC on Average Annual Earnings in Follow-up Years 1-3 (Confirmatory Outcomes in Bold)**

Outcome	Treatment Group	Control Group	Impact (Difference)	Std. Err.	p-Value	Enrolled Treatment Group Members	Impact for Enrollees
<b>Average Total Earnings (\$) in</b>							
Year 1	6,726	12,040	-5,314 ***	819.6	<.001	4,892	-7,147
<b>Year 2</b>	<b>16,903</b>	<b>17,280</b>	<b>-377</b>	<b>1453</b>	<b>0.796</b>	<b>16,773</b>	<b>-507</b>
<b>Year 3</b>	<b>20,908</b>	<b>20,970</b>	<b>-62</b>	<b>1771</b>	<b>0.972</b>	<b>20,887</b>	<b>-83</b>
<b>Sample size</b>	367	152					

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

As expected, PTC sharply reduced earnings in Year 1—by \$5,314—as participants deferred work in favor of training. The Year 1 impact also was large and negative impact in Year Up’s core program (-\$5,778).

<sup>6</sup> The team was able to include pre-randomization employment and earnings measures only in analyses of NDNH outcomes, since NDNH restrictions precluded using these data on the Abt servers where NSC college data were analyzed (and NSC restrictions precluded uploading to ACF NDNH servers). The NSC analyses control for two measures of pre-randomization college experience, which are more directly related to any imbalances that might affect impacts on college outcomes.

<sup>7</sup> Statistics derived from analyses of Year Up administrative data for all PTC and original program enrollees from July 2017 to January 2019.

<sup>8</sup> See Fein & Dastrup (2022, Exhibit 2-1).

## IMPROVEMENT TESTING IN THE PTC PROGRAM

Adjusting for no-shows to estimate so-called “Treatment on the Treated (TOT),” impacts are about 35 percent larger (last column of Table 1) but the story does not change substantively.

Table 2 shows that PTC also had no detectable effects on the average number of college enrollment months in Years 2 or 3 (the second confirmatory domain). Because PTC enrolls all participants in college during the program, treatment group members averaged 2.2 more months in college than control group members in Year 1.

**Table 2. Impacts of PTC on College Enrollment in Follow-up Years 1-3 (Confirmatory Outcomes in Bold)**

Outcome	Treatment Group	Control Group	Impact (Difference)	Std. Err.	p-Value	Enrolled Treatment Group Members	Impact for Enrollees
<b>Average College Enrollment Months in</b>							
Year 1	5.2	3.0	2.2 ***	0.3	<.001	5.9	2.9
<b>Year 2</b>	<b>2.2</b>	<b>2.4</b>	<b>-0.2</b>	<b>0.3</b>	<b>0.455</b>	<b>2.1</b>	<b>-0.3</b>
<b>Year 3</b>	<b>2.0</b>	<b>1.7</b>	<b>0.3</b>	<b>0.3</b>	<b>0.279</b>	<b>2.1</b>	<b>0.4</b>
<b>Any College Enrollment (%) in</b>							
Year 1	82.7	48.2	34.5 ***	4.1	<.001	93.5	45.3
Year 2	44.1	39.9	4.2	4.1	0.309	45.4	5.5
Year 3	36.2	27.6	8.6 **	4.1	0.038	38.9	11.2
<b>Sample Size</b>	389	163					

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

The fraction of youth with at least one month of college enrollment in Year 1 was 35 percentage points higher for the treatment group (83 percent) than the control group (48 percent). Estimated impacts were smaller but remained positive in Years 2 and 3. The estimated 9-percentage point impact in Year 3 is statistically significant. TOT impacts for the above again increase impacts by roughly 30 percent (last column of Table 2) but again have little substantive implication for the story.

In comparison, the evaluation of Year Up’s core program also found a positive impact on the likelihood of any college enrollment in Year 1 (32 percentage points), reflecting that program’s policy of co-enrolling participants at local college partners.<sup>9</sup> Nearly two-thirds (64 percent) of core program treatment group members were enrolled in college at some point in Year 1. In subsequent years, however, these young adults’ enrollment declined precipitously. In Year 2, enrollment rates were 7 percentage points lower for treatment than for control group members.

### *Impacts on Quarterly Outcomes*

Table 3 shows impacts on quarterly earnings and employment over the three-year follow-up period. As for the annual outcomes, quarterly earnings show little sign of positive impact. Post-program impacts on

<sup>9</sup> See Fein et al. (2021, Exhibit 4-1).

## IMPROVEMENT TESTING IN THE PTC PROGRAM

quarterly employment (e.g., after Quarter 4) are mostly small and, aside from one quarter, not statistically significant.

**Table 3. Impacts of PTC on Average Earnings and Employment in Follow-up Quarters 0-11**

Outcome	Treatment Group	Control Group	Impact (Difference)	Std. Err.	p-Value	Enrolled Treatment Group Members	Impact for Enrollees
<b>Average Total Earnings (\$) in Quarter</b>							
0	2,001	2,110	-109	201	0.588	1,963	-147
1	1,561	3,106	-1,545 ***	274	<.001	1,028	-2,078
2	1,527	3,234	-1,708 ***	279	<.001	938	-2,297
3	1,637	3,590	-1,952 ***	332	<.001	964	-2,626
4	2,669	3,804	-1,135 ***	407	0.006	2,277	-1,527
5	4,281	4,229	53	416	0.900	4,299	71
6	4,860	4,495	365	423	0.388	4,986	491
7	5,093	4,752	341	440	0.439	5,211	459
8	5,151	5,098	53	511	0.917	5,169	72
9	5,306	5,426	-119	524	0.820	5,265	-161
10	5,145	4,940	206	493	0.677	5,216	276
11	5,306	5,507	-201	544	0.712	5,236	-271
<b>Percent Employed (%) in Quarter</b>							
0	57.9	64.2	-6.3 *	3.7	0.092	55.8	-8
1	54.0	65.0	-11.0 ***	4.1	0.008	50.2	-15
2	52.2	74.9	-22.7 ***	3.9	<.001	44.4	-30
3	50.5	71.8	-21.3 ***	4.3	<.001	43.1	-29
4	63.2	73.1	-9.9 **	4.3	0.020	59.7	-13
5	69.9	76.0	-6.1	3.9	0.120	67.8	-8
6	74.0	75.9	-1.9	3.9	0.621	73.3	-3
7	71.2	72.2	-1.0	4.2	0.818	70.9	-1
8	68.7	73.7	-5.1	4.1	0.222	66.9	-7
9	69.3	75.6	-6.2	4.1	0.131	67.2	-8
10	66.3	74.7	-8.4 **	4.2	0.048	63.4	-11
11	66.6	70.3	-3.8	4.6	0.411	65.3	-5
<b>Sample Size</b>	367	152					

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

Estimates for quarterly impacts on any college enrollment after Quarter 4 tend to be positive, if mostly small and statistically insignificant (see top panel of Table 4). Notwithstanding the small magnitudes of these quarterly impacts, the statistically significant 9-point impact on any enrollment in Year 3 (Table 2) suggests that these differences signal real impacts. The juxtaposition of negative employment and positive college enrollment impacts implies that higher proportions of PTC treatment than control group members stayed in school rather than seeking employment in Year 3.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

**Table 4. Impacts of PTC on College Enrollment and Credential Receipt in Follow-up Quarters 0-11**

Outcome	Treatment Group	Control Group	Impact (Difference)	Std. Err.	p-Value	Enrolled Treatment Group Members	Impact for Enrollees
<b>Any College Enrollment (%) in Quarter</b>							
0	63.3	38.0	25.3 ***	3.7	<.001	71.2	33.2
1	79.5	38.3	41.3 ***	4.0	<.001	92.4	54.1
2	63.8	34.7	29.1 ***	4.2	<.001	72.9	38.2
3	48.6	34.8	13.8 ***	4.0	0.001	53.0	18.2
4	32.2	29.7	2.5	4.1	0.534	33.0	3.3
5	28.5	31.6	-3.1	4.2	0.455	27.5	-4.1
6	30.0	29.9	0.1	4.0	0.971	30.0	0.2
7	28.4	28.0	0.3	3.8	0.935	28.5	0.4
8	28.5	22.8	5.8	3.8	0.131	30.3	7.6
9	27.4	21.9	5.5	3.7	0.138	29.1	7.2
10	26.7	21.8	4.9	4.0	0.223	28.2	6.4
11	27.0	22.3	4.7	3.9	0.233	28.5	6.1
<b>Ever Received Credential (%) through Quarter</b>							
0	0.0	0.0	0.0	0.0	1.000	0.0	0.0
1	0.4	1.5	-1.1	1.0	0.259	0.1	-1.5
2	0.6	1.5	-0.9	1.0	0.363	0.3	-1.2
3	8.2	3.7	4.5	2.4	0.060	9.6	5.9
4	15.1	4.3	10.8 ***	2.7	<.001	18.4	14.2
5	20.2	7.4	12.8 ***	3.1	<.001	24.2	16.8
6	21.1	8.9	12.2 ***	3.2	0.000	24.9	16.1
7	23.7	15.1	8.6 **	3.5	0.015	26.4	11.3
8	25.3	15.5	9.8 ***	3.5	0.006	28.3	12.8
9	25.9	17.3	8.7 **	3.5	0.014	28.7	11.4
10	26.2	17.3	8.9 **	3.5	0.012	28.9	11.7
11	27.5	18.7	8.8 **	3.6	0.015	30.2	11.6
<b>Sample Size</b>	389	163					

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

The bottom panel of Table 4 shows that PTC increased college credential receipt for the study sample in the quarters immediately following the program—likely reflecting short-term certificates resulting from credits earned at PTC partner colleges during the program. Impacts diminish slightly after peaking at 13 percentage points in Quarter 5 but remain sizeable (8–9 percentage points) and statistically significant through the end of Year 3.

### **Possible Explanations**

The purpose of Study 1 was to get an early read on impacts for a still-developing program. Here, we consider several possible explanations for the absence of favorable impacts on earnings and college enrollment.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

One possibility is that PTC's true earnings impact is larger than the estimate from this small sample from 3 of the program's 15 sites. The 95-percent confidence interval for the estimated Year 3 earnings impact (-\$62) ranges from -\$3,533 to +\$3,341. That the upper limit is substantial implies that meaningfully large positive impacts cannot be ruled out. Nonetheless, it is most likely that the true impact was small.

Substantively, the absence of impacts could have a number of sources.

First, ancillary analyses of program-wide administrative data for 2017-2018 show that, compared to the core program, higher proportions of PTC participants were African American, and higher proportions experienced other socioeconomic disadvantages.<sup>10</sup> Findings showing smaller impacts for relatively disadvantaged subgroups in Year Up's core program suggest that compositional difference may have operated to reduce PTC's impacts.<sup>11</sup>

Another hint at the role of target populations is in findings from a supplemental analysis of site-level impacts (see Appendix D). Belying the null overall results, these exploratory analyses show substantial positive earnings impacts at one site. A potentially important feature of this site is that it targeted students who were already in the process of enrolling in college, while the other two sites recruited from young adults in the general community (who may not have been immediately planning to go to school). The role of target population in this site is only suggestive: the analysis plan did not hypothesize site differences, sample sizes were small, and other differences between sites might account for the result.

Second, PTC had not reached the core program's high level of implementation at the time this study's sample was drawn (Fein et al. 2020). For example, the completion rate for PTC (66 percent) was somewhat lower than for the core program (75 percent).<sup>12</sup> As discussed in Fein et al. (2020), possible contributing factors include fewer contact hours with Year Up staff and peers in learning communities; less timely feedback on academic progress from PTC college faculty compared to Year Up core program instructors; weaker enforcement of behavior contracts; and lower stipends in PTC compared to the core program. As discussed in the next section, Study 2 tested enhancements in coaching designed to address some of these issues.

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<sup>10</sup> Administrative data for all enrollees from January 2017 through January 2019 show that compared to core participants PTC participants were more likely to identify as African American (54 compared to 44 percent), younger (53 compared to 37 percent under 20), less likely to enroll in the IT track (51 versus 64 percent), and slightly more likely to report life challenges (averaging 4.8 versus 4.4 risks on a Year Up risk assessment). In the quarter prior to enrollment, PTC participants were less likely than their core program counterparts to be employed (68 versus 74 percent), and average total earnings were lower for PTC than core participants in this quarter (\$2,440 versus \$3,086). Anecdotal reports suggest that local PTC staff may have admitted an even more disadvantaged group of young adults than usual to meet Study 1's recruitment targets. The data provided mixed support for this suspicion. For example, although the percent African American was somewhat higher for study participants (64 percent) than for all PTC enrollees (54 percent), the average risk score for the study population was identical to that for all PTC enrollees (4.8).

<sup>11</sup> Impacts in PACE were smaller for young adults with weaker education backgrounds, for African Americans, and (in the longer-term) for those with relatively high levels of self-reported depressive symptoms at baseline (Fein & Dastrup 2022). An important caveat is that, although smaller for these groups, impacts were nonetheless sizeable. Thus, although differences in populations served could contribute to PTC's diminished effectiveness, they are unlikely to fully account for the difference.

<sup>12</sup> The completion rate for treatment group members in Study 1—68 percent after adjusting for no-shows—was very close to the 65 percent program-wide rate for PTC.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

Third, PTC emphasized post-program college persistence more than the core program did, perhaps leading to a weaker focus on employment outcomes in the former. Offsetting impacts on employment (negative) and college enrollment (positive) suggest that PTC may have led some students to continue in college who would have opted for full-time work had they graduated from the core program. Fein et al. (2020) argue that fostering success in both college and employment in the same program is not necessarily unrealistic. They outline how an exemplary careful career planning framework might help Year Up staff and participants to maximize outcomes in both domains.<sup>13</sup>

At this point, all of the above explanations seem plausible. Our best guess is that the difference in earnings impacts between Year Up's PTC and core programs has multiple sources. Concurrent with release of the improvement study in 2018 (Maynard et al. 2018a & b), Year Up made efforts strengthen and standardize coaching practices more generally. As noted in this report's conclusion, ongoing measurement of PTC's overall effectiveness will be useful as these and other improvements take hold. Such testing should culminate in a larger effectiveness study of the overall PTC program.

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<sup>13</sup> Year Up has taken two steps in response to findings and recommendations in Fein et al. (2020). First, starting in 2019, program staff worked with every participant to develop a plan for postsecondary education consistent with their long-term career goals and to monitor subsequent progress—with the goal of ensuring that a majority were on track with their plans 12 months after Year Up completion. Second, Year Up removed the prior performance goal of ensuring that 75% of graduates continued in college post-program in order to emphasize employment performance standards more strongly (<https://yearup.widen.net/s/dtztqx9gps>).

## Study 2: Test of Enhanced Academic Coaching

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Study 2 tested enhancements to PTC's coaching and related supports aimed at improving academic outcomes and boosting program persistence. The strategies involved: (1) increasing coaches' access to timely information on participants' academic performance; (2) training staff in optimal use of this information in coaching; and (3) enhancing access to resources that can help to overcome impediments to academic success.<sup>14</sup>

### *Study Design*

Year Up staff selected the three study sites to exemplify offices that were fairly well-established but struggling to meet retention goals for the Learning and Development phase (when youth were enrolled full-time in college courses). In addition, they chose sites whose staff were judged to have strong interest and capacity to engage in a partnership to design and test strategies for improving coaching practices.

Recruitment for the study focused on the January and July 2017 enrollment cohorts in three PTC sites. One Study 2 site also enrolled a subsequent cohort in Study 1. (There was no overlap in study periods or samples did in this site.) The research team randomly assigned 319 incoming program participants to either the enhanced academic coaching (156) or standard coaching (163) group.

Recruitment and random assignment typically occurred the day before program orientation, and virtually all sample members participated in the PTC program. Those in the enhanced coaching group received coaching from staff trained in the new approaches, while the comparison group received coaching from staff familiar only with existing approaches. Fein et al. (2020) describe the enhanced and standard coaching conditions in more detail.

The pre-registered analysis plan specified one confirmatory question and a series of exploratory questions. The **confirmatory** question was:

- Do young adults in the enhanced coaching group spend more time in college during the second and third follow-up years than their counterparts in the usual coaching group?

Pre-registered **exploratory** questions covered additional college outcomes, possible effects on earnings and employment, and differences in impacts between the first and second enrollment cohorts:

- What is the time path of impacts on college enrollment over the follow-up period?
- What is the impact on cumulative receipt of college credentials over the follow-up period?
- What is the time path of impacts on earnings and employment in successive quarters over the follow-up period?
- Are impacts on PTC completion and subsequent college enrollment larger for the second than for the first cohort?

The research team designed this study to allow for modifications in the enhanced coaching strategies for youth in the second enrollment cycle. We thus expected that impacts might be more favorable for the second cohort. In addition to our pre-registered hypothesis for strengthened impacts on PTC completion

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<sup>14</sup> For more detailed accounts of the enhanced coaching treatment and study approach, see Britt et al. (2021), Fein et al. (2020), and Baelen et al. (2020).

and college enrollment, we also tested for increases in impacts on credential receipt, employment, and earnings.

As in Study 1, Study 2 measured these outcomes using data obtained through matches to the NDNH and NSC administrative data. Processing for NDNH flagged some identifiers as insufficient for matching, reducing sample sizes for employment and earnings analyses slightly (N = 147 for the enhanced coaching group and N = 154 for the standard, coaching group).

We estimated impacts using the same regression adjustment models described for Study 1 and followed a similar approach to missing data.<sup>15</sup> As reported in Appendix C, treatment and control group members were very similar on the baseline characteristics used in regression adjustment, and there was very little missing data for covariates.

### *Findings on Proximal Outcomes*

The study team hypothesized that enhanced coaching would improve post-PTC education and employment outcomes by increasing the probability of PTC completion. The top panel of Table 5 shows that enhanced coaching increased the fraction of youths completing the program's initial six-month training phase by 10 percentage points. The effect was especially large (16 percentage points) and statistically significant ( $p=.016$ ) only for the second of the two cohorts enrolled in the study. Impacts on overall program completion were also favorable and large for the second (12 percentage points), but not for the first (-8 percentage points), cohort. Although neither impact point estimate is statistically significant, the *difference* between impacts for the first and second cohorts (19 points) is large and statistically significant ( $p=.075$ ), consistent with the improvement hypothesis.<sup>16</sup>

### *Impacts on Annual Outcomes*

Young adults in the enhanced coaching group were enrolled in college for an average of .5 months longer in Years 2-3 than their standard coaching group counterparts (confirmatory outcomes), but this difference is not statistically significant (Table 6, top panel). The difference in Year 4 is negligible (.1 months).

Another measure—any college enrollment during the year—provides mixed support for positive post-PTC enrollment impacts of the enhanced coaching. Estimates in the bottom panel of Table 6 show a moderately large positive impact (11 percentage points,  $p=.032$ ) in Year 3. This effect is consistent with the emphasis on college persistence in enhanced coaching.

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<sup>15</sup> The only difference is that Study 2 included measures for only one, rather than two, quarters of pre-randomization earnings and employment. The first cohort for Study 2 enrolled in the study earlier than the first cohort in Study 1, at a point when less archived earnings history was available in NDNH.

<sup>16</sup> The summary section for Study 2 notes that other factors – notably differences in initial characteristics of the two cohorts – also might be contributing to the difference in impacts.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

**Table 5. Impacts of Enhanced Academic Coaching on Program Completion**

Outcome	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value
<b>Percentage completing L&amp;D</b>					
Overall	78.3	68.7	9.6 **	4.9	0.049
Cohort enrolling in					
January 2017	75.5	73.3	2.1	6.9	0.759
July 2017	81.2	64.8	16.4 **	6.7	0.016
Cohort difference			14.3		0.137
<b>Percentage completing Year Up</b>					
Overall	62.7	60.1	2.6	5.5	0.634
By Cohort					
January 2017	59.2	66.7	-7.5	7.7	0.331
July 2017	66.4	54.6	11.9	7.7	0.126
Cohort difference			19.3 *		0.075

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

**Table 6. Impacts of Enhanced Academic Coaching on College Enrollment in Follow-up Years 1-4 (Confirmatory Outcomes in Bold)**

Outcome	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value
<b>Average College Enrollment (Months) in</b>					
Year 1	6.5	5.9	0.6 **	0.23	0.010
Year 2	<b>3.1</b>	<b>2.7</b>	<b>0.5</b>	<b>0.33</b>	<b>0.154</b>
Year 3	<b>2.3</b>	<b>1.9</b>	<b>0.4</b>	<b>0.33</b>	<b>0.194</b>
Year 4	1.5	1.4	0.1	0.30	0.814
<b>Any College Enrollment (%) in</b>					
Year 1	97.3	93.3	4.0 *	2.4	0.099
Year 2	56.8	53.4	3.4	5.2	0.516
Year 3	49.7	38.7	11.0 **	5.1	0.032
Year 4	30.9	27.6	3.3	4.8	0.489
<b>Sample Size</b>	156	163			

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

Table 7 shows somewhat higher post-program earnings for the entire enhanced coaching group than for the entire standard coaching group, although the differences (ranging from \$499 to \$2,546) are not statistically significant. The difference is negative in the first (in-program) year—though, again, not significant.

Table 7. Impacts of Enhanced Academic Coaching on Average Annual Earnings in Follow-up Years 1-4

Outcome	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value
<b>Average Total Earnings (\$) in</b>					
Year 1	4,418	5,351	-932 *	535	0.082
Year 2	18,022	17,523	499	1,641	0.761
Year 3	23,211	20,664	2,546	1,982	0.200
Year 4	22,764	21,283	1,481	2,331	0.526
<b>Sample size</b>	147	154			

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

### Impacts on Quarterly Outcomes

In addition to annual impact estimates, the analysis plan also called for exploratory analyses of quarterly outcomes. Tables 8 and 9 show impacts for college and employment outcomes, respectively, in successive exposure quarters. These more detailed estimates generally echo findings for annual outcomes. Differences favor the enhanced coaching group but are generally not statistically significant for the two cohorts combined.

The only new outcome in these tables is cumulative credential receipt, which reflects receipt of college degrees and certificates of varying types and durations. Rates of credential receipt are very low for both the enhanced and standard coaching groups over the first four quarters following program enrollment (bottom panel of Table 8). Receipt increases markedly in Quarter 5 for the enhanced, but not for the standard, coaching group, reflecting certificates that some colleges awarded for PTC completion. The result—a 6-8 percentage point impact on credential receipt—persisted over most of the remainder of the follow-up period.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

**Table 8. Impacts of Enhanced Academic Coaching on College Enrollment and Credential Receipt in Follow-up Quarters 0-17**

Outcome	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value
<b>Any College Enrollment (%) in Quarter</b>					
0	95.5	92.6	2.9	2.7	0.289
1	95.4	92.6	2.8	2.7	0.307
2	77.1	62.6	14.5 ***	4.8	0.003
3	61.9	49.1	12.8 ***	4.7	0.006
4	46.1	44.2	1.9	5.1	0.709
5	46.0	42.9	3.1	5.1	0.547
6	39.6	35.6	4.0	5.1	0.434
7	43.9	35.0	8.9 *	5.1	0.080
8	41.2	31.9	9.3 *	5.0	0.065
9	38.1	33.1	4.9	5.0	0.325
10	31.3	28.2	3.0	4.9	0.540
11	30.6	26.4	4.2	4.9	0.388
12	25.9	23.3	2.6	4.6	0.571
13	23.1	21.5	1.6	4.4	0.713
14	21.7	20.9	0.8	4.5	0.852
15	19.9	19.6	0.3	4.4	0.949
16	15.8	16.0	-0.1	3.9	0.975
17	13.5	15.3	-1.9	3.9	0.625
<b>Ever Received Credential (%) Through Quarter</b>					
0	-0.2	0.6	-0.8	0.7	0.288
1	0.4	0.6	-0.2	0.9	0.803
2	0.4	0.6	-0.2	0.9	0.803
3	2.6	1.8	0.7	1.7	0.675
4	3.2	2.5	0.7	1.8	0.685
5	11.7	5.5	6.2 **	2.9	0.034
6	12.4	6.8	5.7 *	3.1	0.069
7	15.0	11.0	3.9	3.4	0.247
8	17.2	12.9	4.3	3.5	0.226
9	20.5	14.7	5.8	3.6	0.110
10	21.2	14.7	6.5 *	3.6	0.074
11	23.5	17.2	6.3 *	3.7	0.088
12	24.8	18.4	6.4 *	3.8	0.095
13	25.8	19.0	6.8 *	3.9	0.080
14	26.5	19.6	6.9 *	3.9	0.082
15	30.2	22.1	8.1 *	4.3	0.059
16	30.3	23.3	7.0	4.3	0.103
17	31.6	24.5	7.1	4.3	0.101
<b>Sample Size</b>	156	163			

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

**Table 9. Impacts of Enhanced Academic Coaching on Average Earnings and Employment in Follow-up Quarters 0-17**

Outcome	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value
<b>Average Total Earnings (\$) in Quarter</b>					
0	1,291	1,434	-143	134	0.287
1	1,081	1,205	-124	159	0.436
2	828	1,202	-375 **	169	0.028
3	1,219	1,510	-291	253	0.252
4	3,016	3,314	-298	371	0.423
5	4,692	4,604	88	479	0.854
6	4,884	4,692	192	500	0.701
7	5,430	4,913	518	498	0.300
8	5,720	4,980	740	515	0.152
9	6,171	5,276	895 *	523	0.088
10	5,812	5,240	572	543	0.293
11	5,507	5,168	339	594	0.568
12	5,736	5,244	492	624	0.431
13	5,876	5,288	588	674	0.383
14	5,303	5,152	151	628	0.810
15	5,848	5,598	250	656	0.703
16	6,279	5,456	822	711	0.249
17	6,745	6,406	339	720	0.639
<b>Percent Employed (%) in Quarter</b>					
0	59.6	57.8	1.8	3.9	0.652
1	53.5	51.3	2.2	5.0	0.667
2	50.5	51.3	-0.8	5.2	0.880
3	46.2	49.4	-3.2	5.4	0.553
4	73.3	73.4	-0.1	4.9	0.981
5	80.8	80.5	0.3	4.5	0.955
6	78.8	76.6	2.2	4.7	0.649
7	83.7	79.2	4.4	4.6	0.330
8	82.8	81.2	1.6	4.4	0.709
9	86.0	82.5	3.5	4.1	0.391
10	82.4	79.9	2.5	4.6	0.582
11	75.3	74.7	0.7	5.0	0.897
12	77.4	70.8	6.7	5.0	0.186
13	74.9	68.8	6.0	5.3	0.253
14	70.4	70.1	0.3	5.4	0.961
15	74.9	70.8	4.1	5.2	0.426
16	74.7	66.2	8.5	5.4	0.116
17	78.9	73.4	5.6	5.0	0.268
<b>Sample Size</b>	147	154			

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

## Cohort Differences

As mentioned in this section’s introduction, Study 2 deliberately provided for strengthening of the enhanced coaching treatment over two testing cycles (i.e., cohorts). In Cycle 1, coaches took initial steps to improve timely access to information on students’ academic performance (e.g., by contacting instructors and pro-actively seeking information on grades) and worked with students on plans for addressing academic performance concerns. At the end of the first cycle, research staff facilitated an exchange of experiences and discussion of potential improvements. Based on this exchange, sites modified their strategies in ways each thought helpful for improving outcomes. All sites took steps to strengthen processes for obtaining access to transcripts and grades and reviewing academic progress with students. Coaches worked with each other to improve information-sharing and problem-solving. Research staff also assembled a binder of tools for addressing academic issues and provided training on these materials (Baelen et al. 2020).

The research team surveyed coaches and conducted in-depth interviews with students near the end of the second cycle.<sup>17</sup> At that time, coaches in the enhanced strategies group reported spending substantially more time on academic and related issues than their counterparts in the usual strategies group. Similarly, students in the enhanced strategies group were more likely to cite help with academic issues from coaches. The following comment is typical: *[My coach] would get with my professors, or I would tell her [about my work] myself. And sometimes I would pull up my grades [for discussion], you know: “I’m doing good, and I’m struggling here and there.” And she would give me the support if I needed it.*

Turning to impact findings, a number of key outcomes show more favorable impacts for Cohort 2 than Cohort 1. These outcomes include overall program completion, as well as completion of the initial six-month L&D phase (see Table 5). Tables 10 and 11 also show more favorable impacts on college enrollment and, especially, earnings in Years 2-4.

The impact on average months of college in Year 1 was statistically significant for Cohort 2 but not for Cohort 1—although the cohort difference is not statistically significant (Table 10, top panel). Years 2-4 show little effect for either cohort.

Post-program impacts on a related outcome – the fraction enrolled in college – are consistently larger for Cohort 2 than for Cohort 1, although these differences also are not significant (Table 10, bottom panel, third to last column). Point estimates for Cohort 2 range from 7 to 14 percentage points (statistically significant in Years 1 and 3). Impacts for Cohort 1 range from 0 to 8 percentage points in Years 2-4 (not significant in any year).

Table 11 shows striking cohort differences in estimated impacts for post-program earnings. Point estimates for Cohort 1 are consistently negative in Years 2-4 (none of the estimates is statistically significant). In contrast, Cohort 2 estimates for the same period are positive, statistically significant, and large. Notwithstanding small sample sizes, the cohort differences are statistically significant in all three years. As discussed below, the impacts of nearly \$7,500 seen in Years 3 and 4 approach the \$8,000 annual earnings impact achieved by Year Up’s core program (Fein & Dastrup 2022).

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<sup>17</sup> The team did not collect such data prior to this point.

**IMPROVEMENT TESTING IN THE PTC PROGRAM**

**Table 10. Impacts of Enhanced Academic Coaching on College Enrollment in Follow-up Years 1-4 by Cohort**

Outcome	Cohort 1					Cohort 2					Cohort 2 – Cohort 1		
	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value	Difference	Std. Err.	p-Value
<b>Average College Enrollment (Months) in</b>													
Year 1	6.0	5.6	0.3	0.4	0.342	7.0	6.2	0.8 ***	0.3	0.005	0.5	0.5	0.286
Year 2	3.1	2.7	0.4	0.4	0.405	3.2	2.6	0.6	0.5	0.236	0.2	0.6	0.768
Year 3	2.1	1.4	0.7	0.4	0.120	2.5	2.3	0.2	0.5	0.671	-0.5	0.7	0.480
Year 4	1.0	1.1	-0.1	0.4	0.743	1.9	1.7	0.3	0.5	0.595	0.4	0.6	0.531
<b>Any College Enrollment (%) in</b>													
Year 1	94.5	93.3	1.1	4.0	0.779	99.9	93.2	6.7 **	2.8	0.019	5.6	4.9	0.255
Year 2	53.4	53.3	0.0	7.5	0.998	59.9	53.4	6.5	7.2	0.367	6.4	10.3	0.533
Year 3	43.5	36.0	7.5	7.2	0.297	55.1	40.9	14.2 *	7.2	0.050	6.7	10.2	0.512
Year 4	24.7	24.0	0.7	6.7	0.922	36.5	30.7	5.8	6.7	0.388	5.1	9.5	0.588
<b>Sample Size</b>	78	75				78	88						

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

**Table 11. Impacts of Enhanced Academic Coaching on Average Earnings in Follow-up Years 1-4 by Cohort**

Outcome	Cohort 1					Cohort 2					Cohort 2 – Cohort 1		
	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value	Enhanced Coaching	Standard Coaching	Impact (Difference)	Std. Err.	p-Value	Difference	Std. Err.	p-Value
<b>Average Earnings (\$) in</b>													
Year 1	4,540	4,959	-419	752	0.578	4,308	5,669	-1,361 *	731	0.064	-941	1,049	0.369
Year 2	16,112	19,987	-3,875 *	2,304	0.094	19,674	15,523	4,150 *	2,280	0.070	8,025	3,242	0.013
Year 3	20,618	23,975	-3,357	2,826	0.236	25,451	17,977	7,474 ***	2,730	0.007	10,831	3,929	0.006
Year 4	19,879	25,537	-5,657	3,444	0.102	25,270	17,830	7,440 **	3,114	0.018	13,097	4,643	0.005
<b>Sample size</b>	69	69				78	85						

Asterisks indicate impact is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.

### *In sum*

Study 2's findings identify enhanced academic coaching as a promising strategy for boosting program completion. The full-sample results do not support this study's confirmatory hypothesis of increased average months in college post-program or its exploratory hypothesis of increased earnings. On the other hand, exploratory analyses suggest that iterative refinements in coaching may have generated modest increases in college persistence—and large earnings gains—for the second of two cohorts enrolled in the study.

Whether enhanced coaching could be an effective strategy for scaling impacts in PTC sites more generally is an open question. Inasmuch as Year Up's logic model regards hiring from internships as a key mechanism for earnings gains, improved retention is a likely driver of more favorable earnings impacts. Favorable impacts for *both* retention—the proximal target—and earnings in the second cohort support the view that deliberate coaching improvements were responsible for the results. Findings of high retention and large earnings impacts for Year Up's core program (Fein and Dastrup 2022) also support this logic.

That said, the findings are based on a small sample, and differences in the two cohorts' characteristics also could have played a role. PTC retention and average earnings were lower for Cohort 2 than for Cohort 1 in the standard coaching group, suggesting that the former were somewhat more disadvantaged than the latter. Other things equal, it may be easier to improve outcomes when levels are relatively low.

An important next step is to replicate the enhanced academic coaching experiment for a larger number of PTC offices and participants. Beyond their positive implications for PTC, confirmation of the Cohort 2 findings would provide a strong case for wider adoption of similar coaching enhancements at Year Up and possibly other labor force intermediaries that rely on external training providers.

## Conclusions

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The two studies in this report illustrate how successive impact and improvement tests can complement and build on one another in a developing program. Study 1 indicated a general need for improvements in PTC, and Study 2 identified an improvement strategy that may substantially address this need.

Since 2018, Year Up has introduced a wide range of other improvements to its programs. They include efforts to standardize best practices in coaching and other services, formalize learning objectives, and strengthen internship experiences—among other things. Use of RCTs in testing these improvements could put decisions about them on stronger footing and accelerate solution development. For enhanced academic coaching, encouraging results for the second of two cohorts in three sites provide a strong rationale for replicating and testing the refined approach in other PTC sites.

To put the potential payoff in perspective, if the nearly \$7,500 increase in annual earnings seen for the second cohort in Study 2 could be replicated program-wide, PTC's overall impacts – negligible in Study 1 – would approach impacts seen in Year Up's core program (about \$8,000).

Valuable feedback on PTC's overall impacts in Study 1 raises the question of whether RCTs should be reserved for summative analysis, as traditionally assumed. Can the field come to see rigorous impact measurement as another valuable tool in the performance monitoring toolkit – rather than as a method used only to reach final verdicts on program effectiveness? We think it can and should: Such methods could greatly strengthen the bases for decision making in still-developing programs.

Meanwhile, a larger summative evaluation of PTC will be needed when the program reaches its intended steady state. Results from Study 1 provided a useful preliminary look at PTC but should not be used to reach a final verdict on the model's effectiveness. Among other things, a larger sample would support more robust analysis of impacts for varying target populations.

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## Appendix

### Appendix Exhibit A. Main Features of Year Up’s PTC and Core Programs

Program Phase	Core Program	PTC
Recruitment	<ul style="list-style-type: none"> <li>Broad community outreach</li> <li>Multi-step screening process</li> </ul>	<ul style="list-style-type: none"> <li>Generally similar, PTC recruitment mostly adding to regular college admissions pipeline (vs tapping into it)</li> <li>Closer coordination with college admissions and registration processes</li> </ul>
Learning & Development	<ul style="list-style-type: none"> <li>Six months of full-time training and support in stand-alone Year Up offices</li> <li>Courses in occupational, English and professional skills taught by Year Up staff</li> <li>College credit for coursework available via ACE-accredited curriculum*</li> <li>Participants and staff organized into learning communities</li> <li>Regular and ad hoc professional development activities</li> <li>Substantial coaching and supports provided by staff advisors and social workers</li> <li>Contracts with each participant specify expected behaviors</li> <li>Stipends of up to \$150/week, reduced for contract infractions</li> </ul>	<ul style="list-style-type: none"> <li>Includes same components as core program, with some differences in approach</li> <li>PTC staff teach professional skills, college instructors teach occupational and English courses</li> <li>Same basic supports but less time spent in learning communities</li> <li>Stipends of up to \$50/week, reduced for contract infractions</li> </ul>
Internship	<ul style="list-style-type: none"> <li>Six-month, full-time internship with major local employers</li> <li>Workshops and advising at Year Up one afternoon/week</li> <li>Close monitoring and troubleshooting of internship experience by Year Up staff</li> <li>Stipends of up to \$220/week, reduced for contract infractions</li> </ul>	<ul style="list-style-type: none"> <li>Very close to core program</li> <li>Stipends of up to \$150/week, reduced for contract infractions</li> </ul>
Post-Program	<ul style="list-style-type: none"> <li>Up to 12 months of job search and placement services after completion*</li> </ul>	<ul style="list-style-type: none"> <li>Same, with somewhat more emphasis on college enrollment in addition to employment</li> </ul>

\*During the PACE study (Fein & Hamadyk 2018) period, students were eligible for credit through agreements with local colleges at each site rather than ACE, and post-program employment supports were 4 rather than 12 months.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

### Appendix Exhibit B. Baseline Characteristics for Study 1 Participants

Characteristic	Treatment Group	Control Group	p-Value
Age (%)			0.468
Less than 20	33.7	30.4	
20-24	66.3	69.6	
Gender (%)			0.202
Female or other	49.5	43.4	
Male	50.5	56.6	
Missing or refused	0.3	0.0	
Race-ethnicity (%)			0.084
Black or African American	61.6	66.9	
Hispanic or Latino	16.0	19.3	
White or Other Race	22.4	13.9	
Missing or Refused	0.5	1.9	
Risk score (average)	4.68	4.71	0.932
Risk score missing (%)	4.1	5.7	
Factors of success score (average)	0.98	0.99	0.893
Success score missing (%)	6.0	8.7	
In an information technology or software development Year Up curriculum track (%)	51.7	50.9	0.858
Years of FTE college enrollment prior to random assignment (%)			0.773
0 years	28.6	28.9	
<1 years	46.2	43.2	
1+ years	25.2	27.9	
Ever received college credential prior to random assignment (%)	3.2	1.9	0.381
Average quarterly earnings before random assignment (Quarter 0) (%)			
Quarter -1	\$2,769	\$1,913	0.003
Quarter -2	\$2,678	\$1,941	0.014
Office			0.997
A	47.5	47.8	
B	30.4	30.1	
C	22.0	22.1	
Cohort enrolling in (%)			1.000
July 2017	26.0	25.7	
January 2018	33.8	33.8	
July 2018	17.2	17.5	
January 2019	23.0	23.0	
<b>Sample Size</b>	<b>389</b>	<b>163</b>	

NOTE: Statistics in this table apply weights designed to compensate for deliberate variation in Treatment/Control assignment rates across sites and cohorts.

## IMPROVEMENT TESTING IN THE PTC PROGRAM

### Appendix Exhibit C. Baseline Characteristics for Study 2 Participants

Characteristic	Enhanced Coaching Group	Standard Coaching Group	P-Value
Age (%)			0.306
Less than 20	46.8	41.1	
20-24	53.2	58.9	
Gender (%)			0.777
Female or other	48.7	50.3	
Male	51.3	49.7	
Missing or refused	0.0	0.0	
Race-ethnicity (%)			0.232
Black or African American	71.2	72.4	
Hispanic or Latino	12.8	17.2	
White or Other Race	16.0	10.4	
Missing or refused	0.0	0.0	
Risk score (average)	3.67	3.71	0.927
Risk score missing (%)	8.3	15.3	
Factors of success score (average)	1.18	1.16	0.832
Success score missing (%)	10.3	16.6	
In an information technology or software development Year Up curriculum track (%)	23.1	28.2	0.294
Years of FTE college enrollment prior to random assignment (%)			0.693
0 years	39.1	43.6	
<1 years	37.8	36.2	
1+ years	23.1	20.2	
Ever received college credential prior to random assignment (%)	3.2	2.5	0.687
Average earnings in the quarter prior to random assignment	\$1,471	\$1,740	0.254
Office (%)			0.938
C*	24.4	25.8	
D	41.0	39.3	
E	34.6	35.0	
Cohort enrolling in (%)			0.476
January 2017	50.0	46.0	
July 2017	50.0	54.0	
<b>Sample Size</b>	156	163	

\*Office C participated in both Study 1 and Study 2, with different (non-overlapping) cohorts in each study.

### Appendix D: Impacts of PTC on College Enrollment and Average Quarterly Earnings by Site

This appendix provides impact estimates for individual sites in Study 1. This analysis is purely exploratory: Sample sizes are small, and the analysis plan did not pre-specify differences across sites.

Impacts for two sites (A and B) closely resemble findings for the overall study sample (see upper two panels in Exhibit D). College enrollment rates were higher for treatment than for control group members during the first 3-4 quarters and very similar thereafter. Average earnings were lower for treatment than control group members during the program period and similar thereafter.

The third site (C) shows different patterns (see exhibits bottom panel). College enrollment rates are high and nearly identical for treatment and control groups during the first year and gradually fade thereafter. Average quarterly earnings are also very similar for the two groups in the first year but diverge thereafter. Average earnings increase steadily in the treatment group while remaining flat in the control group. This divergence leads to substantial positive earnings impacts that are statistically significant in Quarter 7 (\$3,267), Quarter 9 (\$3,399), and Quarter 10 (\$3,622). Differences in earnings impacts between Site C and at least one of the other sites are statistically significant from Quarter 7 on.<sup>18</sup>

The results for Site C should be taken with a grain of salt given the small number of sites and lack of pre-specification. They nonetheless may hint at a relationship between PTC's target population and its impact on earnings. Site C appears to have recruited young adults who already had enrolled in college—evidenced in high college enrollment rates for both treatment and control group members—rather than from the general community as in other sites. The absence of negative earnings impacts during the first few (program) quarters may indicate that members of both groups were foregoing earnings to concentrate on school.

Average earnings remained low in the control group after the first year, suggesting continued postponement of work in favor of college persistence. Earnings increased in the treatment group, while college enrollment also remained fairly high (well above levels in the other two sites). This finding suggests that PTC encouraged *both* earnings gains and college persistence in site C (not necessary for the same individuals). It may imply that PTC sites can foster both goals in some circumstances.

Based on a small sample at one site, these results are only suggestive. Replication with larger samples and longer follow-up would be useful. Among other things, extended follow-up will help to ascertain whether, in sites like C, control group members' earnings eventually catch up as more of them complete school.

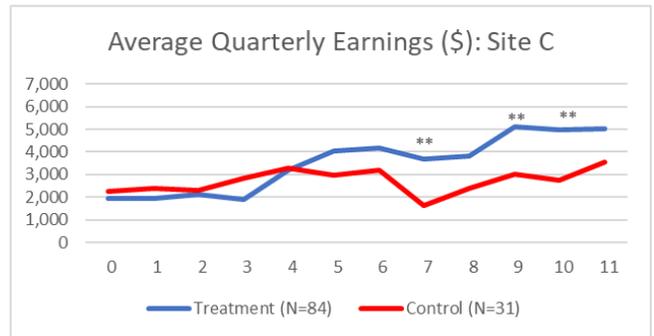
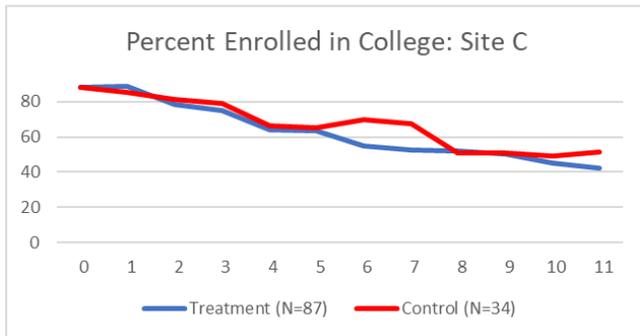
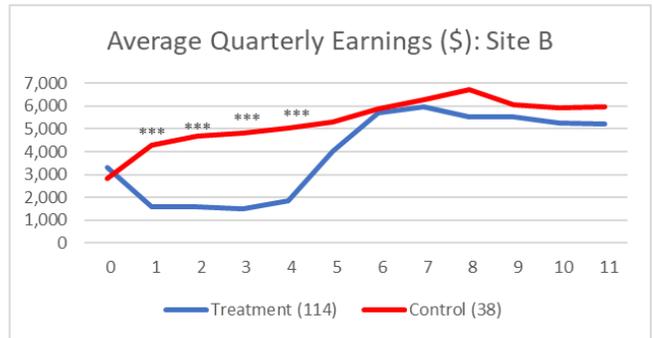
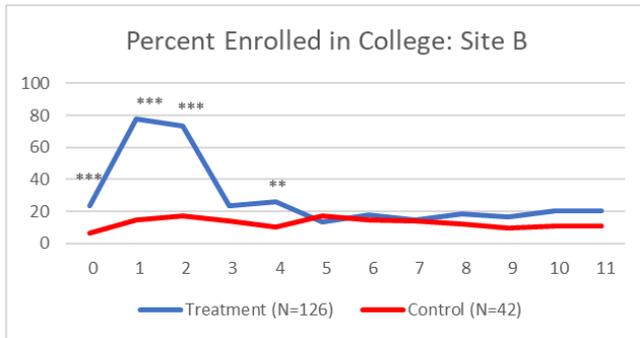
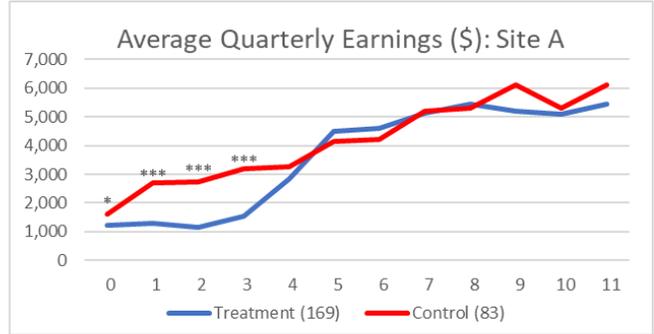
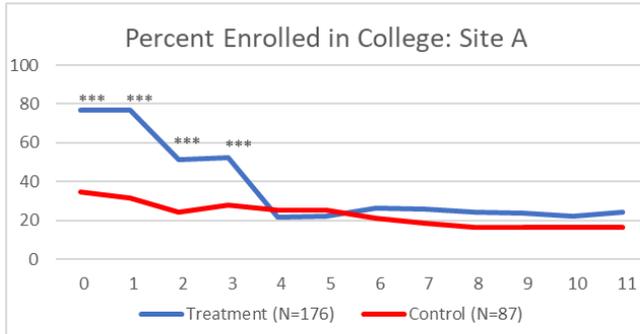
These results do not imply that PTC should shift away from the young adults it has targeted to date—mostly individuals in the community who may or may not be planning to attend college. As noted in the report's main conclusions, a number of improvements under development at Year Up (including enhanced coaching) may prove effective in boosting PTC's success with this population. They deserve careful testing.

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<sup>18</sup> Specifically, differences in earnings impacts between Sites C and A are statistically significant in Quarter 8 ( $p < .10$ ), Quarter 9 ( $p < .10$ ), and Quarter 10 ( $p < .05$ ). Differences between Sites C and B are significant in Quarter 7 ( $p < .10$ ), Quarter 9 ( $p < .05$ ), Quarter 10 ( $p < .05$ ), and Quarter 11 ( $p < .10$ ).

# IMPROVEMENT TESTING IN THE PTC PROGRAM

## Appendix Exhibit D. PTC's Impacts by Follow-up Quarter and Site (Study 1)



Asterisks indicate treatment-control difference (impact) is statistically significant at the: \* 10 percent level, \*\* 5 percent level, \*\*\* 1 percent level.