

Supporting the Transition to Adulthood among High School Dropouts: An Impact Study of the National Guard Youth Challenge Program

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Abstract Using a multi-year, random assignment design, this study evaluated the effects of the National Guard Youth Challenge Program (NGYCP), an intensive residential intervention program for youth ages 16–18 who have dropped out of high school. The sample included 1,173 youth (predominantly male) of diverse racial and ethnic backgrounds from ten NGYCP sites across the country. Positive impacts on educational and employment outcomes were sustained 3 years after entering the program, with older participants generally showing greater benefits than younger participants. Implications for research and practice are discussed.

Keywords High school dropout · Transition to adulthood · Impact study

Introduction

Nearly one third of high school students fail to graduate in 4 years and, in the nation's largest cities, that rate is closer to half (Swanson 2008). Moreover, an estimated five million American youth between the ages of 16 and 24 are both out of school and unemployed. Such youth face high rates of unemployment, poverty, public assistance dependence, criminal involvement, incarceration, and health difficulties (e.g., Brock 2010; Caspi et al. 1998; Cohen 1998; Fergusson

et al. 2002) and cost the nation billions in lost wages, taxes, and productivity (Alliance for Excellent Education 2006). In response to the significant individual and societal costs associated with dropping out of school, a range of prevention and “second-chance programs,” have been developed (Bloom 2010). In this study, we present the results of an evaluation of the National Guard Youth Challenge Program (NGYCP), a large-scale, residential program for youth who have dropped out of high school.

Background

Programs directed at youth who have dropped out of high school have had limited success. Indeed, a review of training programs operated under the Job Training Partnership Act in the 1980 s found that these second-chance programs produced few (and sometimes even negative) impacts on earning (Bloom 2010; Orr et al. 1997). For example, JOBSTART, New Chance, and Job Corps, have all struggled to produce sustained improvements in employment or earnings, although they have shown success in increasing GEDs and vocational certificates (Cave et al. 1993; Quint et al. 1997; Schochet et al. 2006; Schochet et al. 2003).

Indeed, in response to the challenge of achieving enduring effects in this population, Bloom (2010, p. 98) notes that, “some experts have raised the question of whether it is more appropriate to think of time-limited programs for dropouts as inoculations, whose effects may last forever, or as vitamins, whose effects wear off if they are not taken consistently.”

Retention of outcomes is especially challenging for residential programs, in which participants often struggle to maintain positive changes as they reenter their peer groups and communities. For example, residential programs serving adolescents with addictions frequently encourage continued care after participants have left residential programs, but few participants engage in follow-up services (only

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approximately one third). As a result, gains made during residential programs are often diminished or lost when participants reenter their communities (Godley et al. 2001).

Moreover, some of the programs targeting youth who dropped out of high school have led to unintended results. New Chance, for example, was associated with increased levels of stress and depression among young women in the treatment group. Although some programs may have been insufficiently intensive, or were evaluated prematurely, researchers and other experts on youth programming have suggested that many of the prior programs erred by emphasizing a deficit model rather than a positive youth development (PYD) model (Bloom 2010). The hallmark of the PYD approach is a view of youth as positive resources to be developed as opposed to problems to be managed (Roth and Brooks-Gunn 2003; Larson 2000; Lerner 2005). The perspective is predicated on a dynamic relationship between the individual and the environment and hypothesizes that the alignment of environmental resources with youth strengths will promote positive development and thriving among youth (Lerner 2004).

Created in 1993, Challenge is a 17-month program that aims to provide youth with experiences, settings, and relationships that promote positive development. More specifically, Challenge programming incorporates many of the elements that the PYD literature associates with strong programs, including community service, leadership development, team building, life skills training, health education, physical activity (both conditioning and recreational), educational and vocational instruction, citizenship, positive relationships with adults and peers, and career planning. Based on evidence that the presence of a nonparental, caring adult relationship may be the most effective developmental asset a community can offer (Theokas and Lerner 2006; Rhodes 2005), Challenge also includes a mentoring component.

The program grew out of a project by the Center for Strategic and International Studies (CSIS) in the late 1980 s and early 1990 s, whose goal was to develop new approaches to working with youth who had dropped out of high school. The project concluded that aspects of the military structure could be beneficial for disadvantaged youth and that the National Guard, with its strong community service mission, was ideally suited to operate a program for young people (Cullinan et al. 1992). Congress funded a ten-site pilot of Challenge in 1993, and funding was made permanent in 1998. The program currently operates in more than half of the 50 states and approximately 100,000 young people having completed the program since it began. Although the National Guard Bureau collects extensive data on program participation and participant outcomes that indicate the positive influence the program can play in participants' lives (National Guard Bureau 2010), Challenge had not been rigorously evaluated prior to this study.

This current study presents the results of a multi-year, random assignment evaluation of the NGYCP by MDRC, a nonprofit, nonpartisan research organization. The study examines participant impacts on a range of educational, vocational, and behavioral outcomes approximately 3 years after they joined the study.

Method

Participants

To be eligible for the Challenge program, youth must have dropped out or been expelled from school, be unemployed, drug free at the time of entry into the program, not currently on probation or parole for anything beyond juvenile status offenses, not serving time or awaiting sentencing, not under indictment or charged, and not convicted of a felony or capital offense. The program is open to both males and females, although about 80 % of the participants nationwide are male.

Among the baseline sample of 3,074 youth participating in the study, 84 % were male (see Table 1). The study has a slightly greater percentage of males than the overall percentage for Challenge programs due to the fact that some programs needed to accept all female applicants into the program for logistical reasons and therefore could not include them in the random assignment pool. At the time of random assignment, participants ranged in age from 16 to 18, with 16-year olds making up 37 % of the sample, 17-year olds representing the majority with 52 %, and 11 % 18-year olds. While Challenge serves youth aged 16–18, youth who were younger than 16.5 years of age were excluded from the study. The Department of Defense made the decision to exclude the youngest applicants from random assignment (though not from the programs) in order to reduce the number of young people who, if they were assigned to the control group, would be barred from reapplying for Challenge for several class cycles. Owing to this rule, the characteristics of the participants in the study do not necessarily match those of all the young people who participated in the programs during the cycles when random assignment occurred.

Approximately equal percentages of the youth identified as White and Black (41 and 40 %, respectively), another 14 % identified as Hispanic. Twenty-nine percent of youth reported someone in their household received public assistance. Fewer than half of the participants lived in two-parent households. Forty-four percent lived in single-parent households, and 11 % lived in households without parental figures. Forty-five percent of youth had completed 9th grade or lower, 38 % had completed 10th grade, and 16 % had completed 11th grade. Thirty percent reported having Individual Education Plans and 82 % had been suspended

Table 1 Baseline characteristics for program and control group among baseline respondents

| Characteristic (%) | Program group | Control group | Full sample | Significant difference |
|---|---------------|---------------|-------------|------------------------|
| Male | 83.7 | 85.4 | 84.1 | |
| Average age (years) | 16.7 | 16.8 | 16.7 | |
| Race/ethnicity | | | | |
| Hispanic | 14.5 | 14.1 | 14.4 | |
| White | 41.6 | 40.5 | 41.3 | |
| Black | 39.6 | 41.4 | 40.1 | |
| Other | 3.0 | 1.9 | 2.7 | —* |
| Lives with | | | | |
| Both biological parents | 23.1 | 23.7 | 23.3 | |
| Mother only | 37.0 | 37.3 | 37.1 | |
| Father only | 6.3 | 6.6 | 6.4 | |
| 1 parent and a stepparent | 20.4 | 22.1 | 20.9 | |
| No parental figures | 11.4 | 9.2 | 10.9 | |
| Other combination | 1.7 | 1.1 | 1.6 | |
| Anyone in household receives public assistance | 29.2 | 30.5 | 29.5 | |
| Highest grade completed | | | | |
| 8th grade or lower | 13.8 | 15.5 | 14.2 | |
| 9th grade | 31.9 | 29.7 | 31.4 | |
| 10th grade | 38.1 | 38.7 | 38.2 | |
| 11th grade | 15.6 | 15.6 | 15.6 | |
| 12th grade | 0.6 | 0.5 | 0.6 | |
| Usual grades received in school | | | | |
| Mostly As and Bs | 4.1 | 3.7 | 4.0 | |
| Mostly Bs and Cs | 16.6 | 16.2 | 16.5 | |
| Mostly Cs and Ds | 37.1 | 35.3 | 36.6 | |
| Mostly Ds and Fs | 42.2 | 44.7 | 42.9 | |
| Ever suspended from school | 82.3 | 82.4 | 82.3 | |
| Ever convicted | 16.6 | 15.2 | 16.3 | |
| Who first suggested you should apply for Challenge? | | | | —* |
| Yourself | 31.8 | 28.1 | 30.9 | |
| A relative | 50.4 | 51.5 | 50.7 | |
| A school official | 12.6 | 12.9 | 12.7 | |
| The justice system | 5.2 | 7.5 | 5.8 | |
| Overweight (BMI 25–29) | 21.2 | 19.7 | 20.8 | |
| Obese (BMI 30+) | 11.9 | 11.6 | 11.8 | |
| Ever drink alcohol or use drugs | 36.3 | 36.0 | 36.2 | |
| Sample size | 2,320 | 754 | | |

* $p < 0.10$

from school. Thirty-one percent had been arrested, and 16 % had been convicted.

Intervention

The 17-month program is divided into three phases: the pre-Challenge phase (2 weeks), the residential phase (20 weeks), and the postresidential phase (1 year). During

the first two phases (totaling 22 weeks), the participants live at the program site, often on a military base. The 2-week orientation period can be very challenging, both physically and mentally, much like military training. Candidates who complete pre-Challenge are formally enrolled in the program as “cadets” and move to the residential phase. The curriculum for this phase is structured around eight core components that reflect current thinking about how to

promote PYD: leadership/followership, responsible citizenship, service to community, life-coping skills, physical fitness, health and hygiene, job skills, and academic excellence. Cadets spend the largest share of each day in the education component. At the time of the study, most programs helped participants prepare for the GED exam, and a small number offered a high school diploma. Throughout the residential phase, the cadets work with program staff to arrange a postresidential placement. Acceptable placements include employment, education, and military service. Showing competency on the core components and having an acceptable placement lined up are requirements of successfully completing the residential phase or “graduating” from Challenge.

The program environment is described as “quasi-military,” that is, the cadets are divided into platoons and squads, live in barracks, have their hair cut short, wear uniforms, and are subject to military-style discipline. The daily schedule is highly structured with almost no “down time,” and the cadets are closely supervised by staff at all times. A typical 100-bed program employs a multidisciplinary staff of approximately 50 people. The largest contingent of the staff is the cadre (or team leaders), who directly supervise the cadets day and night. The cadre come from a variety of backgrounds; however, a large majority have some military experience, ranging from one term of service to retirement from a full military career. In addition, all programs have a minimum of six full-time instructors. The instructors teach the GED subject courses, including math, science, writing and language arts, and computer skills, as well as other parts of the core components, including responsible citizenship and job skills. The Challenge programs vary among states in the sources of their instructional staff, with some hiring instructors directly, and others using teachers from local school districts or community colleges. Finally, a team of counselors work with cadets both in the context of one-on-one career and psychological counseling, as well as group classes, including life-coping skills, job skills, and health and hygiene. Most of the counseling staff hold either bachelor’s or master’s degrees in psychology, social work, mental health, alcohol and drug counseling, or school counseling. Although Challenge draws upon a military structure, discipline, facilities, and staff to accomplish its objectives, there are no requirements for military service during the program or afterward.

After completion of the residential phase, participants move into the 1-year postresidential phase, which includes the placement and a structured mentoring program. The postresidential phase was developed to support youth’s transition back into the community and to directly address the common challenge of erosion of effects upon reentry into the community. The Challenge mentoring program differs from traditional mentoring, in that young people nominate their own mentors. Mentors tend to be drawn from family friends,

extended family members and godparents, school and extra-curricular staff, and religious leaders. Challenge initiates the mentoring relationship during the residential phase, after the staff has screened and trained the mentors. Notably, however, the quality of the mentoring varied across sites (see Bloom et al. 2009). All mentors were required to receive mentor training, but programs executed this training inconsistently, ranging from full day face-to-face trainings to a few hours of training over the phone. Cadets were required to have a minimum of four contacts with their mentor per month during the postresidential phase and mentors were asked to send in a monthly report on these contacts. In some programs, however, there were few resources to enforce or monitor this by Challenge staff, resulting in varying levels of adherence to the mentoring model. According to youth survey data collected at the 9-month follow-up (approximately 3 months after the start of the postresidential phase), 76 % of participants reported contact with mentors, with 36 % reporting weekly in-person contact, and 40 % reported weekly phone contact. Ten percent of youth reported in-person contact of less than once every 4 weeks, and 6 % reported phone contact of less than once every 4 weeks.

Overall, fidelity to the intervention model during the residential phase was relatively high, while delivery of the intervention during the postresidential phase was more uneven (Bloom et al. 2009; National Guard Bureau 2010). For a more detailed description of the Challenge program, refer to Bloom et al. (2009), Millenky et al. (2011) or the Challenge website, www.ngycp.org.

Procedure

Youth were recruited for the study through participating Challenge sites. Most Challenge programs have recruiters who travel around the state to discuss the program with interested young people, parents, school principals, and other youth professionals. The participating sites were not chosen randomly; rather, there was an effort to identify programs that had stable staffing and that tended to receive more applicants than they could serve, a prerequisite for conducting a random assignment evaluation. In addition, the Department of Defense authorized a modest amount of funding to support enhanced recruitment efforts by the programs that participated in the evaluation. Although 12 programs across the country agreed to participate in the evaluation, there were some incoming classes in which the number of applicants was too small to allow random assignment to take place. As a result, random assignment was conducted in only 10 of the 12 participating programs in late 2005 through early 2007. Random assignment was conducted for 18 incoming class cycles across the ten sites, for a total of 3,074 participants. Due to different program sizes and numbers of participating class cycles, the number

of participants varied greatly by site. At the low end, one site included 92 research participants, and, at the high end, one site included 941 research participants.

Applicants signed consent forms to participate in the study (and if they were under 18 years of age, their parents or guardians signed consent forms) and completed a baseline survey prior to randomization. Baseline surveys and consent forms were completed individually by youth when they filled out their application forms.¹ Of the 3,074 participants, 2,320 youth were assigned to the program group and 754 youth were assigned to the control group.²

Follow-up surveys were conducted, on average, at approximately 9 (wave 1), 21 (wave 2), and 38 months (wave 3) after participants entered the study. This study focuses solely on results of the 38-month survey in order to assess longer-term impacts (for a description of the results at waves 1 and 2, please see Bloom et al. 2009 and Millenky et al. 2010, respectively). The survey sample was not drawn to represent the full research sample. Instead, the survey sample aimed to obtain as balanced of a survey sample as possible with respect to representing each of the ten sites equally and equally representing the program group and control group.³ Within these parameters, the subsample was drawn randomly from the full research sample.

The 38-month survey was fielded to 1,507 youth, yielding a total of 1,173 sample members (722 program group and 451 control group) who completed the survey, for an overall response rate of 78 % (79 % of program group members and 76 % of control group members). In addition to youth survey data, this study drew on program participation data collected by all Challenge programs.

Measures

This study focuses on key program outcomes encompassing the major objectives of the intervention, including self-reported measures of youth educational, vocational, and behavioral outcomes.

¹ For the duration of the study, those interested in applying to Challenge needed to agree to also take part in the study in order to continue with the enrollment process. However, the study procedures allowed for a small number of hardship cases to bypass study involvement in special circumstances.

² A greater number of youth were assigned to the program group than the control group because the primary goal was to fill the number of available program slots. During the study period, program managers told MDRC how many applicants they needed to accept in order to meet the graduation target, assuming normal patterns of attrition. Random assignment was conducted if the number of qualified applicants was at least 25 greater than the number needed to meet the graduation goal.

³ The initial imbalance of the site sample sizes and the program or control group assignments limited the ability of the sampling plan to fully address the imbalances for the final analysis. The weighting discussed below further addresses these issues for the analysis.

GED/High School Diploma was measured using two single-item questions asking whether youth had received a high school diploma and whether they had received a GED.

College Credit was measured using a single-item question asking if youth had received any credit towards a college degree.

Employment and Earnings in the last 12 months were derived from a series of questions about each job they had since random assignment including the start and end date, hours worked per week, and wages. These measures focus only on employment and earnings in the 12 months prior to the survey interview.

Convictions were measured using a single-item question asking youth if they had been convicted since random assignment.

Obese/Overweight status was calculated based on two questions asking for current height and weight. A person was defined as being overweight if their body mass index (BMI) fell between 25 and 29.9 and obese if their BMI was 30 or higher (Centers for Disease Control and Prevention 2012).

Binge drinking was measured using a single-item question asking the number of times in the past 14 days the participant had more than five drinks in a row. Responses were converted into a dichotomous variable representing whether there had been any time in the past 14 days where the participant had more than five drinks in a row. This question was adapted from the Monitoring the Future annual survey (Johnston et al. 2012).

Frequent marijuana use was defined as using marijuana on 10 or more occasions in the last 12 months. This question was adapted from the Monitoring the Future annual survey (Johnston et al. 2012).

Contact with Mentor was measured through a single-item question asking program group youth whether they were still in contact with their mentor.

Enrollment Data were obtained from the Challenge Data Management and Reporting System (DMARS), in which programs record data on participant application, enrollment, and graduation.

Statistical Procedures

First, tests were conducted to verify that random assignment was successful in creating statistically equivalent groups at baseline. Then, program impacts were examined by comparing the regression-adjusted means of the program and control groups for all outcome variables. An intent-to-treat analysis is utilized, thus all members of each group were included regardless of their participation in the Challenge program. Given the large variation in site sample sizes, the comparisons are drawn across all sites for a pooled estimate.

The regression model controlled for sample member baseline characteristics and was weighted to account for differences by sites in each of the following aspects: site sample size (so each of the ten sites contributes equally to the results), survey response rates, and program versus control ratios. Given the aim of the impact analysis to understand the effects of the program across different sites, the decision was made to weight each site equally. This means, however, that the impacts presented do not represent the distribution of youth for the entire study.

Baseline covariates included: age, gender, race, highest grade completed, if the participant lived in a two-parent household, and whether the participant applied to Challenge because of interest in the military. For the subgroup analyses, impacts for each subgroup were calculated, and an H-statistic was generated to assess whether the difference in impacts between subgroups was statistically different. All data processing and statistical analysis were done using SAS 9.1.3.

Results

Initial Equivalence and Attrition

A comparison of baseline characteristics between participants assigned to the treatment group and those assigned to the control group revealed that those in the treatment group were marginally less likely to identify as a race other than Hispanic, White, and Black and differed marginally in who suggested that they should apply to Challenge (see Table 1).

Although the follow-up surveys did not attempt to target the full sample of baseline participants, analyses were conducted to assess the degree to which respondents to the 38-month survey (the sample included in the current analyses) were similar to those who completed baseline surveys but were not included in the 38-month survey. An analysis of baseline characteristics of 38-month survey respondents and nonrespondents (those from the baseline sample who were not included in the 38-month survey) revealed some statistically significant differences that limit the generalizability of the results (see Table 2). As was to be expected given the aims of the sampling plan, the survey respondents included significantly fewer members of the program group than the remaining sample in an effort to represent the program and control groups more equally. In addition, compared with those who were not included in the 38-month survey, respondents in the 38-month survey were more likely to be male, more likely to be White or Hispanic and less likely to be Black, less likely to receive public assistance, more likely to have been convicted, and differed in their family composition and who suggested that they should apply to Challenge. A logistic regression confirmed

that there are systematic differences of baseline characteristics between the two groups that limit the generalizability of the results beyond the survey sample. These differences were to be expected given the survey sampling plan, the variation in site sample sizes, and the demographic differences between the programs' applicants.

However, analyses also conducted to investigate differential attrition between the control and the treatment group confirmed similarities across those two groups. Overall, a logistic regression predicting treatment status among respondents confirmed that baseline characteristics did not significantly predict treatment status among those who responded to the 38-month survey ($p=0.25$). Table 3 compares selected baseline characteristics of treatment and control group members who responded to the 38-month survey. Program group respondents had progressed slightly farther in high school and were less likely to be on public assistance than control group respondents. However, this group was also more likely than the control group to have been convicted at baseline and to have used drugs or alcohol at baseline.

Intervention Received

Based on data from DMARS, of the 2,320 youth assigned to the program group, 83 % showed up on the first day of the program, passed a drug test, and registered. Within this group, 82 % completed the 2-week pre-Challenge phase and formally enrolled in the program, and 64 % completed the residential phase and graduated from the program. Therefore, 53 % of those assigned to the program group graduated from Challenge (as defined by completing the residential phase of the program). This percentage of graduates among those who formally enrolled, approximately 78 %, is similar to national averages for Challenge program completion.

At the time of the 38-month follow up survey, 56 % of participants in the treatment group reported that they were still in contact with their mentors. In addition, a total of eight youth assigned to the control group attended the program. Survey data also indicated that at the 38-month follow-up, within the control group, 13 % had attended a residential program other than Challenge, 23 % had received vocational training, 15 % had received a trade license/certificate, and they had received an average of 9 months of high school classes and an average of 4.4 months of GED classes. Within the treatment group, 23 % had received vocational training, 29 % had received a trade license/certificate, and they had received an average of 7.6 months of high school classes and an average of 4.8 months of GED classes (this may include both classes taken within the context of Challenge as well as in other contexts). Notably, as previously mentioned, this study employs an intent-to-treat

Table 2 Comparison of 38-month survey respondents and remaining baseline sample

| Characteristic (%) | W3 survey respondents | Remaining sample | Significant difference |
|---|-----------------------|------------------|------------------------|
| Program group (vs. control group) | 61.6 | 84.1 | —** |
| Male | 87.0 | 82.3 | —** |
| Average age (years) | 16.7 | 16.7 | |
| Race/ethnicity | | | |
| Hispanic | 17.1 | 12.7 | —** |
| White | 44.1 | 39.6 | —* |
| Black | 33.1 | 44.3 | —** |
| Other | 0.5 | 0.2 | |
| Lives with | | | —* |
| Both biological parents | 25.0 | 22.3 | |
| Mother only | 34.7 | 38.5 | |
| Father only | 6.2 | 6.5 | |
| 1 parent and a stepparent | 22.8 | 19.7 | |
| No parental figures | 10.1 | 11.3 | |
| Other combination | 1.2 | 1.8 | |
| Anyone in household receives public assistance | 26.5 | 31.3 | —** |
| Highest grade completed | | | |
| 8th grade or lower | 14.2 | 14.2 | |
| 9th grade | 30.0 | 32.3 | |
| 10th grade | 37.6 | 38.6 | |
| 11th grade | 17.4 | 14.4 | |
| 12th grade | 0.8 | 0.5 | |
| Usual grades received in school | | | |
| Mostly As and Bs | 3.9 | 4.1 | |
| Mostly Bs and Cs | 17.5 | 15.8 | |
| Mostly Cs and Ds | 37.1 | 36.4 | |
| Mostly Ds and Fs | 41.5 | 43.7 | |
| Ever suspended from school | 82.3 | 82.3 | |
| Ever convicted | 18.2 | 15.1 | —* |
| Who first suggested you should apply for Challenge? | | | —* |
| Yourself | 28.0 | 32.7 | |
| A relative | 51.5 | 50.1 | |
| A school official | 13.9 | 11.9 | |
| The justice system | 6.6 | 5.2 | |
| Overweight (BMI 25–29) | 20.5 | 21.1 | |
| Obese (BMI 30+) | 11.6 | 11.9 | |
| Ever drink alcohol or use drugs | 37.8 | 35.2 | |
| Sample size | 1,173 | 1,901 | |

* $p < 0.05$; ** $p < 0.01$

analysis, including all youth who were assigned to a given group during randomization regardless of actual participation in the program.

Impacts

Results of the impact analyses indicated that participation in the Challenge program led to significant improvements on

educational and employment outcomes (see Table 4). Youth in the program group were significantly more likely than the control group to have obtained a high school diploma or GED ($p < 0.01$), with 72 % of those in the program group having earned a GED or high school diploma, compared with 55 % of the control group. Notably, this impact was driven largely by differences in GED receipt. The program group was also nearly twice as likely as the

Table 3 Baseline characteristics for program and control group for 38-month respondents

| Characteristic (%) | Program group | Control group | Full sample | Significant difference |
|---|---------------|---------------|-------------|------------------------|
| Male | 87.6 | 88.7 | 88.0 | |
| Average age (years) | 16.7 | 16.7 | 16.7 | |
| Race/ethnicity | | | | |
| Hispanic | 19.1 | 16.6 | 18.1 | |
| White | 42.6 | 42.0 | 42.3 | |
| Black | 32.4 | 36.0 | 33.8 | |
| Other | 5.9 | 5.4 | 5.7 | |
| Lives with | | | | |
| Both biological parents | 26.0 | 23.5 | 25.0 | |
| Mother only | 33.7 | 37.6 | 35.2 | |
| Father only | 5.4 | 8.2 | 6.5 | |
| One parent and a stepparent | 22.2 | 21.7 | 22.0 | |
| No parental figures | 11.4 | 7.9 | 10.0 | |
| Other combination | 1.3 | 1.1 | 1.2 | |
| Anyone in household receives public assistance | 24.2 | 29.6 | 26.4 | —* |
| Highest grade completed | | | | —* |
| 8th grade or lower | 12.5 | 17.6 | 14.5 | |
| 9th grade | 31.0 | 28.3 | 29.9 | |
| 10th grade | 36.6 | 39.9 | 37.9 | |
| 11th grade | 19.0 | 14.0 | 17.0 | |
| 12th grade | 0.9 | 0.3 | 0.7 | |
| Usual grades received in school | | | | |
| Mostly As and Bs | 3.9 | 3.6 | 3.8 | |
| Mostly Bs and Cs | 18.9 | 16.3 | 17.8 | |
| Mostly Cs and Ds | 42.7 | 40.0 | 41.6 | |
| Mostly Ds and Fs | 46.9 | 46.8 | 46.9 | |
| Ever suspended from school | 83.7 | 80.9 | 82.6 | |
| Ever convicted | 20.2 | 14.7 | 18.0 | —* |
| Who first suggested you should apply for Challenge? | | | | |
| Yourself | 24.5 | 22.8 | 23.8 | |
| A relative | 47.4 | 49.1 | 48.1 | |
| A school official | 17.1 | 16.3 | 16.8 | |
| The justice system | 7.6 | 7.5 | 7.5 | |
| Overweight (BMI 25–29) | 20.7 | 19.8 | 20.3 | |
| Obese (BMI 30+) | 10.9 | 11.4 | 11.1 | |
| Ever drink alcohol or use drugs | 39.7 | 34.3 | 37.5 | —** |
| Sample size | 722 | 451 | 1,173 | |

* $p < 0.05$; ** $p < 0.10$

control group to have earned at least some college credit ($p < 0.01$). Additionally, youth in the program group had been employed for a greater number of months with higher earnings ($p < 0.01$) in the past year. Specifically, the program group reported earnings of approximately \$13,500 in the past year, about \$2,300 higher than the control group average of \$11,250. It is interesting to note, given the involvement of the National Guard, that there were no significant differences in military enlistment between the two groups.

Although significant improvements were observed on a number of educational and vocational outcomes, results were less clear on behavioral outcomes. Analyses failed to detect any significant differences between the program group and the control group for convictions, binge drinking or frequent marijuana use. The program group was significantly more likely to be overweight than the control group ($p < 0.05$), with 32 % of the program group overweight compared with 26 % of the control group. However, no

Table 4 Program impacts at the 38-month follow-up

| Outcome | Program group (regression- adjusted means) | Control group (regression- adjusted means) | Impact (program- treatment) | Effect size |
|--|--|--|--------------------------------|----------------|
| Educational outcomes (percent) | | | | |
| Earned HS diploma or GED | 71.8 | 55.5 | 16.2** | 0.3 |
| HS diploma | 30.3 | 26.6 | 3.7 | 0.1 |
| GED | 56.9 | 34.5 | 22.4** | 0.5 |
| Earned any college credit | 34.9 | 18.8 | 16.1** | 0.4 |
| Employment outcomes | | | | |
| Earnings (in past year; \$) | 13,515 | 11,248 | 2,266** | 0.2 |
| Months employed (in past year) | 8.1 | 7.2 | 0.9** | 0.2 |
| Ever enlisted in the military (percent) | 18.3 | 17.2 | 1.1 | 0.0 |
| Behavioral and health outcomes (percent) | | | | |
| Convicted (since random assignment) | 27.6 | 24.9 | 2.8 | 0.1 |
| Binge drinking (in past 14 days) | 26.1 | 30.2 | -4.1 | 0.1 |
| Frequent marijuana use (in past year) | 26.0 | 24.4 | 1.6 | 0.0 |
| Overweight | 32.1 | 25.9 | 6.1* | 0.1 |
| Obese | 11.4 | 12.1 | -0.7 | 0.0 |
| Sample size (total=1,173) | 722 | 451 | | |

* $p < 0.05$; ** $p < 0.01$

differences were observed between the two groups in those categorized as obese.

Subgroup analyses

Subgroup analyses were also conducted to investigate whether the program are more or less effective for specific groups of participants (see Table 5). Specifically, analyses examined impacts based on age, high school academic performance, whether a family member suggested Challenge participation (a possible sign of family involvement), and previous involvement with the justice system. Results suggest that the program may have more positive effects, for both educational and employment outcomes, on older participants (those who enter at age 17 or 18) than on younger participants (those who enter at age 16). Significant differences in impacts by age group were observed for receiving a high school diploma or GED and earning college credit ($p < 0.05$), with older youth faring better on both variables (H-statistic=0.01 and 0.02, respectively). Challenge appears to have reduced high school diploma receipt ($p < 0.05$) among the subgroup of younger sample members; some of them probably obtained a GED through the program when they otherwise would have obtained a regular diploma. Among older sample members, those in the program group were also more likely than the control group to have been employed in more months and earned more money ($p < 0.05$).

No clear pattern of differences in impacts was detected for the remaining subgroups. There were no significant

differences in impacts for any of the key outcomes based on previous involvement in the justice system. The impact of the Challenge program on high school diploma receipt was significantly greater among those with better high school grades prior to random assignment (H-statistic=0.05) than those with poor high school grades but showed no difference in impacts on any other outcome variables. Lastly, the impact on convictions since random assignment were significantly better for those who had a family member recommend they attend Challenge program (H-statistic=0.01), but no differences in impacts were seen for other outcomes.

Given the relatively small number of young women included in the evaluation, this study was unable to test directly for differences in impacts between men and women. However, a sensitivity analysis removing the women from the sample resulted in a similar pattern of impacts to that of the full sample. In addition, small sample sizes within some sites limited investigation of differences in impacts across the ten sites. Moreover, the evaluation did not include a systematic cataloging of site characteristics as part of the implementation research, compromising our capacity to make site-level attributions.

Discussion

Results from this impact study indicate that the NGYCP has significant positive effects on youth participants 3 years after entering the program. Specifically, compared with the

Table 5 Selected impacts by age at the 38-month follow-up

| Outcome (%) | Age | | | | | | Difference between subgroup impacts ^a |
|---|---|---|---------|------------------|------------------|----------|--|
| | Under 17 | | | 17 and over | | | |
| | Program group (regression-adjusted means) | Control group (regression-adjusted means) | Impact | Program group | Control group | Impact | |
| Educational outcomes (%) | | | | | | | |
| Earned HS diploma or GED | 68.6 | 62.7 | 6.0 | 73.1 | 51.2 | 21.9** | —** |
| Earned HS diploma | 27.0 | 36.5 | −9.5* | 32.0 | 22.2 | 9.9** | —** |
| Earned GED | 54.6 | 30.1 | 24.6** | 57.3 | 35.6 | 21.6** | |
| Earned any college credit | 8.9 | 9.6 | −0.7 | 38.6 | 15.2 | 23.2** | —* |
| Employment outcomes | | | | | | | |
| Months employed (in past year) | 7.9 | 7.4 | 0.6 | 8.2 | 7.3 | 0.9** | |
| Earnings (in past year) | 13,700.9 | 11,423.7 | 2,277.2 | 13,294.0 | 11,408.7 | 1,885.3* | |
| Ever enlisted in the military (percent) | 17.5 | 19.5 | −2.1 | 19.4 | 15.4 | 3.9 | |
| Behavioral and health outcomes (%) | | | | | | | |
| Convicted (since random assignment) | 26.3 | 24.0 | 2.3 | 28.3 | 24.6 | 3.7 | |
| Binge drinking (in last 14 days) | 20.6 | 28.4 | −7.8*** | 28.8 | 29.8 | −1.1 | |
| Frequent marijuana use (in past year) | 26.1 | 26.2 | 0.0 | 24.6 | 22.9 | 1.7 | |
| Overweight | 29.1 | 24.1 | 5.1 | 33.3 | 30.2 | 3.1 | |
| Obese | 11.6 | 10.9 | 0.1 | 12.2 | 12.3 | −0.1 | |
| Sample size (total=1,173) | 272 | 162 | | 450 | 289 | | |

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.10$

Notes: When comparing impacts between two subgroups, an H-statistic is generated. The H-statistic is used to assess whether the difference in impacts between the subgroups is statistically significant. It is interpretable in much the same way as the t-statistic and the F-statistic from analysis of variance tests are interpreted

control group, youth who participated in the Challenge program earned more money and were more likely to obtain a high school diploma or GED, earn college credit, and be employed. Although youth who participated in Challenge showed important improvements on educational and employment outcomes, there were no impacts detected at the 3-year follow-up on criminal behavior.

The results of this evaluation suggest that the skills, competencies, and credentials of vulnerable youth can be improved and sustained in the context of sufficient support and opportunities. By employing a PYD approach, the Challenge program provides youth with an environment that allows them to gain such assets during these crucial transitional years. Once off-track, youth face serious Challenge as they attempt to re-engage and become a participating, productive member of society. As such, those who, for a substantial period of time, are not in school, not working at a job, not in the military, or not married to someone connected to any of these institutions are far more likely during later adulthood to struggle with poverty, be on welfare, work inconsistently, and be unmarried (Danziger and Ratner 2010). Moreover, in a twenty-first century labor market that increasingly prioritizes education and skills, young people

who drop out of high school face greater Challenges (Berlin et al. 2010). It appears that Challenge can provide educational, occupational, and economic benefits that endure for 3 years. Particularly since postsecondary education is becoming increasingly necessary in the twenty-first century economy, the fact that program participants were significantly more likely than those in the control group to go on to receive college credit is promising. Moreover, it is encouraging that Challenge was able to produce improvements not only in educational outcomes but also in employment and income.

Although significant improvements were made on a number of outcomes, it is also important to consider the unforeseen increase in overweight status in the program group relative to the control group, despite the focus on physical exercise and health during the residential phase of the program. This result may be related to findings from research on dieting and weight loss programs, wherein an increase in weight gain is often observed after initial successful weight loss (e.g., Jeffery et al. 2000). While youth in the program group may have adapted to positive lifestyle changes in the highly structured residential setting, they appear to have been unable to maintain their new habits on their return to their communities. This finding indicates the importance of continued support in leading a healthy

lifestyle after the end of the residential program and the potential dangers of an intensive exercise regimen for a short period of time in the absence of sufficient follow-up support.

Despite the program's professed focus on embracing a wide range of developmental domains, it was also unable to achieve sustained impacts in other areas such as substance use or criminal behavior. To achieve impacts in these areas, it may be necessary to include more focused programming targeting specific behaviors such as substance use, both during the residential program and after. In the face of limited time and resources, however, sustained improvements in key domains such as education and employment are significant.

Although it is disappointing that improvements were not observed on all outcomes at the 38-month follow-up period, it is not surprising. As noted earlier, few previous program models targeting youth who have dropped out of high school have produced lasting effects. In particular, most programs working with at-risk youth, including the most well-established and well-research programs show some erosion of effects after the intervention has ended (e.g., Currie and Thomas 1995; Greenwood 1998). Since this evaluation assessed youth 2.5 years after the end of the residential phase and 1.5 years after the end of the postresidential phase, it is possible that initial effects may have diminished over time.

It should also be noted that not all of those assigned to the program group actually made it past registration and the pre-Challenge phases to enroll in (68 %) and graduate from (53 %) the Challenge program. The impacts of the program on the group of Challenge graduates are thus likely to be larger than the impacts reported in this study. It is a notable accomplishment that, even with the use of intent-to-treat analyses, the program was able to achieve sustained effects on educational and employment outcomes within a high-risk population. Due to the variation in dosage of intervention received within the treatment group, it will be important for future research to explore the influence of dosage on program impacts.

Subgroup analyses also provided valuable insight into variation of impacts among participants. Specifically, stronger educational impacts were observed for those entering the program when they were older (17 or 18 years old) than for those entering when they were younger (16 years old) for obtaining a GED or high school diploma and college credit. One reason for this difference in impact is that youth who are 16-year olds may be more likely to return to high school after dropping out than youth who are 17 or 18 years old. In fact, within the younger group, significantly fewer youth in the treatment group than in the control group received a high school diploma, indicating that participation in Challenge may have inadvertently decreased receipt of high school diplomas among younger youth by making it possible for them to earn a GED. Since some argue that a high school diploma is of more value than a GED (Bloom 2010), this impact could be

viewed as iatrogenic and suggests the need for caution in making opportunities for earning a GED available to youth who are still of an age when they could remain in or return to high school. Differences in impacts between older and younger participants may also be influenced by the fact that older participants may be more mature and better able to take advantage of the opportunities offered by the Challenge programs. In addition, qualitative differences between students who leave school at 16 years old versus those who leave school at 17 or 18 years old may contribute to greater impacts among older participants. Generally, these results suggest the benefit of focusing second-chance programs such as Challenge on older youth who may have fewer options for obtaining high school credentials and who may approach the experience with greater seriousness and focus.

Although this study has a number of strengths, including the use of random assignment, data collected 3 years following entry into the Challenge program, and a large, national sample, there are also a number of limitations. As noted earlier, differences between those who responded to surveys and those who did not respond may have biased the results and limit the generalizability of results beyond the survey sample. In addition, the study relied solely on self-reported measures of outcomes, which are influenced by individual bias and subjectivity, and all of the measures lacked reliability and validity information. Future studies should include psychosocial measures that have been validated and show strong reliability. This will be important for further understanding how social and emotional changes may be connected to the improvements in education and employment outcomes observed in this study. Program effects also may have been inflated by the fact that participants in the study were drawn from Challenge sites with stable staffing that received more applicants than they could serve, possibly indicating more successful programs. In addition, the ability to analyze and understand site level differences in this evaluation was limited due to sample sizes and the implementation research involved. Further implementation research to catalog the site differences and interpret site level variation could be helpful for program administrators, funders, and policymakers. Moreover, although it is significant that this study was able to collect data on participants more than 3 years after entry into the study, the field would benefit from studies that follow-up participants for a longer period of time. Such studies would help to determine whether improved educational and occupational outcomes are sustained throughout the complicated transition to adulthood and beyond. Finally, although the Challenge program serves a vulnerable group of youth by virtue of their status as high school dropouts, due to the voluntary and intensive nature of the intervention, it tends to attract a youth who are particularly motivated to make change, limiting the external validity of the study.

Despite these limitations, this study represents an important step in identifying PYD interventions that can have enduring effects across key years in the transition to adulthood among youth who have dropped out of high school. The young people in this study were off-track, with few opportunities to re-engage and become participating, productive members of society. Rather than target their deficits and problematic behaviors, Challenge sought to identify and develop critical strengths and competencies for navigating the transitions to adulthood. Accordingly, the findings of this evaluation suggest that an emphasis on PYD may be particularly useful for youth who have dropped out of high school. The results of this study provide hope that Challenge can offer some youth a second chance to become productive members of our society.

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