

# Pilot Evaluation of a Conservation Corps Program for Young Adults

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## Abstract

Education and employment programs may be effective at reducing problem behaviors among at-risk young adults. This pilot study evaluated whether participants in a Conservation Corps program ( $N = 100$ ) showed changes in antisocial behavior, gang membership, and substance use during the program. Participants were young adults between 18 and 24 years who were predominantly male (60%) and ethnic minority (62% Latino; 31% African American). Over the course of the 22-week program, participants showed significant decreases in self-reported antisocial behavior and gang involvement, and approximately 28% earned a high school diploma. However, only 61% completed the program, and subgroup analyses suggested that decreased gang membership and antisocial behaviors were mostly driven by program completers. These limited pilot results suggest that the Conservation Corps offers vulnerable young adults opportunities for education advancement and a possible pathway to criminal desistance. However, education and employment programs should make retention a priority.

## Keywords

education, vocational training, antisocial behavior, gang membership

The U.S. economy is characterized by declining earning capacity and growing unemployment for young adults who have dropped out of high school (Hamilton & Torraco, 2013; Sum, Khatiwada, McLaughlin, & Palma, 2011). Even before the Great Recession, young adults without diplomas had difficulty securing well-paid

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positions (Farley, 1996; Morris & Western, 1999) or any type of employment at all (Fussell & Furstenberg, 2005). In the post-recession environment, individuals without high school diplomas continue to experience lower rates of employment and lower occupational earnings compared with high school graduates (Campbell, 2015; DeNavas-Walt & Proctor, 2015; Hout, 2012). In addition, Americans without high school diplomas will likely face even greater challenges as technological advances and automation reduce opportunities for low-skill workers (e.g., Autor, 2014; Manyika et al., 2017).

Educational attainment is one factor exacerbating racial and ethnic inequality in the United States because underrepresented ethnic minorities are at increased risk for high school dropout and subsequent unemployment. According to the 2000 U.S. census, African American and Latino young men were substantially less likely to graduate high school and more likely to experience subsequent disconnection from educational or employment institutions compared with White young men (Woo & Sakamoto, 2010). Although young African American and Latina women graduated at higher rates than their male counterparts, they still graduated high school, enrolled in college, and obtained employment at much lower rates than White young women (Woo & Sakamoto, 2010). The most recent national statistics indicate that about 12% of White students do not graduate high school within 4 years, whereas 24% of Black students and 21% of Hispanic students do not graduate within 4 years (U.S. Department of Education, 2017).

## **“Second Chance” Programs: Education and Employment Opportunities After Dropout**

Most individuals without high school diplomas enter the adult labor market with no previous part-time or summer employment and are therefore disadvantaged in terms of both education and work experience (Staff & Mortimer, 2007; Sum et al., 2011). However, dropping out of high school does not always lead to persistently low educational attainment and unemployment; individuals can improve their outcomes by completing high school in adulthood, earning General Educational Development (GED) certification, taking postsecondary courses, or obtaining early labor force experience (Bloom, 2010; Boudett, Murnane, & Willett, 2000). Programs which offer young adults paid internships and supportive services demonstrate success at increasing employment and earnings (e.g., Fein & Hamadyk, 2018; Skemer, Sherman, Williams, & Cummings, 2017). However, these programs generally do not focus on young adults who have dropped out of high school who represent a particularly disadvantaged population with unique education and vocational training needs.

The Conservation Corps programs across the United States provide young people who are disconnected from work and school with opportunities for education and employment. The Conservation Corps is a community-based education and employment organization modeled on the Great Depression-era Civilian Conservation Corps (CCC). Between 1933 and 1942, the CCC provided 2.5 million unemployed young

men with work completing outdoor projects intended to benefit the country (e.g., constructing hiking trails, planting trees, building dams; Hendrickson, 2003). Today's Conservation Corps programs often emphasize education and community service in addition to paid work experience (The Corps Network, 2017). The Conservation Corps programs in Los Angeles focus on youth and young adults who have not yet graduated high school. Young people of any gender are welcome to join today's Conservation Corps. In a randomized controlled trial of young adults across four U.S. sites, corps members demonstrated higher employment rates and worked more hours at 15-month follow-up compared with non-corps members (Jastrab, Masker, Blomquist, & Orr, 1996). However, this evaluation was completed over 20 years ago and sociopolitical and cohort differences could result in different impacts today.

Unfortunately, many education and employment programs have low rates of client retention. A large number of the Depression-era CCC members "deserted" the corps (Hendrickson, 2003), and between 25% and 33% of participants in education and employment programs have been found to drop out in previous research studies (Cave, Bos, Doolittle, & Toussaint, 1993; Jastrab et al., 1996; Millenky, Bloom, Muller-Ravett, Broadus, 2012; Schochet, Burghardt, & McConnell, 2008). It appears that participants may not fully benefit from these programs when they drop out early. One evaluation shows that amount of time spent in the program is associated with subsequent earnings; those who remained in the program for the shortest period of time reported earning less subsequent income than those who remained in the program the longest time (Cave et al., 1993). Therefore, research into the effectiveness of such programs should include a focus on retention.

### *High School Dropout and Criminal Offending, Substance Use, and Gang Membership*

General strain theory explains how environmental stressors and lack of opportunity (i.e., strain) can increase criminal offending and problem behaviors by increasing negative emotions and reducing anticipation of positive rewards and outcomes related to prosocial behavior (Agnew, 1992). Failure to graduate high school could represent a substantial "strain" based on its negative impact on employment and earnings and could impact how young adults view the legitimacy of the academic system. In fact, there is substantial evidence that high school dropout often precedes later criminal involvement and problematic substance use (e.g., Henry, Knight, & Thornberry, 2012; Maynard, Salas-Wright, & Vaughn, 2015). Qualitative studies find that criminal offenders often attribute their own antisocial behavior to a lack of education (e.g., Laub & Sampson, 2003), and quantitative criminology research suggests that unemployment subsequent to high school dropout may present a path to criminal offending (e.g., Cohen, Chen, Hamigami, Gordon, & McArdle, 2000; Hjalmarsson, Holmlund, & Lindquist, 2015). High school dropout also increases risk for subsequent alcohol-related problems, cannabis misuse, and other substance use problems (Fothergill et al., 2008; Gonzalez et al., 2016; Harford, Yi, & Hilton, 2006).

Furthermore, gang membership is important to consider when addressing the relationship between poor educational attainment and later problem behaviors. Gang membership is known to be a facilitator of more frequent and severe criminal offending (Curry, Scott, & Pyrooz, 2013; Harper, Davidson, & Hosek, 2008; Pyrooz, Turanovic, Decker, & Wu, 2016). In disadvantaged communities with poorly funded schools, low graduation rates, and limited opportunities for employment, street gangs can offer economic opportunity and a sense of belonging. Unfortunately, joining a gang can decrease the likelihood of academic attainment; gang members are 30% less likely to graduate from high school and 58% less likely to earn a 4-year degree than their matched counterparts (Pyrooz, 2014). Individuals who have experienced marginalization, poverty, and low-quality public services sometimes adopt attitudes consistent with the "code of the street," which rejects the dominant culture's definition of success and emphasizes a more attainable and acceptable route to status and respect through "toughness" and gang membership (Matsuda, Melde, Taylor, Freng, & Esbensen, 2013). These attitudes may decrease the likelihood that gang-affiliated young adults will pursue traditional education or employment opportunities.

Some evidence suggests that providing young unemployed adults with high-quality, full-time work may be key to reducing their risk for criminal involvement and substance use (Lustig & Liem, 2010; Staff et al., 2010). For instance, a Swedish study found that both returning to school and obtaining employment reduced the likelihood that high school dropouts would later criminally offend (Bäckman, 2017). Employment might offer youth engaged in delinquency and substance use with an identity shift that can provide a foundation for behavior change (Bushway & Paternoster, 2013). "Second chance" programs which provide young adults with education and employment opportunities may be able to address skill and knowledge gaps, increase employability, and reduce antisocial behavior and substance use (Bloom, 2010; Edelman, Holzer, & Offner, 2006). The Conservation Corps program may be one such program, because, in addition to obtaining work, corps members were less likely to be arrested at a 15-month follow-up assessment compared with non-corps members (Jastrab et al., 1996). However, education and employment programs may struggle to attract and serve gang-affiliated young adults who have access to illicit economic opportunities or who have developed negative attitudes toward traditional academic or employment programs.

Unfortunately, the literature examining the impact of education and employment programs on gang membership is limited (Huey, Lewine, & Rubenson, 2016), providing program developers and implementers with little empirical guidance regarding how to effectively attract, retain, and support young gang-affiliated adults into the workforce. About four decades ago, a police department developed an employment intervention for gang-affiliated young offenders; however, the impact of this intervention on gang membership was not assessed (Willman & Snortum, 1982). More recently, a dissertation examined the impact of a work-focused intervention for gang members, finding decreases in illegal behavior but not gang affiliation (McDaniel, 2011). Further research is needed to understand whether education and employment programs are appealing and feasible, let alone efficacious, for gang-involved populations.

## **Current Study**

The current study is a pilot evaluation of a Conservation Corps program in Los Angeles, an education and employment program serving ethnic minority young adults who have dropped out of high school. This preliminary study examined whether the Conservation Corps might have potential utility for intervening in the lives of disadvantaged young adults. We specifically investigated whether participants would report decreased problem behaviors while participating in school and work activities. Using archival data, we assessed whether the Conservation Corps program could promote academic achievement in this sample. Using self-report data, we tested whether participants reported significant changes in substance use, gang membership, and antisocial behavior while in the program. Finally, we examined whether program completers showed greater pre–post reductions in substance use, antisocial behavior, and gang membership than those who were not retained because many education and employment programs demonstrate poor client retention.

## **Method**

### **Setting**

The Conservation Corps in Los Angeles was founded in 1986 to provide work and service opportunities to young adults, and in 1997 a charter school was launched to give corps members the opportunity to earn a high school diploma. The current study took place at the South Los Angeles site, which consists of a two-story building with classrooms, space for job training activities, and counseling rooms. Participants are recruited to the program using a variety of strategies including direct outreach to youth, word-of-mouth within communities, and relationships with youth-serving agencies and schools that provide referrals. Corps members wear uniforms and participate in a wide variety of activities throughout the week with a focus on earning credits toward a high school diploma and travelling to job sites throughout the city as members of paid work crews. Additional activities such as book clubs or running groups are also available to provide corps members with opportunities for self-improvement. Conservation Corps participants enter the program as “recruits” and are promoted to “corps members” after 8 weeks of orientation. Corps members are offered paid work opportunities throughout the community. At the end of 22 weeks, corps members receive their first performance evaluation and are given a raise if they receive positive feedback. Eligibility criteria for enrolling in this Conservation Corps program resulted in a sample of participants who were all (a) unemployed, (b) lacking a high school diploma, (c) between 18 and 24 years of age, and (d) residents of South Los Angeles.

### **Design**

Between July 2012 and April 2013, all 160 young adults who enrolled in the Conservation Corps program at the South Los Angeles site were invited to participate in this study. A randomized controlled trial of an adjunctive motivational intervention

was conducted with these same participants as part of a separate study. However, because the motivational intervention had no significant impact on antisocial behaviors, gang membership, or substance use (Sayegh, Huey, Barnett, & Spruijt-Metz, 2017), all conditions were combined for the current study. There were no exclusion criteria for study participation. The study was approved by the University of Southern California Institutional Review Board. A certificate of confidentiality was obtained from the U.S. Department of Health and Human Services to protect participants who reported engaging in criminal behavior or illegal substance use.

Recruitment occurred during the first week of each 8-week orientation period, and the decision to enroll in the study was kept confidential from Conservation Corps staff. One hundred out of 160 Conservation Corps recruits consented to participate in this study. The 60 recruits who did not participate in the study did participate in the Conservation Corps program, but did not agree to share any of their data with study personnel. Immediately following informed consent, Conservation Corps recruits completed a questionnaire battery assessing demographic and behavioral factors. These research activities took place in participants' Conservation Corps classrooms, with all nonresearch staff outside to increase confidentiality and voluntariness. Participants were asked to provide multiple types of contact information (e.g., telephone numbers, mailing addresses, email addresses) to allow researchers the best chance of successfully contacting them for subsequent assessments. To enroll in the study, participants were required to sign release of information forms to allow researchers access to program records. Research assistants administered two follow-up assessments by phone, mail, or email, according to participant preference. These follow-up assessments were scheduled to correspond with two program milestones: the completion of Conservation Corps orientation (8 weeks) and the first performance evaluation (22 weeks). As compensation, participants received a US\$5 gift card at study enrollment, a US\$10 gift card at the 8-week follow-up, and a US\$15 gift card at the 22-week follow-up. High school diploma and retention status were extracted from the program's electronic archives at the conclusion of the study.

## Measures

**Demographic information and personal characteristics.** Participant age, ethnicity, gender, and years of education were collected through self-report. In addition, self-reported foster care history, arrest history, relationship status, and parenthood status were assessed. Foster care history was operationalized as an affirmative response to the question, "Have you stayed one night or more nights in a foster care or group home setting in your whole life?" Arrest history was operationalized as an affirmative response to the question, "Have you ever been arrested?" Participants were asked to indicate whether their relationship status was married, living with a domestic partner, never married, separated, divorced, or widowed, and dichotomized for analyses as either (a) married or living with a domestic partner or (b) any other response. Parenthood status was operationalized as an affirmative response to the question, "Do you have any children?"

**High school diploma earning.** Conservation Corps recruits spend a great deal of their time in class, earning credits toward a high school diploma (California High School Exit Exam [CAHSEE]). After the 22-week follow-up, data were obtained from Conservation Corps school records to categorize participants as either having earned or not earned a high school diploma (e.g., Bradshaw, Zmuda, Kellam, & Ialongo, 2009).

**Antisocial behavior.** Antisocial behavior was measured at each assessment period using the Self-Report Delinquency Scale (SRDS; Elliott, Huizinga, & Morse, 1986). This measure includes 40 items, which mostly cover illegal activities, but also include behaviors such as infidelity or begging for money. The SRDS was designed for use with juvenile populations but has also been applied to adult samples, as well (e.g., Langhinrichsen-Rohling, Arata, Bowers, O'Brien, & Morgan, 2004). Sample items include "In the past month, how many times have you stolen (or tried to steal) something worth more than \$50?" and "In the past month, how many times have you carried or hidden a weapon other than a plain pocket knife?" Measuring antisocial behavior through self-report is a common assessment method (Aebi, Andersson, & Carra, 2010; Enzmann et al., 2010), and the SRDS is correlated with official reports of criminal activity (Hindelang & Hirschi Weis, 1981; Kirk, 2006). The SRDS also has acceptable test-retest reliability (Thornberry & Krohn, 2000). We used the variety scoring method, which sums the number of different antisocial acts an individual reports, as this is more reliable and less skewed than other scoring methods (Bendixen, Endresen, & Olweus, 2003). Thus, the final antisocial behavior score has a possible range from 0 to 40.

**Gang membership.** Gang membership was assessed using the Eurogang Youth Survey at each questionnaire period (Weerman et al., 2009). This measure allows participants to endorse items based on the definition of a street gang as "any durable, street-oriented youth group whose involvement in illegal activity is part of its group identity" (Weerman et al., 2009, p. 20). These definitional elements are operationalized as belonging to a group of friends who (a) are mostly between 12 and 25 years, (b) have been friends with each other for at least 3 months, (c) spend time in public spaces, (d) commit illegal acts, and (e) consider illegal acts to be acceptable. Youth were categorized as gang members if they endorsed all five items. The resulting variable is dichotomous. The researchers decided to use a theoretically derived measure that did not require self-labeling oneself as a "gang member" due to Conservation Corps rules against gang-related behavior on-site, to reduce potential concerns of participants completing surveys in their classrooms.

**Substance use.** Substance use was measured at each assessment period using items from the *Youth Risk Behavior Survey* (YRBS; Centers for Disease Control [CDC], 2011). The YRBS items measure binge drinking, tobacco use, marijuana use, and other illegal drug use (e.g., heroin, cocaine, prescription drugs) at each study time point. Sample items include "During the past 30 days, how many times did you use marijuana (also called grass or pot)?" and "During the past 30 days, how many times

have you sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high?" Most studies using the YRBS dichotomize each type of substance use (e.g., Melnyk et al., 2013; Mercado-Crespo & Mbah, 2013), and this approach was taken in the current study as well. The YRBS has good test-retest reliability with a nationally representative sample of high school students (Brener et al., 2002; Zullig, Pun, Patton, & Ubbes, 2006) and has been administered to young adults as well (e.g., Schwartz et al., 2011).

**Program retention.** Conservation Corps nonretention occurs for various reasons, including leaving the program volitionally, breaking a "zero tolerance" rule and being forcibly terminated from the program (e.g., testing positive for drugs, fighting at the work site), receiving three "docks" for bad behavior (e.g., not tucking in shirts, being absent), or being unable to participate due to other circumstances (e.g., incarceration, illness, psychiatric hospitalization, or death). When a participant is terminated from or leaves the Conservation Corps, staff members record these incidents as "separations" in their electronic archives and categorize them as negative, neutral, or positive. Negative reasons include gross misconduct (e.g., testing positive for drugs or fighting at the work site) or having excessive absences. Neutral reasons include medical circumstances (e.g., physical illness, mental illness, pregnancy) or relocation (e.g., moving to a different state). Positive reasons include obtaining employment or enrolling in higher education. For this study, program nonretention for negative, neutral, or positive reasons was extracted from the electronic records at 8 and 22 weeks. We focused on a dichotomous outcome of retained or not retained in this study.

## Analysis

Descriptive univariate statistics were calculated to characterize the sample in terms of age, ethnicity, gender, and other characteristics. We tested for differences in baseline characteristics using chi-square tests for categorical data and Mann-Whitney *U* tests for non-normal continuous data. Then, we tested for significant pre-post changes in self-report outcomes using McNemar tests for categorical data and Wilcoxon signed rank tests for non-normal continuous data. Afterward, we examined pre-post changes for participants who completed 22 weeks in the program, as well as those who left the program for any reason before the full 22 weeks, applying the same statistical tests that were first used with the complete sample. We also tested whether pre-post changes were significantly different by retention status using two-group McNemar tests for categorical outcomes (Feuer & Kessler, 1989) and mixed-model analysis of variance (ANOVA) tests on rank-transformed data for non-normal continuous outcomes (Conover & Iman, 1981). Finally, we assessed patterns in missing data and reran all analyses involving self-report follow-up data on five separate imputed data sets ( $m = 5$ ). Graham and Schafer (1999) have demonstrated that multiple imputation performs well even in samples as small as  $N = 50$ . If results from imputed data sets differed from those found in the complete data set, these deviations were reported.

## Results

### *Missing Data*

There was no missing archival data on high school diploma earning or program retention. However, self-report data were missing for a substantial proportion of participants at both 8 weeks (51%) and 22 weeks (32%). Males were less likely to provide self-report data at 8 weeks,  $\chi^2(1, 100) = 6.83, p < .01$ . Not completing the Conservation Corps program,  $\chi^2(1, 100) = 5.18, p = .02$ ; being married or living with a domestic partner,  $\chi^2(1, 82) = 4.04, p < .05$ ; previous foster care history,  $\chi^2(1, 97) = 4.17, p = .04$ ; and preprogram binge drinking,  $\chi^2(1, 96) = 4.94, p = .03$ , predicted a higher likelihood of missing self-report data at 22 weeks.

### *Reliability and Distributional Properties*

The SRDS showed high internal consistency ( $\alpha = .93$ ), but had substantial skewness (2.55,  $p < .01$ ), kurtosis (7.10), and a non-normal distribution ( $p < .01$ ). Therefore, nonparametric tests (i.e., Wilcoxon signed rank tests instead of paired samples *t* tests, mixed-model ANOVA tests on rank-transformed data instead of mixed-model ANOVA tests on untransformed data) were used for analyses of antisocial behavior.

### *Baseline Characteristics*

Table 1 provides information on participant demographics and baseline characteristics. Upon entry into the Conservation Corps, participants were about 20 years old and had attended school for 10 years, on average. Six participants reported completing more than 12 years of education, but had not yet obtained high school diplomas. Sixty percent of participants were male, about two thirds were Latino, and one third were African American. More than 40% of participants had been arrested previously, with almost a third of participants reporting binge drinking, smoking tobacco, and using marijuana in the month before enrolling in the Conservation Corps. The only significant baseline difference between program completers and noncompleters was antisocial behavior at the time they entered the Conservation Corps ( $U = 809.50, p = .01$ ). Program noncompleters reported slightly more antisocial behaviors over the 30 days prior to joining the Conservation Corps ( $M = 3.84, SD = 4.95$ ), compared with program completers ( $M = 2.39, SD = 5.41$ ).

### *Academic Outcomes in the Program*

Over 22 weeks, 28% of participants succeeded in earning a high school diploma through the Conservation Corps program. Wilcoxon signed rank tests and exact McNemar tests indicated that antisocial behavior declined significantly over 8 weeks of program involvement,  $Z = 2.34, p = .02$ , and gang membership declined significantly over 22 weeks ( $p = .01$ ). However, reanalyses using multiple imputation led to

**Table I.** Baseline Characteristics.

Characteristic	Missing		Total (N = 100)		Completers (n = 61)		Noncompleters <sup>a</sup> (n = 39)	
	n	n/M	%/SD	n/M	%/SD	n/M	%/SD	
Gender (male)	0	60	60.0	34	55.7	26	66.7	—
Ethnicity	—	—	—	—	—	—	—	—
Latino	6	58	61.7	36	61.0	22	62.9	—
African American	6	29	30.9	17	28.8	12	34.3	—
Other	6	5	5.3	4	6.8	1	2.9	—
Married/living with partner	18	15	18.3	7	14.6	8	23.5	—
Parent	2	27	27.6	13	22.0	14	35.9	—
Foster care history	3	17	17.5	8	13.6	9	23.7	—
Arrest history	9	39	42.9	23	41.8	16	44.4	—
Gang member (current)	15	15	17.6	13	22.8	2	7.1	—
Binge drinking (past 30 days)	4	28	29.2	14	23.7	14	37.8	—
Tobacco use (past 30 days)	3	28	28.9	16	26.7	12	32.4	—
Marijuana use (past 30 days)	2	29	29.6	14	23.3	15	39.5	—
Other drug use (past 30 days)	2	8	8.2	5	8.3	3	7.9	—
Age, years	1	19.91	1.56	19.97	1.65	19.82	1.43	—
Education, years	12	10.07	3.94	9.71	3.79	10.57	4.15	—
Antisocial behavior (past 30 days)	3	2.96	5.26	<b>2.39</b>	<b>5.41</b>	<b>3.84</b>	<b>4.95</b>	—

Note. Percentages were always calculated from the number of participants endorsing a behavior divided by the number of participants who gave reports on that behavior, not the total number of participants. Bolded cells indicate significant between-group differences ( $p < .05$ ).

<sup>a</sup>Participants who were not retained in the program for any reason (i.e., positive, negative, or neutral) were included in this group to examine changes made only by participants who completed all 22 weeks versus those who did not.

different results. The decline in antisocial behavior over 8 weeks was no longer significant, and the decline in gang membership over 22 weeks was only marginally significant ( $p = .06$ ).

### **Retention Analyses**

Almost three quarters of recruits (74%) completed the program orientation. Of the recruits who did not complete orientation, one left for a reason the Conservation Corps considered positive (getting a job) and another 25 were no longer enrolled for negative reasons (e.g., drug use, excessive absences, arrest, psychiatric hospitalization). Furthermore, 61% completed 22 weeks in the Conservation Corps program. Between the end of orientation and 22 weeks, two recruits left for positive reasons (one for a job and another to enroll in a different school), another three for neutral reasons, and eight for negative reasons.

Wilcoxon signed rank tests and McNemar tests indicated that completers showed significant decreases in antisocial behavior over 8 weeks,  $Z = 2.02, p = .04$ , and gang membership over 22 weeks,  $p = .04$ , whereas noncompleters did not (Table 2). However, two-group McNemar tests and mixed-model ANOVA tests using rank-transformed data did not indicate significant differences in pre-post changes by retention status. In other words, different results were found for program completers versus noncompleters when evaluated separately, but when the entire sample was analyzed with retention used as a moderator, there were no significant differences in pre-post changes between completers and noncompleters. The results using multiple imputation were mostly similar, except the decline in antisocial behavior at 8 weeks, and were no longer significant for program completers.

### **Discussion**

More than a quarter of corps members who consented to participate in this study graduated with a high school diploma from the Conservation Corps program, which could confer benefits for earning potential and psychosocial adjustment. There was evidence that the Conservation Corps participants who consented to participate in this study showed significant decreases in antisocial behavior and gang membership over time. However, these reductions appeared to be limited to those who completed 22 weeks in the program. Reanalyses using multiple imputation confirmed that gang membership declined significantly for program completers, although change in antisocial behavior among completers was no longer significant. Program retention rates were similar to those reported in previous evaluations of education and employment programs (Cave et al., 1993; Jastrab et al., 1996; Millenky et al., 2012; Schochet et al., 2008). About a quarter of participants did not complete program orientation and more than a third did not complete 22 weeks in the Conservation Corps.

Despite potential selection biases regarding who consented to participate, the evidence for decreased antisocial behavior and gang membership warrant attention. The few prior studies of education and employment programs for young adults have not

**Table 2.** Pre–Post Tests for Self-Report Outcomes.

	Program completers ( <i>n</i> = 61)						Program noncompleters ( <i>n</i> = 39)					
	Complete cases		Pre		Post		Complete cases		Pre		Post	
	<i>n</i>	<i>n/M</i>	%/SD	<i>n/M</i>	%/SD	<i>n</i>	<i>n/M</i>	%/SD	<i>n/M</i>	%/SD	<i>n/M</i>	%/SD
<b>8-week follow-up</b>												
Binge drinking	34	6	17.6	4	11.8	15	6	40.0	5	33.3		
Tobacco use	34	8	23.5	5	14.7	14	5	35.7	5	35.7		
Marijuana use	33	3	9.1	1	3.0	15	7	46.7	4	26.7		
Gang membership	33	5	15.2	2	6.1	12	1	8.3	2	16.7		
Antisocial behavior	34	<b>1.35</b>	<b>4.27</b>	<b>.26</b>	<b>.75</b>	15	5.13	5.22	3.33	4.10		
<b>22-week follow-up</b>												
Binge drinking	44	9	20.5	9	20.5	19	5	26.3	2	10.5		
Tobacco use	46	12	26.1	9	19.6	20	6	30.0	9	45.0		
Marijuana use	46	9	19.6	5	10.9	20	7	35.0	9	45.0		
Gang membership	43	<b>9</b>	<b>20.9</b>	<b>2</b>	<b>4.7</b>	17	2	11.8	0	0.0		
Antisocial behavior	45	1.47	4.27	.80	1.82	20	4.10	4.12	2.55	3.83		

Note. Bolded cells indicate significant within-group differences ( $p < .05$ ). There were no significant differences in pre–post changes between completers and noncompleters based on two-group McNemar tests and mixed-model ANOVA tests on rank-transformed data. All outcomes refer to the past 30 days, except for gang membership which refers to participants' report of their current group of friends. ANOVA = analysis of variance.

adequately assessed gang membership (Huey et al., 2016). The significant pre–post reductions in antisocial behavior for at least some participants suggest the Conservation Corps could be an effective crime prevention approach. Jastrab et al. (1996) found that Conservation Corps programs reduced the risk of arrest for corps members and our current findings support this possibility. For that reason, Conservation Corps programs should continue to consider enrolling recruits who report antisocial behavior because they provide an important pathway to desistance from crime and can have positive effects on the surrounding South Los Angeles community.

The structure of the Conservation Corps may be especially effective with gang members. Benda, Toombs, and Peacock (2006) suggested that “boot camp” programs may be appealing to gang members because a hypermasculine, group-oriented environment could provide a culturally congruent, positive alternative to gangs. Conservation Corps participants wear uniforms, meet for morning calisthenics, and engage in difficult manual labor (e.g., cleaning out the Los Angeles River). This gives recruits an opportunity to engage in behaviors that require displays of physical strength, which is closely tied to masculine self-concept (Hagger, Biddle, & Wang, 2005) or perhaps, more consistent with the “code of the street” than activities taking place in traditional educational environments (Matsuda et al., 2013). Furthermore, as recruits work as a group to accomplish tasks and wear uniforms that heighten their group identity, these elements could be a good fit for gang-affiliated young adults by allowing them to take on a new group identity as they work toward a common goal that improves the community. It is also possible that the Conservation Corps provided prosocial peers and positive adult role models to gang members that they previously lacked. Vigil (2004) has argued that schools can engage gang members better if they provide some of the positive qualities of gangs such as respect, friendships, security, and affection that youth may feel they lack outside of the gang. Programs like the Conservation Corps, delivered in a group context, could provide new prosocial settings to gang members and offer a pathway toward educational and occupational success. These aspects of the Conservation Corps may also explain why gang membership significantly declined for program participants. Furthermore, considering Pyrooz’s (2014) finding that gang members who earn a GED are twice as likely to attend college as GED earners who are not members of gangs, educational programs like the Conservation Corps could disproportionately benefit gang-affiliated youth in their pathways to employment and greater earnings.

It is important to note that the subgroup analyses suggested the reductions in antisocial behavior and gang membership were only found among Conservation Corps program completers. This highlights the ongoing need to improve retention in second chance programs for young adults at risk for further unemployment, criminal behavior, or gang membership. Furthermore, completers and noncompleters alike reported no reductions in substance use. Programs like the Conservation Corps may benefit from including adjunctive substance use counseling or support groups, because education and employment activities may not be sufficient to reduce these risky behaviors.

### ***Limitations***

The results of this study should be interpreted with caution due to the relatively modest sample size. Statistical power was limited, so that bivariate analyses were the most appropriate tools for testing study hypotheses. Future research should access larger samples so that integrated models can be constructed to more fully characterize program effects and retention prediction. Furthermore, the lack of a control group limits the conclusions that can be drawn from the pre–post analyses. Participants who chose to enroll in the Conservation Corps may have reduced their antisocial behavior and gang membership even without the program. However, the fact that we observed significant changes in problem behaviors for program completers, but not for those who failed to complete the program, suggests that the Conservation Corps may have provided essential tools for criminal and gang desistance. Alternatively, those differences may be due to selection effects rather than program effects. In addition, the gang membership measure used in this study did not require self-labeling as “gang” affiliated, which could affect the validity of this outcome. Finally, missing self-report data may have introduced bias. Reanalyses using multiple imputation indicated that the decrease in antisocial behavior may not have been significant across the entire sample. Therefore, the generalizability of these results may be limited. Nonetheless, these findings provide a good starting point for examining outcomes associated with retention in educational programs targeting high-risk young adults, because this is a particularly challenging group to reach and follow.

### ***Conclusion***

The results of this study suggest that the iteration of the Conservation Corps in South Los Angeles could be providing an important service to ethnic minority, unemployed young adults, by providing them with an opportunity to earn a high school diploma and offering some a pathway toward criminal and gang desistance. However, program retention is a challenge. It may be beneficial to explore adjunctive strategies staff can implement that will keep participants engaged in the education and employment opportunities provided at the Conservation Corps.

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