Virginia Tech Center for Assessment, Evaluation and Educational Programming

Examining the relationship between Career and Technical Education (CTE) program participation and completion, improved employment outcomes, and the reduced risk of recidivism: A descriptive summary of the impact of the Virginia Department of Correctional Education's CTE Programs.

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Introduction

This brief provides a description of relationship between CTE program completion, post-release employment, and the risk of recidivism. While sophisticated statistical procedures, regression and path analysis, were used in a recently completed study to establish that a statistically significant relationship actually exists (see Appendix); the nature of that relationship and underlying logic can be simplified and presented in concise step by step manner. Figure 1 depicts the underlying theory investigated that was based upon previous research. The model proposes that completing a CTE program improves the consistency and quality of post-release employment, which in turn decreases the likelihood of recidivism.

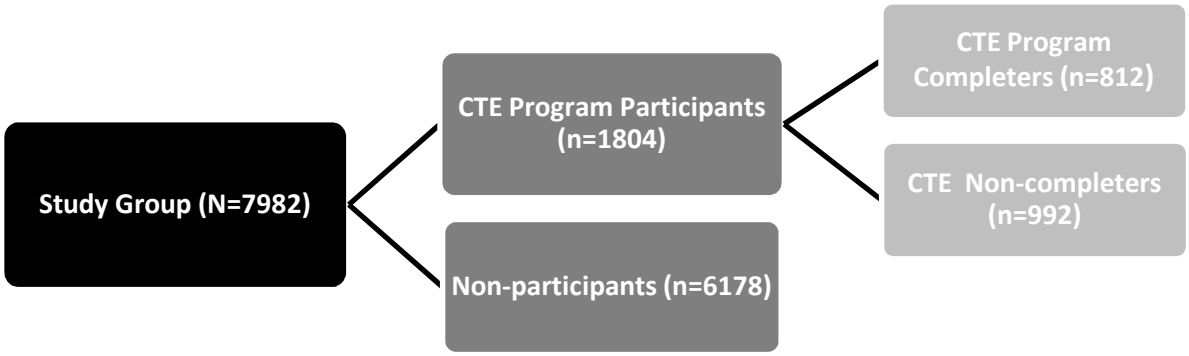
Figure 1:
Relationship between CTE and Recidivism with Employment as a Mediating Factor

The results presented in the following set of figures demonstrate the effect of participating in and/or completing a CTE program**,** on improved employment outcomes, and ultimately to reduced risk of recidivism. This indirect relationship between CTE program completion and reduced recidivism via improved employment outcomes follows a widely accepted framework that is supported by recent research studies. In the framework, completing a CTE program increases the participant's human capital, which in turn expands employment opportunities after release, which then decreases the risk of recidivism. The framework suggests that measuring the direct relationship between CTE program completion and recidivism could mask positive program impacts, especially when pre-existing differences among individuals are controlled.

Results

Figure 2 illustrates the entire study group in addition to the hierarchical flow of the sub-groups. Logically, among the study group there were those who participated in a CTE program and those who did not participate. Among the CTE program participants there were two sub-groups: those who completed their respective CTE program and those who did not.

Figure 2:
Group Composition



Relevant Definitions:

Study Group members- all individuals who were released from state-level correctional facilities in Virginia during fiscal year 2002 who had a post-release record of employment, recidivism, or both within Virginia. It should be noted that follow-up data outside of Virginia was not available for this study.

CTE program participants-all individuals who enrolled in a CTE program during their current sentence, includes both CTE completers and non-completers.

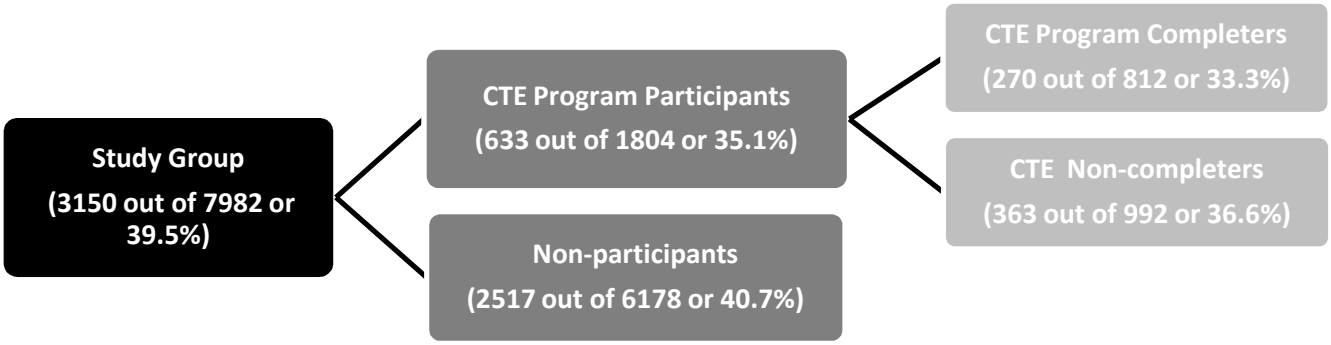
CTE completers-those who enrolled and successfully finished all aspects of their CTE program.

CTE non-completers- those who enrolled in a CTE program but did not meet the requirements for completion.

Non-participants- those who never enrolled in a CTE program.

Figure 3 delineates the recidivism rates at each sub-group level. Overall, 39.5% of the entire study group recidivated (see definition below). Only 35.1% of the CTE participants recidivated, while 40.7% of the non-participants recidivated. Among the CTE program participants, the program completers recidivated at 33.3%, while the non-completers recidivated at 36.6%. Although this is solely descriptive and does not control for pre-existing differences between the groups, it shows a reduction in recidivism among CTE program participants and a further reduction for CTE program completers.

Figure 3:
Recidivism Rates for the Various Sub-groups



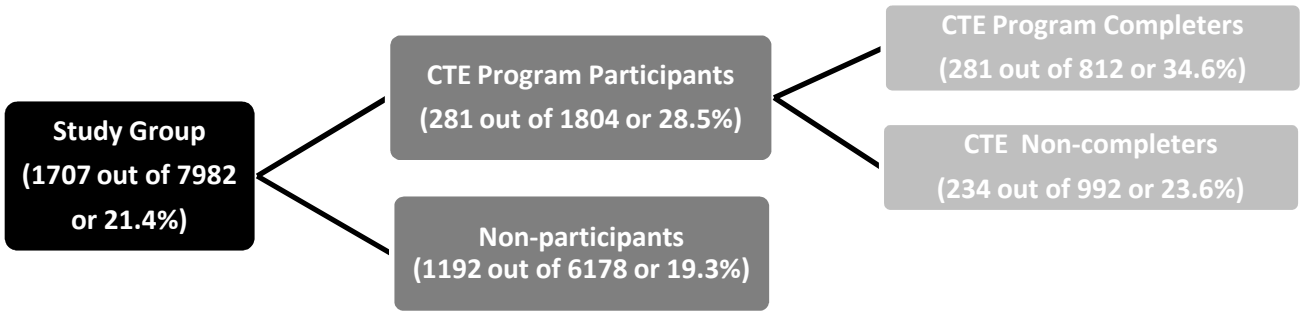
Relevant Definition

Recidivism-state-level recommitment within Virginia during the 13-quarter study period following release for either a new crime or violation of parole. The study group consisted of members of the fiscal year 2002 release cohort and each member was tracked for 13 quarters starting with their quarter of release, so the dates of the study varied by the release quarter.

As shown by Figure 4, only 21.4% of the entire study group had gained consistent and quality employment during the first year following release (see definition below). This may be attributed to the relative availability of temporary employment and entry-level jobs, as opposed to higher-paying, permanent positions for the very recently released. However, CTE program participants acquired such employment at a higher rate (28.5%) than non-participants (19.3%). Likewise, among the CTE program participants, the CTE program completers obtained consistent and quality employment at a higher rate (34.6%) when compared to those who did not complete (23.6%). Once again, these descriptive results suggest that CTE program participation increases the rate of consistent and quality employment and CTE program completion further increases the rate.

Figure 4:

Rates of Consistent and Quality Employment during the First Year for the Various Sub-groups

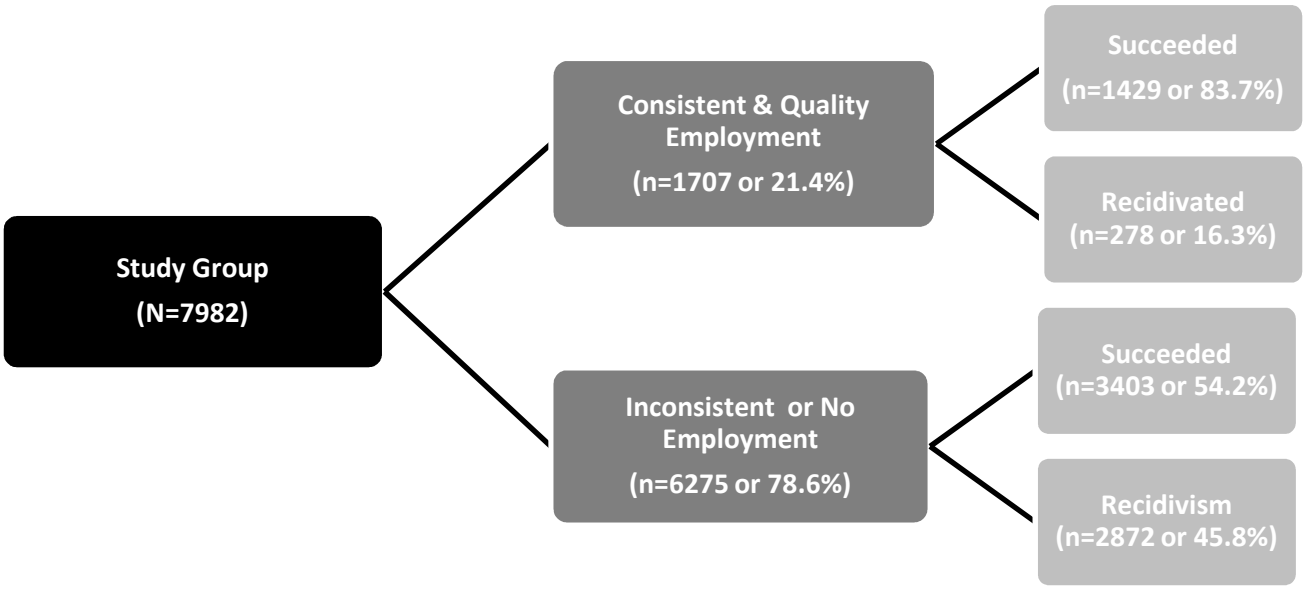


Relevant Definition

Consistent and Quality Employment-whether the individual had earnings in three out of the first four quarters (discounting the quarter of release) following release with total wages equal to or greater than $2450 for each of those quarters.

When the entire study group is divided into sub-groups based on the employment measure and the recidivism rates of those sub-groups are compared, it is obvious that obtaining consistent and quality employment is related to a decreased likelihood of recidivism and logically, an increased likelihood of remaining out of prison (being successful—see definition below). Slightly more than four-fifths (83.7%) of those obtaining such employment following release remained out of prison, while among those who failed to obtain such employment, only slightly higher than one-half (54.2%) were successful at the end of the study.

Figure 5:
Post-Release Outcomes for the Entire Study Group



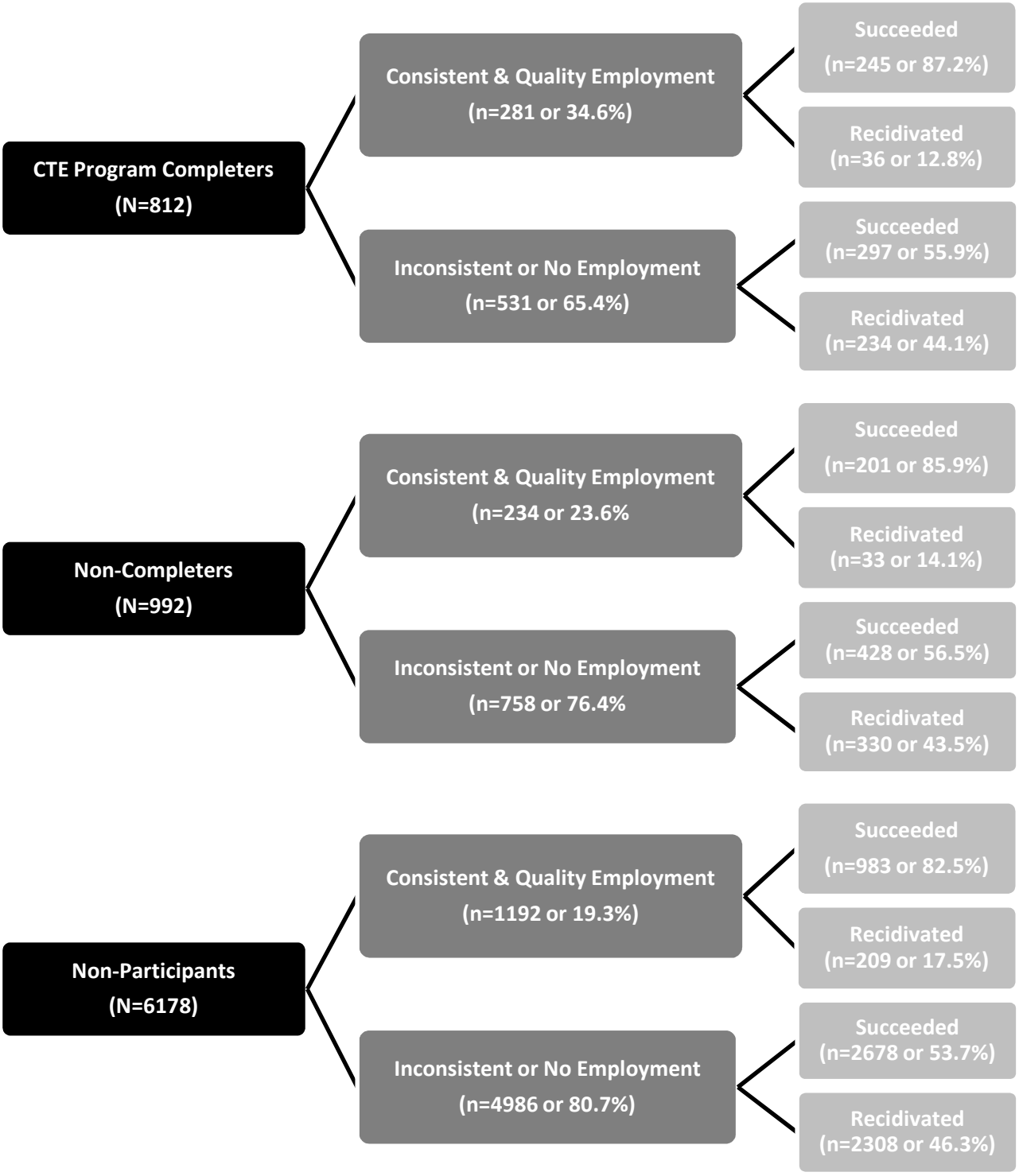
Relevant Definitions

Success - remaining out of prison and thus avoiding recommitment. In other words, not recidivating.

Consistent and Quality Employment-whether the individual had earnings in three out of the first four quarters (discounting the quarter of release) following release with total wages equal to or greater than $2450 for each of those quarters.

Figure 6 allows comparisons of the success/recidivism rates among groups based upon level of participation in a CTE program (completers, non-completers, and non-participants) in combination with post-release employment (consistent and quality employment vs. inconsistent/no employment). Completing a CTE program obviously improved employment outcomes as measured in this study. Additionally, those who participated in, without completing, a CTE program had a greater likelihood of obtaining consistent and quality employment than persons who did not participate. More than a third (34.6%) of the CTE program completers obtained consistent and quality employment during the first year following release, as compared to approximately one-fourth (24.6%) of the non-completers and one-fifth of non-participants (19.3%). Although overall more than four-fifths of those who gained consistent and quality employment remained out of prison at the end of the study, CTE completers had the highest success rate (87.2%) followed by non-completers (85.9%), and non-participants (82.5%). Likewise, the success rates of those with inconsistent employment or no employment during their first year following release were similar across the three groups; the difference between non-completers (56.5%) and program completers (55.9%) was rather insignificant (0.6%) and the corresponding success rates were slightly higher than that of the non-participants (53.7%). Based on these comparisons, the importance of obtaining consistent and quality employment during the first year following release is obvious, as those failing to do so have only a slightly better than 50% chance of being successful at the end of the study regardless of level of CTE program participation. Also apparent is the value of completing a CTE program as program completers had both the highest rate of consistent and quality employment (34.6%) and the highest success rate among those gaining consistent and quality employment (87.2%).

Figure 6:
Comparison of CTE Program Completers, Non-Completers, and Non-Participants



Conclusions:

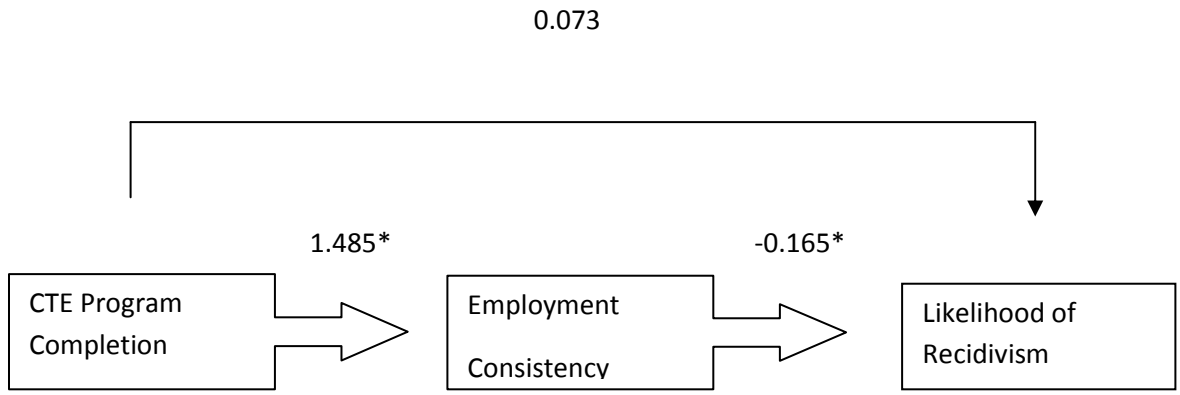
- Participating in a CTE program increases the likelihood of consistent and quality employment following release. Furthermore, those who successfully complete a CTE program have the highest likelihood of such employment following release.
- Obtaining consistent and quality employment during the first year following release dramatically increases the likelihood of remaining out of prison across all groups. Furthermore, among those obtaining such employment, CTE program completers were most likely to be successful (remain out of prison) followed by the non-completers, and in turn non-participants.

Policy Implications:

- A holistic approach is required if the benefits of completing a CTE program and the return on investment are to be maximized. Applicants for CTE program admission should be screened to ensure they are likely to complete, and benefit from, the program. Active assistance and support in finding employment must be available during the re-entry process.
- Workforce development agencies and organizations should establish and foster relationships with employers paying relatively higher wages who are willing to hire ex-offenders. Ideally, workforce development agencies and organizations in the community should be apprised of releasing offenders' skills and employment interests prior to release. This would allow them to perform individualized job development activities and facilitate more expedient and higher quality post-release employment.
- An additional study of the industrial sectors should be conducted to identify which industries are most likely to offer ex-offenders opportunities for consistent employment, adequate wages and chances for advancement.

Appendix

Figure 7:
Impact of Program Completion on Recidivism via Employment Consistency



Note: * indicates that the path coefficient is statistically significant.

(From Lichtenberger, O'Reilly, Miyazaki, and Kamulladeen; 2010).

Work Cited

Lichtenberger, E., O'Reilly, P., Miyazaki, Y., & Kamulladeen, M. (2010). *Direct and Indirect Impacts of Career and Technical Education on Post-Release Outcomes***.** Virginia Tech Center for Assessment, Evaluation, and Educational Programming: Blacksburg, VA.