The Importance of Getting Started Right:

Further Examination of the Facility-to-Community Transition of Formerly Incarcerated Youth

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This study examined the facility-to-community transition of 531 incarcerated youth following their release from Oregon's juvenile correctional system, for a period of 12 months. Data on the sample were gathered through phone interviews, while they were still in custody and then every 6 months after their parole. The interviewees were asked to describe their work, educational, and living and social experiences in the community. For this sample, (a) being engaged in work and/or school within 6 months after parole and (b) receiving services from mental health and other social service agencies within 6 months in the community were associated with being engaged in work and/or school 12 months after exit. Participants with disabilities were less likely to be engaged and were more likely to return to the juvenile correctional system than participants without disabilities.

The federal Office of Special Education's "Transition Initiative" was articulated and implemented in the early 1980s, with the goal of improving the postschool work experiences of all students with disabilities (Will, 1984). Hundreds of projects have been conducted to study how best to provide transition services and to describe the transition experiences of students with disabilities in community settings (Rusch, 1995). Notably missing from this body of work are studies that have examined the facility-to-community transition of youth who are incarcerated (Bullis, Yovanoff, Mueller, & Havel, 2002).

More than 100,000 youth are incarcerated in the United States yearly (Gallagher, 1999). The vast majority are boys, a disproportionate number are from ethnic minority populations (Gallagher, 1999), and between 12% and 70% of incarcerated youth have a disability that qualifies them for special education (Wolford, 2000). Longitudinal studies suggest that many individuals who display criminal behavior in adolescence will manifest continuing problems, at least to some degree, in their adult work, school, and family endeavors (e.g., McCord, 1992; Wolfgang, Thornberry, & Figilo, 1987). Data on the group's recidivism (i.e., return to the juvenile correctional system after release) are difficult to establish because different jurisdictions define recidivism differently and thus track this variable in different ways (Howell, 1998). Selected studies, however, indicate that after their release from the juvenile correctional system, approximately half will return to that system (Myner, Santman, Cappelletty, & Perlmutter, 1998).

Upon transitioning to the community, few youth will enroll in public school and fewer still will earn any form of high school completion document (Ensminger & Juon, 1998). For example, a study of 759 formerly incarcerated youth indicated that only 12% completed a high school degree or General Equivalency Diploma (GED) upon returning to the community (Habermann & Quinn, 1986). Long-term employment data on this group are scarce (Ensminger & Juon, 1998), but many professionals believe that these youth have difficulties succeeding in competitive work placements in the community (Bullis & Cheney, 1999).

If services offered to incarcerated youth upon their release from the juvenile correctional system and their transition into the community are to be focused and effective, it is imperative that we establish a clear understanding of those transition experiences. We recently completed the 5-year TRACS research project (Transition Research on Adjudicated Youth in Community Settings; Bullis, 1994; Bullis, Yovanoff, Havel, & Mueller, 2001), which examined the facility-to-community transition experiences of youth who were incarcerated in the Oregon Youth Authority (OYA), the state's juvenile correctional system. We recruited a sample of youth with and without special education disabilities who were remanded to that system. We then gathered data on the sample's educational, personal, and criminal histories and on the services they received while in the juvenile correctional system. After the youth left OYA or parole, we interviewed them and, if possible, a family member at intervals of 6 months, to profile each youth's community adjustment experiences. We documented the participants' continuing associations with OYA and adult correctional systems by accessing extant state databases from those two agencies regarding their respective populations.

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In an earlier article (Bullis et al., 2002), we examined the relationship of a predictive model composed of sex, ethnicity, disability status, and type of crime for which the participant was committed to OYA with "engagement"—an outcome variable based on a combination of work, education, and remaining *in* the community and *out* of the juvenile or adult correctional systems. We estimated the model at two points in time after release from OYA: 6 months after exit (Time 1) and 12 months after exit (Time 2). In the TRACS project, and in another study of the entire OYA data set for a 3-year period (Bullis & Yovanoff, 1997), we found that after Time 2 (12 months after exit from OYA), virtually all "age-eligible" youth (i.e., under 18 years of age) did not return to the juvenile correctional system. That is, if a formerly incarcerated youth did not return to the juvenile correctional system in the 12 months following release, it was extremely unlikely that he or she would return.

Participants who were engaged at Time 1, compared to participants who were not engaged at Time 1, were 2.38 times less likely to return to OYA at Time 2 and 3.22 times more likely to be engaged at Time 2. Participants with a disability, compared to participants without a disability, were 2.80 times more likely to return to OYA at Time 1, 1.83 times more likely to return to OYA at Time 2, and 2.22 times less likely to be engaged at Time 2. Sex displayed a varied association with community adjustment. Girls, compared to boys, were 3.85 times less likely to be engaged at Time 1 but 2.63 times less likely to return to OYA at Time 2. Neither cultural/ethnic minority status nor type of crime for which participants were committed to OYA (person-related vs. property-related) displayed statistically significant associations with engagement at Time 1 or Time 2.

The predictive model we used in our earlier article (Bullis et al., 2002) included only major demographic characteristics and no variables related to service provision. Thus, there were substantive reasons to expand the predictive model to include variables representing other demographic and social characteristics of the participants, along with the kind of services they received while in OYA and upon returning to the community. In this study, we examined the relationship of a more comprehensive set of predictor variables to the engagement experiences of the TRACS sample at Time 1 and Time 2. Specifically, we addressed the following research question: What combination of demographic and service-delivery variables best predicted the sample's engagement at Time 1 and Time 2?

Method

Research Design

The project used a prospective (Menhard, 1990) survey approach. Participants were identified and recruited prior to leaving OYA correctional facilities. Data were gathered on those individuals prior to their release from OYA and at 6-month intervals upon their return to the community for a period of 1 to 4 years, to assess their institution-to-community transition experiences. This type of survey approach (a) increases the accuracy of data gathered through the interview approach because questions are asked close in time to the occurrence of the event and (b) allows for the relationships of particular behaviors at an early data-collection period to be examined in relation to behaviors at a later point in time. For this study we looked at two points in time after the point of exit from OYA: Time 1 (6 months after exit from OYA) and Time 2 (12 months after exit from OYA). We arranged the interviews across all project years to ensure that all participants' interviews were aligned (i.e., all Time 1 interviews were analyzed together, and all Time 2 interviews were analyzed together).

Research Sites

Two large juvenile correctional programs and three correctional camps were involved in this project. Site 1 was a coeducational youth correctional facility with an on-site high school that provides comprehensive educational services. Site 2, which served only male offenders, was a large youth correctional facility with an on-site high school. The youths at this site were on average older than the male offenders in Site 1. The three camps included in the study were extensions of the larger facilities. The camps served smaller numbers of youth than Site 1 or Site 2 and offered similar types of educational, social, and work programs. Generally, fewer than half of the youths in custody at Sites 1 or 2 were transferred to one of the camps prior to being released into the community; the rest were sent directly to a community placement upon parole (i.e., a home or a halfway placement).

Selection and Recruitment of Participants

Participant recruitment continued for roughly the first 3 years of the project. Retired teachers or part-time staff members from the participating sites, all of whom were familiar with the nuances of each program and each facility's files, were hired, trained, and monitored. The site staff members (a) explained the project and recruited participants, (b) secured consent forms, and (c) completed data-collection instruments based on participants' files and staff members' input.

At both Site 1 and Site 2 we used the residential units as the sampling frame, as persons were placed into these units according to sex (Site 1 serves boys and girls), age, and, to a certain degree, type of criminal behavior (e.g., sex offenders were in one unit). We sampled one or two youths from each of the living units who were scheduled to leave Site 1 in the upcoming month. Because of our interest in understanding the unique problems of girls who are incarcerated, we elected to oversample girls from Site 1. Due to the generally longer periods of incarceration at Site 2, every 2 months we sampled one or two youths from each living unit who were scheduled

to leave. Finally, because of the smaller populations at the camps, we continually sampled one or two individuals as they prepared to exit those facilities.

Approximately 620 individuals were recruited for the project. Due to sentencing or disciplinary actions taken during incarceration (e.g., a youth committed another crime while in OYA or did not respond positively to treatment and was retained in the correctional system for a longer sentence), only 531 of the 620 were paroled from OYA and entered the community. These 531 individuals comprised the sample on which the TRACS project and this article were based.

Characteristics of the Sample

Table 1 presents the major demographic characteristics of the TRACS sample. The sample was split almost evenly among youth committed to OYA for person-related crimes, property-related crimes, and both types of crimes. The majority of the participants were White males, and the median age at release from OYA was 16 years. Finally, 57.7% of the sample had a special education disability, with 29.9% of the participants having emotional disturbance (ED), 22.4% having learning disabilities (LD), and 5.4% representing several other disability groups.

In an earlier study (Bullis et al., 2001), to determine how similar the TRACS sample was to the entire OYA population, we compared the sample's basic demographic characteristics (i.e., age, ethnicity, sex, special education label, and type of crime) to (a) OYA's special education population from 1993 to 1998 (the time period roughly corresponding to the period covering the TRACS project) and (b) OYA's total population from 1993 to 1998. Compared to the OYA special education population, TRACS participants with a disability were older and consisted of (a) a higher percentage of girls, (b) a lower percentage of individuals with ED, (c) a higher percentage of individuals with LD, and (d) a lower percentage of persons with multiple disabilities. We should note that we purposefully oversampled girls, which explains the gender difference between the TRACS sample and the OYA population. Also, because we focused on youths transitioning back into the community from the juvenile correctional system, it is logical that our sample would be older, as many youths exit the juvenile correctional system when they reach 18 years of age. Finally, we should note that these comparisons involved datasets of thousands of participants, so the statistically significant differences may be primarily due to increased statistical power (e.g., Cohen, 1988).

Similarly, one of the difficulties encountered in conducting longitudinal studies with any population, especially the challenging and mobile participants in this project, relates to attrition. At Time 1, we interviewed 338 participants out of 531 possible respondents (a response rate of 64%), and at

TABLE 1. Comparison of Respondents to Nonrespondents at Time 1 or Time 2

Characteristic	Nonrespondents		Respondents		Total		χ^2 (*df*)	*p*
	n	%	*n*	%	*n*	%		
Criminal charge							19.40 (2)**	0.00
Person	29	26.9	122	29.5	151	28.9		
Property	60	55.6	142	34.3	202	38.7		
Both	19	17.6	150	36.2	169	32.4		
Total	108	100.0	414	100.0	522	100.0		
Participant gender							0.92 (1)	0.34
Male	93	86.9	349	83.1	442	83.9		
Female	14	13.1	71	16.9	85	16.1		
Total	107	100.0	420	100.0	527	100.0		
Special education disability							1.32 (1)	0.25
No	51	47.2	173	41.1	224	42.3		
Yes	57	52.8	248	58.9	305	57.7		
Total	108	100.0	421	100.0	529	100.0		
Race/ethnicity							9.83 (1)**	0.00
White	72	69.2	345	82.9	417	80.2		
Other	32	30.8	71	17.1	103	19.8		
Total	104	100.0	416	100.0	520	100.0		
Age at exit (years)							5.86 (1)**	0.02
16 or less	38	36.2	203	49.4	241	46.7		
Older than 16	67	63.8	209	50.6	275	53.3		
Total	105	100.0	411	100.0	516	100.0		

**$p < .05$.

Time 2, we interviewed 284 participants out of 526 possible respondents (a response rate of 54%). (The possible number of respondents decreased slightly from Time 1 to Time 2 because five participants had their release dates delayed and were thus in the community for a shorter period of time.)

To examine the comparability of the respondents (i.e., individuals we were able to interview at Time 1 or Time 2) and nonrespondents (those who began the project but whom we were unable to interview at either Time 1 or Time 2), we conducted univariate comparisons between the two groups on the demographic variables presented in the left column of Table 1. For each comparison we tested the null hypothesis at the .05 alpha level. The right column of Table 1 presents these results. Respondents differed from nonrespondents in terms of (a) type of criminal charge (a lower proportion of respondents were committed for property-related offenses and a higher proportion were committed for both property- and person-related offenses), (b) ethnic minority composition (a lower proportion of respondents were from ethnic minority groups), and (c) age at release from OYA (a higher proportion of respondents were younger than 16 years at release).

Data-Collection Forms and Procedures

To provide a theoretical basis for our data-collection procedures, we established a three-phase conceptual model of the entire facility-to-community transition for incarcerated youth:

1. The *pre-facility phase* included those demographic characteristics and experiences that are inherent in the individual and/or experienced prior to entry in the correctional setting.
2. The *facility phase* referred to the educational and social interventions and experiences offered to youth during incarceration.
3. The *facility-to-community transition phase* addressed the work, school, independent living, social, and criminal behaviors exhibited by participants upon re-entering the community setting, and the services they received in the community from education and social service agencies.

We developed, tested, and refined the data-collection forms and procedures used in the project to reflect this model. The preliminary versions of the instruments were reviewed by OYA staff members and by the project's advisory board, which was composed of service providers and family representatives. After all of the instruments were critiqued, they were pilot-tested with a small number (e.g., 5–10) of representatives from the appropriate data-collection audience (e.g., youths, parents) and then finalized. Brief descriptions of the forms and procedures are offered next.

Referral Information. Forms for collecting demographic and level of services (i.e., the duration and types of services provided each individual while in custody) information were completed on each participant by the site staff member. This individual reviewed each participant's files and completed the project forms, which required yes/no responses or prescribed response options to close-ended questions.

Interviews. Structured interviews of the project participants were conducted by trained interviewers both in person and via phone. These interviewers also interviewed family members via phone. Responses from either the participant or a family member were used to profile each youth's community adjustment in terms of school enrollment and completion, employment (e.g., type of work, average hours of work/week, average hourly wage), and personal and social experiences (e.g., type of residence, number of friends, receipt of services from various community-based social service agencies). Although it would be quite helpful to verify respondent comments with other sources in the community (e.g., verify school enrollment status with a particular school, verify employment status with an employer, verify receipt of social services from an agency), such cross-checking is impractical on a large scale due to issues regarding the sharing of confidential information. Thus, reliance on self-report data in these types of longitudinal studies is typical (e.g., DeStefano & Wagner, 1992; Wagner, 1992).

Three to four part-time interviewers at a time were hired to administer the interviews. Before administering interviews, interviewers were required to (a) complete an intensive 15-hour training program and (b) achieve an agreement index of .95 (total number of items minus total number of disagreements, divided by total number of items) with a predeveloped interview. Regular biweekly meetings of the interviewers were held to address any questions and maintain continuity in interviewing. The interviews were clearly worded, and most questions required interviewees to select from a set series of objective response alternatives. In all cases, if questions arose over coding a response, the project coordinator resolved the issue. Brief summaries of each of the interviews follow.

Initial youth interviews. Lists of participants were provided to the project coordinator, and interviews at each site were scheduled. Virtually all of the initial youth interviews were administered individually and in person before the participants exited the facilities. These interviews included questions related to individuals' work (Have you worked competitively in the past? What type of work did you do? Do you intend to work after you are released?), education (Have you completed high school or received a GED? Do you intend to go back to school after you are released?), social services (What social service agencies have you received services from?), and opinions of their experiences in the juvenile correctional system (What was the best thing about being incarcerated? What was the worst thing about being incarcerated?).

Following youth interviews. After leaving the facilities, participants were interviewed via phone at 6-month intervals. Thus, participants who left the juvenile correctional

system in the first year could be followed for as long as 4 years, participants who left in the second year could be followed for 3 years, participants who left in the third year could be followed for 2 years, and participants who left in the fourth year could be followed for 1 year. The questions on the following youth interviews related to work (Are you working currently? What kind of job? How many hours do you work each week? How much are you paid per hour?), school (Are you enrolled in school currently? What kind of school is it?), receipt of services from social service agencies (From which social service agencies have you received services?), independent living (Where are you living? How many times have you moved in the last 6 months), and social experiences (How many close friends do you have? How happy are you on a 4-point scale?). Questions were phrased to address respondents' current experiences in each of these areas as well as their previous experiences in each area during the 6-month period since the last interview (e.g., from exit to Time 1, from Time 1 to Time 2).

At least 15 attempts were made to contact participants before they were dropped from the potential respondent pool. On a yearly basis, interviewers were assigned to pursue hard-to-find cases and continued calling those individuals. These efforts ceased only when the participant and/or his or her family member declined further involvement in the project or if it became apparent that the individual was truly inaccessible (e.g., moved out of the country).

Family interviews. We wanted to interview family members in order to gain information on their perceptions of the services youths received while in the juvenile correctional system. Also, we were aware that the target population for this project would be difficult to locate after their release from OYA. Studies suggest that family members are accurate respondents regarding youths' status on major transition outcomes (e.g., work, education, independent living variables; Levine & Edgar, 1994). We reasoned that if we were able to interview a family member but not the youth, we would be justified in substituting data from the family member's interview to increase the project's sample size. As with the youth interviews, questions were phrased to address the youth's current status in the major transition areas and the youth's previous experiences during the 6-month period since the last interview (e.g., from exit to Time 1, from Time 1 to Time 2).

During the initial youth interviews, respondents were asked if there was a family member or guardian with whom they would maintain contact after release and whom we could contact for an interview. If a name and an address were given, we asked that person to complete an informed consent form and to be interviewed regarding (a) the participant's community experiences and (b) the interviewee's own opinion of the juvenile correctional system. If necessary, the interviews were administered by project staff members who were fluent in Spanish. At least 15 attempts were made to contact family members before youths were dropped from the respondent pool.

Extant Databases. Data from OYA's extant database were collected at the end of the third project year and then again at the end of the project for all participants who had returned to the juvenile correctional system. Similar data were gathered from Oregon's Department of Corrections (the adult correctional system) to verify the entry of TRACS participants into that system.

Outcome and Predictor Variables

Outcome Variables. DeStefano and Wagner (1992) stated that during transition years, many youths and young adults may be involved in a number of activities and not yet be fully integrated into a lifelong vocation. Therefore, a more accurate index of success in the community, at least at this point in the lives of youths, can be reached by examining a youth's involvement in school and work, an outcome index that is called "engagement." In this study a participant was judged to be engaged if she or he was employed and/or enrolled in a school program *and* not arrested or placed back into the youth or adult criminal justice systems. Conversely, participants who were arrested or returned to custody or who did not work and/or go to school were categorized as "not engaged."

Predictor Variables. We chose predictor variables based on review of the available research literature and current interest on the part of policymakers. All of the predictor variables were recorded dichotomously and selected from each phase of the conceptual model described earlier, on which we based our data collection efforts (i.e., pre-facility, in-facility, and post-facility). Because we selected subsets of data from each phase of the model, we categorized the variables that were studied into three groups:

1. Demographic: sex, history of treatment for substance abuse, family members convicted of a felony, age at first adjudication (14 years of age was the median age for first adjudication in the TRACS sample), age at exit from the facility (16 years of age was the median age at exit from the juvenile correctional system for the TRACS sample), known or suspected gang member, psychiatric diagnosis from the *Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition* (American Psychiatric Association, 1994), cultural/ethnic minority status, special education disability, and the most serious type of crime for which each youth was committed to the juvenile justice system (i.e., person-related crime, property-related crime, or both person- and property-related crime)
2. Vocational and educational services received in the facility: completion of vocational training classes or program, receipt of a school comple-

tion document (i.e., a GED, a high school diploma, or a modified diploma), and job placement while in the facility

3. Services received in the community: receipt of services from vocational rehabilitation, mental health, Social Security, public welfare, employment office, Job Training and Partnership Act (JTPA), and Children and Families Division. Because of our interest in studying the effect of services offered immediately upon leaving the facility, we included only services received from OYA exit through Time 1 (6 months after exit) in our analyses. Inspection of the data set, however, revealed that few participants received services from any social service other than mental health. To reflect this reality, we used two variables in the prediction models: "receipt of services from mental health" and "receipt of services from any social service agency other than mental health"

For the analysis to predict engagement at Time 2, we included participants' engagement at Time 1 in the predictor variable pool. We made this choice based on our interest in examining the impact of participants' status immediately after exiting the juvenile correctional system on engagement at Time 2 (Bullis et al., 2002).

Data Analyses

For Time 1 and Time 2, we calculated the percentage of the total number of participants who were working, in school, and not in the juvenile or adult correctional system. We then computed descriptive statistics for each of the variables related to demographics, in-facility services, and services received in the community at Time 1 and Time 2, for those participants who were and were not engaged.

Using these descriptive statistics as a basis, we employed logistic regression to establish a multivariate model of the different variables that best predicted engagement at Time 1 and at Time 2. Logistic regression is ideally suited to predicting a dichotomous outcome variable (engagement in this study) from a weighted combination of independent, or predictor, variables (Hosmer & Lemeshow, 2000). The goal of logistic regression is to find the optimal composite—or model—of predictor variables that best predicts the outcome variable. Logistic regression is less susceptible to violations of assumptions pertaining to error distributions than is discriminant analysis (O'Gorman & Woolson, 1991). The procedure also allows for the computation of "odds ratios," which describe the strength of the association of each of the predictor variables retained within a final model with the outcome variable (Rudas, 1998).

Odds ratios are essentially measures of effect size (Thompson, 1999; Wilkinson & Task Force on Statistical Inference, 1999). Odds ratios of 1.0 indicate that there is little or no association between the predictor and outcome variables, and odds ratios of roughly 2.0 are suggestive of important, pragmatic associations between variables (Hosmer & Lemeshow, 2000; Rudas, 1998). Depending on the way the predictor variables are coded, odds ratios can be either greater than 1.0 (e.g., 2.40) or less than 1.0 (e.g., .25). When odds ratios greater that 1.0 are calculated, the implication is that the event in question is "x times" more likely to occur. When odds ratios less than 1.0 are computed, the inverse is calculated (e.g., 1.0/.25 = 4.0), and the implication is that the event in question is "x times" less likely to occur.

We followed four steps in building the logistic regression models for Time 1 and for Time 2:

1. We calculated chi-square analyses between each predictor variable with engagement at Time 1 and at Time 2. In line with recommendations for this procedure (Hosmer & Lemeshow, 2000), we set a lenient p value to include a reasonable number of potential predictor variables for possible inclusion in the following steps. Predictor variables displaying a univariate relationship of $p < .15$ with engagement at each time period were retained in this step of the model-building process.
2. We examined the statistical associations and odds ratios of the chosen variables when placed within the multivariate logistic regression models for Time 1 and Time 2. Predictor variables that exhibited $p < .10$ with engagement, in concert with other predictor variables for each of the models (i.e., the model for Time 1 and the model for Time 2), were retained in each final model. The odds ratios of the variables in the final model may vary from their univariate associations with the outcome variable due to collinearity with the other variables in the model.
3. We computed the association of each final main effects model with engagement by calculating a chi-square statistic of the goodness of fit of that model, testing the statistical significance of that model at $p < .05$.
4. Because of our interest in special education and the influence of disability status on the community adjustment of this sample, we examined the interaction of special education status with other variables included in the Time 1 and Time 2 prediction models. In order to justify conducting the interaction analyses, we decided that the main effect for special education had to exhibit $p < .10$ within the respective model. If this level of association was found, we then examined the interaction of special ed-

ucation with each of the variables retained in each model. For example, such an analysis may suggest that participants with a special education disability and a cultural/ethnic minority background presented disproportionate associations with engagement at either Time 1 or Time 2. We elected to report interactions only if they displayed a p value < .10 (Rudas, 1998).

Results

The overall engagement rate for the TRACS sample was 51.18% (173/338) at Time 1 and 46.13% (131/284) at Time 2. Table 2 presents descriptive data on the components of engagement (remaining in the community and not being arrested, employment, education, and employment and education) at Time 1 and Time 2 for the "not engaged" and "engaged" groups. For both times, it is important to note that participants may have worked and/or been enrolled in an educational program but were then arrested and/or returned to the correctional system. In these cases, the participants would be classified as not engaged.

To assist in interpreting the table, we discuss the results for Time 1. For Time 1, 165 participants were considered not engaged. Of these, 105 (63.6%) returned to the correctional system or were arrested. Before returning to custody, 11 (6.7%) worked, 49 (29.7%) were in school, and 45 (27.3%) worked and were in school. A total of 60 (36.4%) participants remained in the community but never worked or went to school. Of the 173 participants who were engaged at Time 1, 21 (12.1%) were employed, 53 (30.6%) were in school, and 99 (57.2%) worked and were in school.

Table 3 presents descriptive data on each of the predictor variables we included in the initial model-building process, grouped by the engagement status of the participants at each particular time. Table 4 presents a summary of the univariate comparisons between the predictor variables we selected and engagement at Time 1 and Time 2. For Time 1, the following predictor variables met the statistical criteria we set ($p \leq .15$) for this part of the model-building process: gender, age at first adjudication, ethnic minority, special education disability, property crime, receipt of services from mental health, and receipt of services from other community-based agencies. For Time 2, the following predictor variables met the statistical criteria: treatment for drug/alcohol abuse, age at first adjudication, gang member, age at exit, special education disability, person-related crime, and completion of career/vocational classes while in OYA custody.

For the final Time 1 and Time 2 models, several of these variables did not meet the statistical criteria set for inclusion in the final models ($p \leq .10$) when considered in concert with the other variables in the respective model. These variables were then excluded from the final model. Also, special education did not display statistically significant interactions with

TABLE 2. Components of Engagement at Time 1 and Time 2

	Time 1[a]				Time 2[b]			
	Not engaged		Engaged		Not engaged		Engaged	
Characteristic	*n*	%	*n*	%	*n*	%	*n*	%
Criminal status								
Custody/arrested	105	63.6	0	0.0	109	71.2	0	0.0
Community	60	36.4	173	100.0	44	28.8	131	100.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
Employment								
No	154	93.3	152	87.9	139	90.8	97	74.0
Yes	11	6.7	21	12.1	14	9.2	34	26.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
School								
No	116	70.3	120	69.4	120	78.4	108	82.4
Yes	49	29.7	53	30.6	33	21.6	23	17.6
Total	165	100.0	173	100.0	153	100.0	131	100.0
Employment & education								
No	120	72.7	74	42.8	91	59.5	57	43.5
Yes	45	27.3	99	57.2	62	40.5	74	56.5
Total	165	100.0	173	100.0	153	100.0	131	100.0

[a] $n = 338$. [b] $n = 284$.

TABLE 3. Univariate Summary of Independent Variables by Engagement by Time Period

	Time 1[a]				Time 2[b]			
	Not engaged		Engaged		Not engaged		Engaged	
Characteristic	*n*	%	*n*	%	*n*	%	*n*	%
Participant gender								
Male	127	77.0	147	85.0	124	81.0	109	83.2
Female	38	23.0	25	14.5	28	18.3	22	16.8
Missing	0	0.0	1	6.0	1	7.0	0	0.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
Treatment for drug/alcohol abuse								
No	53	32.1	45	26.0	38	24.8	43	32.8
Yes	101	61.2	118	68.2	105	68.6	80	61.1
Missing	11	6.7	10	5.8	10	6.5	8	6.1
Total	165	100.0	173	100.0	153	100.0	131	100.0
Family members convicted of a crime								
No	54	32.7	68	39.3	47	30.7	49	37.4
Yes	82	49.7	74	42.8	80	52.3	58	44.3
Missing	29	17.6	31	17.9	26	17.0	24	18.3
Total	165	100.0	173	100.0	153	100.0	131	100.0
Age at first adjudication								
14 yrs or less	111	67.3	79	45.7	103	67.3	60	45.8
15 yrs or more	47	28.5	73	42.2	42	27.5	59	45.0
Missing	7	4.2	21	12.1	8	5.2	12	9.2
Total	165	100.0	173	100.0	153	100.0	131	100.0
Gang member								
No	107	64.8	122	70.5	97	63.4	94	71.8
Yes	48	29.1	41	23.7	50	32.7	31	23.7
Missing	10	6.1	10	5.8	6	3.9	6	4.6
Total	165	100.0	173	100.0	153	100.0	131	100.0
Age at exit								
16 yrs or less	84	50.9	76	43.9	87	56.9	56	42.7
Older than 16 yrs	78	47.3	92	53.2	63	41.2	74	56.5
Missing	3	1.8	5	2.9	3	2.0	1	8.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
DSM-IV diagnosis								
No	92	55.8	97	56.1	85	55.6	72	55.0
Yes	73	44.2	75	43.4	68	44.4	59	45.0
Missing	0	0.0	1	6.0	0	0.0	0	0.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
Emotional disorder								
No	95	57.6	89	51.4	84	54.9	73	55.7
Yes	56	33.9	47	27.2	55	35.9	39	29.8
Missing	14	8.5	37	21.4	14	9.2	19	14.5
Total	165	100.0	173	100.0	153	100.0	131	100.0
Ethnic minority								
No	127	77.0	146	84.4	125	81.7	109	83.2
Yes	36	21.8	25	14.5	25	16.3	20	15.3
Missing	2	1.2	2	1.2	3	2.0	2	1.5
Total	165	100.0	173	100.0	153	100.0	131	100.0

(table continues)

(Table 3 continued)

Characteristic	Time 1[a] Not engaged *n*	Time 1[a] Not engaged %	Time 1[a] Engaged *n*	Time 1[a] Engaged %	Time 2[b] Not engaged *n*	Time 2[b] Not engaged %	Time 2[b] Engaged *n*	Time 2[b] Engaged %
Special education disability								
No	62	37.6	85	49.1	47	30.7	63	48.1
Yes	103	62.4	87	50.3	106	69.3	68	51.9
Missing	0	0.0	1	6.0	0	0.0	0	0.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
Person crime								
No	111	67.3	125	72.3	118	77.1	81	61.8
Yes	51	30.9	44	25.4	34	22.2	47	35.9
Missing	3	1.8	4	2.3	1	7.0	3	2.3
Total	165	100.0	173	100.0	153	100.0	131	100.0
Property crime								
No	113	68.5	99	57.2	100	65.4	92	70.2
Yes	49	29.7	70	40.5	52	34.0	36	27.5
Missing	3	1.8	4	2.3	1	7.0	3	2.3
Total	165	100.0	173	100.0	153	100.0	131	100.0
Person & property crime								
No	100	60.6	114	65.9	86	56.2	83	63.4
Yes	62	37.6	55	31.8	66	43.1	45	34.4
Missing	3	1.8	4	2.3	1	7.0	3	2.3
Total	165	100.0	173	100.0	153	100.0	131	100.0
Career/vocational classes								
No	43	26.1	39	22.5	44	28.8	25	19.1
Yes	118	71.5	128	74.0	103	67.3	101	77.1
Missing	4	2.4	6	3.5	6	3.9	5	3.8
Total	165	100.0	173	100.0	153	100.0	131	100.0
Job placement through institution								
No	129	78.2	125	72.3	122	79.7	95	72.5
Yes	31	18.8	38	22.0	24	15.7	28	21.4
Missing	5	3.0	10	5.8	7	4.6	8	6.1
Total	165	100.0	173	100.0	153	100.0	131	100.0
GED/high school completion at exit								
No	20	12.1	53	30.6	26	17.0	28	21.4
Yes	20	12.1	36	20.8	17	11.1	31	23.7
Missing	125	75.8	84	48.6	110	71.9	72	55.0
Total	165	100.0	173	100.0	153	100.0	131	100.0
Mental health								
No	142	86.1	130	75.1	129	84.3	115	87.8
Yes	23	13.9	43	24.9	24	15.7	16	12.2
Total	165	100.0	173	100.0	153	100.0	131	100.0
Services from other community-based agencies								
No	100	60.6	79	45.7	99	64.7	91	69.5
Yes	65	39.4	94	54.3	54	35.3	40	30.5
Total	165	100.0	173	100.0	153	100.0	131	100.0

Note. DSM-IV = Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition (American Psychiatric Association, 1994).
[a] $n = 338$. [b] $n = 284$.

TABLE 4. Univariate Summary of Independent Variables by Engagement at Time 1 and Time 2

	Engagement					
	Time 1[a]			Time 2[b]		
Independent variables	χ^2	Odds ratio	*p*	χ^2	Odds ratio	*p*
Demographics						
Gender	4.00	0.57	0.05**	0.13	0.89	0.72
Treatment for drug/alcohol abuse	1.72	1.38	0.19	2.20	0.67	0.14
Family members convicted of a crime	1.89	0.72	0.17	1.85	0.70	0.17
Age at first adjudication	10.91	2.88	0.00***	11.76	2.41	0.00***
Gang member	1.33	0.75	0.25	2.74	0.64	0.10*
Age at exit	1.44	1.30	0.23	6.21	1.83	0.01***
DSM-IV diagnosis	0.01	0.97	0.91	0.01	1.02	0.92
Ethnic minority	3.12	0.60	0.08*	0.07	0.92	0.79
Special education	4.80	0.62	0.03**	8.98	0.48	0.00***
Person crime	1.20	0.77	0.27	6.96	2.01	0.01**
Property crime	4.48	1.63	0.03**	1.19	0.75	0.28
Person & property crime	1.19	0.78	0.28	1.98	0.71	0.16
In-facility services						
Career/vocational classes	0.49	1.20	0.48	3.66	1.73	0.06**
Job placement through the institution	0.75	1.27	0.39	1.71	1.50	0.19
GED/high school completion at exit	1.03	0.68	0.72	1.70	1.69	0.19
Services while in the community						
Mental health	6.40	2.04	0.01***	0.70	0.75	0.40
Other community-based agencies	7.57	1.83	0.00***	0.72	0.81	0.40
Engagement at Time 1	—	—	—	12.94	2.44	0.00***

Note: All chi-square analyses were computed as 1-degree-of-freedom tests. Services offered from exit to Time 1. *DSM-IV = Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition* (American Psychiatric Association, 1994).
[a]$n = 338$. [b]$n = 284$.
*$p \leq .10$. **$p \leq .05$. ***$p \leq .01$.

any of the other variables in either the final Time 1 model or the final Time 2 model.

Table 5 presents the final Time 1 model. This model was statistically significant ($p = .00$), classified 64.67% of the participants correctly, and was composed of the following variables:

- Age at first adjudication: Participants who were adjudicated for a felony after age 14 were 2.41 times more likely to be engaged at Time 1 than those adjudicated for a felony before age 14.
- Special education: Participants with a special education disability were 1.76 times less likely to be engaged at Time 1 than participants without a special education disability.
- Receipt of services from mental health: Participants who received services from mental health were 2.25 times more likely to be engaged at Time 1 than participants who did not receive such services.
- Receipt of services from other community-based agencies: Participants who received services from community-based agencies other than mental health were 1.96 times more likely to be engaged at Time 1 than participants who did not receive such services.

Table 6 presents the final Time 2 model. This model was statistically significant ($p = .00$), classified 69.35% of the participants correctly, and consisted of the following variables:

- History of treatment for alcohol or substance abuse: Participants who received treatment for alcohol or substance abuse prior to being incarcerated in OYA were 1.64 times less likely to be engaged at Time 2 than participants who did not receive such treatment prior to incarceration.
- Age at first adjudication: Participants who were adjudicated for a felony after age 14 were 1.82 times more likely to be engaged at Time 2 than those adjudicated for a felony at age 14 or younger.
- Special education: Participants with a special education disability were 1.67 times less likely

TABLE 5. Predicting Time 1 Engagement Logistic Regression Summary

Independent variable	β	*SE*	Odds ratio	*p*
Age at first adjudication (0 = 14 or younger, 1 = 15 or older)	.88	.26	2.41	.00
Special education (0 = no, 1 = yes)	.56	.26	.57	.03
Mental health services (0 = no, 1 = yes)	.81	.34	2.25	.02
Services from other community agencies	.68	.26	1.96	.01
Constant	–0.62	.25	—	.01

Note. Model $\chi^2(4, N = 300) = 34.18, p \leq 0.00$. Classification accuracy: Observed: no = 153, yes = 147; Predicted: no = 149, yes = 151; % correct: no = 64.05, yes = 65.31, overall = 64.67.

TABLE 6. Predicting Time 2 Engagement Logistic Regression Summary

Independent variable	β	*SE*	Odds ratio	*p*
Treatment for alcohol/drug abuse (0 = no, 1 = yes)	–.50	.30	.61	.09
Age at first adjudication (0 = 14 or younger, 1 = 15 or older)	.60	.29	1.82	.04
Special education (0 = no, 1 = yes)	–.51	.28	.60	.08
Person crime (0 = no, 1 = yes)	.72	.30	2.06	.02
Engagement at Time 1 (0 = no, 1 = yes)	.89	.29	2.43	.00
Constant	–.32	.36	—	.37

Note. Model $\chi^2(5, N = 248) = 32.20, p \leq 0.00$. Classification accuracy: Observed: no = 137, yes = 111; Predicted: no = 159, yes = 89; % correct: no = 80.29, yes = 55.86, overall = 69.35.

to be engaged at Time 2 than participants without a special education disability.

- Person-related crime: Participants who were incarcerated in OYA for a person-related crime were 2.06 times more likely to be engaged at Time 2 than participants incarcerated in OYA for a property-related crime.
- Engagement at Time 1: Participants who were engaged at Time 1 were 2.43 times more likely to be engaged at Time 2 than participants who were not engaged at Time 1.

Discussion

Limitations

Before discussing the study's findings, we should note the study's limitations. First, we analyzed a data set based on a relatively small number of participants from Oregon. Due to the (a) absence of a centralized and standardized national database on the demographic characteristics of youth who are incarcerated, (b) inconsistency in methods of describing the criminal histories of youth who are incarcerated in various parts of the country (e.g., Lipsey & Wilson, 1998), and (c) considerable confusion over the disability characteristics of this population (e.g., Rutherford et al., 2002), generalization of the results to other regions may be tenuous.

Second, this was a longitudinal descriptive research study in which there was no direct manipulation of the predictor variables. These findings are correlational and should not be construed as providing evidence for cause–effect relationships between variables.

Third, as we mentioned earlier, we relied on self-report to profile the participants' transition outcomes. Due to practical considerations (e.g., numbers of contacts) and confidentiality issues, we did not try to validate those responses from employers or schools in the community.

Finally, we did not assess the type of educational or social services the TRACS participants received while in the facilities or in the community, nor did we measure their duration or intensity. We only confirmed that the participant received certain services. This issue of treatment "dosage" and integrity is one of importance in the social sciences (e.g., Yeaton & Sechrest, 1981) and one to which we will return later in this section.

Despite these cautions, given the dearth of research on youth who are incarcerated and on their return to the community, the results do offer potentially important perspectives on this high-risk population.

Prediction of Engagement

Although we used the same data set in this study as we have in other articles, the addition of an expanded predictor set of variables may influence those variables that are identified as statistically significant in the logistic regression models. Specifically, in our first article on the TRACS project we included a simple model composed of four demographic variables and engagement status at Time 1 (Bullis et al., 2002). In this article we expanded the number of demographic variables and added service-delivery variables to the predictive model. Given these differences, we think it is necessary to discuss the similarities and differences of the results of our initial article on the TRACS data set and the findings from this study.

Unlike the initial article, this study did not find sex to be statistically significant at the *p*-level we chose for inclusion in either of the final predictive models. Also, in the present study we found that participants who had been committed to OYA for a person-related offense were more likely to be engaged at Time 2 than participants who had been committed to OYA for a property-related offense.

Consistent with the previous results, however, engagement status at Time 1 was associated with engagement status at Time 2 and participants with a special education disability were less likely to be engaged in school and/or work after leaving the juvenile correctional system. In this article, participants who were engaged at Time 1 were almost 2½ times more likely to be engaged at Time 2 than participants who were not engaged at Time 1. Participants with a special education disability (about 58% of this sample), compared to participants without disabilities, were 1.76 times less likely at Time 1 and 1.67 less likely at Time 2 to work and/or be involved in any type of educational program upon their return to the community. These findings are important, as virtually all of the age-eligible youth who returned to OYA did so within 12 months (Bullis & Yovanoff, 1997; Bullis et al., 2001). Both our previous findings and the current results strongly support the importance of "getting started right" upon returning to the community for formerly incarcerated youth, and especially those with disabilities. We now turn to discussing the specific results for Time 1 and Time 2.

At Time 1, it was clear that younger participants and those with a special education disability had more difficulty becoming engaged. It may be that younger participants were precluded from some jobs due to labor restrictions regarding age and so should be connected with educational programs.

Both of the other two variables in the final Time 1 model relate to service delivery. Participants who received services from mental health or other community-based social service agencies were more likely to be engaged at Time 1 than those who did not receive such services in the 6 months after leaving OYA. These results are encouraging, as they point to the potential positive impact of service provision on engagement at Time 1, which was strongly associated with engagement at Time 2. Conversely, it is disheartening that so few of the TRACS participants received services from community-based agencies. It is hard to believe that the TRACS participants, most of whom had diagnosed mental health disorders, special education disabilities, and/or previous substance abuse problems, would not qualify for services from mental health or other agencies (e.g., vocational rehabilitation); however, few in this study accessed these services.

As we stated earlier, due to the low rate of services received from the various community-based social service agencies we included in the TRACS project, we decided to combine several social service agencies (i.e., vocational rehabilitation, Social Security, public welfare, public employment, JTPA, and Children and Families Division) into one composite variable. This choice admittedly muddled the conclusions that can be drawn about this particular finding, but the result does point to the importance of developing a support system of multiple community-based agencies to help these youths return to the community.

Similar to Time 1, at Time 2, participants who were younger or who had a special education disability continued to have difficulties becoming engaged in work and/or school in the community. The strong association of engagement status at Time 1 with engagement status at Time 2 warrants a second mention. Two other demographic characteristics were also found to be related to engagement status at Time 2: history of treatment for alcohol or substance abuse and commitment to OYA for a person-related crime.

Alcohol and substance abuse are associated with the constellation of high-risk behaviors that Jessor and his colleagues call the "antisocial syndrome" (i.e., criminal behavior, substance abuse, serial sexual activity, and school failure; Donovan & Jessor, 1985; Jessor & Jessor, 1977). Evaluation of a vocational program for high-risk youth found that those participants who had a history of receiving alcohol or substance abuse treatment before entering the program were much more likely to end jobs unsuccessfully than participants without such a history (Bullis et al., 1994). What is a bit puzzling is that this variable did not play a role in engagement until 12 months after exit from OYA. All youth entering OYA are screened for alcohol or substance abuse problems at entry, and more than 65% of the sample had received drug or alcohol treatment prior to entering OYA. Most professionals believe that there is a high rate of continued use of alcohol and/or other substances after being treated (Bukstein & Van Hasslet, 1995), so it is possible that it took some time for these problems to reemerge. In any case, this result points to the importance of providing ongoing support to youths with a history of alcohol or other substance abuse when they reenter the community.

It is interesting that participants who were committed to OYA for person-related crimes were more likely to be engaged than those participants who were committed for property-related crimes. We suspect that youths who commit property-related crimes are more likely to continue committing these specific criminal acts due to the reinforcement of receiving

monetary or material rewards (Kazdin, 1987), and that employers are particularly intolerant of these types of behaviors in the workplace (e.g., theft; Bullis, Nishioka-Evans, Fredericks, & Davis, 1993). This supposition should be investigated further, as it may be necessary to offer youths with histories of property-related offenses different types of support upon rerentering the community than those afforded person-related offenders.

Implications for Future Research

Three major issues from this study and the TRACS data set should be addressed in future research. First, more longitudinal research on the facility-to-community transition of incarcerated youth is needed to examine and understand this ongoing process for these high-risk youth. The TRACS study was conducted only in Oregon, a relatively sparsely populated state with a low incidence of cultural/ethnic minority groups, thus raising the obvious issue of whether the results would hold in other states. Until more longitudinal studies of the facility-to-community transition process of this population are completed, the findings from this study must be viewed and generalized with caution. These types of longitudinal tracking studies offer the best avenue through which to gain information about the nuances of the transition process for youth leaving correctional programs and returning to the community—knowledge that is critical to designing effective and efficient intervention programs (Farrington, 1992; Rutter, 1988). Policymakers may be reluctant to devote resources to merely studying this process, but we contend that such information is invaluable to developing focused and efficient interventions.

Second, in this study, in order to quantify the receipt and impact of service provision, we merely noted whether a participant enrolled in specific classes while in OYA or if he or she received services from particular social service agencies upon returning to the community. This type of crude designation does not provide information on the duration, nature, or intensity of services, something that the social sciences have been urged to address in research efforts (e.g., Yeaton & Sechrest, 1981). The issue is how to conduct assessment of the "dosage" of interventions and treatments. Interventions in the social sciences and education are not usually prescribed or delivered uniformly according to concise and accurate weights (e.g., milligrams), so how might this type of information be gathered?

Third, study of how to predict the community adjustment of individuals with criminal backgrounds has a long history (e.g., Farrington & Tarling, 1985). There are statistical procedures different from the techniques we used in this article that could be applied and that may yield different results (Tarling & Perry, 1985). There are also costs associated with making correct and incorrect predictions regarding service provision and participant outcomes (e.g., Wiggins, 1973), particularly when considering the cost and benefits of incarceration and interventions for this population (e.g., Wilkins, 1985). If predictions are used to focus transition interventions on youths with different profiles, there will be a cost associated with supplying these interventions, just as there is a cost for not supporting youth, in terms of reincarceration and continuing criminal acts. This broad and important area demands close and in-depth investigation and much more discussion than is possible here.

Implications for Practice

The youths in this study clearly performed poorly after being released from the juvenile correctional system and returning to the community, but engagement in work and/or school immediately after leaving the facility had an apparent positive effect on the sample's status at Time 2. This finding points to the critical point of release for shaping the community trajectory of these youths and supports the results of a meta-analysis (Lipsey & Wilson, 1998) that found that intervention programs focused on structured learning, school achievement, and job skills can cut recidivism among incarcerated youths. Altschuler and Armstrong (2001) described a promising line of work related to the provision of intensive after-care services for incarcerated youths returning to the community that employs wraparound service coordination coupled with an emphasis on school and work. School- and community-based transition service–delivery models emphasizing vocational placements and service management have been developed and described in the literature for youths with emotional disorders, both with and without criminal histories (e.g., Bullis & Fredericks, 2002; Clark & Davis, 2000). However, these programs are not widely available in school or community settings, and adaptations may need to be made to these models when serving formerly incarcerated youth.

Further, although it appears that the first 6 months after release are crucial to later community adjustment for this population, it also is naive to believe that no services or only limited services will need to be provided after those initial months of return for formerly incarcerated youths to succeed in the community. Descriptions of the long-term effects of antisocial behavior are common in the literature, as are calls for the importance of providing long-term supports to these individuals (Kazdin, 1987; Wolf, Braukmann, & Ramp, 1987). Because history of substance abuse was related to engagement success at Time 2, 12 months after leaving OYA, it may be necessary to ensure that youths with histories of substance abuse receive ongoing support and treatment while in the community, to support them in their efforts to stay "clean" and forestall the negative effects of substance abuse.

Our experience in providing such coordinated services to this particular population (e.g., Bullis & Cheney, 1999; Bullis & Fredericks, 2002; Bullis et al., 1994; Unruh, Bullis, & Benz, 2001) causes us to caution against believing that there is a quick fix for most of these young people. For example, merely securing jobs for these youths and/or enrolling them in school will not guarantee that they will remain so en-

gaged and out of trouble with the correctional system. As demonstrated in this study, in Table 2, a number of the youths who returned to custody were employed and/or in school before being placed back in the correctional system. Given the extreme criminal profiles and histories displayed by this group, it would be naive to believe that any one intervention will positively affect all members of this population. In a similar vein, many will need support and assistance for the long term—in some cases for years—in order to navigate our country's current social service system and achieve a level of success as adults.

The correlational findings from this study suggest that interventions focused on providing educational and employment placement and support can positively affect the community adjustment of formerly incarcerated youths. There are, however, few controlled evaluations of projects providing such services to this population. If these service-delivery efforts are to be as effective as possible, they must be evaluated carefully, to document their impact, and then revised accordingly. Evaluation must attend to the fidelity of implementation of these services, the similarities and differences of youths who receive such services and those who do not, the long-term effects of these services on the various areas of adjustment that constitute life as a young adult (e.g., employment, education, living arrangements, social adjustment), and the costs and benefits of providing such services (Kazdin, 1987). Hopefully, these types of interventions will positively affect the lives of these youth, helping them to become contributing members of our society.

AUTHORS' NOTES

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