Promoting School Completion of Urban Secondary Youth With Emotional or Behavioral Disabilities

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ABSTRACT: An experimental research design was used to examine the effectiveness of a targeted, long-term intervention to promote school completion and reduce dropout among urban high school students with emotional or behavioral disabilities. African American (67%) males (82%) composed a large portion of the sample. This intervention study was a replication of an empirically supported model referred to as check & connect. Study participants included 144 ninth graders, randomly assigned to the treatment or control group. The majority of youth were followed for 4 years, with a subsample followed for 5 years. Program outcomes included lower rates of dropout and mobility, higher rates of persistent attendance and enrollment status in school, and more comprehensive transition plans.

The risk of school failure and high incidence of negative postschool outcomes are critical concerns for the education of youth with emotional or behavioral disabilities (also referred to as serious emotional disturbance or emotional or behavioral disorders). A disproportionate number of these youth drop out of school and experience higher postschool rates of incarceration, unemployment, and underemployment. Results from the National Longitudinal Transition Study of Special Education Students (NLTS) indicated that 55% of youth with emotional disturbance drop out of school, compared to 36% of all students with disabilities over the same time period and 24% of a comparable cohort of general education students across the country (Wagner, 1995, Table 2). In 1999 to 2000, 40% (n = 14,842) of youth with emotional or behavioral disabilities age 14 and older graduated with a standard diploma and 51% (n = 19,032) dropped out (U.S. Department of Education, 2002, Table IV-1). Among African American students with emotional or behavioral
disabilities, analysis of the NLTS data indicated that only 28% graduate from high school with a diploma, compared to 42% of all youth identified with this disability, 56% of all youth with disabilities, and 79% of a similar cohort of general education peers (Osher & Osher, 1996).

Blackorby and Wagner (1996) found that 35% of youth with emotional disturbances were arrested 3 to 5 years after they graduated, and up to 73% of those who dropped out were arrested. One third of youth with emotional disturbance were not employed either 2 to 5 years out of school, and 19% of those who were employed lost their job at least once; this is the highest percentage among all students with disabilities (Wagner, 1995). Attendance difficulties were a common reason for dropping out noted by youth with learning or emotional or behavioral disabilities (Scanlon & Mellard, 2002). Mobility is also a significant component of the school experience among school dropouts and for youth with emotional or behavioral disabilities in particular. Fifty-two percent of all the students with emotional or behavioral disabilities who exited special education did so because they moved, compared to 37% of students across all disability categories (U.S. Department of Education, 2002, Table AD-1). Students from the National Education Longitudinal Study who experienced one or more nonpromotional school changes between 8th and 12th grades were twice as likely to drop out of school (Rumberger & Larson, 1998). Osher, Morrison, and Bailey (2003) identified a cumulative exposure to mobility over time and settings among youth with emotional or behavioral disabilities that was highly associated with dropping out.

Moreover, the availability of experimental, evidence-based intervention studies that directly investigate dropout prevention or school completion is limited (Lehr, Hansen, Sinclair, & Christenson, 2003). Dropout prevention intervention studies that report outcomes separately for students with disabilities or include students receiving special education services are even fewer (Lehr et al., 2003). The vast majority of information on school dropout is derived from nonexperimental studies that identify predictive factors, characterize prevention programs, or provide a description of the youth, the families, the communities in which they live, and the schools they attend (Christenson, Sinclair, Lehr, & Hurley, 2000). Although this research is valuable, practitioners and policymakers in search of empirically supported intervention strategies will need to rely on studies that examine secondary indicators of dropout prevention, such as reduction in problem behavior through positive behavioral supports or increasing student’s affiliation with school through service learning programs. More experimental research and evaluation studies are needed on the effectiveness of prevention and intervention strategies directly in relation to the impact on dropout and school completion rates.

**PURPOSE AND IMPORTANCE OF THE STUDY**

This study investigated the effectiveness of the check & connect model of student engagement for urban high school students with emotional or behavioral disabilities. The model was originally developed to prevent dropout and to promote student engagement among urban middle school students with disabilities (Sinclair, Christenson, Evelo, & Hurley, 1998). The check component of the model refers to the continuous and systematic assessment of student levels of engagement with school (e.g., attendance, suspensions, grades, credits). The connect component refers to timely and individualized intervention focused on student’s educational progress, guided by the check indicators, and provided by program staff in partnership with school personnel, family members, and community workers.

Conceptually, the components and underlying principles of the check & connect model were shaped by the orientation that dropping out...
is a process of withdrawal and disengagement rather than an event that occurs at a specific moment in time (Finn, 1993). An influential aspect of Finn’s research was his approach to classifying the long list of dropout predictors. He essentially divided them into two categories: alterable predictors that educators, family, and community members have the power to change (school suspension policies, student’s attendance patterns, accessibility of services) and status predictor variables that exceed the realm of influence among educators and families (home language, disability, poverty). This division of predictor variables was applied to the development of the model with an appreciation for the contextual influences of home, school, and community support for learning (Bronfenbrenner, 1995; Christenson, 1995).

This intervention study is compelling for two reasons. First, check & connect is an empirically supported model that has demonstrated effectiveness among students with and without disabilities, at elementary, middle, and high school levels, in urban and suburban communities (Lehr, Sinclair, & Christenson, 2004; Sinclair et al., 1998; Sinclair & Kaibel, 2002; Thurlow, Christenson, Sinclair, & Evelo, 1997). Second, the model is conceptually grounded in a broad base of research on student engagement (Finn, 1993) and school dropout (Blackorby & Wagner, 1996; Rumberger, 1995), resiliency (Masten & Coatsworth, 1998), social competence (Braswell & Bloomquist, 1991; Elias & Clabby, 1992), as well as home-school collaboration (Christenson, 1995) and the goodness of fit between the student and school in the context of the student’s home, community, and peers (Bronfenbrenner, 1995).

**Research Hypotheses**

This study used a longitudinal experimental research design, with random assignment of students to treatment (i.e., check & connect) or control group. The results of the investigation reported here focus on program impact. We hypothesized that students with emotional or behavioral disabilities who participated in check & connect would be less likely to drop out of school and more likely to attend with greater persistence, remain in school through mobility, complete school or remain on track toward completion, and more likely to have a developed and individualized education program (IEP) transition plan than their peers receiving typical district services.

**Method**

**Setting and Participants**

The participating school district was purposefully selected for this intervention study for its prevalence of youth with emotional or behavioral disabilities as well as for the history of productive collaboration between the researchers and district. The district is urban and one of the 100 largest in the country with a diverse population ethnically, linguistically, and economically, providing special education services to about 14% of the students. Less than half of the district’s entire 2000 graduation class (the 1996-1997 cohort of ninth graders) completed high school in 4 years—38% dropped out, 11% moved out of district, and the remaining 8% were still enrolled in school.

Students targeted for this longitudinal study included all ninth graders from two consecutive cohorts receiving special education services for an emotional or behavioral disability and enrolled in any of the district’s seven comprehensive high schools (n = 206). The study began mid-October 1996 with the process of identifying the first cohort of ninth graders from the graduation class of 2000. Baseline data collection and intervention began in late December of the 1996 to 1997 school year. The same process was followed with the second cohort, identifying all eligible
ninth graders from the graduation class of 2001. Baseline data collection and intervention began for this second group in late December of the 1997 to 1998 school year. Identification of a student's disability was determined by school district assessment procedures and state guidelines. Included in the study were students with an active IEP for a primary (69%) or secondary (12%) emotional or behavioral disability or with primary labels of learning disability or other health impairment when the IEP included behavior goals and objectives (19%).

For each cohort, students were randomly assigned to the treatment or control group prior to the process of obtaining permission using a stratified sampling procedure. Differentiated permission slips were required for each group. The variables on which the participants were stratified included disability, ethnicity, eligibility for free or reduced lunch program, gender, adult with whom the youth resided, and high school. Siblings were randomly assigned to treatment or control as a group. In the few cases where an older sibling was already participating in the study, the younger sibling was automatically assigned to the same group. Attempts to obtain permission were extensive and included a mailing with a self-addressed, stamped envelope for return, making multiple telephone calls, making multiple home visits on different days and different times of day, following up with persons listed as emergency contacts, talking with neighbors, checking with school staff, and following up after a written refusal. Permission was obtained from 175 parents across the two cohorts (85%), 19 refused to participate (9%) and 12 students (6%) moved out of the district while in the process of seeking permission. Another 4 of the students with signed permissions moved out of district within the first 2 months of their ninth-grade year and an additional 7 students with signed permissions refused to participate after a year of persistent attempts at outreach, leaving 85 treatment students and 79 control students for a total of 164 study participants.

The study sample reflected multiple status characteristics predictive of dropping out (see Table 1). The majority of the sample was African American (64% overall, compared to 52% districtwide). More than two thirds of the students were eligible for free or reduced lunch (70% overall, comparable to districtwide characteristics) and were living with one parent (65%, compared to 54% districtwide)—typically their mother (61%). Another 13% lived with caregivers other than their parent(s). More than two thirds of the sample had a primary label of emotional or behavioral disability (69%), the remaining study participants were targeted for their secondary label (12%) or associated behavior goals and objectives (19%). On average, the study participants were 14 years and 6 months old at the beginning of ninth grade. The disproportionate representation of African American males in the study sample was a function of the district population and referral procedures. In January 1998, the participating school district and the U.S. Department of Education's Office of Civil Rights (OCR) entered into a collaborative agreement that addressed the disproportionate numbers of students of color in special education and in gifted and talented programs. The 5-year agreement extended to June 2002. As part of this agreement, the district implemented a range of instructional and assessment activities designed to improve student performance in reading, math, and behavior.

Alterable indicators of engagement at baseline were also characteristic of a population with high risk for dropping out. Teacher ratings of student social behaviors were assessed using the Social Skills Rating System (SSRS; Gresham & Elliott, 1990). The SSRS is a standardized, norm-referenced questionnaire and provides information on three areas of social behavior: academic competence, social competence, and problem behavior. The baseline ratings were completed by one of the student's core academic general education teachers (language, math, social studies, science) and/or the student's special education case manager. Data collection was scheduled to allow time for the teachers to get to know the students and to be inclusive of students entering the district mid-year (January and May 1997 for cohort 1, March and May 1998 for cohort 2). Ratings overall were consistently well "below average." Academic and social competence ratings were between the 7th and 19th percentiles on average. Problem behavior ratings ranged between the
70th to 89th percentiles on average (see Table 1).

Twenty students dropped from the study through attrition, 17% (n = 14) from the treatment group and 8% (n = 6) from the control group. The attrition occurred within students' first year in the study, such that no intervention could be delivered and/or no baseline data could be collected. One youth moved out of state. Seven students entered the correctional system during their first year and either remained in that setting or never returned to the district. Twelve students could not be found at home or at a new address after 2 years of search, 4 of whom never entered the district and 8 of whom could no longer be found in school. The final sample included 71 students in the treatment group and 73 in the control group, reflecting three quarters of the target population for a total of 144 study participants. In addition, a subsample of 29 students from the first cohort remained active participants and provided an opportunity to examine the impact of sustained intervention for a 5th year.

To ensure comparability between intervention groups given the attrition and the need to maximize sample size, the sample was examined along three dimensions before proceeding with analyses of outcomes: cohort (1 and 2), intervention group (treatment, control, attrition, 5th year), and as a function of gender and ethnicity (males and females, African American males and non-African American males). Few statistically significant differences were found between any of the subgroups across the baseline variables: six status characteristics and six SSRS ratings of students' social behaviors by the general and special education teachers. First, analyses of all intervention group differences were nonsignificant. No statistically significant differences were found between treatment and control groups, among the attrition, treatment and control groups, between the 5th-year students and those who participated in the study for 4 years, or between treatment and control groups among the 5th-year participants (all p values > .05).

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Student Characteristics at Referral by Intervention Group (N = 164)</th>
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<tbody>
<tr>
<td>Student Characteristics</td>
<td>Treatment</td>
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<tr>
<td>Male</td>
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<td>Ethnicity/Race</td>
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<tr>
<td>Secondary EED</td>
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<td>Total n</td>
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<tr>
<td>Cohort</td>
<td>Treatment</td>
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<td>SD</td>
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<td>Problem behavior</td>
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<td>Special Education SSRS*</td>
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<td>Social competence</td>
<td>63.7</td>
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<tr>
<td>Problem behavior</td>
<td>116.0</td>
</tr>
</tbody>
</table>

*SSRS = Social Skills Rating System—teacher version (Gresham & Elliott, 1990). The standardized subscale scores are reported here, where academic competence rating of 79 to 67 = 7th to 10th percentile, social competence rating of 79 to 66 = 8th to 16th percentile, and problem behavior rating of 106 to 116 = 70th to 89th percentile.
However, subgroup analyses revealed a difference between cohorts, associated with disability category and the African American male subgroups. Cohort 2 had a greater percentage of youth with a primary emotional or behavioral disability (EBD) label compared to cohort 1 (81% vs. 59%) and fewer with a secondary label (7% vs. 19%) or behavior goals and objectives (12% vs. 23%). $\chi^2(2) = 8.99, p = .011, n = 144, ES = .25$. General education teacher ratings of student’s academic competence were higher for youth with primary or secondary EBD labels compared to the students identified for behavior goals and objectives, $F(2) = 5.44, p = .008, n = 46, ES = .17$. The African American male study participants were more likely to have a primary EBD label (78% vs. 61%) and less likely to be identified for behavior goals and objectives compared to their peers (9% vs. 27%). $\chi^2(2) = 8.49, p = .014, n = 144, ES = .24$. No statistically significant differences were found between cohorts on any of the other baseline measures (all $p$ values > .05).

**INTERVENTION DESCRIPTION**

The check & connect model of student engagement can be characterized by seven interrelated elements. These core elements guided the role of program staff and included: routine monitoring of alterable indicators of engagement, individualized and timely intervention, relationship building, persistence plus, following mobile students from school to school, problem-solving, and promoting affiliation with school and learning (Sinclair, Christenson, Lehr, & Anderson, 2003, see also www.ici.umn.edu/checkandconnect).

Routine monitoring of alterable indicators of student engagement was the premise of the check component of the model. Alterable indicators that were routinely monitored included: absenteeism, out-of-school suspension, and accrual of credits (Finn, 1993). Program staff, referred to as monitors, maintained daily to weekly awareness of these indicators for their caseload using one monitoring sheet per student (Sinclair et al., 1997). Daily information was summarized and documented at monthly intervals on the form and was used to guide intervention and to review progress with students. The monitoring sheet was formatted to reflect student’s progress and associated intervention for an entire year on one sheet of paper.

Individualized and timely intervention was the premise of the connect component of the model. The monitor’s primary goal was to keep education a salient issue for the targeted students, their teachers, and family members. Their role has been characterized as a combination of a mentor, advocate, and service coordinator. The connect component included two levels of student-focused interventions developed to maximize the use of finite resources: basic intervention, which was the same for all students, and intensive interventions, which were more frequent and individualized. All students received basic interventions (even if receiving intensive interventions), whereas indicators of school engagement were used to guide who received the delivery of more intensive interventions. Individual needs of the student dictated to an extent what specific intervention strategy was used.

The check and connect components were personalized through the model’s emphasis on relationships. Relationship building stemmed from resiliency research that has documented a strong correlation between the presence of a caring adult and positive school and postschool outcomes for youth placed at high risk for failure (Masten & Coatsworth, 1998). Masten (2001) referred to these systems of support as “everyday ordinary magic,” such as a significant adult in the life of a child. Check & connect was structured to maximize this type of personal contact and these opportunities to build trusting relationships. Monitors worked with a caseload of students and families over a period of 4 to 5 years. The monitors’ efforts to build relationships extended beyond the monitor-student dyad to that of family members and school staff.

Persistence plus refers to a persistent source of academic motivation, a continuity of familiarity with the youth and family, and a consistency in the message that “education is important for your future—stay in school” (Thurlow, Christenson, Sinclair, Evelo & Thornton, 1995). Persistence plus was a message to students that there was someone who was not going to give up on them or allow them to be distracted from school, that there was also someone who knew the student and was available throughout the school.
year, the summer, and into the next school year. Following students and families referred to a case management approach in which resources (i.e., program staff) followed the student from school to school throughout the metropolitan area. This design element rested in the belief that to have a substantive impact on student engagement, we had to address issues of mobility, a significant co-variate of school failure among the target population (Osher et al., 2003; Rumberger & Larson, 1998).

THE ROLE OF THE MONITOR

Check & connect monitors modeled and coached the use of a cognitive-behavioral problem-solving approach, intended to promote the acquisition of conflict resolution skills and the capacity to seek solutions rather than a source of blame (Braswell & Bloomquist, 1991; Sheridan, 1995). Skill acquisition lends itself to capacity building and was intended to minimize the potential for mentoring-type programs to create student and family dependency. The basic connect intervention, for example, was essentially a weekly-to-biweekly problem-solving conversation about the student’s progress in school, the relationship between school completion and the student’s regular participation in school, the importance of staying in school, and a review of problem-solving steps used to resolve conflict. Students were guided through real and/or hypothetical problems using steps such as: Stop. Think about the problem. What are the choices? Choose one. Do it. How did it work? For this target population, monitors frequently talked with students about making constructive life choices in the context of coping with parents’ mental health challenges, engaging in criminal activity, abusing substances, or starting a family at a young age.

Finally, monitors strived to facilitate student affiliation with and active participation in school-related activities and events. Research has shown that student participation in extracurricular activities is associated with reduced dropout rates (Rumberger, 1995). Monitors’ efforts included informing students about options, waiving enrollment fees, walking students to the first meeting, and checking in with program staff and students for feedback on their experiences. The role of the check & connect monitor was modeled after one of the commonly identified protective factors in resiliency literature—the presence of an adult in the child’s life to fuel the motivation and foster the development of life skills needed to overcome obstacles (Masten & Coatsworth, 1998). Monitors typically worked 20 to 35 hours per week and carried a caseload of 25 to 44 students, respectively, with the majority of their caseload enrolled across three schools. Monitors connected with each student a little less than an hour total per week, on average, with a few students requiring several hours of intervention and others only a couple minutes of contact. A total of six monitors staffed the program throughout the 5-year period and four of them stayed with the program for 4 years.

Monitors maintained contact with students year-round. The time devoted to intervention services each summer was about half of what it was during the academic school year. The purpose of staffing the program year-round was to maintain relations with the student and family, to support summer school participation, to help youth secure employment, and to guide youth toward summer activities that would keep them on track to graduate. Summer school was strongly encouraged for youth who were behind in credits, and monitors provided assistance with enrollment, morning wake-up calls, and rides when needed. Older students with very few credits (and little inclination to attend a formal education program) were actively encouraged to maintain their pursuit of a General Education Development (GED) diploma throughout the summer months. Toward the end of the summer, monitors often took youth around to stock up on back-to-school supplies and clothes or added to supplies started by the parents and students.

Family outreach was an integral component of the model, though less explicit for this population at the upper secondary level relative to elementary-age youth. The monitor’s goal was to increase constructive communication between home and school and to link parental support for learning to their adolescent’s transition program. Outreach strategies ranged from frequent telephone calls to home visits or meetings at neutral community locations. Transportation was offered or arranged if needed for school-related meetings.
(e.g., IEP meetings, suspension reentry meetings, truancy court appearances).

The project coordinator/director was knowledgeable of the model, as a former check & connect monitor of 4 years and an active school psychologist in the district high schools at the time of the study. The coordinator was available to monitors on a daily basis for case consultation, and often modeled how to interact with students, teachers, or parents. Although measures of treatment integrity were not quantified, a number of procedures and forms were developed, aligned with core elements of the model, and used regularly to sustain treatment fidelity. Two valuable tools were the monitoring sheets used daily by program staff and case reviews facilitated routinely by the coordinator. Other tools used by the coordinator, and also aligned with the model, included a staff orientation workshop, the monitor’s job description, annual performance reviews, weekly-to-biweekly staff meetings, staff development sessions, and the assignment of caseloads. The monitor’s job description, for example, specified home visiting and a 24-hour period for returning phone calls in alignment with building relationships. A calendar format was used on the monitoring sheet to log and view the timeliness of intervention contacts at a glance in relation to student levels of engagement. Routine case reviews included discussions about unresponsive or resistant students and the extent to which monitors persistently pursued outreach to those youth.

**Instrumentation and Indicators**

*Check & Connect Monitoring Sheet.* Incidences of tardy, skips, absences, suspension, other behavior referrals, course failures, and credit accrual were summarized and recorded monthly on the top portion of the monitoring sheet. The name and type of school setting was also recorded monthly and coded to reflect enrollment status and number of school changes within a year. Monitors obtained attendance information and the other indicators of participation primarily from online school records and attendance clerks. Teachers, parents, and students were consulted to verify contradictory or missing information. Each monitor was given instructions on how to complete the monitoring sheet to ensure consistency across monitors and settings. Monitors submitted printouts of attendance records with their monitoring sheets for review until the coordinator verified the staff person was completing the form accurately. The principal investigator reviewed the data from the monitoring sheets each summer. Rules for coding idiosyncratic data were generated the 1st year of the project and applied consistently throughout the remainder of the study.

Four outcome variables were generated from the monitoring sheet and included dropout rates, patterns of attendance, school mobility, and school completion rates. A *cohort dropout rate* was computed at 1-year intervals, reflecting the cumulative percentage of students who had dropped out or were not known to be continuing at the end of each year of high school. The denominator remained the same for each computation \( (n = 71 \text{ treatment}, n = 73 \text{ control}) \), with the exception of 5th year subsample \( (n = 29 \text{ total}) \). District policy withdrew students after 15 consecutive unexcused absences. Students with 15 consecutive unexcused absences were coded as dropouts to maintain consistency with district policy. Students with 15 absences within 20 school days were also coded as a dropout for that time period, regardless of whether the absences were consecutive. Youth in GED programs were defined as in school.

*Patterns of attendance* were computed to reflect student participation in school over time, in addition to indicators of enrollment status at a single point in time (i.e., dropout rate). The patterns were used to differentiate between students who attended school with some level of consistency from those who dropped in and out during the school year but were also enrolled in June when dropout rates were computed. Four patterns of attendance were specified: persisters, forced persisters, interrupters, and those out all year. Persisters were defined as students who were enrolled...
in an educational program (traditional, alternative, GED, or separate special education program) and attended with no periods of dropout as defined previously. Students attending educational programs in a correctional/treatment facility were accounted for separately and are referred to as forced persisters. The state correctional Web site was searched to verify incidence of incarceration for a felony offense for all study participants.

Interrupters, also known as stop outs, included students who were actively enrolled in school for some portion of a school year, but who dropped out at least once as defined earlier. Students who were out-all-year were not known to have attended any educational program for the entire year. Students who were on a school's rosters in the fall but never showed up were counted in this latter category.

**Mobility** refers to school changes within the academic year and is defined as the number of educational settings a student attended within a year. Mobility does not account for the length of time a student was enrolled in any given program. Intervention followed students across a variety of settings including: the comprehensive high schools, separate special education programs, alternative schools and programs, correctional and/or treatment centers, homebound or home schooling, and home visits to students out of school. All students began in one of the district's seven comprehensive high schools.

A cohort school completion rate was computed for study participants. Completion included graduation with a standard diploma or a GED certificate, reported separately and in aggregate. Both 4-year and 5-year completion rates were computed. Completion of the GED testing was verified independently by the State Department of Education for all study participants. Students were considered “in school” if they were in attendance at a traditional high school, alternative program, or a separate, full-day special education program. Students attending an educational program through a corrections and/or treatment program were counted separately.

**IEP Record Review.** The project-derived checklist used to review students' IEPs was based on an instrument developed by DeStefano (1997). The review focused on the transition section of the IEP. A baseline review was conducted after the student's first year in the study. A final review was conducted in the spring of the students' final year in the study. The review focused on IEP meeting participants, evidence of student and parental preferences, and status of the transition goals and types of activities. The participation of students, parents, and community agency representatives in the IEP meeting was coded as present or not present. Two elements were examined in relation to student input in the transition planning process: language of the IEP and evidence of a transition assessment. The language of the IEP transition goals was coded categorically: first person, third person, or mixed voice. Evidence of a transition assessment was coded as either yes or no in which monitors looked for a copy of a completed assessment in the files or an assessment score recorded on the IEP. Data from the checklist for each of the five transition areas were also coded categorically to indicate whether the document specified: not a need, a written goal or both activity and goal, or the section was left blank. Inter-rater reliability between the monitors and principal investigator on this low-inference checklist.
exceeded .85 after the second rating was completed.

ANALYSES

Posttest comparisons between treatment and control groups were used to assess program impact. The two cohorts were combined to maximize sample size. Subgroup analyses of program outcomes were run by gender, ethnicity, and disability category to address the disproportionate characteristics of the sample. Outcome indicators included rates of dropout, persistence, mobility, and completion, as well as special education transition program services (i.e., status of IEP, parent and student participation, and transition goals and objectives). Effect sizes (ES) of all reported Pearson’s or Yate’s chi-square tests were computed using Phi and Cramér’s $V$, where levels of effect sizes are comparable to the $r$ index of 0.10 = small, 0.30 = moderate, and 0.50 = large (Cohen, 1988).

RESULTS

COHORT DROPOUT RATE

The high school students with emotional or behavioral disabilities who participated in check & connect were significantly less likely to drop out of school than similar students in the control group at the end of 4 years (39% vs. 58%, $\chi^2(1) = 4.72, p = .030, n = 144$, ES = .18) and at the end of 5 years for a subsample of study participants (42% vs. 94%, $\chi^2(1) = 7.24, p = .007, n = 29$, ES = .58, see Table 2).

PATTERNS OF ATTENDANCE

Students who participated in check & connect attended school with greater consistency relative to their peers (see Table 3). Treatment students were more likely to demonstrate persistent attendance and less likely to remain out of school all year compared to similar students in the control group, where statistically significant differences were found, Year 1 $\chi^2(1) = 4.23, p = .040, n = 144$, ES = .17; Year 4 $\chi^2(2) = 18.55, p = .000, n = 143$, ES = .35; and Year 5 $\chi^2(2) = 8.28, p = .016, n = 29$, ES = .52. Moreover, mobile treatment students were more likely to have persistent attendance compared to mobile students in the control group (60% vs. 20%), Year 2 $\chi^2(1) = 5.10, p = .024, n = 40$, ES = .41. During the 3rd year in high school, students in the control group were more likely to remain in one educational setting, Year 3 $\chi^2(2) = 6.60, p = .037, n = 144$, ES = .21. However, during this same year, more control students were not in school at all (out all year) compared to the treatment students who were more likely to be in school but mobile (attended two or more educational settings).

COHORT COMPLETION RATES

At the end of 4 years, students in the treatment group were more likely to be enrolled in an educational program or to have completed high school (61%) than similar students in the control group (43%), Year 4 $\chi^2(2) = 7.27, p = .026, n = 144$, ES = .14 (see Table 2). Although no statistically significant difference was found between treatment and control groups as a function of a 4-
year completion rate, five times as many youth in the treatment group who participated in the study for a 5th year went on to complete high school compared to similar students in the control group (25% vs. 6%), plus another 33% of the 5th-year treatment students were still enrolled in school, whereas none of the students in the control group were known to be continuing during the same time period. Year 5, $X^2(2) = 11.79, p = .003, n = 29$, ES = .53. Overall, a quarter of the students finished their educational careers in one of the comprehensive high schools, over a third were enrolled in or completed from a separate special education program for students ages 18 and 22 years, and another third from an alternative setting including CED programs.

### TABLE 2

Patterns of Participation by Intervention Group and Year in High School

<table>
<thead>
<tr>
<th>Year</th>
<th>T</th>
<th>C</th>
</tr>
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**Note:** T = treatment group; C = control group.

Students with updated IEPs had articulated goals and activities included career awareness, interest and job-seeking activities, exploration of postsecondary options, and planning for community participation. The transition section of the IEP was more likely to have articulated goals or related activities in three of the five transition areas compared to similar students in the control group, $X^2(2) = 4.42, p = .034, n = 66$, ES = .32. Significant results emerged in:

- **Postsecondary education** $X^2(2) = 7.03, p = .030, n = 66$, ES = .33;
- **Community participation** $X^2(2) = 7.74, p = .021, n = 66$, ES = .34;
- **Recreation and leisure** $X^2(2) = 6.75, p = .034, n = 66$, ES = .32. One half to three quarters of all students with updated IEPs had articulated goals and activities included career awareness, interest and job-seeking activities, exploration of postsecondary options, and planning for community participation. The transition section of the IEP was more likely to have articulated goals or related activities in three of the five transition areas compared to similar students in the control group, $X^2(2) = 4.42, p = .034, n = 66$, ES = .32. Significant results emerged in:

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transition assessment in the IEP was found for less than half of the students.

**Subgroup Analyses**

Program impact was examined within subgroups by disability category, by African American males and non-African American males, and by females and males. The sample sizes were small on many of these analyses of intervention group differences and reduced the power of the analyses, such that, evidence of program impact was less extensive.

Program impact by disability category subgroups reached levels of statistical significance in outcomes related to attendance patterns and mobility among youth with a primary EBD label—the largest subgroup. Treatment students with a primary EBD label were more likely to persist compared to similar students in the control group (44% vs. 33%) and were less likely to remain out of school all year (15% vs. 45%), Year 4 $\chi^2(3) = 2.30, p = .006, n = 101, ES = .35$. Treatment students with a primary EBD label were also more likely to remain in one educational setting within a year compared to similar students in the control group (64% vs. 46%) of the study where statistically significant differences were found between intervention groups, Year 1 $\chi^2(1) = 4.56, p = .033, n = 101, ES = .24$ and Year 4 $\chi^2(2) = 12.25, p = .002, n = 100, ES = .34$.

Program impact by ethnicity and gender reached levels of statistical significance in outcomes related to mobility, dropout rates, attendance patterns, and transition goals, but for only a portion of the subgroup. African American male treatment students were statistically more likely to remain in one educational setting during Year 4 compared to similar students in the control group (60% vs. 51%), $\chi^2(2) = 10.83, p = .004, n = 78, ES = .37$. Non-African American male treatment students were also more likely to remain in one setting (59% vs. 48%), where statistically significant differences were found Year 4 $\chi^2(2) = 7.15, p = .028, n = 65, ES = .33$. Non-African American male treatment students were significantly less likely to drop out at the end of 4 years compared to similar students in the control group (38% vs. 63%), $\chi^2(1) = 3.88, p = .049, n = 66, ES = .24$. This subgroup was statistically more likely to persist in school compared to similar non-African American male students in the control group (47% vs. 22%) and were less likely to be out of school all year (15% vs. 41%), Year 4 $\chi^2(3) =$
9.07, \( p = .028 \), \( n = 66 \), ES = .37. Finally, non-African American male treatment students were significantly more likely to have IEP transition goals related to community participation compared to the IEPs of similar students in the control group (56% vs. 19%), \( \chi^2(2) = 9.89, p = .007, n = 66 \), ES = .39.

Program impact by female-male subgroups reached levels of statistical significance in outcomes related to IEP transition goals, attendance patterns, and mobility. Female treatment students were significantly more likely to have articulated IEP goals in four of the five transition areas compared to their female peers in the control group. Significant results emerged in: jobs and job training (73% vs. 20%), \( \chi^2(2) = 7.50, p = .023, n = 26 \), ES = .54; postsecondary education (82% vs. 33%), \( \chi^2(1) = 6.00, p = .014, n = 26 \), ES = .48; community participation (73% vs. 13%), \( \chi^2(2) = 9.54, p = .008, n = 26 \), ES = .61; home living (46% vs. 7%), \( \chi^2(2) = 6.11, p = .047, n = 26 \), ES = .49. Male treatment students were significantly more likely to persist (38% vs. 29%) and less likely to be out all year (20% vs. 47%) during Year 4 than similar males in the control group, \( \chi^2(2) = 12.62, p = .006, n = 118 \), ES = .33. They were also more likely to remain in one setting during Year 4 than male control students (60% vs. 47%), \( \chi^2(2) = 14.21, p = .001, n = 117 \), ES = .35. Finally, male treatment students were statistically more likely to have an IEP updated after ninth grade than males in the control group (53% vs. 36%), \( \chi^2(3) = 8.53, p = .036, n = 118 \), ES = .27.

Two somewhat contradictory findings were found in relation to mobility and attendance patterns. First, the male treatment students were statistically less likely to remain in one school (53% vs. 64%) and more likely to move across two or more settings (32% vs. 12%) during Year 3 relative to the male control students, although the male treatment students were less likely to be out all year (15% vs. 24%), \( \chi^2(2) = 6.96, p = .031, n = 118 \), ES = .24. Second, the African American male treatment students were more likely to be interrupters compared to similar students in the control group (27% vs. 15%) during Year 4, although they were statistically less likely to be out of school all year (2% vs. 16%), \( \chi^2(3) = 9.01, p = .029, n = 78 \), ES = .34. All other subgroup outcomes analyses were statistically nonsignificant.

**DISCUSSION**

**Program Impact**

This study yielded promising evidence that schools and communities can make a meaningful difference in the educational careers of urban high school youth with emotional or behavioral disabilities. Student levels of engagement with school were consistently higher among treatment students relative to their peers in the control group. In essence, the *everyday ordinary magic* of the check & connect monitors routinely integrated into the high school lives of youth with emotional or behavioral disabilities provided that critical system of support and fostered resilience (Masten, 2001). Check & connect students were less likely to drop out and more likely to demonstrate persistent attendance, particularly within the context of mobility. Check & connect students were more likely to remain enrolled in school, working toward completion, and more likely to have an updated IEP with articulated transition goals, activities, and steps taken to reflect student preferences.

**Reduced Dropout Rates.** Persistent and targeted support for learning yielded lower cohort dropout rates among check & connect study participants relative to their peers, with an effect size magnitude that was large (.58) for the 5-year dropout rate. Furthermore, the 4-year cohort dropout rate among check & connect students was comparable to the average of all students districtwide (39% vs. 38%) and better than the na-
tional average (51%) among peers with emotional or behavioral disabilities while the control group dropout rates were worse (58%; U.S. Department of Education, 2002, Table IV-1).

**Attended With Greater Persistence.** A substantial impact of the check & connect model was evidenced in the attendance patterns. More treatment students were persistent and fewer were out of school all year, with effect sizes increasing in magnitude from small to nearly large over successive years of intervention (Year 3 = .22, Year 4 = .32, Year 5 = .48). Analyses of attendance patterns by subgroups yielded similar positive results during Year 4, with effect sizes in the moderate range for males (.33), non-African American males (.37), and students with primary EBD labels (.35). Moreover, study results yielded strong evidence linking persistent attendance early in high school with the increased likelihood for completion or remaining in school at the end of 4 years, as suggested by an effect size in the moderate to large range (.46). These results address a concern of the participating district where students who attended ninth grade less than 80% of the school year were 5.6 times less likely to graduate.

**Remained in School Through Mobility.** Sustained check & connect intervention helped students maintain persistent attendance through periods of transition, with an effect size in the moderate to large range (.41), and also increased stability. Check & connect students were more likely to remain in one educational setting over successive years, with effect sizes increasing in magnitude from small to large (Year 1 = .17, Year 4 = .35, Year 5 = .52). Subgroup analyses yielded similar increases in stability during Year 4, with effect sizes in the moderate range for males (.35), African American males (.37), non-African American males (.33), and students with primary EBD labels (.34). Although treatment students experienced higher rates of mobility (2 or more settings in a year) during Years 3 and 4, this mobility should be considered in relation to the higher rates of control students out all year during the same time period. In essence, disenfranchised students with disabilities who were provided targeted support for their participation in school (through check & connect) did not give up and remained enrolled, whereas the students in the control group stopped coming to school entirely, as found in past correlational research (Benz, Lindstrom, & Yovanoff, 2000; Osher et al., 2003).

**School Completion.** The check & connect model did not impact the 4-year completion rate among these urban students with emotional or behavioral disabilities. However, study findings underscore the importance of policy and practice that accommodate alternative routes and timelines to school completion. Monitors actively tried to facilitate the likelihood that a move, if pursued, would result in a successful fit in which the youth felt welcomed and engaged, for example by investigating program options, facilitating transportation changes to minimize time out of school during the transition, or introducing the student to staff in the new setting who could be called on for help. Furthermore, about a third of the youth in the treatment group were still enrolled in an educational program working toward a diploma or GED certificate on a timeline that exceeded 4 years. Among the treatment students for whom a 5th year of intervention was available, five times as many completed high school in 5 years as compared to their peers in the control group and a third of the treatment students remained in school compared to zero control students, with a large effect size (.53).

**Active IEP Transition Plan.** The capacity of educators to deliver special education services was seriously challenged by the interrupted attendance and mobility of youth with emotional or behavioral disabilities. Students must be in school and attending with some regularity in order to develop a transition plan and to work on activities toward the achievement of identified postschool goals. Through established relationships and persistent outreach, particularly the explicit efforts to facilitate parental participation and a stronger student voice in the IEP process, check & connect monitors facilitated greater persistent attendance among treatment students and more comprehensive transition plans. Intervention led to significantly more updated IEPs during high school, higher rates of student participation in the IEP meetings, and more articulated transition goals in the areas of postsecondary education, community participation, and recreation and leisure, where effect sizes approached or reached a moderate range (.26 to .34). Subgroup analyses on the IEP
transition goals reflected similar positive results, with effect sizes in the moderate to large range for females (community participation = .61, jobs and job training = .54, postsecondary = .49, home living = .49), and non-African American males (community participation = .39). Although no program impact was found on parental participation in the IEP meeting, monitors promoted opportunities to make learning meaningful for youth and to make schools approachable for families.

**THE MERITS AND LIMITATIONS OF THE STUDY DESIGN**

**Merits.** A major strength of this intervention study was the opportunity to randomly assign students to treatment and control groups and subsequently to attribute the cause of intervention group differences to check & connect program impact. In addition, the study included three quarters of the entire population of target students across two consecutive cohorts and was implemented in about 20 varied school settings, enhancing the generalizability of study findings. Another critical research design element was the reasonable interval (5-year longitudinal study) to redirect the educational trajectory of a highly disenfranchised population of youth. Furthermore, the intervention study was a replication of an evidence-based model. Crane (1998) identified replication as one of the critical evaluation components needed to determine whether a social program should be scaled up for broad-based implementation. And finally, the overall attrition for our sample was relatively low given the duration of the study and the tenuous connection this population of students has with school.

**Limitations.** One limitation of the study was the sample anomaly. The district population of youth identified with emotional or behavioral disabilities were disproportionately African American and male, and subsequently so was the study sample. Analyses of program impact by subgroups yielded statistically significant differences between experimental groups, but with less consistency. More study participants would be required to determine whether nonsignificant treatment-control differences within subgroups were a function of sample size or some differential treatment effect. The small sample size of Year 5 study participants also diminishes the generalizability of results. Nonetheless, we chose to pursue study of this alternative route to school completion (i.e., extended timeline) given the low 4-year completion rates among youth with emotional or behavioral disabilities. Two additional factors would serve to strengthen the study. Quantifying a measure of treatment integrity, in addition to the oversight afforded by use of the monitoring sheets and routine case reviews, would provide valuable information on the degree to which all core elements of check & connect were implemented. The collection of consumer satisfaction data, as was done in other replications, would provide pertinent information on the value participants place on the program, their willingness to sustain intervention components, and suggestions for improvement.

**IMPLICATIONS FOR RESEARCH AND PRACTICE**

Check & connect is a selective or targeted intervention ideally implemented in conjunction with universal interventions oriented toward the promotion of students’ engagement with school, such as positive behavioral supports and small learning communities. Many of the model’s core elements are present in schools, but scattered across the roles of existing personnel without a systematic link to absenteeism or other indicators of students’ engagement. The consolidated role performed by monitors, who were typically hired through district classified positions comparable to advanced paraprofessionals, reflect earlier research on effective secondary transition practices, particularly in the use of personnel positions to provide specific support to at-risk youth (Bullis, Moran, Benz, Todis, & Johnson, 2002).

Additional intervention studies and other causal research designs focused on school completion are warranted, particularly interventions that systematically target resources to disengaged youth and that reflect the complexity of the schools and communities that struggle to engage their youth. In the present era of accountability and attentive fiscal management, practitioners and policymakers are expected to make decisions based on empirically supported interventions linked directly to an intended outcome. A significant factor that must be considered is the effectiveness of intervention in the context of high stakes educational policies, such as state gradua-
tion requirements and the No Child Left Behind Act (Thurlow, Sinclair, & Johnson, 2002). Of particular relevance is the degree to which these educational policies lead to early dismissal of students who lag behind and the unintentional outcome of pushing students out the door.

Research on school completion initiatives with a wider intervention span is also warranted. Extension of this intervention study for another 2 years would have created the opportunity to fully investigate completion rates by alternative timelines as well as postschool outcomes. The goal of reaching out to youth placed at risk for school failure is to promote the acquisition of academic and social skills and to foster a personal investment in learning that extends beyond school through to postschool endeavors (Christenson et al., 2000). A substantial portion of the study participants experienced mobility and some degree of school failure prior to ninth grade, including high absenteeism and course failure (Logan, 2001). Although this study yielded powerful results in which the dropout rate was halved, a substantial gap in progress is readily apparent in comparison to more global performance indicators—the national status dropout rate is 11% for all students age 16 to 25 years and the average national status completion rate is 87% (NCES, 2003, Table 108).

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