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Addressing Student Engagement and Truancy Prevention During the Elementary School Years: A Replication Study of the Check & Connect Model

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Students who are at risk of dropping out of school can be identified retrospectively as early as third grade on the basis of attendance patterns, academic performance, and behavior. Check & Connect is a model designed to promote student engagement, support regular attendance, and improve the likelihood of school completion. The program has been used successfully with students attending middle school and high school, with and without disabilities, and in suburban and urban settings. An overview of Check & Connect, key components of the model, and an application of the model implemented with students who were referred for excessive attendance problems during elementary school years are described. Results from an evaluation of its effectiveness with students who received intervention for at least 2 years ($n = 147$) showed increased levels of student participation as evidenced by significant increases in the percentage of students whose absences or tardies dropped to or below 5% of the time. In addition, over 90% of the school staff ($n = 123$) perceived students were showing increased levels of engagement and 87% of school staff reported parents were more supportive of their child’s education. Strengths and limitations of the study are discussed in light of rigorous criteria used to examine the effectiveness of social programs. In addition, directions for future research are proposed.
The most severe and overt symptom of disengagement from school and learning exhibits itself in the form of dropping out of school. Research suggests that most students who drop out are expressing an extreme form of disengagement from school preceded by indicators of withdrawal (e.g., poor attendance) and unsuccessful school experiences (e.g., academic or behavioral difficulties; Hess, Lyons, Corsino, & Wells, 1989; Rumberger, 1995). The overt indicators of disengagement are generally accompanied by feelings of alienation, a poor sense of belonging, and a general dislike for school (Ekstrom, Goertz, Pollack, & Rock, 1986; Finn, 1989). This detrimental path leading to school withdrawal begins early. In fact, some retrospective studies show the identification of potential dropouts can be accomplished with reasonable accuracy in the elementary school years (Barrington & Hendricks, 1989).

Attendance, academic performance, and behavior are powerful variables contributing to the prediction of students’ later exit status. A retrospective study examining early school patterns of students who dropped out of school showed that, starting in first grade, school dropouts had more absences than did graduates (Barrington & Hendricks, 1989). Students who dropped out were absent twice as often as graduates by fifth grade, and three times as often by ninth grade, suggesting a spiraling pattern of increased attendance problems that continued to worsen as students became older. Using attendance data (number of absences per year), teacher comments about behavior, and achievement scores, students who dropped out could be differentiated from those who completed school with nearly 70% accuracy by third grade. Hooker and Weatherman (1990) found that dropouts in a Midwest rural public school district had scored in the bottom 30th percentile on academic achievement tests in third through sixth grade compared to average scores in the 60th percentile of classmates who remained in school. Analysis of cumulative records of Chicago Public School students showed that absences and academic grades for three consecutive years ending in the fourth grade identified nearly 90% of the dropouts (Hess et al., 1989).

Some research suggests that the process of dropout may begin even prior to children entering school (Jimerson, Egeland, Sroufe, & Carlson, 2000). In a study that utilized data from a 19-year prospective longitudinal study of children at risk, the child’s early home environment and quality of early caregiving emerged as powerful predictors of whether students remained in school or dropped out. Statistical analyses from this same study examined variables measured through sixth grade and their relative strength in predicting dropout status at age 19. The most informative variables (in order) were behavior problems, quality of caregiving, parent involvement, peer competence, gender, and socioeconomic status. Findings from this study and the other retrospective studies are compelling and suggest the important role early intervention may play in working with this population of students.

Identifying students who may be at risk of dropout and preventing the process of disengagement and subsequent withdrawal from school are important because the costs for students who drop out of school are significant. These students are at
greater risk for engaging in activities commonly associated with negative life outcomes. For example, youth who do not complete high school are more likely to experience unemployment, underemployment, incarceration, and long-term dependency on social services (Coley, 1995; National Center for Educational Statistics, 1995; Wagner, D’Amico, Marder, Newman, & Blackorby, 1992). In addition, costs of providing for dropouts and their families were estimated to be about $76 billion a year, close to $800 annually per taxpayer (Joint Economic Committee, 1991).

Concerns about the problem of dropout resulted in the identification of “school completion” as a national goal and a commitment to increasing the high school completion rate to 90% by the year 2000 (National Educational Goals Panel, 1995). Just under 20 states have achieved a 90% high school completion rate and rates of completion are much lower for various populations, including students from low socioeconomic backgrounds, of Hispanic and Native American descent, and those with disabilities. The individual and societal costs of this national problem point to the critical need for effective prevention and intervention efforts.

PREVENTION AND EARLY INTERVENTION

Slavin (1999) stated, “Success in the early grades does not guarantee success in later schooling, but failure in the early grades virtually ensures failure in later schooling” (p. 105). Prevention and early intervention are key to alleviating multiple problems faced by children and youth in schools across our nation. For example, educators have successfully implemented strategies and programs to prevent or decrease the occurrence of problems such as aggression and violence, substance abuse, and early sexual behavior (Minke & Bear, 2000). Programs have also been developed to promote social and emotional competence (Zins, Elias, Greenberg, & Weissberg, 2000) and school readiness (Panter & Bracken, 2000). Programs have been used to prevent academic failure and promote reading skills among young students (Clay, 1985; Slavin, Madden, Dolan, & Wasik, 1996). These examples illustrate the effectiveness of working with children during their preschool and elementary years to prevent the escalation of more intensive problems in adolescence and adulthood.

Programs designed to improve school completion rates would be greatly enhanced by a focus on early identification and prevention, in addition to remediation efforts at the secondary level. To prevent students’ gradual withdrawal from school, efforts must be made to put strategies in place that build students’ connections with or engagement in school and learning (Grannis, 1994). This focus is especially relevant for students in elementary school who begin to show signs of disengagement as precursors of dropout. Indicators of disengagement identified in the literature include irregular attendance in kindergarten, an early pattern of absences, a history of retention, high numbers of school transfers, and low academic achievement in the early grades (Oakland, 1992). Given a conceptual understand-
ing of the process of dropout, it seems a logical and promising approach to address these alterable variables during the elementary years.

STUDENT ENGAGEMENT IN SCHOOL AND LEARNING

Attendance is one of the most overt indicators of a student’s engagement in school. However, an intervention that focuses exclusively on improving attendance perpetuates an incomplete and simplistic view of issues related to truancy and dropout. We must recognize the importance of promoting school completion and facilitating student engagement with school and learning, which requires a more comprehensive understanding of the process of dropout and necessitates a complementary model of intervention to address the complexity of associated issues. Identified as a prerequisite of school completion, student engagement in school and learning has been conceptualized as students’ personal investment in learning (Maehr & Midgely, 1996). Finn (1989, 1993) suggested that for students to remain in school and graduate, students must actively participate in school and have a simultaneous feeling of identification with school. Similarly, Wehlage, Rutter, Smith, Lesko, and Fernandez (1989) proposed that educational engagement and social bonding were necessary ingredients for successful school completion. Several goals in working with students who are placed at risk for early school withdrawal include ensuring regular school attendance, supporting the acquisition of academic and social skills, and fostering a personal investment in learning.

According to McPartland (1994), effective programs aimed at promoting school engagement and completion must include four broad intervention components. These include providing opportunities for success in schoolwork, creating a caring and supportive environment, communicating the relevance of education to future endeavors, and helping with students’ personal problems. Operationalizing these components yields specific strategies. For example, providing intensive reading instruction in the early grades may help to facilitate success in schoolwork. Linking students with adult mentors or older peers may help to build positive relations within the school. And providing access to counseling or counseling resources for students and families may be a way of addressing students’ personal problems. These four broad components encompass intervention strategies that, in their entirety, provide capacity to build student connections to school within the contexts of the school, family, and community.

INTERVENTION STRATEGIES/PROGRAMS

A review of the literature associated with dropout indicates that the majority of empirical studies document predictors and variables descriptive of the dropout problem. A relatively small proportion of studies describe interventions to increase
school completion or decrease the rate of dropout (Doll & Hess, 2001). Even fewer provide data documenting intervention effectiveness. We know a great deal about who is at risk of dropping out, but we have very few empirically validated studies to provide definitive answers about how to effectively keep kids who are at risk of dropout engaged in school (Lehr, Hansen, Sinclair, & Christenson, 2003). Our review of the literature highlights the need for quality programs that are developed based on a good conceptual understanding of both dropout and student engagement. In addition, there is a critical need for clear documentation of programs and procedures, as well as rigorous evaluation or experimental studies to validate their effectiveness.

During the last 10 years, efforts at the Institute on Community Integration at the University of Minnesota have focused on developing and implementing Check & Connect, a model targeting students placed at risk for leaving school early, and investigating its effectiveness to promote student engagement and reduce dropout rates.

Check & Connect was originally developed as part of an initiative funded by the U.S. Department of Education, Office of Special Education Programs to address dropout prevention and intervention for middle school students with learning and emotional/behavioral disabilities. Using an experimental design, two cohorts of seventh graders with the target disabilities were randomly assigned to either the treatment or contrast group. At the end of ninth grade, significantly more students who were in the treatment group were enrolled in school (91% vs. 70%), persisted in school (85% vs. 64%), and were on track to graduate (68% vs. 29%; Sinclair, Christenson, Evelo, & Hurley, 1998). Preliminary analyses of two additional Check & Connect replication studies targeting secondary students have demonstrated a similar program impact on student levels of engagement with school.

PURPOSE

In 1997, a metro-area county of Minnesota secured funding to implement Check & Connect, beginning with elementary school-age youth in an effort to prevent later truancy. The decision was made to adopt the program in five of the county’s school districts selected for their relatively high concentration of low-income families (25% participation in the free/reduced-price lunch program, on average). Check & Connect staff from the University of Minnesota were primarily responsible for implementing and adapting the model for use with younger students and family members, as well as conducting the evaluation.

The purpose of this article is to provide a general overview of Check & Connect and report information about program impact for students referred during the elementary school years. A description of the program is provided, along with a review of key components of the model. Results from an evaluation of its

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1See the Check & Connect website at http://www.ici.umn.edu/checkandconnect
effectiveness are presented for students who received at least 2 years of intervention. In addition, teacher perceptions of overall program implementation and effectiveness are described.

CHECK & CONNECT OVERVIEW

Check & Connect was originally designed to promote student engagement in school and learning for youth placed at risk for dropping out of school. The goal of the program is to help students attend school regularly, participate actively in school, and get a good start on the path toward graduation. Key features of the model include:

- **Relationship Building**—fostering mutual trust and open communication, nurtured through a long-term commitment that is focused on students’ educational success.
- **Routine Monitoring of Alterable Indicators**—systemically checking warning signs of withdrawal (attendance, academic performance, behavior) that are readily available to school personnel and that can be altered through intervention.
- **Individualized and Timely Intervention**—providing support that is tailored to individual student needs, based on level of engagement with school, associated influences of home and school, and the leveraging of local resources.
- **Long-Term Commitment**—committing to stay with students and families for at least 2 years, including the ability to follow students during transitions across school levels and follow highly mobile youth from school to school and program to program.
- **Persistence Plus**—maintaining 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.”
- **Problem Solving**—promoting the acquisition of skills to resolve conflict constructively and to look for solutions rather than a source of blame.
- **Affiliation with School and Learning**—facilitating students’ access to and active participation in school-related activities and events.

The person responsible for implementing Check & Connect has been referred to as a “monitor.”² The monitors work closely with students, their families, and education professionals.
school personnel to keep education a salient issue among all key stakeholders. Ideally, monitors work with the same students and their families over several years. Students meet individually with their monitor on a weekly basis, in addition to incidental contact throughout the week. Monitors regularly engage in reciprocal communication with families and school staff regarding the student’s progress. Although the goal of Check & Connect is to promote regular attendance and engage students in learning and school, the strategies used are individualized and highly dependent on the needs of the students and family within the context of the school and community. Activities may range from transporting a child to school, encouraging parents to attend school conferences, reinforcing homework completion after school, or linking a family to a community resource.

Monitors’ individualized support operates within a framework comprised of two components: checking and connecting. The check component is designed to routinely assess student engagement in school and to determine to what extent students are engaged or are showing signs of school withdrawal. Monitors systematically check indicators of engagement on a daily basis and document them using a monitoring sheet. It is important to note that engagement is measured according to several indicators that are alterable; educators and parents can influence these factors and help to affect change. The alterable indicators include tardiness, absenteeism, behavior referrals, detention, suspensions, and academic performance.

The connect component includes two levels of student-focused interventions developed to maximize the use of finite resources: basic intervention, which is the same for all students, and intensive interventions, which are more frequent and individualized. The two levels of intervention help the monitors to manage their time and resources with efficiency and responsiveness. All students receive basic interventions (even if receiving intensive interventions). Basic interventions begin with introductions, sharing general information about the monitor’s role and the Check & Connect model with the student and his or her family. However, the substance of the basic intervention is a deliberate conversation with each student—at least weekly for elementary students—that includes a discussion of the student’s progress in school, the importance of regular attendance and staying in school, and review and practice of problem-solving steps used to resolve conflict and cope with daily challenges.

Indicators of student engagement with school are used to guide the delivery of more intensive interventions. Connect strategies typically correspond to key constructs of student engagement (participation and identification with school) and are developmentally appropriate to grade levels. The individual needs of the student dictate what specific intervention strategy is used. Intensive interventions may include helping parents access social services, initiating comprehensive planning services (wrap-around) for students, or connecting students with tutors.

Integrity of intervention implementation across monitors is addressed by monthly collection and review of completed monitoring sheets documenting indicators of engagement (e.g., attendance, grades, suspensions) and intervention
activities (e.g., number of parent or student contacts, anecdotal descriptions of goal-setting or problem-solving sessions). In addition, monitors meet weekly with a supervisor for staff development, problem solving, and case discussion.

METHOD

Participants

In September 1997, Check & Connect began operating at nine elementary schools as part of a collaborative effort between a county, several school districts, and the University of Minnesota. One year later, Check & Connect expanded to include referrals from two additional elementary schools. The elementary schools are located in five suburban school districts near a large urban area in the midwestern United States.

Referrals to Check & Connect were made by school staff throughout each school year and reviewed by a team of individuals (e.g., principal, Check & Connect monitor, nurse, teacher). Referrals were based on criteria aligned with the alterable indicators of engagement. Primary consideration was given to those students with a history of poor attendance. For students with limited attendance history (e.g., students in kindergarten and first grade), attendance of older siblings was taken into consideration. All participating schools were expected to attempt prereferral interventions, such as phone calls to discuss concerns about the student’s apparent disengagement from school, situation-specific outreach efforts (e.g., lice treatment), or notification letters concerning mandatory attendance laws.

Students targeted for Check & Connect were typically absent or tardy to school 12% or more of the time based on enrollment during the previous school year or months prior to referral. Other referral criteria that were considered included factors that have been shown to increase the likelihood of truancy and withdrawal from school. These factors included the existence of low levels of parent support for learning, sibling history of excessive absences or dropout, inconsistent completion of schoolwork, passive classroom presence, or other academic and behavioral problems.

Efforts to obtain parent permission and student participation were extensive and began with a letter providing information about the program sent along with a consent form. Efforts to promote participation also included multiple phone calls and home visits when necessary. Often, the relation between a monitor and family members began during the persistent contacts that monitors made to gain permission. Participation was voluntary and parents could withdraw their child at any time. Refusal rates were minimal following this procedure.

This application of the Check & Connect model was intended to serve students and families for a minimum of 2 years and up to 5 years. At the time of evaluation, about 40% ($n = 147$) of the students were in the program at least 2 years, including
27% with the program 3 full years or more. Another 24% \((n = 88)\) were in the program at least 1 school year. The remaining 35% \((n = 129)\) participated in Check & Connect for less than 1 full school year (either recently referred to the program or their cases were closed prematurely due to mobility). Because the targeted population included youth whose process of school withdrawal and disengagement had historical precedence, the duration of reengaging youth in a stable and consistent pattern requires an extended period of time (Finn, 1989, 1993). Because substantial sustainable changes in truancy-related behaviors were not expected before youth received at least 2 years of Check & Connect, the focus of this study is on those 147 students.

The mean age at referral for the 147 students was 8 years 11 months and ranged between 5 and 12 years. The majority of these participants were of European American origins (75%), with a relatively even distribution of male and female students (see Table 1). A large percentage of students were eligible for Title I and/or Special Education services (52% and 32%, respectively). Only three students were English language learners. Slightly more than half of the students were in kindergarten through third grade at the time of referral; the remaining 41% were in the fourth through sixth grades. About half of the students transitioned to and were attending middle schools or junior high schools at the time outcome data were reported.

In addition to these background characteristics, program staff systematically collected a number of contextual factors highly associated with dropping out. These factors include the number of adults with whom the child resides, grade retention, sibling history of educational challenges, services to the family from a county social worker, and history of educational neglect. For research purposes, all background information were dummy coded (given a value of 0 or 1) and added to the baseline ratings of engagement for a maximum possible rating of 15. On average, the students were associated with a risk score of 5.7, on a scale of 0 to 15. Over 85% of the elementary students were associated with a score between 4 and 12. At least one out of every four students lived in a family that received services from a county social worker and about 66% resided with a single parent (see Table 1). Student levels of engagement at baseline indicated that absenteeism was a predominant concern for about 60% of referrals, with tardiness a leading concern for nearly 40% of referrals.

The characteristics of students relevant to school completion are fairly comparable between the three duration groups. No statistically significant differences were found between the majority of variables, including baseline absences, baseline tardiness, adult with whom the youth resides, gender, and Title I eligibility. The groups differed, however, in terms of three baseline characteristics: ethnic composition, special education services, and cumulative risk. Students of color tended to be more mobile, moving out of the county within the first months or years of intervention. Also, the initial group of students referred to the program (i.e., members of the longest duration group) was more likely to have a disability and be associated with greater cumulative risk factors.
### TABLE 1
Student Characteristics (%) by Duration with Check & Connect

<table>
<thead>
<tr>
<th>Background Characteristic</th>
<th>&gt; 2 Years&lt;sup&gt;a&lt;/sup&gt;</th>
<th>1–2 Years&lt;sup&gt;b&lt;/sup&gt;</th>
<th>&lt; 1 Year&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Statistical Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>European American, Asian</td>
<td>75</td>
<td>68</td>
<td>55</td>
<td>**</td>
</tr>
<tr>
<td>African, Latino, Native</td>
<td>25</td>
<td>32</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>47</td>
<td>43</td>
<td>52</td>
<td>ns</td>
</tr>
<tr>
<td>Male</td>
<td>53</td>
<td>57</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td><strong>Special needs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special education</td>
<td>32</td>
<td>20</td>
<td>15</td>
<td>**</td>
</tr>
<tr>
<td>Title 1</td>
<td>52</td>
<td>44</td>
<td>50</td>
<td>ns</td>
</tr>
<tr>
<td>English language learner</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>ns</td>
</tr>
<tr>
<td>County social worker</td>
<td>28</td>
<td>35</td>
<td>42</td>
<td>ns</td>
</tr>
<tr>
<td><strong>Grade level at referral</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K–3</td>
<td>59</td>
<td>63</td>
<td>66</td>
<td>ns</td>
</tr>
<tr>
<td>4–6</td>
<td>41</td>
<td>37</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td><strong>Resides with</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two adults</td>
<td>34</td>
<td>43</td>
<td>43</td>
<td>ns</td>
</tr>
<tr>
<td>One adult</td>
<td>66</td>
<td>57</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td><strong>Age at referral in years M (SD)</strong></td>
<td>8.9 (1.7)</td>
<td>8.9 (1.7)</td>
<td>8.4 (1.9)</td>
<td>ns</td>
</tr>
<tr>
<td><strong>Baseline engagement levels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of absences</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 5% of the time</td>
<td>17</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>6 to 10% of the time</td>
<td>20</td>
<td>24</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>11 to 15% of the time</td>
<td>33</td>
<td>33</td>
<td>26</td>
<td>ns</td>
</tr>
<tr>
<td>16 to 100% of the time</td>
<td>30</td>
<td>29</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Rate of tardiness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 to 5% of the time</td>
<td>42</td>
<td>51</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>6 to 10% of the time</td>
<td>20</td>
<td>12</td>
<td>17</td>
<td>ns</td>
</tr>
<tr>
<td>11 to 15% of the time</td>
<td>15</td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>16 to 100% of the time</td>
<td>23</td>
<td>25</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Cumulative baseline risk M (SD)</td>
<td>5.7 (2.2)</td>
<td>5.0 (1.9)</td>
<td>5.1 (2.1)</td>
<td>*</td>
</tr>
<tr>
<td><strong>Participation status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School level (2000–01)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>46</td>
<td>85</td>
<td>95</td>
<td>**</td>
</tr>
<tr>
<td>Secondary</td>
<td>54</td>
<td>15</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open</td>
<td>89</td>
<td>51</td>
<td>25</td>
<td>**</td>
</tr>
<tr>
<td>Closed</td>
<td>11</td>
<td>49</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

Note. ns = statistically nonsignificant, * = statistically significant at the .05 level, ** = statistically significant at the .01 level. Baseline risk was documented at referral and includes: prior rates of absences (coded 0–3, where 0 = successfully engaged and 3 = highly disengaged) and tardies (coded 0–3). (continued)
Participation status (case open or closed as of 2000–2001 data collection) and school level (elementary, secondary) also differed as a function of duration. First, significantly more students transitioned into middle school or junior high settings the longer they were in the program ($p < .001$). In addition, nearly 90% of students with Check & Connect at least 2 years were open, active cases at the time outcome measures were computed, compared to 52% of students with the program at least 1 year, and only 25% of students with the program less than a year ($p < .001$). Cases were closed primarily because of mobility (88%). About a third of these families moved within the county, but outside the boundaries of the participating school districts. The remaining cases (12%) were closed primarily because parents withdrew their children from the program (e.g., child no longer truanting, parents started home schooling their child).

Procedures

Two types of indicators were used to assess the effectiveness of Check & Connect. These measures included:

- Direct measures of student participation including tardies (arriving late to school) and absences (including both excused and unexcused).
- Measures of staff perceptions of student engagement and program effectiveness determined from responses on the School Staff Feedback Survey administered annually each spring to teachers and resource staff in the participating elementary schools.

**Direct measures of student participation.** Student attendance (absences and tardies) was used as an indicator of student participation, reported as change over baseline. Outcome data were based on the most recent 4 months of service for active cases (at the time of data analysis) and the last 4 months youth were enrolled in the program for closed cases. Baseline attendance was established for each student using attendance data collected for the year and months prior to implementing the Check & Connect intervention. Throughout the intervention pe-
period, the Check & Connect monitor collected up-to-date information regarding absences and tardies from attendance personnel at each elementary school every month. This information was recorded as raw numbers and entered into the Check & Connect database for each student. All attendance data were then converted to a percentage of days absent and a percentage of days tardy relative to the total number of days enrolled for evaluation purposes. Information about students’ academic and social/behavioral performance was also collected routinely to inform program staff about student levels of engagement with school. Because baseline measures were not available, these data are not included here as indicators of program effectiveness.

School Staff Feedback. The Check & Connect School Staff Feedback Survey was developed to systematically and anonymously solicit input from building staff about general program implementation practices and to measure staff perceptions of effectiveness. School staff, including general education teachers, special education teachers, administrators, and support staff who were familiar with Check & Connect, were asked to rate six statements along a continuum ranging from strongly disagree to strongly agree. Survey items addressed the extent to which monitors (a) communicated with staff about how students are doing, (b) checked in regularly with students, (c) served as useful resources, and (d) worked collaboratively with teachers. In addition, the survey was structured to investigate whether students were showing signs of positive change (e.g., increased attendance, more attention to homework, increased interest in school) and whether parents were more supportive of their child’s education (e.g., better follow-through, more constructive communication between home and school, more attention to homework completion). Staff were also given an opportunity to write in comments about the Check & Connect program. The survey has been administered annually each spring to teachers in the participating elementary schools. In the spring of 2001, 120 school staff completed the survey.

RESULTS

Data for absences and tardies were examined separately for students who received Check & Connect for 2 years or more (n = 147). Four categories indicating level of engagement were developed to assess change over time and overall effectiveness. Categories included (a) Engaged, (b) Mildly Disengaged, (c) Moderately Disengaged, and (d) Highly Disengaged. The criteria for the categories emerged from research literature suggesting students who are absent less than or equal to 5% of the time (Engaged) are unlikely to drop out of school, whereas those who are absent more than 15% of the time (Highly Disengaged) are at high risk for dropping out (Rumberger, 1995).
Change in Tardies: Arriving Late to School

Results are first reported in terms of tardies. Days and percentage time arriving late to school were converted into the following groups:

- Engaged = tardy 0–1 day/month » 0–9 days/year » 5% of time
- Mildly Disengaged = tardy 2 days/month » 10–18 days/year » 6–10% of time
- Moderately Disengaged = tardy 3 days/month » 19–27 days/year » 11–15% of time
- Highly Disengaged = tardy 4–20 days/month » 28–175 days/year » 16–100% of time

The incidence of tardiness to school has declined (see Figure 1). About 86% of students were engaged and arriving to school on time (the equivalent of 0–1 day tardy per month) during the spring of 2001. This reflects an improvement of 104% over baseline behavior. Prior to referral, 58% of Check & Connect students were in the disengaged categories for tardiness, compared to 14% after at least 2 years with the program. This change in tardiness to school—a difference of 44 percentage points—reflects a 76% reduction in the incidence of students across the disengaged categories.

It is important to consider tardiness—or arriving late to school—in relation to school level, because it is an issue relevant primarily to the elementary school setting. The secondary schools do not track tardiness to school per se, but rather docu-

![FIGURE 1](https://example.com/fig1.png)  
**FIGURE 1** Level of engagement by tardiness to school at baseline and last 4 months at point of postmeasurement for 147 students with Check & Connect for at least 2 years.
ment class periods skipped. Yet, the results of additional analyses ruled out the plausibility that the significant decline in tardiness was a function of change in school setting (e.g., the switch from elementary to middle or junior high school). Over 85% of the students in secondary settings had not skipped a class at all during the spring of 2001. Only 21 of the students (14%) had skipped any classes. And of these youth, the highest frequency was in the Engaged–no risk category (≤5% of the time). Analyses of tardiness by school yielded no statistically significant differences between sites.

**Change in Absences**

The second outcome variable examined is absences (excused and unexcused combined). Days and percentage time absent were converted into the same groups:

- **Engaged** = absent 0–1 day/month ≈ 0–9 days/year ≤ 5% of time
- **Mildly Disengaged** = absent 2 days/month ≈ 10–18 days/year ≈ 6–10% of time
- **Moderately Disengaged** = absent 3 days/month ≈ 19–27 days/year ≈ 11–15% of time
- **Highly Disengaged** = absent 4–20 days/month ≈ 28–175 days/year ≈ 16–100% of time

Absences from school have declined (see Figure 2). Prior to referral, 83% of Check & Connect students were in the disengaged categories for absences, compared to 60% after at least 2 years with the program. This change in absences—a difference of 23 percentage points—reflects a 28% reduction in the incidence of students across the disengaged categories.

About 40% of Check & Connect students were engaged and regularly attending school (the equivalent of 0–1 day absent per month) during the spring of 2001. This reflects an improvement of 135% over baseline behavior. Absences differed between school levels. Nearly half of the students who remained in an elementary school setting (48%) were successfully engaged as a function of absences, compared to 34% of these students who had transitioned to a secondary or alternative setting in the spring of 2001.

Analyses of absences by school yielded no statistically significant differences between sites. However, differences were found between school levels, with generally lower rates of absenteeism at outcome in the elementary settings. In terms of absences, students in elementary settings relative to secondary settings were more likely to be engaged (49% vs. 30%) or mildly disengaged (24% vs. 22%) and less likely to be moderately disengaged (15% vs. 18%) or highly disengaged (12% vs. 31%; $p < .05$). Note that no statistically significant differences in baseline absences were found between school levels.
Pre-post changes in students’ participation as a function of absences and tardies combined were also examined (see Figure 3). This analysis was intended to assess the change in total time a student was physically present in school and provides information comparable to the legal definition of educational neglect or truancy. Consider a student who was absent from school 30% of the time prior to referral. Once placed in Check & Connect, the student is no longer absent full days, but instead arrives late about 30% of the time. Although an extreme example, this student has doubled the time present in school and therefore has demonstrated improvement. About 63% of the Check & Connect students with the program for at least 2 years improved their overall attendance. Furthermore, the average percentage of time absent in Spring 2001 for this group was 6%, on the lowest end of the mildly disengaged category. Another 15% remained stable, with no further decline in their attendance patterns. The average percentage of time absent in Spring 2001 for this group was 11% (on the lowest end of the moderately disengaged category). About 22% declined in their attendance patterns from baseline; their average percentage of time absent in Spring 2001 was 19% and all had transitioned to middle or junior high school.

Analyses of composite attendance by school yielded no statistically significant differences between elementary sites when school levels were controlled for. However, significant differences were found between secondary sites even when accounting for school level ($p < .05$). Students in two of these seven secondary settings showed especially positive results. At one school, 100% of the students
showed improvement; in the other, 82% of the students showed improved attendance, whereas the remaining 18% demonstrated stable attendance. Analyses of all baseline characteristics on the students in the two secondary settings that showed greater improvement yielded no statistically significant differences relative to students in the other five settings.

Comparison Information

Although it was not within the scope of this project to include a matched comparison group, district information gathered from the Minnesota Department of Children, Family, and Learning website was used to provide school-level comparison information in addition to pre-post student-level outcome data. Average attendance rates along with building demographic information (fall population and percentage participation in free/reduced-price lunch, English language, and special education) were collected for the 11 elementary referral schools in addition to all of the elementary schools from nonparticipating districts within the same county with matching building demographics (n = 6). Analyses of average annual attendance rates over 2 academic years (1998–1999 to 2000–2001) for comparison schools (96.02% vs. 95.98%) and referral schools (96.05% vs. 96.09%) were not statistically significant. In contrast, the average attendance rate for students who received Check & Connect for at least 2 years improved from 87.24% to 89.37% (p < .05). Although this comparison information is limited, we believe it provides some useful contextual information from which to view results.
School Staff Feedback

The Check & Connect School Staff Feedback Survey has been administered each spring to obtain input from building staff about general program implementation practices, degree of student engagement, and perceived program effectiveness (see Table 2). The opinions of the school staff have been very positive and have also shown improvement over time. Specifically

- About 94% or more of respondents indicated that monitors were meeting program expectations by communicating regularly and working collaboratively with teachers, checking in regularly with students, and serving as useful resource people.

- Over 90% of the staff indicated that students were showing improvement in engagement as indicated by increased attendance, more attention to homework completion, and increased interest in school.

- School staff reported that about 87% of parents were more supportive of their children’s education as indicated by better follow-through, more constructive communication between home and school, and more attention to homework completion.

Analyses of staff ratings by school yielded no statistically significant differences between sites, using a chi-square likelihood ratio.

Staff were also given an opportunity to write in comments about their involvement with Check & Connect. About 62% of staff provided additional comments ($n = 75$). The majority of comments were positive (85%). The remaining comments

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>% Agree to Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role of the monitor</td>
<td></td>
</tr>
<tr>
<td>Communicates regularly with teacher</td>
<td>98</td>
</tr>
<tr>
<td>Checks in regularly with students</td>
<td>94</td>
</tr>
<tr>
<td>Useful resource person</td>
<td>97</td>
</tr>
<tr>
<td>Works collaboratively with staff</td>
<td>98</td>
</tr>
<tr>
<td>Change in behavior</td>
<td></td>
</tr>
<tr>
<td>Students showing improvement</td>
<td>91</td>
</tr>
<tr>
<td>Parents more supportive</td>
<td>87</td>
</tr>
</tbody>
</table>

Note. Responses weighted by number of students identified by each rater. Number of respondents for Spring 2001, $n = 120$; Spring 2000, $n = 123$; Spring 1999, $n = 85$; Spring 1998, $n = 75$. 
were either neutral (11%) or negative (4%). Examples of positive comments are provided here.

- **Strengths:** Begins working with students at an elementary level and provides carryover as students progress to middle school and beyond. Program also helps develop value of being responsible and following through on commitments. Added bonus is that kids learn that school can be fun!
- **A terrific way to encourage a positive adult–child relationship in a learning setting—very supportive!**
- **I think this is a great program. It’s essential that we catch attendance problems early and impress on students and parents that good attendance (and on time) is essential.**
- **The children love to have the connection with such a positive role model as [our monitor]. She really connects with them emotionally. Parents are more in tune when they know they are being held accountable.**

Neutral comments focused on suggestions for programmatic changes (e.g., increased efforts directed toward assisting with homework) or general comments about student performance. Negative comments were few in number and included perceptions of limited student progress and a desire for more involvement/communication from the Check & Connect monitor.

**DISCUSSION**

Check & Connect has been implemented with a variety of student populations including students with learning and emotional/behavioral disabilities, students in urban and suburban settings, and students attending middle school and high school. Studies using longitudinal pre-post and experimental designs have demonstrated its effectiveness (Sinclair et al., 1998). This article describes one of three longitudinal replication studies completed since the Check & Connect model was first developed and researched. We report here on the effectiveness of the model for students who were referred in the elementary grades and received intervention for at least 2 years.

**Effectiveness of the Intervention**

Study findings provide evidence that elementary school-age youth placed at high risk for truancy and dropping out can be reengaged in school and directed on a path toward school completion. Crane (1998), a domestic policy advisor for the federal government, identified a set of guidelines to facilitate the critical examination of social programs. He argued that programs must show evidence of a substantial ef-
fect on the lives of participants to warrant the significant investment needed for larger scale implementation. A substantial effect on the lives of participants is defined, in part, as a reduction in the incidence of a serious social problem by more than 20%. To clarify, the emphasis is on the relative change rather than the difference in raw percentage points. For example, reducing the proportion of individuals in a group who have dropped out of school from 30 to 20% is substantial, as reflected by a 33% reduction in the target behavior, although this reflects a difference of only 10 percentage points.

Findings from this study suggest Check & Connect is working to increase levels of engagement in school, as evidenced by substantial changes in attendance—a direct measure of student participation in school. Results indicated that the percentage of students who were engaged (as indicated by absences and tardies) more than doubled; a parallel reduction in high-risk behaviors is clearly in excess of Crane’s 20% criteria. Attendance is a critical indicator of student success in school and research suggests a strong correlation between attendance and achievement. For example, in Minnesota, statistics showed that on average, students with 97% attendance or greater outperformed students who attended less than 80% of the time by nearly one standard deviation on a test of reading (Kids Mobility Project, 1998).

Teacher perceptions of program effectiveness affirm the direct measures of students’ participation. The vast majority of school staff reported that students who participated in Check & Connect were more engaged in school and that their parents were more supportive of their child’s education. Regular attendance is an essential prerequisite for student learning and may also be an indicator of the degree to which parents are engaged in their child’s education. Multiple retrospective studies have found a strong correlation between dropout and early signs of school withdrawal—including attendance—as early as second or third grade. A focus on improving attendance and preventing truancy by working with students and partnering with families in the early years may promote the acquisition of academic and behavioral skills leading to successful school completion.

Methodological Reflections and Remaining Questions

The approach taken to evaluate the Check & Connect program incorporated specific strategies intended to minimize threats to internal and external validity, given the parameters of resources available. To compensate for the lack of access to a comparison group, the evaluation design was structured to assess program impact using change over baseline behavior on multiple observable measures. Furthermore, criterion-referenced outcome indicators (percentage change in attendance indexes) were used to reduce bias in the absence of an external evaluator. The community that adopted the program established clearly defined goals, such that “students referred for excessive absences and tardies will attend school 95% or more of the time.” Essentially, the county wanted to minimize truancy at the secondary level by address-
ing educational neglect at the elementary level. Thus, program impact was measured primarily in reference to this specific goal. Supplemental indicators of students’ engagement with school were also routinely collected to assess educational progress, including course grades, out-of-school suspensions, other disciplinary infractions, and school staff perceptions. Further analysis of these indicators is being conducted and will lead to additional information about program impact.

Measuring exit status from school (dropout or graduate) as a dependent variable for youth who participate in early dropout prevention programs is critical. In the era of accountability, school administrators and policy makers are increasingly required to provide evidence of program effectiveness before funds can be allocated for new expenditures. Estimated costs associated with implementation of this replication study began at about $1,000 per student annually and increased an average of 4% each year due largely to increases in the cost of personnel, which is the primary expense category (Sinclair & Lehr, 2001).

Implications for Practice and Directions for Future Research

The students who were referred in elementary school and transitioned to middle school or junior high school showed a disproportionate decline in attendance from baseline. School transitions have been associated with increases in emotional, academic, and behavioral difficulties, especially between elementary to middle school or junior high, and again to high school (Eccles et al., 1993). Normative school transitions can be an especially stressful time for youth and may result in educational disengagement and subsequent withdrawal from school (Felner et al., 1993; Rumberger, 1995). Factors contributing to increased vulnerability during transitions (especially into middle or high school) include increased expectations for functioning independently, increased complexity of the school environment (e.g., larger school, multiple classes), large numbers of new and unfamiliar peers, and fewer opportunities for extended time spent with students. Signs of disengagement (e.g., lower grades, higher rates of absenteeism, and increased behavioral problems) may be especially pronounced and enduring for students who are already placed at risk due to other life circumstances.

Findings from this study suggested especially positive results in two of the secondary level settings. Although review of the data did not yield any additional information to suggest reasons why attendance for students in these two schools was better, plausible hypotheses to investigate include focusing on school-level variables that may have fostered student engagement. School-level variables such as school structure and climate, academic curriculum offered, and the relationships between students and teachers can potentially play a significant role in keeping students engaged in school (Lee & Burkham, 2003). Although initial research with Check & Connect targeted students in middle school, more research on the effects of
intensive and sustained interventions during this challenging time and contextual factors that enhance student success and effectiveness of the intervention are needed.

With each Check & Connect replication study, issues associated with essential and influential components affecting effectiveness arise and additional avenues of research emerge. To better understand the impact of Check & Connect, for example, it will be useful to identify contextual variables associated with improvements and declines in student attendance. For example, research has demonstrated that the context of the school environment plays a role in promoting student engagement (Bryk & Thum, 1989). Caring school environments enhance opportunities for student engagement by developing supportive relationships and by increasing opportunities for success in various aspects of the school experience (e.g., academic, extracurricular, peer relations). Additional research must be conducted to understand the influence of a school’s environment and its complex interaction with student-level variables and the effectiveness of interventions. Efforts to assist students who are at risk of school failure to meet the demands of the school environment are enhanced when a school community is willing and able to be flexible and work to establish connections for all students.

As school districts and communities search for ways to meet high educational standards for all of their youth, school completion and students’ engagement with school become critical first steps. Efforts to address the problem of dropout by facilitating student engagement as a means of promoting successful school completion must begin as early as possible. The demand is high for data-based approaches to address dropout prevention and promote school completion. The path toward dropping out of school begins early in a child’s life, and this study provides evidence that Check & Connect is one model that can be effectively applied at the elementary level.

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REFERENCES


