The Effect of the Primary Project Program on School Attendance in Early Childhood

Abstract

Chronic absenteeism in early childhood is associated with numerous adverse outcomes throughout childhood and adolescence. Interventions are needed to prevent chronic absenteeism and support child development in early education. The present study investigated the effect of Primary Project, a school-based prevention program, on average school attendance among chronically absent students in kindergarten through second grade ($N = 249$). Results showed that students randomly selected to participate in Primary Project had a higher attendance percentage at the end of the year compared to the control group. This effect was not moderated by grade level nor by sex. Results show that Primary Project is a useful intervention for schools to improve student engagement via attendance. Additionally, Primary Project is a potential intervention tool for school psychologists to improve school climate, promote children's social and emotional wellbeing, and increase capacity for school mental health services.

Keywords: School engagement, attendance, chronic absenteeism, Primary Project, secondary prevention

The Effect of the Primary Project Program on School Attendance

Chronic absenteeism in early childhood is a marker of low school engagement and has been associated with a multitude of adverse outcomes, including lower reading levels (Marsh, 2019) and risky behavioral outcomes in adolescence (e.g., substance abuse; Robinson & Courtney, 2018). School-based prevention programs such as Primary Project (formerly called Primary Mental Health Project [PMHP]) have the potential to increase attendance and consequently prevent other adverse long-term outcomes. The purpose of this study was to determine whether Primary Project effectively reduced the incidence of absences among preschool children with a history of chronic absenteeism. Specifically, we investigated whether children who received Primary Project services had (a) higher school attendance than expected, based on their individual attendance history; and (b) higher attendance levels than peers who shared similar characteristics but did not receive Primary Project services.

Chronic Absenteeism: Background

Chronic absenteeism includes excused or unexcused absences during 10% or more of the school year, i.e., at least 15-18 days out of a typical 180-day academic year (Chang & Romero, 2008; U.S. Department of Education, 2019). Several studies have been conducted on the prevalence of chronic absenteeism in early childhood. Using nationally representative data collected from the 1998 Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS) study, Romero and Lee (2007) noted that approximately 11% of kindergarteners, 9% of first graders, and 6% of third-graders were chronically absent by the above definition.

According to the U.S. Department of Education, students deemed excessively absent in preschool were substantially less likely to read at their grade level by third grade (Marsh, 2019).

In turn, lower reading levels at this age correlated with an increased risk of dropping out of high school compared to their counterparts who read on or above their reading level by third grade (Marsh, 2019). Excessive absences throughout primary and secondary school have also been associated with later substance use, internalizing and externalizing issues for the child, school dropout, and delinquency (Gubbels et al., 2019; Robinson & Courtney, 2018). There is also evidence that chronic absences are more severely impactful for students from low-SES backgrounds, leading to lower scores on kindergarten literacy development (Ready, 2010).

One family predictor of school absenteeism and school dropout is poverty, with higher absenteeism rates for children from economically-disadvantaged families (Şahin et al., 2016). Romero and Lee (2007) found that kindergarten students from families below the federal poverty level (FPL) were four times as likely to be chronically absent than families above 300% of the FPL. For first grade students, the proportion was 3.6:1, meaning that students living below the FPL were approximately 3.6 times more likely to be chronically absent than their counterparts that are 300% above the FPL (Romero and Lee, 2007).

Several risk factors for chronic absenteeism have been identified within the family context. For instance, family dynamics and parent characteristics associated with frequent school absence include a lack of family cohesion, less parental acceptance, and inconsistent or ineffective discipline (Corville-Smith et al., 1998; Romero & Lee, 2007). Other risk factors have been identified at both the individual- and the school- level. Individual factors relating to absenteeism include poor academic self-concept, lower self-esteem, less competent social relations, poor school engagement, and lower academic performance (Corville-Smith et al., 1998; Vaughn et al., 2013). Further, school-based factors that have been identified as correlates

of chronic absenteeism include dissatisfaction with school, a hostile school environment, conflict with school teaching staff, and bullying (Corville-Smith et al., 1998; Reid, 2005).

Primary Project

Primary Project is a nationally-recognized evidence-based prevention program for children in preschool through third grade that has been in operation for over 60 years (Perryman & Bowers, 2018). The program is targeted towards preschool through 3rd-grade students who have had trouble academically or with socio-emotional skills (Perryman et al., 2020). Six overarching themes characterize Primary Project: systematic screening and early detection; the use of trained paraprofessionals as therapeutic help agents; a recasting of professional roles to permit activities supportive of effective prevention strategies (Cowen et al., 1996); ongoing program evaluation; integration of the program within the school setting; and maximizing a school-based continuum of support for students (Johnson & Peabody, 2015).

Primary Project is a preventative program and thus an extension of the work of school-based mental health professionals such as school psychologists. School-based mental health professionals are master's level social worker's, counselors or school psychologists who oversee Primary Project and supervise child associates who implement the intervention. To implement Primary Project, children identified as at-risk for school adjustment meet one-on-one with their assigned child associate for 30 to 40 minutes once per week for approximately 12-15 sessions. Examples of students who were deemed at-risk could include children experiencing trouble with behavior control, task orientation, and shy or anxious behavior. School buildings have a designated playroom space that is used for the weekly sessions between the trained paraprofessionals, also known as child associates, and the children. Child associates are trained in active listening, responding empathically, encouraging decision making, reflecting the child's

feelings, building competence by encouragement - as opposed to praising - returning developmentally appropriate responsibility to the child whenever they are capable, and setting emotionally responsive limits (Peabody et al., 2018; Reddy, Files-Hall, & Schaefer, 2005). In addition, rooms are equipped with expressive toys that encourage young children's natural ability to communicate through play.

Current Study Goals

The purpose of this cross-sectional analysis was to determine whether Primary Project is effective in reducing the incidence of absences by children with a history of chronic absenteeism relative to a control sample of similar children who were not Primary Project participants. Accordingly, the typical Primary Project screening process was modified to select children with a history of chronic absenteeism rather than those explicitly at risk for specific social-emotional problems, which controls for social determinants of education.

Materials and Methods

Participants and Recruitment

To investigate the association between Primary Project and student attendance outcomes, researchers collected data from 7 public schools implementing Primary Project in a medium-sized northeastern United States city. Data were obtained from the 2015-2016 academic year. The percentage of economically-disadvantaged students enrolled in study schools ranged from 94% to 98%. Five of the seven schools enrolled a majority of Black or African American students, and two of the seven schools enrolled a majority of Hispanic or Latino students. The percentage of students with disabilities at each school ranged from 14% to 45%, and the percentage of students who were English language learners ranged from 3% to 38%.

The selection process for Primary Project characteristically involves social-emotional screening using the Teacher-Child Rating Scale (T-CRS 2.1), a teacher-completed instrument (Hightower & Perkins, 2010). Teachers completed the T-CRS for all students in their classrooms. Students identified as experiencing moderate, but not severe, behavioral problems were then referred to Primary Project. See Figure 2 for a flow diagram of study enrollment and randomization. The total number of students in the seven study sites in grades kindergarten through second grade was 1,293. For the present study, we analyzed data from kindergarten to second grade students who historically had chronic absenteeism. Students who met the qualifications for Primary Project but did not have historic attendance problems were not included in the present study sample. Out of the full student population, 458 (35%) students had a history of chronic absenteeism. Out of these 458 students, the T-CRS was used to screen for inclusion in the Primary Project study. Teachers responded to a total of 32 items addressing children's behaviors and characteristics that are both negative and positive, including "disruptive in class", "constantly seeks attention", "comfortable as a leader", and "well-liked by classmates". Consistent with standard operating procedures of Primary Project, students were selected who scored between the 15th and 30th percentile on any one subscale domain and/or the overall T-CRS score. Students who were rated as having severe social and emotional issues (i.e., those in the lowest 15th percentile on more than one subscale score) were excluded from the program, as these children were likely in need of higher tiered services. Additionally, students who transferred schools or those with incomplete data were eliminated from the sample. The final analytic sample consisted of 249 students (treatment group n = 91 students, control group n = 158).

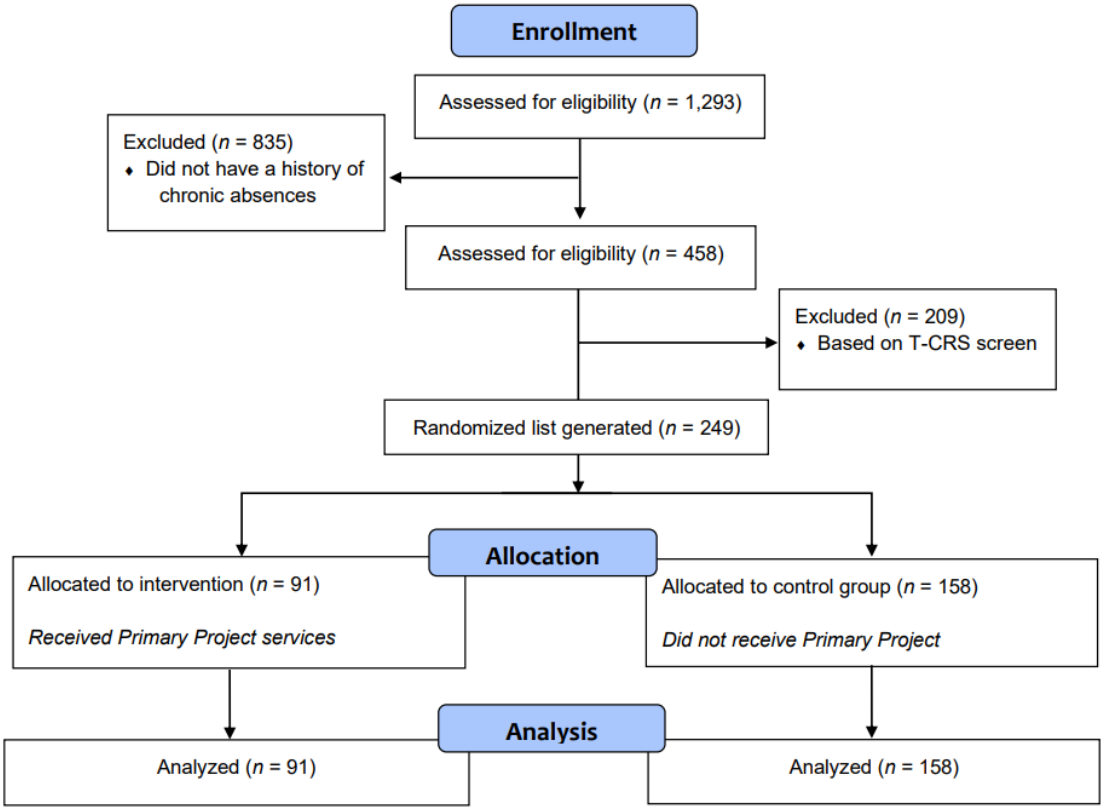

Figure 2. Flow diagram of study enrollment, intervention allocation, and analysis.

Procedures

The Western Institutional Review Board approved all study procedures. Pending written parental consent, the selected children enrolled in the program. Program coordinators, typically school psychologists, social workers, or counselors at the individual schools, were tasked with selecting students for participation. This selection process was modified so that chosen students in kindergarten, first grade, and second grade in these seven schools were then selected randomly by the researchers instead of the school-based program staff. Researchers obtained rosters for each K-2 classroom. Identified students for the research study included first and second-grade students whose prior-year school attendance was less than 90%, along with kindergarteners

whose first-semester attendance was less than 90%. Kindergarten children participated in the program only during the second semester. Students in higher grade levels participated in the program in both the first and second semesters. Each school compiled lists of students who were chronically absent, which were randomized and forwarded to the Primary Project school coordinators. They selected children to participate in the program in the order the names appeared on the lists. If a student had transferred from the class or parent approval was not provided, program coordinators were instructed to choose the next name on the list. The chronic nonattenders who participated in the program comprised the treatment group. In comparison, chronic nonattenders who were not selected for Primary Project formed the control group.

Measures

Attendance. Each student's yearly attendance percentage was obtained from schools' records. The overall percentage of attendance was calculated as the number of days present divided by the total number of possibly days attended. Unexcused and excused absences were not differentiated in the present study due to limitations of the secondary data. Chronic absenteeism was defined as having missed 10% or more of possible school days in one academic year.

Demographic variables. Students' grade level and sex (male or female) were examined as potential moderators of treatment effects. This information was obtained from school records.

Analytic Plan

First, we examined descriptively the changes in year-end chronic absentee status between participants enrolled in Primary Project and those who were not enrolled in Primary Project. An analysis of variance (ANOVA) was used to examine differences between students in the Primary Project group and those who did not receive Primary Project services on their percent attendance

for the year. Following this, we inspected the interaction of treatment group by grade, and then by sex.

Results

Descriptive statistics and Primary Project implementation

First, groups were examined descriptively to determine whether there were group differences on key demographic variables (sex, ethnicity, special education status). There were no overall group differences (See Table 1). There were also no group differences on prior-year (or, in the case of kindergarteners, prior-semester) attendance percentage (PP group mean = .83, *SD* = .07; control group mean = .82, *SD* = .08; *t* (247) = -.10, *p* = .46).

Implementation data was available for 71 of the 91 students enrolled in the intervention group. Students participated in an average of 13 individual weekly sessions (*M* = 12.83, *SD* = 2.38, range = 7 to 17). Out of the participants for which data was available, there were 54.7% who began Primary Project in fall (*n* = 41) and 45.3% who began Primary Project in spring (*n* = 34). There were no significant group differences in attendance percentage between participants who began in fall and those who began in spring, *F* (1, 73) = 2.11, *p* = .15.

Effect of Primary Project on attendance percentage

At the end of the academic year, the annual attendance percentage for the treatment group (mean = .87, *SD* = .07) was significantly higher than that of the control group (mean = .84, *SD* = .09, *F* (1, 247) = 5.59, *p* = .019). The percentage of chronic absenteeism (defined as being absent at least 10% of the school year) for the Primary Project treatment group students declined to 22% compared with 45% for the control students.

An ANOVA revealed no interactions of treatment group by sex, *F* (1, 245) = .01, *p* = .97. There also was no interaction of treatment group by grade, *F* (2, 243) = .31, *p* = .73. In this latter

model, there was a direct effect of grade on percentage of attendance, F (2, 243) = 4.72, p = .01, such that students in higher grades had a higher percentage of attendance.

Post hoc power analysis. With a treatment group size of 91 and control group size of 158, and the effect size described prior, we achieved a power of 83.3% for a continuous endpoint, two independent sample study.

Discussion

Primary Project's direct services focus on young school children who have exhibited indications of mild to moderate school adjustment difficulties or interpersonal problems, including aggression, acting-out, shyness, withdrawal, and anxiety (Reddy, Files-Hall, & Schaefer, 2005). In this study, we found that Primary Project services led to an increase in school engagement, as measured by attendance percentage.

Chronic absenteeism is a critical problem in our schools that can lead to adverse outcomes throughout childhood. Kearney and Silverman (1990, 1999) proposed a four-category functional model of the causes of chronic absenteeism. According to this model, absences may be caused by avoidance of fear or anxiety-producing situations at school, avoidance of aversive social situations at school, attention-seeking that may be related to anxiety about separation from parents or caregivers, as well as the positive reinforcement from staying home from school (e.g., watching television, playing games, and participating in other pleasant activities). It is possible that Primary Project services help to address several of these causes of chronic absenteeism. For instance, child associates develop strong, supportive relationships with children and children may look forward to attending school to spend time with their child associate. Additionally, the playful nature of the Primary Project intervention may positively reinforce school attendance. Last, and importantly, it is possible that Primary Project's goal of improving social-emotional

skills and academic outcomes leads to less fear or anxiety surrounding school and more positive feelings about attending and engaging in school.

A number of the factors associated explicitly with chronic absenteeism, such as poor academic self-concept, low self-esteem, problems with social relations vis-à-vis peers and adults, aggressive behaviors, and shyness or anxiety relating to school, are identical or strongly related risks for which Primary Project specifically screens. The presenting problems of students who are considered appropriate candidates for Primary Project services sharply resemble risk factors predicting chronic school absence. Addressing the risk factors using Primary Project's child-centered play therapy model decreases students' behavioral problems and improves social-emotional competencies, which removes barriers to regular school attendance.

Context and culture must also be considered in interventions to address chronic absenteeism. Many social determinants (e.g., lack of transportation, interfering work schedules) impact parents' decisions whether to send kids to school, particularly in the lower grades. Indeed, the frequency of chronic absence is most significant with kindergarteners and declines steadily after that, through third grade (Chang & Romero, 2008). If schools and communities were able to account for these barriers and needs surrounding attendance, it could create a better learning environment that is more conducive to building relationships and academic growth. By cultivating genuine relationships with students and addressing school adjustment issues for younger children, schools can foster a school culture that aims to understand the challenges students and their families face when struggling with poverty's immense, intersectional and enveloping consequences. Paul Gorski (2017) states: "We must be careful not to interpret the ramifications of this lack of access, like the inability to type assignments, as indications of their attitudes about education, levels of intelligence, or potentials as learners."

There are several limitations that should be considered. This study only examined attendance percentages for the academic year during which PMHP services were delivered. Further investigation is needed to assess longer-term attendance outcomes. The study took place in a majority low-income urban setting, and thus results may not generalize to other settings, including suburban and rural areas. Additionally, due to constraints of our secondary data, there were data missing on the implementation of the intervention condition. Ideally, full data would be available to assess whether aspects of the intervention (e.g., timing and length of sessions) had an impact on our findings.

Implications for School Psychologists

Primary Project is a preventive intervention that aligns with the practice and goals of school psychologists. It is essential for school psychologists to address and remediate chronic absenteeism in early childhood, which may serve as a warning sign for future adjustment difficulties (e.g., Robinson & Courtney, 2018; Romero & Lee, 2007). However, a recent meta-analysis revealed that current interventions to enhance attendance are understudied and/or have small effect sizes (Eklund et al., 2020). Primary Project may serve to improve attendance among students with chronic absenteeism, although additional research is needed.

Primary Project may also aid school psychologists by building competencies in school psychology trainees. For instance, an adapted university model of Primary Project has been successfully implemented that places school psychology graduate students in the role of child associates (Peabody et al., 2018; 2019). This model enhances graduate students' training in several areas including screening, early intervention, evidence-based interventions, child-centered play therapy, and assessment. Indeed, in a recent qualitative study, school psychology graduate students and their supervisors agreed that training through Primary Project adhered to

the National Association for School Psychology (NASP) practice domains, including *family-school collaboration, interventions and mental health services to develop social and life skills,* and *preventative and responsive services* (Peabody et al., 2019). Thus, implementation of Primary Project in the school setting is not only a means to enhancing children's social and emotional adjustment and attendance but is also a means to facilitate training and capacity for school psychology professionals. This is particularly important given current shortages in the school psychology profession (NASP, 2021).

Conclusion

In conclusion, we found that students who participated in Primary Project had a higher overall percentage of attendance at year-end compared to peers with similar social and emotional risk factors who did not participate in Primary Project. Primary Project works to cultivate relationships between students, their families, and school staff members, while helping children build social and emotional skills. Programs like Primary Project may reduce some of the many barriers to school attendance in early childhood education.

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References

Chang, H.N. & Romero, M. (2008). *Present, engaged, and accounted for: The critical importance of addressing chronic absence in the early grades.* National Center for Children in Poverty.

Corville-Smith, J., Ryan, B.A., Adams, G.R., & Dalicandro, T. (1998). Distinguishing absentee students from regular attenders: The combined influence of personal, family, and school factors. *Journal of Youth and Adolescence, 27*, 629-640.

Cowen, E.L., Hightower, A.D., Pedro-Carroll, J.L., Work, W.C., Wyman, P.A., and Haffey, W.G. (1996). *School-based prevention for children at risk: The Primary Mental Health Project*. American Psychological Association.

Eklund, K., Burns, M. K., Oyen, K., DeMarchena, S., & McCollom, E. M. (2022). Addressing chronic absenteeism in schools: A meta-analysis of evidence-based interventions. School Psychology Review, 51(1), 95-111.

Gorski, P. (2017). *Reaching and teaching students in poverty: Strategies for erasing the opportunity gap*. Teachers College Press.

Gubbels, J., van der Put, C. E., & Assink, M. (2019). Risk factors for school absenteeism and dropout: A meta-analytic review. *Journal of Youth and Adolescence*, *48*(9), 1637–1667. https://doi.org/10.1007/s10964-019-01072-5

Hightower, A.D. & Perkins, P.E. (2010). *Teacher-Child Rating Scale 2.1 Examiner's Manual.* Children's Institute.

Johnson, D. B., & Peabody, M. A. (2016). Primary project: A play-based intervention for early childhood. In L. A. Reddy, T. M. Files-Hall, & C. E. Schaefer (Eds.), *Empirically based*

play interventions for children (pp. 17–34). American Psychological Association. https://doi.org/10.1037/14730-002

Kearney, C.A. & Silverman, W.K. (1990). A preliminary analysis of a functional model of assessment and treatment for school refusal behavior. *Behavior Modification, 14,* 340-366.

Kearney, C.A. & Silverman, W.K. (1999). Functionally based prescriptive and nonprescriptive treatment for children and adolescents with school refusal behavior. *Behavior Therapy 30*, 673- 695.

Marsh, V. L. (2019, December 11). Understanding chronic absenteeism. *American Educator*. https://www.aft.org/ae/winter2019-2020/marsh

National Association of School Psychologists. (2021). Shortages in school psychology: Challenges to meeting the growing needs of U.S. students and schools [Research summary]

Peabody, M.A., Perryman, K.L., Hannah, M., Smith, L., & Sanyshyn, S.M. (2018). Improving mental health outcomes for young children through the implementation of the Primary Project. *Journal of School-Based Counseling Policy and Evaluation, 1*, 40-50.

Peabody, M. A., Hannah, M., Murphy, B. M., Smith, L., & Reynolds Weber, M. (2019). Building competency in school psychology trainees through the use of primary project. Training and Education in Professional Psychology, 13(1), 21.

Perryman, K.L. & Bowers, L. (2018). Turning the focus to behavioral, emotional, and social well-being: The impact of child-centered play therapy. *International Journal of Play Therapy 27*, 227-241.

Perryman, K. L., Robinson, S., Bowers, L., & Massengale, B. (2020). Child-centered play therapy and academic achievement: A prevention-based model. *International Journal of Play Therapy, 29*(2), 104-117. doi:http://dx.doi.org/10.1037/pla0000117

Şahin, Ş., Arseven, Z., & Kılıç, A. (2016). Causes of student absenteeism and school Dropouts. *International Journal of Instruction*, *9*(1), 195–210. https://doi.org/10.12973/iji.2016.9115a

Ready, D.D. (2010). Socioeconomic disadvantage, school attendance, and early cognitive development: The differential effects of school exposure. *Sociology of Education,* 83, 271-286.

Reddy, L. A., Files-Hall, T. M., & Schaefer, C. E. (2005). *Empirically based play interventions for children.* Washington, DC: American Psychological Association.

Reid, K. (2005). The causes, views, and traits of school absenteeism and truancy: An analytical review. *Research in Education, 74*, 59-82.

Robinson, A.A. & Courtney, C.S. (2018). Predictors of justice system involvement: Maltreatment and education. *Child Abuse and Neglect 76*, 408-415.

Romero, M. and Lee, Y.S. (2007). A national portrait of chronic absenteeism in the early grades. Report. National Center for Children in Poverty.

U.S. Department of Education (2019, January). *Chronic Absenteeism in the Nation's Schools*. https://www2.ed.gov/datastory/chronicabsenteeism.html

Vaughn, M.G., Maynard, B.R., Salas-Wright, C.P., Perron, B.E., & Abdon, A. (2013). Prevalence and correlates of truancy in the US: Results from a national sample. *Journal of Adolescence 36*, 767-776.

Table 1. Descriptive statistics for full sample and by group

	Full Sample	**PP Group**	**Control**	**Difference Test**
Sex (% female)	51.8%	51.0%	48.5%	χ^2 (1) = .16, p = .69
Special education status (%)	10.8%	12.1%	10.1%	χ^2 (1) = .23, p = .63
Race/ethnicity				χ^2 (3) = 3.12, p = .37
Black (%)	45.8%	50.5%	43.0%	
Hispanic or Latino (%)	45.8%	39.6%	49.4%	
White (%)	8.0%	9.9%	8.0%	
Grade				χ^2 (2) = 2.67, p = .26
Kindergarten (%)	26.9%	20.9%	30.4%	
First grade (%)	36.9%	39.6%	35.4%	
Second grade (%)	36.1%	39.6%	34.2%	
Prior-year attendance	.82 (*SD* = .08)	.83 (*SD* = .07)	.82 (*SD* = .07)	t (247) = -.10, p = .46