School-Connect Intervention Impact on High School Students' Discipline Referrals and Academic Outcomes

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ABSTRACT

This study examined the behavioral and academic effects of *School-Connect*, a social-emotional and academic learning curriculum, in a one-semester or one-year freshman seminar class on three urban campuses (N = 27 classrooms and 552 9th grade students) relative to a no-treatment matched control (N = 557 control students). Absentee rates, disciplinary incidents, grades, and standardized tests were obtained from the school district to measure effects at pre-test (8th grade), post-test (9th grade), and six-month follow up (first semester 10th grade). The analyses indicated that *School-Connect* students had significantly fewer discipline referrals for class disruption ($p < .001$, $d = .22$) and rudeness to an adult ($p < .01$, $d = .17$), and relatively higher math grades ($p = .05$, $d = .13$) and average core subject pass rates ($p < .05$, $d = .13$) than the no-treatment control students at 9th grade post-test. They also had marginally higher average core grades when controlling for pre-test grades ($p = .08$, $d = .11$). At six-month follow-up, *School-Connect* students had significantly lower overall discipline referral rates ($p < .01$, $d = .22$) and relatively higher average social studies grades ($p < .001$, $d = .43$), but the treatment students had higher average math and English grades ($p < .01$, $d = .18$ $p < .01$, $d = .19$). Absentee rates were not significant at post-test or six-month follow-up. The analysis indicates that *School-Connect* students exhibited positive behavioral outcomes at post-test and six-month follow-up but may benefit from continued intervention to maintain academic outcomes.

REVIEW OF LITERATURE

Adolescence is a challenging time. Teens go through dramatic changes in physical appearance, cognitive abilities, and social and emotional development. As young people move from the relative simplicity and security of childhood to the complexity and uncertainties of young adulthood, they go through a process of identity development and seek peers, role models, and social ideals as guides. Most adolescents experience some difficulty and confusion during this transition. While brain development goes through tremendous growth during adolescence, at times it can lag behind through a maturational mismatch and be at odds with healthy and responsible decision-making. During this time adolescents make a marked shift toward reward-seeking behavior and struggle with self-regulation, putting themselves at greater risk than children for depression, anxiety, substance abuse, violence, self-injurious behavior, and academic failure (Steinberg, 2008; Jensen & Nutt, 2015). A striking percent of youth in grades 9 – 12 are engaged in health-risk behaviors including drinking alcohol (34.9%), using marijuana (23.4%), being sexually active (46.8%), texting/e-mailing while driving (41.4% of eligible drivers),

and playing more than three hours of video/computer games per day (41.3%) (Kann, Kinchen, & Shanklin, et al., 2013).

Ninth grade is a watershed year for students. In transitioning from middle school to high school, adolescents encounter a much larger student body, a more impersonal environment, increased academic rigor and expectations, and fewer emotional supports. For the first time, their grades and discipline record will have a direct impact on their post-high school options. Ninth graders have lower grade point averages, higher absentee rates, more failed classes, and higher rates of class disruptions than eighth grade students (NCES, 2015; McCallumore & Sparapani, 2010; Rosenkranz, de la Torre, Stevens, & Allensworth, 2014).

Many freshmen are ill-prepared for the academic challenges of high school and fail to earn the credits necessary for promotion to the next grade level, thereby swelling the ranks of the ninth-grade class, most notably in large urban schools (McCallumore & Sparapani, 2010). In one study, up to 40% of ninth-grade students in cities with the highest dropout rates repeat the ninth grade, but only 10% to 15% of those repeaters go on to graduate (Kennelly & Monrad, 2007). Nationally, 15% of Caucasian youth, 24% of Latino youth, and 32% each of African-American and Native American youth fail to graduate high school in four years (U.S. Department of Education, 2012). National graduation rate studies indicate students at greatest risk for drop out are: 1) low income, 2) minority, 3) students with disabilities, 4) from big cities/districts, and 5) from big states (DePaoli, Fox, Ingram, Maushard, Bridgeland, & Balfanz, 2015).

The transition to high school is an opportune time to build a solid foundation of social and emotional skills to help adolescents weather this often stormy period of development. The Collaborative for Academic, Social, and Emotional Learning (CASEL) has identified five competencies as fundamental to social and emotional learning (SEL):

1) Social awareness—Showing understanding and empathy for others
2) Self-awareness— Recognizing one's emotions and values as well as one's strengths and limitations
3) Self-management— Managing emotions and behaviors to achieve one's goals
4) Relationship skills— Forming positive relationships, working in teams, dealing effectively with conflicts
5) Responsible decision-making—Making ethical, constructive choices about personal and social behavior

These competencies have been confirmed by research as critical to the healthy development of children and adolescents and their success in school (Durlak et al., 2011). Most evaluative studies on SEL-based programs have been conducted at the elementary and middle school level. Given the clear need to help adolescents

transition safely and successfully into adulthood, it is remarkable that there are few select and universal interventions at the high school level. In a recent review of secondary school SEL programs, Williamson, Modecki, and Guerra (2015, pg. 182) write: "This relative neglect of high school programs is regrettable because adolescents have cognitive capacities that younger children do not, making attempts to improve SEL skills especially appropriate during the teenage years."

The School-Connect Curriculum

School–Connect®: Optimizing the High School Experience is a teacher-facilitated curriculum designed to improve the social, emotional, and academic skills of high school students and create supportive relationships among students and between students and their teachers. The curriculum is designed specifically to promote the five social and emotional competencies identified by CASEL (see above).

First published in 2006 and revised in 2009 and 2015, School-Connect® has been implemented in all 50 states and more than 1,000 high schools in a variety of ways, including: freshman seminars, grade level advisories, academic courses, special education classes, alternative education programs, and positive youth development initiatives. The current edition (2015) contains 60 lessons total distributed over three curriculum modules: *Module 1: Creating a Supportive Learning Community*, *Module 2: Developing Self-Awareness and Self-Management*, and *Module 3: Building Relationships and Resolving Conflicts*. Each module contains 20 lessons and PowerPoints that include research-based content and strategies, interactive activities that foster student engagement, and opportunities for reflection and application. Many lessons have embedded videos. Lessons are timed for 45 minutes but can be expanded or contracted as needed. Learning can be extended through Culminating Projects and Lesson Extensions provided in each module. Support materials include a detailed Teacher's Guide, Notes to Teacher for each module, and posters of key curriculum strategies. Professional Learning Community (PLC) Notes are added and/or updated for each lesson throughout the year. [See Table 1. School-Connect Table of Contents for a list of lessons. Sample lessons are available at www.school-connect.net]

School-Connect is the brainchild of authors Kathy Beland, M.Ed., Julea Douglass, Ph.D., and R. Keeth Matheny, M.S., each of whom has more than 20 years experience researching, developing, piloting, and fine-turning social and emotional learning programs in schools. Lead author and co-founder Beland is the original author of the *Second Step* curriculum, now implemented in nearly 40% of elementary schools and over 70 countries. She is also lead author of the *Eleven Principles Sourcebook: How to Achieve Quality Character Education in K-12 Schools* and a former teacher and school administrator. Beland is a recipient of the 2009 Sanford N. McDonnell Lifetime Achievement Award in Character Education by the Character Education Partnership. Douglass is co-founder of School-Connect, the lead author of the *Character Education Evaluation Toolkit,* and has been a consultant to many school-based interventions. She was a national finalist for CASEL'S 2007 Joseph E. Zins Award for

early career contributions to social and emotional learning. Matheny is a nationally recognized high school teacher and developer of Austin ISD's freshman seminar course (M.A.P.S.), which has led to significant improvements in discipline and academics among ninth grade students at his school. The National Dropout Prevention Network honored Matheny with the 2015 Crystal Star Award for his important contributions to education and dropout prevention.

Table 1. School-Connect Table of Contents

Module 1: Creating a Supportive Learning Community	Module 2: Developing Self-Awareness and Self-Management, cont'd…
Lesson 1.1: Getting to Know You	Lesson 2.11: Forging Your Identity
Lesson 1.2: Creating First Impressions	Lesson 2.12: Exploring Career Options
Lesson 1.3: Introducing Social & Emotional Learning	Lesson 2.13: Planning for College
Lesson 1.4: Creating a Social Contract	Lesson 2.14: Envisioning Your Future
Lesson 1.5: Applying Student Success Skills	Lesson 2.15: Setting Life Goals
Lesson 1.6: Playing Plan-O-Rama	Lesson 2.16: Going on a Mission
Lesson 1.7: Celebrating and Building Community	Lesson 2.17: Preparing for Tests – Part 1
Lesson 1.8: Building Rapport with Teachers	Lesson 2.18: Preparing for Tests – Part 2
Lesson 1.9: Reviving Digital Zombies	Lesson 2.19: Taking Full Responsibility
Lesson 1.10: Tuning In to Others	Lesson 2.20: Fighting Off Victimitis
Lesson 1.11: Using Active Listening	
Lesson 1.12: Collaborating Effectively	**Module 3: Building Relationships and Resolving Conflicts**
Lesson 1.13: Valuing an Education	
Lesson 1.14: Developing Academic Supports	Lesson 3.1: Developing Positive Relationships
Lesson 1.15: Understanding Mindsets	Lesson 3.2: Standing in the Other Person's Shoes
Lesson 1.16: Cultivating Curiosity and Grit	Lesson 3.3: Empathizing with Others
Lesson 1.17: Focusing and Prioritizing	Lesson 3.4: Appreciating Diversity
Lesson 1.18: Taking Effective Notes	Lesson 3.5: Debunking the Myths of Womanhood
Lesson 1.19: Improving Memory Skills – Part 1	Lesson 3.6: Debunking the Myths of Manhood
Lesson 1.20: Improving Memory Skills – Part 2	Lesson 3.7: Understanding Introverts and Extroverts
	Lesson 3.8: Responding to Conflict
Module 2: Developing Self-Awareness and Self-Management	Lesson 3.9: Using a Problem-Solving Approach, Part 1
	Lesson 3.10: Using a Problem-Solving Approach, Part 2
Lesson 2.1: Understanding the Teenage Brain	Lesson 3.11: Using a Problem-Solving Approach, Part 3
Lesson 2.2: Being Aware of Our Emotions	Lesson 3.12: Dealing with Gossip
Lesson 2.3: Recognizing the Power of Thought	Lesson 3.13: Addressing and Preventing Bullying
Lesson 2.4: Managing Emotions	Lesson 3.14: Managing Social Media & Cyberbullying
Lesson 2.5: Defusing Anger	Lesson 3.15: Making Personal Decisions
Lesson 2.6: Coping with Stress	Lesson 3.16: Refusing and Persuading
Lesson 2.7: Inducing Positive Emotions	Lesson 3.17: Making a Sincere Apology
Lesson 2.8: Recognizing Character Strengths	Lesson 3.18: Forgiving Others and Ourselves
Lesson 2.9: Building True Happiness	Lesson 3.19: Understanding Healthy Dating
Lesson 2.10: Outsmarting Media Advertising	Lesson 3.20: Helping Others

THEORETICAL FRAMEWORK

"If we intervene during these windows of opportunity – during the period between the time when symptoms can be first detected and disorders can be diagnosed – we are more likely to prevent the onset of the disorder and produce lasting and long-term impacts. And if we can intervene even sooner, to promote healthy lifestyles, our potential for reducing the toll of behavioral health problems on individuals, communities, and society is even greater."

- Center for the Application of Prevention Technologies Fact Sheet,
  Information Sheet 4: The Developmental Framework (Developed under
  SAMHSA's Center of the Application of Prevention Technologies contract)

Program Goals

School-Connect is a proactive prevention program that fits well within the Behavioral Health Continuum of Care Model recommended by the Substance Abuse and Mental Health Services Administration (SAMHSA). The intervention is designed for both universal and selective intervention at the critical juncture of early-to-mid-adolescence, a high-risk entry point for early substance abuse and mental health issues. School-Connect addresses the risk factors that lead to behavioral health problems head on by building in a multitude of protective factors into the high school system. Specifically, School-Connect has three main social, emotional, and academic program goals:

Goal 1 (Social): Students will develop social skills essential to building meaningful, healthy relationships with classmates, teachers, friends, co-workers, and parents, thereby increasing a sense of social competence and school-connectedness.

Goal 2 (Emotional): Students will develop self-regulation skills necessary for managing strong emotions, inducing positive emotions, gaining a greater sense of self-mastery, building supportive relationships, and avoiding risk behaviors.

Goal 3 (Academic): Students will develop study skills, attitudes, and habits necessary for learning and succeeding in school.

Each School-Connect lesson is a calculated skill-building opportunity to prepare youth for the temptations and challenges of the adolescent-to-adulthood trajectory. [See Table 2. School-Connect Protective Factors*.]

Table 2. *School-Connect* Protective Factors*

MIDDLE CHILDHOOD & ADOLESCENT RISK FACTORS	SCHOOL-CONNECT LESSON TITLES (EACH LESSON IS RESEARCH-BASED, 45+ MINUTES)
➢ Peer rejection, isolation, deviant peer groups	Lesson 1.10: Tuning In to Others Lesson 1.12: Collaborating Effectively Lesson 2.11: Forging Your Identity Lesson 3.1: Developing Positive Relationships Lesson 3.2: Standing in the Other Person's Shoes Lesson 3.3: Empathizing with Others Lesson 3.4: Appreciating Diversity Lesson 3.7: Understanding Introverts and Extroverts Lesson 3.12: Dealing with Gossip Lesson 3.13: Addressing and Preventing Bullying Lesson 3.14: Managing Social Media & Cyberbullying
➢ Anxiety, Depression, Anger/Aggression	Lesson 2.1: Understanding the Teenage Brain Lesson 2.2: Being Aware of Emotions Lesson 2.3: Recognizing the Power of Thought Lesson 2.4: Managing Emotions Lesson 2.5: Defusing Anger Lesson 2.6: Coping with Stress Lesson 2.7: Inducing Positive Emotions Lesson 2.9: Building True Happiness
➢ Poor impulse control and behavior problems	Lesson 1.10: Tuning In to Others Lesson 2.5: Defusing Anger Lesson 2.19: Taking Full Responsibility Lesson 3.8: Responding to Conflict Lesson 3.9: Using a Problem-Solving Approach, Part 1 Lesson 3.10: Using a Problem-Solving Approach, Part 2 Lesson 3.11: Using a Problem-Solving Approach, Part 3 Lesson 3.17: Making a Sincere Apology
➢ School failure, Low commitment to school	Lesson 1.13: Valuing an Education Lesson 1.14: Developing Academic Supports Lesson 1.15: Understanding Mindsets Lesson 1.16: Cultivating Curiosity and Grit Lesson 1.17: Focusing and Prioritizing Lesson 1.18: Taking Effective Notes Lesson 1.19 & 1.20: Improving Memory Skills Lesson 2.17 & 2.18: Preparing for Tests
➢ Peer attitudes toward drugs, Societal/community norms about alcohol and drug use	Lesson 2.10: Outsmarting Media Advertising Lesson 3.15: Making Personal Decisions Lesson 3.16: Refusing and Persuading
➢ Not college bound	Lesson 2.12: Exploring Career Options Lesson 2.13: Planning for College Lesson 2.14: Envisioning Your Future Lesson 2.15: Setting Life Goals

* Risk and protective factors outlined in the *Center for the Application of Prevention Technologies Fact Sheet* available at http://www.samhsa.gov/capt/sites/default/files/resources/behavioral-health-factsheet.pdf

➢ Parent-child conflict	*Parent-child activities within homework, e.g:* Lesson 1.8: Building Rapport with Teachers Lesson 1.11: Using Active Listening Lesson 2.8: Recognizing Character Strengths Lesson 2.15: Setting Life Goals

Program Components

Each of the modules within School-Connect is built upon research-based strategies and practice designed to reduce risk factors and achieve the program goals outlined above.

School-Connect Module 1: Creating a Supportive Learning Environment

Module 1 introduces students to social and emotional learning (SEL) and discusses, demonstrates, and provides practice in how to create good first impressions, recognize how others are feeling, actively listen to one another, communicate thoughts and feelings effectively, and build collaborative relationships with classmates. Students are instructed in important academic skills, e.g., how to organize themselves for success in high school, take effective notes in class, improve memorization skills, and develop academic supports. They also explore the value of an education as it relates to interests, lifestyle, and earning power in the workplace, helping them to develop a future orientation.

In the theoretical realm, students examine their underlying beliefs that lead to "mindsets" about intelligence, personality, and other abilities—habits of thinking proven to have profound effects on student behavior and achievement (Dweck, 2000, 2006). They are presented with research documenting the debilitating effects of having a fixed mindset (i.e., our intelligence and/or personality is fixed and we can't do much to change them) and the positive effects of having a growth mindset (i.e., we can improve through effort). Students who exhibit a fixed mindset are asked to challenge their beliefs, while those who exhibit a growth mindset are encouraged to consider why this attitude works in their favor and how to strengthen it, especially as it applies to academic engagement. Guidelines in cultivating curiosity and a super kind of perseverance known as "grit" provide help in applying a growth mindset and by viewing setbacks and challenges as tools for learning.

School-Connect Module 2: Developing Self-Awareness and Self-Management

Module 2 employs cognitive-behavioral interventions that help students understand how their thought processes affect their emotions, which in turn drive their behavior. This cycle, well-documented in the literature on depression, psychological pathology, and violence prevention, impacts the way students perceive and respond to social and academic challenges, directly affecting their success in either realm (Beck, 1976; Seligman, 1998; Guerra & Slaby, 1990). Building on Mindset Theory, Module 2 is designed to help students learn to

recognize negative automatic thoughts and attributions prompted by different situations, such as going into a test ("I'm going to blow this.") or passing a friend who doesn't acknowledge them ("He just dissed me!"). Students practice challenging these thoughts with more neutral or positive assessments and reflect on the effect these self-statements have on their feelings and behavior.

In addition to addressing their thoughts, students receive instruction on how to manage their affective states. They practice reducing negative emotions, such as anger, fear, and anxiety, which can become barriers to learning and making friends. Students also practice employing positive emotions that can increase optimism and their ability to concentrate and apply themselves (Isen, 1990; Rubin, 2009).

Module 2 then delves into the relevance and purpose of high school by tying high school responsibilities to long-term goal attainment. In an extensive study of resilient youth, Benard (1991, 2004) found that young people who showed the greatest success in adolescence and adulthood shared five common factors: 1) a sense of autonomy, 2) problem-solving skills, 3) social competence, 4) a sense of purpose and future, and 5) a relationship with a caring adult. While the curriculum addresses all of these factors, Module 2 focuses primarily on factor four: developing a sense of purpose and future. Students envision what they will be doing five and ten years after high school and at age 65 as they look back on their career and life. Next, they research career paths and college acceptance criteria to gain a greater perspective on how high school grades and activities can impact their future plans and opportunities, and begin mapping a path to reach their envisioned self.

School-Connect Module 3: Building Relationships and Resolving Conflicts

The primary research supporting the concepts and skills taught in Module 3 is in the area of empathy development. Research studies of young children identified three components of empathy: 1) the ability to recognize emotions in others, 2) the ability to take the perspective of others, and 3) the ability to respond emotionally to others (Feshbach, 1975). By middle childhood, most young people have an understanding of the types and causes of emotions, including situations that involve mixed or contrasting emotions, and show personal concern for others in distress (Hoffman, 2000; Bateson, 2009). This is not true for many students with behavioral problems, who, as they grow older, tend to show less personal concern for others (Hastings et al., 2000). In adolescence, empathy is an important skill in friendship but is not readily extended to those outside of one's sphere of friends (Worthen, 1999). Peer bullying, particularly in the form of relational aggression (i.e., exclusion, shunning, gossip, and verbal abuse), reduces students' empathy for those who are targets of this behavior (Ang & Goh, 2010; O'Connell, Peplar, & Craig, 1999).

Module 3 aims to interrupt these negative social processes by awakening students' natural empathic tendencies. It does this by providing practice in: recognizing emotions, actively listening to others' viewpoints, understanding different perspectives, and developing strategies for caring about the welfare of people whom students perceive as different from themselves. Activities that have

students listen to each other's experiences with labeling, stereotyping, prejudice, bullying, and cyberbullying; and assess their own reactions to diversity, aim to fuel students' desire to act in accordance with their better selves.

The concepts and skills taught in Module 3 are grounded in prevention research. Numerous studies document the positive effects of teaching interpersonal problem solving and other relational skills, such as refusal, positive persuasion, and apologizing, on young people (Zins, Bloodworth, Weissberg, & Walberg, 2004; Durlak et al., 2011). Research indicates that practicing refusal skills in a non-threatening and supportive environment in conjunction with general social skills bolsters high school students' ability to respond appropriately when faced with similar dilemmas in real life (Botvin et al., 2015).

Young people often say that they knew what to do in a given situation, they just didn't know how to do it. Role-playing, a strategy based on Social Learning Theory (Bandura, 1986) and proven effective with adolescents (Goldstein, 1980), is used throughout School-Connect. Students role-play how to problem-solve interpersonal conflicts, how to view a situation from another person's perspective, and how to talk a friend or acquaintance out of a risky behavioral decision. When students practice social and emotional skills, they may gain a greater sense of self-efficacy and confidence in refusing risky behaviors and making wise decisions.

School-Connect Teaching and Learning Strategies

Students are more likely to become engaged in learning within classrooms that foster the ABC's of student motivation: Autonomy, Belonging, and Competence (Deci & Flaste, 1995). Autonomy refers to acting in accordance with oneself—being free and volitional in one's actions. When autonomous, we are fully willing to do what we are doing; we pursue an activity with interest, focused attention, and perseverance. Throughout the curriculum, students are given opportunities to exercise autonomy through activities that offer them "voice and choice." In Think-Pair-Shares, they take time to consider how they think and/or feel about a question or prompt, share their response with another student, and then discuss and contrast different viewpoints with the larger class. Philosophical Chairs and other large and small group exercises provide additional opportunities for freely voicing and exploring ideas. Finally, culminating projects at the end of each module allow students to choose curriculum topics they want to learn more about using a project-based learning model. Emphasizing student autonomy is a student-centered approach in contrast to a didactic approach emphasizing teacher lecture that is often found in academic courses in high school.

Learning itself is considered a social process. Students learn best in collaboration with teachers and peers, rather than in isolation, and benefit from the support of their families. When students know one another on a more personal level and enjoy a rapport with their teacher, they tend to feel safe and supported in class. Research that correlates "school connectedness"—feeling a sense of belonging in

school—with academic motivation and achievement underscores the social foundation of learning (Learning First Alliance, 2001). This is the reason the curriculum is named School-Connect and why the first module – Creating a Supportive Learning Community — takes time to introduce, practice, and reinforce the attitudes, skills, and behaviors that can lead students to experience a sense of belonging.

In addition to creating the conditions for learning, School-Connect uses learning strategies that actively engage students on many levels. Each lesson engages students visually with a PowerPoint presentation and many have brief videos that further pull students in. A typical lesson keeps students moving, relating, and reflecting. Each lesson begins with a bell ringer, which they complete as soon as they enter the classroom and sit down at their desks. They become acquainted with the goals of the lesson through essential questions, which are then explored through interactive activities, many of which get them up and out of their seats (e.g., quick shares, jigsaws, lightning rounds, role plays, philosophical chairs) and changing partners and/or groups. The wrap up leads back to the essential questions and a reflection/application activity in which students apply learning to their own lives. Professional Learning Community (PLC) Notes, written by School-Connect co-author and high school teacher Matheny, focus on techniques for engaging students and building relationships that he himself has used successfully within his School-Connect classes.

School-Connect Implementation

School-Connect is implemented in freshman seminars, grade level advisories, academic courses, special education classes, alternative education programs, and positive youth development initiatives. This study focuses on implementation in a one-semester or one-year freshman seminar, a dedicated class with a teacher trained in SEL strategies and facilitation. Freshman seminars are gaining national recognition as an effective means of intervention during the perilous transition from middle to high school (Dedmond, 2006). Balfanz, Bridgeland, Bruce, and Fox (2013) write:

> *"Without sufficient support [during transition years], students can disengage from school and start on the path toward dropping out. We should scale best practices, which show that caring, knowledgeable and committed adults who set high standards and assist students in meeting them, coupled with supportive school conditions, are critical to helping students make successful transitions."*
>
> - Building a Grad Nation Progress and Challenge in
> Ending the High School Dropout Epidemic, pg. 69

Legters, Parise, & Rappaport (2013) stress that school leadership, specific guidelines, teacher training, and tools to guide practice are essential to effective freshman transition programs.

School-Connect Training Model

School-Connect authors, Beland, Douglass, and Matheny, provide on-site and regional one-day or two-day trainings for teachers and school staff. Staff trainings provide an overview of curriculum concepts, strategies, and implementation options; practice in facilitating student-driven discussions and engagement strategies; and links to academic skills and motivation. The trainings are rated highly by participants and foster teacher confidence, enthusiasm, and commitment to program goals. Training is not mandatory but highly recommended for effective School-Connect implementation.

Theory of Change

The theoretical underpinnings of School-Connect are embedded within the individual lessons, teaching strategies, and overall framework of the three modules. As exhibited in Table 3. School-Connect Logic Model the outcome objectives – improved school climate, improved academic achievement, reduced risk behaviors, and evidence of college and career readiness – are the product of all three School-Connect modules, quality implementation and fidelity, and student learning through the curriculum activities. Student learning is aimed at bolstering important protective factors – increased school-connectedness, enhanced social-emotional competencies, improved academic attitudes and habits, and sense of purpose and future.

Table 3. School-Connect Logic Model
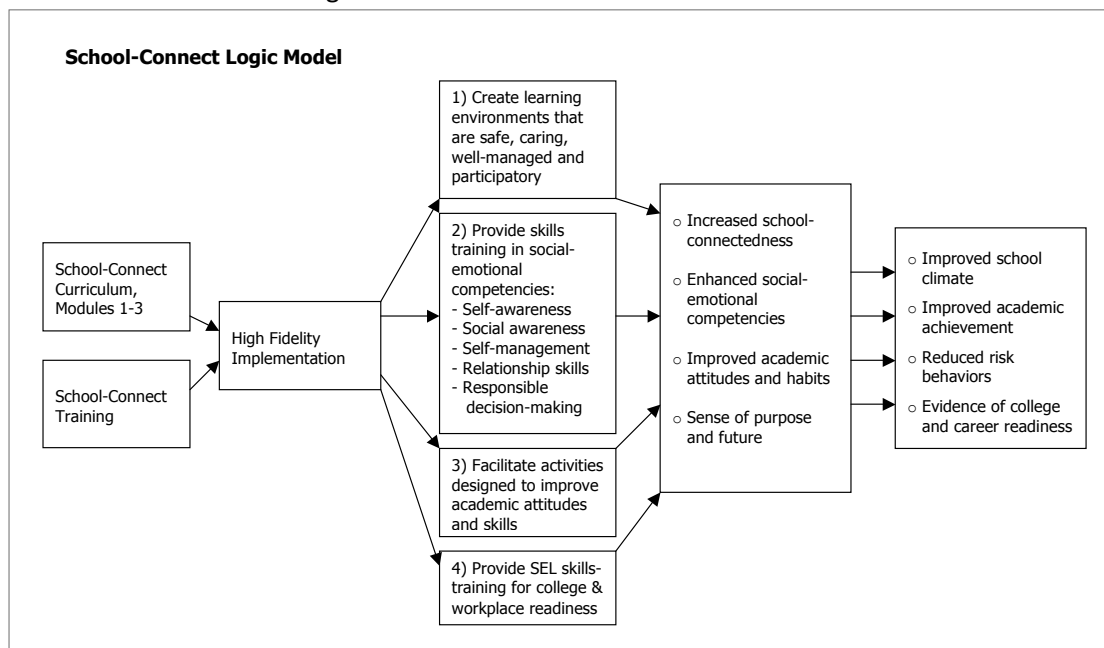
An important lynchpin in School-Connect's theory of change is *high implementation fidelity*. Poor and/or inconsistent implementation can be a significant barrier to prevention program outcomes (Botvin et al, 1990; Botvin, 2004). School-Connect, Third Edition (2015) is designed specifically to address and overcome common implementation impediments such as minimal preparation time, limited SEL facilitation skills, and low teacher morale. School-Connect, Third Edition is PowerPoint-based with easy-to-use lesson outlines to help guide novice and experienced teachers through interactive, research-based activities and bolster teacher support and buy-in. Teacher surveys from the 2013-2015 *School-Connect* pilot tests indicate that 95% of participating teachers were "very satisfied" or "highly satisfied" with the School-Connect training and PLC Notes and more than 82% were "very satisfied" or "highly satisfied" with the School-Connect lesson outlines, student handouts and/or overall program (N = 33) (Douglass & Beland, 2014 & 2015).

PURPOSE

School-Connect is a cost-effective, teacher-friendly, and student-engaging method of embedding prevention methods into public, private, and alternative schools. School-Connect is subject of this study to gather evidence of effectiveness of program impacts.

The purpose of this study is to test three hypotheses:

a. School-Connect improves students' social and emotional skills, namely emotional management, empathy/respect for others, and problem-solving skills, which will lead to improvements in classroom behavior as measured by school discipline records. Fewer School-Connect students will receive disciplinary referrals than students in a no-treatment control, both overall and in several key areas, such as classroom disruption and drug and alcohol use.

b. School-Connect improves students' study skills, classroom behavior, and academic motivation, which will lead to improvements in students' academic performance as measured by grades in core subjects. School-Connect students will have higher grades and pass rates than a no-treatment control.

c. Improvements in academic motivation and student social-emotional skills will lead to improvements in attendance. School-Connect students will have fewer absences than students in the matched no-treatment control.

METHODOLOGY

Participants

The evaluation of School-Connect was conducted in an urban school district located in the Southwestern region of the United States. The district's population during the intervention year of 2014-2015 was approximately 50,000 students. The School-Connect program was in its third year of operation in the district. The curriculum was taught in a "Methods for Personal and Academic Success" (MAPS) freshman seminar course. Eight trained teachers at three high school campuses taught the intervention to 552 9th grade students in 27 classrooms (representing approximately 44% of the ninth grade students at those campuses, and 8.6% of students in the district). At one of the campuses, the School-Connect curriculum was administered for one semester, and at the other two, it was administered as a full-year course. At the end of the year, teachers reported teaching approximately two-thirds of the available lessons (M = 40.7).

Teachers in the treatment group felt that they had significant need to support students' social, emotional, and academic learning – the majority of the students that they served were identified as academically at risk and/or working at or below grade level. Therefore, the group of students who received the curriculum was different from the district profile at large. We therefore created a matched sample that controlled for potential confounding factors. Students from the district who were not enrolled in a freshman seminar MAPS class using School-Connect or in the "Advancement Via Individual Determination" (AVID) program were matched to students who did receive School-Connect lessons by using a variety of demographic characteristics, including gender, race, economic disadvantage, and at-risk status.[1] 557 students were in the control sample (approximately 8.6% of district freshmen). About one-sixth (17.2%) of 9th grade students in the district were in our sample as a whole.

A significant proportion of students in both the treatment and control groups did not have any 8th grade (i.e., pre-test) data. They were therefore dropped from further analyses. The final sample included 480 control students and 467 treatment students (947 total), representing 85% of the original sample. T-test analyses revealed no demographic differences between the revised control and treatment groups. See Table 4 for demographic characteristics of the final sample.

At six month follow up, students had just finished their first semester of 10th grade. We were able to obtain follow-up data on 896 of the 947 students in the original sample, or about 95%. There was equal attrition, overall, between students in both the treatment and control groups.

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[1] . Students are considered to be at-risk by the state for a number of reasons, including not passing a course or state standardized exam, having significant disciplinary action (e.g., expulsion) taken, and living outside the home (e.g., living in a residential treatment facility or being homeless).[1]

Table 4. Demographic Characteristics of Sample.

Category	Mean	SD
Gender = Male	57%	50%
Hispanic / Latino	63%	48%
White / Caucasian	18%	38%
African American / Black	15%	36%
Asian	1%	11%
Two or More Races	2%	15%
Economically Disadvantaged	63%	48%
At Risk	67%	47%

Measures

Longitudinal data from the school district were obtained on absences, disciplinary incidents, and grades for students when they were in 8th grade, 9th grade, and the first semester of 10th grade. The 8th grade data served as the pre-test, the 9th grade data as the post-test, and the 10th grade data as a six month follow up. We initially obtained student statewide standardized test scores; however, we discovered that these tests change significantly between 8th and 9th grade. Specifically, the 8th grade test measures student knowledge in a general area (e.g., math) while the "End of Course" (EOC) 9th grade test covers only the content from one particular course (e.g., Algebra I; Texas Education Agency, 2012). Therefore, we dropped standardized test scores from our analysis plan.

Absences

The total number of absences was provided by semester and was added together to obtain the totals for 8th and 9th grade. For 10th grade, only one semester of absences was available.

Discipline

When a student received a disciplinary referral, the incident was recorded in a database with a description of the incident, a code indicating the type of incident (e.g., possession of drug paraphernalia), and a code indicating the outcome of the incident (e.g., suspension). For each year, we recorded if a student had any disciplinary referral. We then examined the top three disciplinary codes: insubordination, disruption, and rudeness to an adult. We also examined the number of offenses that were categorized as being drug or alcohol related. Initially, we examined data on the outcomes of the incidents (e.g., suspension); however, after speaking to personnel at different campuses, it became clear that schools in the

district have widely varying policies about how offenses are handled. These data were therefore dropped from the study.

Grades

We received student grades for both semesters of 8th grade, 9th grade, and for the first semester of 10th grade. Grades for English/language arts, math, science, and social studies were extracted from these data and averaged by year. Additionally, a yearly average for these four core subjects was calculated. We also examined passing rates (average = 70 or above) for each course.

RESULTS

Our goal for these analyses was to determine if students who were taught the School-Connect curriculum in 9th grade (i.e., treatment condition) had better academic and behavioral outcomes than their peers (i.e., control condition). In the first set of analyses, we examined student absences, discipline records, and grades at pre-test (i.e., 8th grade) and post-test (i.e., 9th grade). In the second set of analyses, we examined the same measures at pre-test (8th grade) and six-month follow-up (10th grade). Analyses were initially conducted using t-tests or chi-squared tests of independence. Follow-up analyses were conducted in some cases using multiple linear regression or logistic regression techniques.

Pre- to Post-test Analyses

Absences

To examine differences in absences between the treatment and control groups, t-test analyses were conducted for 8th grade and 9th grade absences. There were no differences between conditions; students, on average, were absent for 8.6 days (SD = 10.0) in 8th grade and 9.9 days in 9th grade (SD = 11.7). Removing students with a large number of absences (e.g., more than 40) from the data set did not change the results of the analysis.

Discipline

All incidents

First, we examined the number of students who received a disciplinary referral in 8th and 9th grade with two chi-squared (χ^2) analyses. There was no difference in the proportion of students who had a disciplinary incident in 8th grade. Approximately 29% of students (*SD* = 4.8%) received at least one referral. In 9th grade, there was a marginal effect of condition on the number of disciplinary

incidents, χ^2 (2, N=947) = 3.02 , p = .08, d = .11. Students in the treatment group had slightly fewer incidents (M = 23.8%, SD = 42.6%) than those in the control group (M = 29.0%, SD = 45.4%).

Next, a logistic regression was performed to examine the impact of condition over time on the number of disciplinary incidents. Not surprisingly, having a disciplinary incident in any category in 8th grade was a significant predictor of having another disciplinary incident in 9th grade, OR = 1.82, z = 11.3, p <. 001, d = .37. There was not a significant impact of condition on disciplinary referrals.

Disciplinary categories

Rude to Adult. We first looked at the most common category of incidents: students being cited for being rude to an adult. There was not a significant difference between conditions in 8th grade; 13.6% of students received a referral for being rude to an adult. In 9th grade, however, the treatment group (M = 7.1%, SD = 25.7%) had significantly fewer incidents of being rude to an adult than the control group (M = 12.3%, SD = 32.9%), χ^2 (2, N=947) = 6.78 , p < . 01, d = .17. See Figure 1.

Figure 1: The percentage of students receiving a referral for being rude to an adult was not significantly different by condition in 8th grade, but was significantly lower for the School-Connect Treatment condition in 9th grade than a matched control.
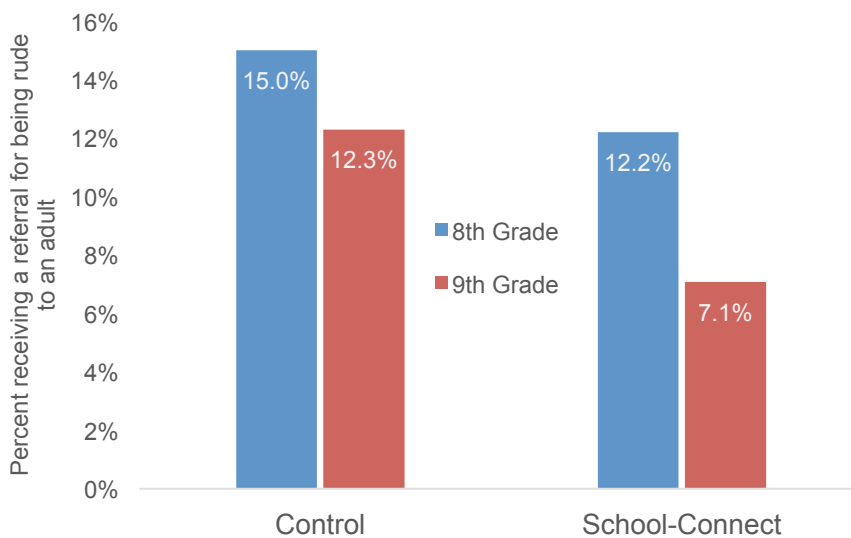
As with total disciplinary incidents, being cited for being rude to an adult in 8th grade was the best predictor of having a similar citation in 9th grade, OR = 2.34, z = 9.70 p <. 001, d = .32. Condition was also a significant predictor of having a rudeness incident, OR = -.59, z = 2.41, p <. 05, d = .08. The treatment group had almost twice as much of a drop in the percentage of students who received a referral

for being rude (*M* = -5.1%, *SD* = 38.9%) compared to the control group (*M* = -2.7%, *SD* = 38.9%).

Insubordination. In terms of insubordination, there were no differences between the conditions. Approximately 11.4% of students (*SD* = 31.8%) received a referral for insubordination in 8th grade, and 10.5% (*SD* = 30.6%) in 9th grade.

Disruption. Next, we examined the number of times that students were cited for being disruptive in class. There were no differences between conditions at pre-test. On average, about 10% (*SD* = 30.0%) of students disrupted class in 8th grade. At post-test, the treatment group had significantly fewer citations for disrupting class (*M* = 4.1%, *SD* = 19.8%) than the control group (*M* = 10.0%, *SD* = 30.0%); χ^2 (2, *N*=947) = 11.78 , *p* < . 01, *d* = .22.

A logistic regression revealed that receiving a referral for disruption in 8th grade was the best predictor of having a similar citation in 9th grade, *OR* = 2.42, *z* = 8.54, *p* <. 001, *d* = .28. Condition was also a significant predictor of disruption, *OR* = -1.00, *z* = 3.39, *p* <. 001, *d* = .11. The treatment group had almost a 50% decrease in the number of disruption incidents from 8th to 9th grade, but the control group's incidents stayed approximately the same. See Figure 2.

Figure 2: The percentage of students receiving a referral for disruption was significantly less for the School-Connect treatment condition in 9th grade than for a matched control.
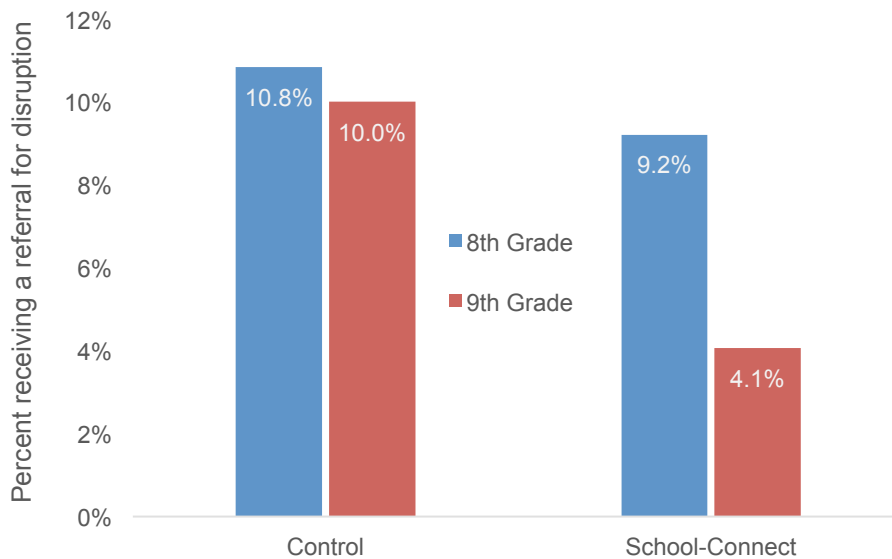
Drugs and Alcohol. Finally, we examined the percentage of students who received a referral for a drug or alcohol-related incident. There was a significant difference between the treatment and control group at pre-test, χ^2 (2, *N*=947) = 6.15

, $p < .05$, $d = .16$. Fewer students in the treatment group ($M = 1.7\%$, $SD = 13.0\%$) had an incident compared to students in the control group ($M = 4.8\%$, $SD = 21.4\%$). Because the groups were significantly different at pre-test, we performed a logistic regression to examine the impact of condition on post-test result. Having an incident at pre-test was a strong predictor of having an incident at post-test, $OR = 2.59$, $z = 4.61$ $p <. 001$, $d = .15$. There was no effect of condition on drug and alcohol referrals. Approximately 1.9% ($SD = 13.7\%$) of students had a drug or alcohol related referral at post-test.

Grades

Grade averages

English/Language Arts. We first examined student grades in English/language arts. There was a significant difference at pre-test between the treatment and control groups, $t(921) = 2.30$, $p < .05$, $d=.15$. Students in the treatment condition ($M = 80.3$, $SD = 9.7$) had significantly lower 8th grade English grades than did students in the control condition ($M = 81.8$, $SD = 10.3$). Because there was a difference at pre-test, we examined the relationship between condition and grade at post-test using multiple regression, with grade at pre-test and condition as predictor variables. Grade at pre-test was a significant predictor of grade at post-test, $t(920) = 21.17$, $p < .001$, $d=1.39$, $R^2 = .33$. Not surprisingly, students with higher 8th grade English grades tended to have higher 9th grade English grades. Condition was not a significant predictor of grade.

Mathematics. Next, we looked at grades in mathematics. The control group had slightly higher scores ($M = 81.9$, $SD = 10.1$) than the treatment group ($M = 80.7$, $SD = 8.8$) at pre-test, but the difference was only marginally significant, $t(891) = 1.75$, $p = .08$, $d = .12$. There was no difference between conditions at post-test. Grades decreased over time for both groups, but another t-test revealed that the control group ($M = -4.85$, $SD = -10.09$) had a significantly higher drop in math grade than the treatment group ($M = -3.66$, $SD = -8.15$), $t(891) = 1.94$, $p = .05$, $d = .13$

A multiple linear regression indicated similar findings to those found for English/language arts. Grade at pre-test was a significant predictor of grade at post-test, $t(890) = 23.07$, $p < .001$, $d=1.54$, $R^2 = .37$. Students with higher 8th grade math scores tended to have higher 9th grade math scores. Condition did not predict post-test mathematics grade when controlling for the prior year's score.

Science. There were no differences in student grades in science at pre- or post-test. As with the other two subjects, student grades dropped significantly during the transition from middle to high school. Students, on average had a mean science grade of 83.1 ($SD = 8.9$) at pre-test and 77.5 ($SD = 11.1$) at post-test.

Social Studies. In social studies, like English/language arts, there was a pre-

existing difference between conditions at pre-test, t (659) = 2.08, $p < .05$, $d=.16$. Students in the treatment condition ($M = 81.8$, $SD = 8.2$) had significantly lower 8th grade social studies grades than did students in the control condition ($M = 83.4$, $SD = 11.0$). Because there was a difference at pre-test, we examined the relationship between condition and grade at post-test using multiple regression, with grade at pre-test and condition serving as predictor variables. Grade at pre-test was a significant predictor of grade at post-test, t (658) = 18.2, $p < .001$, $d=1.42$ $R^2 = .33$. There was not an effect of condition on social studies grades.

Overall Average. Finally, we combined student averages in each of the four core subjects to arrive at an average grade. There was a pre-existing difference between conditions at pre-test, t (924) = 2.06, $p < .05$, $d=.14$. Students in the treatment condition ($M = 81.1$, $SD = 7.3$) had significantly lower 8th grade average grades than students in the control condition ($M = 82.2$, $SD = 9.0$). Because there was a difference at pre-test, we next examined the relationship between condition and grade at post-test using multiple regression, with grade at pre-test and condition as predictor variables. Grade at pre-test was a significant predictor of grade at post-test, t (922) = 31.8, $p < .001$, $d=6.63$. Condition was a marginally significant predictor of grade, t (922) = 1.7, $p = .08$, $d=.11$. The overall R^2 value of the model was .52. Students who had the same 8th grade average were predicted to have a slightly higher 9th grade average if they were in the treatment condition rather than the control condition.

Passing

We next examined passing rates in the same four subjects (English/language arts, mathematics, science, social studies) and overall for students in each condition. Approximately the same percentage of students in each condition passed English/language arts at pre-test ($M = 87.9\%$ $SD = 32.6\%$) and post-test ($M = 84.0\%$ $SD = 36.7\%$). Mathematics was much the same, with similar passing rates for each condition at pre-test ($M = 89.6\%$, $SD = 30.6\%$) and post-test ($M = 80.8\%$, $SD = 39.3\%$). Social studies passing rates were also similar for both conditions at pre-test ($M = 90.5\%$, $SD = 29.4\%$) and post-test ($M = 83.9\%$, $SD = 36.8\%$).

In science, there was a marginally significant effect of condition on pre-test passing rates, χ^2 (2, N=922) = 3.31, $p = .07$, $d = .12$. More students in the treatment condition ($M = 95.0\%$, $SD = 21.8\%$) passed science in the 8th grade than students in the control condition ($M = 91.8\%$, $SD = 27.5\%$). At post-test, this effect was even stronger, χ^2 (2, N=922) = 4.86, $p < .05$, $d = .15$. More students in the treatment condition ($M = 85.6\%$, $SD = 35.1\%$) passed 9th grade science than students in the control condition ($M = 79.9\%$, $SD = 40.1\%$).

We next performed a logistic regression to examine the impact of condition on passing science over time. Not surprisingly, passing in 8th grade was the biggest predictor of passing in 9th grade, $OR = 2.05$, $z = 7.38$, $p < .001$, $d = .24$. Condition was

a moderately significant predictor of passing science, OR = .33, z = 1.82, p = .07, d = .06. Students in the treatment group were slightly more likely to pass science regardless of prior passing than those in the control group.

Finally we examined the average passing rate of all four subject areas. There was not a significant effect of treatment on passing at pre-test. Ninety-two percent of students (SD = 27.1%) passed all of their core classes in 8th grade. At post-test, there was a significant effect of condition on passing: χ^2 (2, N=925) = 4.12, p < .05, d = .13. Students in the treatment group were more likely to pass their 9th grade classes (M = 86.8%, SD = 33.9%) than those in the control group (M = 81.7%, SD = 38.7%). See Figure 3.

Figure 3: The average passing rate for core subjects was higher for the School-Connect treatment group than the matched control group in 9th grade. The control group had a much higher drop in passing rates from 8th to 9th grade.
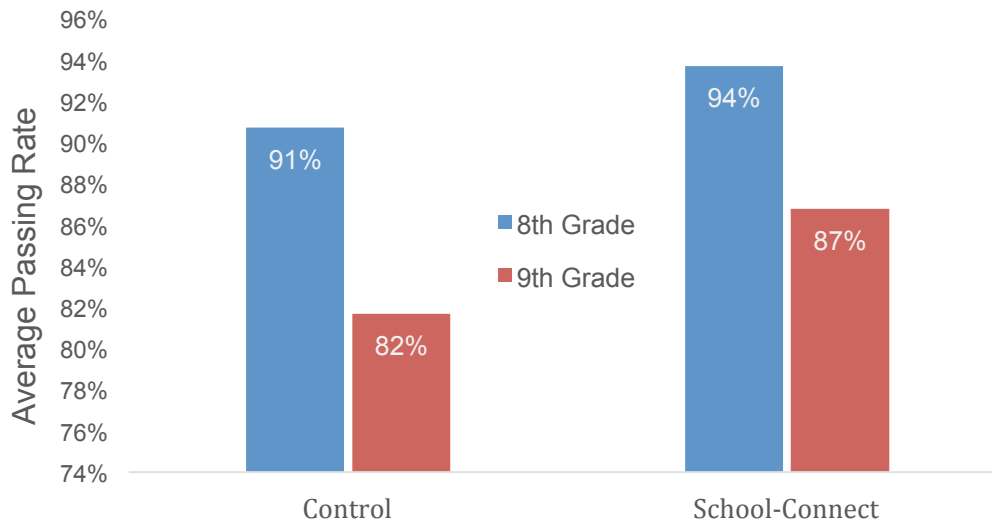
We next performed a logistic regression to examine the impact of condition on the average passing rate from pre- to post-test. As with other subject areas, prior passing was the best predictor of 9th grade passing, OR = 1.78, z = 5.34, p <. 001, d = .18. There was also a main effect of condition on passing, OR = 1.78, z = 2.07, p <. 001, d = .07. These main effects were subsumed by an interaction between condition and prior passing information, OR = 1.67, z = 2.92, p <. 01, d = .10. For the small number of students who had an overall 8th grade average that was failing, the model predicted that control students had an equal likelihood of passing in 9th grade. Treatment students, on the other hand, had a much higher likelihood of failing in 9th grade if they failed in 8th grade. However, for the rest of the students in the sample (i.e., about 92%), who had an overall average in 8th grade that was passing, students in the treatment condition were predicted as much more likely to pass than their peers in the control group.

Six Month Follow Up

We next examined six-month follow up data in the above categories. Our goal was to examine the long-term impact of the program. For that reason, we examined change from 8th grade to the first semester of 10th grade. Only students with data at all three time points were included in each analysis. Because the sample of students who had data at all three time points was slightly smaller, the means for 8th grade are once again presented in the narrative.

Absences

There was not a difference between conditions in terms of the number of absences at pre-test or six-month follow-up; students, on average, were absent for 8.4 days (SD = 9.8) in 8th grade and 4.8 days in the first semester of 10th grade (SD = 6.1). The apparent drop in absences was likely due to the fact that only one semester of data was used at follow-up versus two semesters at pre-test.

Discipline

Total incidents

About the same percentage of students in both conditions received a disciplinary referral in 8th grade (M = 28.7%, SD = 45.3%). However, at follow up, significantly fewer students in the treatment condition (M = 11.4%, SD = 31.8%) received a referral compared to students in the control condition, (M = 19.4%, SD = 39.6%; χ^2 (2, N=896) = 10.3, p < .01, d = .22).   The percentage of students who received a referral dropped overall from 8th to 10th grade, but a large reason for this drop was that the referral data at six-month follow up was based on only one semester of data (compared to two semesters at 8th grade).

Next, a logistic regression was performed to examine the impact of condition over time on the number of disciplinary incidents. Not surprisingly, having a disciplinary incident in any category in 8th grade was a significant predictor of having another disciplinary incident in 10th grade, OR = 2.11, z = 10.3, p <. 001, d = .34. There was also a significant effect of condition, OR = -.68, z = 3.28, p <. 01, d = .11. Students in the treatment condition were less likely to receive a referral in 10th grade, regardless of previous offenses.

Disciplinary categories

Rude to Adult. First we examined the number of times that students were cited for being rude to an adult. There were no differences between conditions at pre-test. On average, about 13.3% (SD = 34.1%) of students received a disciplinary referral for being rude to an adult. At six-month follow up, there was also no

difference between the conditions. On average, only 2.8% of students (*SD* = 16.5%) received a referral for being rude in the first semester of 10th grade.

Insubordination. In terms of insubordination, there were no differences between the conditions. Approximately 11.2% of students (*SD* = 31.5%) received a citation for insubordination in 8th grade, and 4.7% of students (*SD* = 21.1%) received a citation in the first semester of 10th grade. There was no effect of condition at pre-test or six-month follow up.

Disruption. Next, we examined the number of times that students were cited for being disruptive in class. There were no differences between conditions at pre-test. On average, about 10.0% (*SD* = 30.0%) of students disrupted class in 8th grade. At follow up, in the first semester of 10th grade, only 2.7% of students (*SD* = 16.2%) in both conditions received a referral for disrupting class. Unlike at post-test, there was no effect of condition on disruptive behavior.

Drugs and Alcohol. Finally, we examined the percentage of students who received a citation for a drug or alcohol related incident. There was a significant difference between the treatment and control group at pre-test, χ^2 (2, *N*=896) = 5.77 , *p* < .05, *d* = .16. Fewer students in the treatment group (*M* = 1.8%, *SD* = 13.2%) had an incident compared to students in the control group (*M* = 4.9%, *SD* = 21.6%). Because the groups were significantly different at pre-test, we performed a logistic regression to examine the impact of condition on the six-month follow-up result. Having an incident at pre-test was a strong predictor of having an incident at six-month follow-up, *OR* = 2.95, *z* = 4.86, *p* <. 001, *d* = .16. There was not an effect of condition on drug and alcohol referrals at follow-up.

Grades

Grade averages

We first examined student grades in English/language arts. There was a significant difference at pre-test between the treatment and control groups, *t*(811) = 2.63, *p* < .01, *d*=.18. Students in the treatment condition (*M* = 80.8, *SD* = 9.3) had significantly lower 8th grade English grades than did students in the control condition (*M* = 82.6, *SD* = 9.9). Because there was a difference at pre-test, we examined the relationship between condition and grade at follow-up using multiple regression, with grade at pre-test and condition as predictor variables. Grade at pre-test was a significant predictor of grade at six-month follow-up, *t* (809) = 16.54, *p* < .001, *d*=.50. Condition was also a significant predictor *t* (809) = -2.63, *p* < .01, *d* = .18. Students in the treatment group had significantly lower scores in 10th grade English, even when their 8th grade scores were taken into account.

Next, we looked at grades in mathematics. At pre-test, the control group (*M* = 82.8, *SD* = 9.4) had slightly higher scores than the treatment group (*M* = 81.7, *SD* =

8.3) but the difference was only marginally significant, t (764) = 1.75, p = .08, d = .13. There was a significant effect of condition at six-month follow-up, t (765) = 3.23, p < .01, d = .23. The control group (M = 79.0, SD = 12.9) had significantly higher scores than the treatment group (M = 76.2, SD = 10.7). A linear regression revealed the same pattern as with English. Grade at pre-test was a significant predictor of grade at six-month follow-up, t (763) = 13.41, p < .001, d=.97. Condition was also a significant predictor t (763) = -2.63, p < .01, d = .19; students in the treatment group were predicted to have significantly lower scores in 10th grade math, even when their 8th grade scores were taken into account.

There were no differences in student grades in science at pre-test or at six-month follow-up. Students, on average had a mean science grade of 83.1 (SD = 8.9) at pre-test and 77.4 (SD = 11.1) at follow-up.

In social studies, like English/language arts, there was a pre-existing difference between conditions at pre-test, t (577) = 2.80, p < .01, d=.23. Students in the treatment condition (M = 82.3, SD = 7.9) had significantly lower 8th grade social studies grades than did students in the control condition (M = 84.5, SD = 10.3). Because there was a difference at pre-test, we examined the relationship between condition and grade at follow-up using multiple regression, with grade at pre-test and condition serving as predictor variables. Grade at pre-test was a significant predictor of grade at six-month follow-up, t (576) = 12.2, p < .001, d=1.01. Condition was also a significant predictor of post-test grade, t (576) = 5.24, p < .001, d=.43. Students in the treatment condition had significantly higher grades than students in the control condition at six-month follow-up, even when 8th grade social studies grades were controlled. That is, despite having lower overall grades at pre-test, at six-month follow-up, students in the treatment condition (M = 81.8, SD = 10.7) had higher social studies grades than students in the control condition (M = 79.6, SD = 13.2, t (577) = 2.17, p < .05, d = .18). See Figure 4.

Figure 4: Students in the School-Connect treatment condition had social studies grades that were initially below the control group's. By 10th grade (the six-month follow-up), students in the treatment condition had higher grades than their peers.
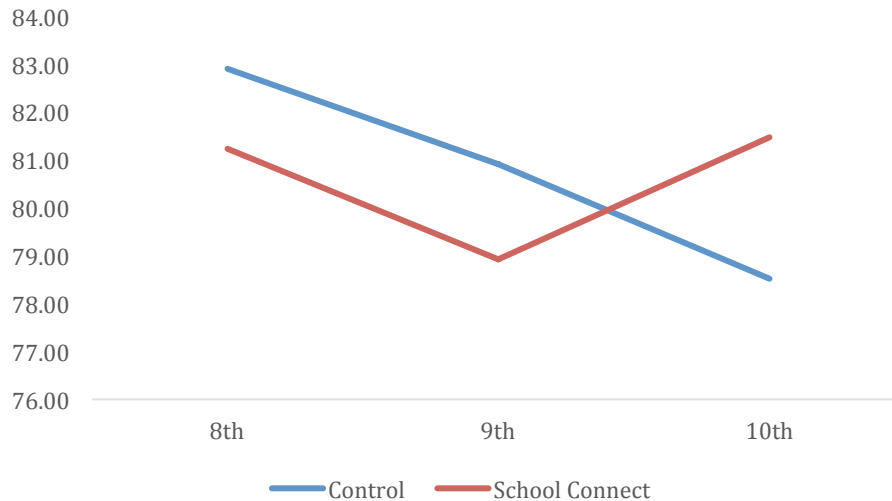
When we examined student overall averages, we once again found a pre-existing difference between conditions at pre-test, t (818) = 2.71, p < .01, d=.19. Students in the treatment condition (M = 81.6, SD = 7.0) had significantly lower 8th grade average grades than students in the control condition (M = 83.0, SD = 8.4). Because there was a difference at pre-test, we examined the relationship between condition and grade at follow-up using multiple regression, with grade at pre-test and condition as predictor variables. Grade at pre-test was a significant predictor of grade at six-month follow-up, t (817) = 20.6, p < .001, d= 1.4. There was not a significant effect of condition on average grade.

Passing

We next examined passing rates in the same four subjects (English/language arts, mathematics, science, social studies) and overall for students in each condition at six-month follow-up. Approximately the same percentage of students passed English/language arts at pre-test. However, at six-month follow-up, students in the treatment group (M = 77.2% SD = 42.0%) were much less likely to pass English/language arts than students in the control group (M = 87.2%, SD = 31.9%, t (810) = 13.0, p < .001, d=.25. A logistic regression analysis indicated that, similar to overall English grade, prior passing predicted passing at six-month follow-up (OR = 1.58, z = 6.17, p <. 001, d = .22). Condition also predicted passing at follow-up (OR = -0.74, z = -3.78, p <. 001, d = .13): students in the treatment condition were less likely to pass English/language arts, regardless of prior passing.

For social studies, passing rates were similar between conditions at pre-test (M

= 91.0%, *SD* = 31.9%). However, at six-month follow-up, there was a significant difference in passing between the two conditions, *t* (577) = 9.81, *p* < .01, *d*=.26. Unlike English/language arts, students in the treatment group were much more likely to pass social studies (*M* = 91.9%, *SD* = 27.4%) than students in the control group (*M* = 83.0%, *SD* = 36.7%). A logistic regression analysis indicated that, as with English passing rates, prior passing predicted passing at six-month follow-up (*OR* = 1.18, *z* = 4.00 *p* <. 001, *d* = .17). Condition also predicted passing at follow-up (*OR* = 0.77, *z* = 3.43, *p* <. 001, *d* = .14). Students in the treatment condition were much more likely to pass social studies than students in the control condition, even if they did not pass social studies at pre-test.

There were not significant differences in passing percentages between conditions at pre-test or six-month follow-up for mathematics (pre-test *M* = 90.1%, *SD* = 29.8%; follow-up *M* = 79.6%, *SD* = 40.3%), science (pre-test *M* = 93.6%, *SD* = 24.5%; follow-up *M* = 81.2% *SD* = 39.0%), or in students' overall averages (pre-test *M* = 92.7%, *SD* = 26.0%; follow-up *M* = 84.1%, *SD* = 36.6%).

DISCUSSION

The transition from eight to ninth grade is one of the most difficult that students have to make in their academic careers. A great number of studies have discussed the difficulties students face during this transition, including achievement loss and increased risk of dropout. A recent research brief from the University of Chicago described it as the "make-it-or-break-it" year (Rosenkranz, et al., 2014). The School-Connect curriculum aims to improve high schools students' social, emotional, and academic skills. In the current study, we examined the effects of the curriculum on 485 9th graders in an urban school district. We conducted both a post-test analysis and a six-month follow up analysis of district data on grades, discipline, and attendance.

Our three major hypotheses were: (a) School-Connect student will receive fewer disciplinary referrals, particularly in key areas of interest than their non-treatment peers (a) School-Connect students will have higher grades and passing rates than students in the matched control group, and (c) School-Connect students will have fewer absences than students in the matched control.

At post-test, we found evidence that supported our first two hypotheses. In terms of discipline, we found that although students had similar rates of referrals in 8th grade, students in School-Connect were half as likely to receive a referral in 9th grade than their peers in the control group. They were particularly less likely to receive a referral for creating a disruption in class and for being rude to adults, two skills that School-Connect teaches directly. Students who were served by School-Connect had a lower number of drug and alcohol related referrals in 8th grade, and those referrals continued to drop in 9th and 10th grade to a point where they were almost negligible.

Follow up data from the end of the first semester of 10th grade indicated that students who had taken the School-Connect curriculum continued to have fewer referrals than those in the matched control group. We did not see significant lasting effects on receiving referrals for rudeness or classroom disruption. However, the overall percentage of students receiving referrals in 10th grade was quite low on average for these categories (2.7% for rudeness to adults, 4.7% for insubordination, 2.6% for disruption, and 1.6% for drug and alcohol related offenses).

Grades tend to drop for students during the transition from middle school to high school (Rosenkranz, et al., 2014). Grades are particularly important to monitor both in terms of short-term and long-term success, as they have been shown to better predict college outcomes than standardized tests (Geiser and Santelices, 2007). Students in the control group had higher pre-test grades than the treatment group in English, mathematics, and social studies, and a higher total average in their core subjects. At post-test (9th grade), student grades declined significantly across both groups. However, School-Connect students had smaller drops than control students in math and their average grades in core subjects. They also had marginally higher average grades than students in the control condition when accounting for the previous year's grades.

Despite the treatment group's lower average grades at pre-test, we did not find significant differences in passing rates at pre-test between the conditions. However, at post-test, students in School-Connect were more likely to pass 9th grade science than the matched control. They were also significantly more likely to have an overall average that was above passing in their four core subjects when controlling for prior passing than students in the matched control.

Six months after treatment ended, grades decreased in English/language arts and math more for students who were formerly in School-Connect classrooms than their control group peers. Passing rates for School-Connect students also declined relative to the control group in these two subjects. It is important to note that there were pre-existing differences between the control and treatment group in these two subject areas. *Not* having an intervention in 10th grade may have caused the gap between the two conditions to further widen. Studies indicate that math and English/language arts abilities are highly correlated with early learning experiences and require intervention targeted specifically at math and reading skill development (Dougherty, 2013; Geary, Hoard, Nugent & Bailey, 2013; Langer, 2001). Programs that are most successful in improving and maintaining students' grades, graduation rates, and college readiness typically provide ongoing intervention over years, rather than one semester or one year (Hooker & Brand, 2009). While School-Connect offers additional content and guidance for grade-level advisories, the schools participating in this study did not provide ongoing School-Connect lessons in 10th grade advisory.

On a positive note, grades and passing rates for School-Connect students improved relative to the control group in social studies at follow-up. In fact, despite having lower pre-test grades, students who participated in School-Connect had *higher* grades in social studies at six-month follow-up than their peers. This could possibly be related to students not needing the same level of prior knowledge and skill base for social studies that they need for math and English/language arts.

The results of our analyses did not support our third hypothesis. Attendance rates for both conditions were largely the same for both conditions at pre-test, post-test, and at six-month follow-up. Both control and treatment students attended approximately 94.8% of the total school days. The average daily attendance rate for United States secondary schools is approximately 91.1% (U.S. Department of Education, 2011), indicating that both group's attendance rates were above average.

Limitations & Recommendations for Future Studies

Although we believe these data make important contributions, it is important to acknowledge the limitations of our work. The first limitation concerns sample. Although the overall sample size was large, the School-Connect curriculum was presented in classrooms at only three of 18 high schools in the district. Most students were selected by teachers and/or the administration for the freshman seminar because they were identified as "at-risk" and needed additional assistance to help improve classroom behavior, study skills, and overall school climate. Although students in the control condition were carefully matched on gender, ethnicity, at-risk status, and other demographic characteristics, there may have been pre-existing differences between conditions that we were unable to measure.

One indication that this occurred was the presence of pre-existing differences in student grades in some subject areas, with students in the control group having higher pre-test grades in all cases. (If the sample were perfectly matched, there should be no pre-test differences.) Some of the mixed findings that we saw for grades, particularly at six-month follow-up, may be due to these potential pre-existing differences. Future studies should take this into account and use GPA, and, potentially, previous standardized test scores, to create the matched control group.

Another limitation concerned the six-month follow-up data. Students had only completed one semester of 10th grade at follow-up, and thus had fewer chances to accrue absences and disciplinary referrals.

A final limitation was the limited number of measures administered. We were unable to arrange, for example, for the entire sample to take pre- and post-test surveys tapping their sense of social competence, coping skills, and motivation to do well in school. Such measures may have shown a much stronger impact of School-Connect on students than the data that were available. For example, teacher surveys administered to School-Connect teachers in the district found that the highest-rated

improvement areas were classroom climate, emotional management, teacher-student relationships, and respecting others. However, administering a student survey tapping these domains to both students receiving the School-Connect curriculum and control students was not feasible and will not be feasible in the future, particularly given the relatively small samples from each school that were used in the control condition.

We plan to address many of these limitations in a future study of School-Connect in this and other districts. We believe that, despite these limitations, we have strong evidence that School-Connect has impacts on students' academic and behavioral outcomes.

CONCLUSIONS

The findings of this study indicate that School-Connect has positive near-term effects on discipline, grades, and passing rates. Six months after intervention, students who participated in the program still had lower disciplinary rates than those in a matched control group. The long-term effects were mixed for grades. Overall, School-Connect is an intervention that has the potential to help ninth grade students – who are most at-risk – stay in school and succeed.

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