CENTER FOR SUPPORTIVE SCHOOLS

Improving Educational Outcomes in Low-Income Rural High Schools in North Carolina through a High School Transition and Cross-Age Peer Mentoring Model

Investing in Innovation – Development Grant Application

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A. SIGNIFICANCE. The Center for Supportive Schools (CSS) is applying for a Development Grant in response to *Absolute Priority 5: Serving Rural Communities; Absolute Priority 4: Influencing the Development of Non-Cognitive Factors;* and the *Competitive Preference Priority: Supporting Novice i3 Applicants.* The proposed 5-year project will investigate the efficacy of a school-based, high school transition and cross-age peer mentoring program for 9th grade students designed to improve non-cognitive abilities and enhance student engagement to support academic and other school-related outcomes, known as Peer Group Connection (PGC). This project seeks to build upon the results from a single randomized control trial[1] that show improved educational outcomes for low-income students. The project will serve high-need freshmen in six low-income rural North Carolina high schools. CSS and The Policy & Research Group (PRG) will partner to conduct an experimental study to measure program impacts on non-cognitive abilities and student engagement, such as perceptions of peer support for working hard and doing well in school; competence in peer relationships; aspirations for future education; valuing education; and goal-setting, decision-making, and coping skills; and examine the extent to which these impacts translate into increased on-time promotion rates, decreased dropout rates, and higher 4-year cohort graduation rates. In each of six schools and in each of two successive cohorts, incoming 9th grade students will be randomly assigned to either a treatment (PGC) or control group. Approximately 125 students in each school and cohort will be assigned to these two study groups, resulting in a total sample of approximately 1,500 students. Applicant eligibility is described in *Appx. C;* evidence of promise is described in *Appx. D.*

[1] Johnson, V., Simon, P., & Mun, E. (2014). A Peer-Led High School Transition Program Increases Graduation Rates Among Latino Males. *The Journal of Educational Research, 107,*186-196.

Response to *AP 5: Rural communities.* We will partner with at least six schools in four North Carolina LEAs that are eligible for the Rural Low Income Schools (RLIS) program: Beaufort County, Greene County, Warren County, and Yancey County. See *Table 1* below for county data and *Target Population* for additional information:

County	% students qualify for free/reduced lunch[1]	% families below poverty line[2]	Avg. 4-year cohort graduation rate over 5 years – *All students*	Avg. 4-year cohort graduation rate over 5 years – *Economically disadvantaged*	Hold a B.A. or higher (NC rate: 27.3%)
Beaufort	67.9	27.8	75.5	71.2	18.3
Greene	79.7	33.9	79.6	78.1	11.6
Warren	86.6	33.5	76.3	76.3	13.5
Yancey	58.1	27.4	82.3	75.8	17.9

Response to *AP 4: Non-cognitive abilities.* PGC is grounded in the theories of social and emotional learning (SEL), which hold that improvements in social skills and behaviors that support academic and other important school-related outcomes result from: (1) creating safe, caring, participatory school environments; and (2) improving skills, knowledge, and attitudes related to self-awareness, self-management, relationship skills, and responsible decision making. PGC provides these to 9th graders throughout their transition to high school, thereby improving school engagement, performance, and success. *Table 2* depicts results of evaluations of PGC by NC students that consistently demonstrate improvements on students' non-cognitive skills:

Percent of PGC students who responded that PGC helped them "quite a bit" or "a great amount"

Please tell us how much PGC helped you…	Objective(s) Measured	% NC students (2013-14)
Care more about graduating from school	Aspiration for future educational plans	92.1
Make better decisions	Decision-Making Skills	82.8
Improve your ability to set and achieve goals for yourself	Goal-Setting Skills	85.2
Improve communication with your peers	Communication Skills; Competence in Peer Interactions	75.1
Be more likely to ask someone for help when you have a problem	Help-Seeking Skills; Coping Skills	75.9
Develop relationships with peers who are different from you	Competence in Peer Interactions; Peer Connectedness	84.9
Feel more like you belong at your school	School Engagement/Attachment	77.4

Need for project. The proposed project will address the profound weakness in the support provided to students during the transition into high school, with a specific emphasis on influencing the development of non-cognitive factors. This transition period is often marked by increases in absenteeism, truancy, and discipline problems and declines in academic achievement and school attachment.[3] By the time they reach high school, more than half of all students are "chronically disengaged" from school.[4] Furthermore, research consistently demonstrates that students are most vulnerable for dropping out of school during and immediately following their first year of high school.[5] More students fail 9th grade than any other grade[6] and promotion rates between 9th and 10th grade are much lower than rates between other grades.[7] National public school enrollment patterns show that there is a sharp increase in the number of students enrolled in 9th grade over the last 30 years, indicating that an increasing number of students are being retained (the "9th grade bulge") and the rate at which students disappear between 9th and 10th grade has tripled over the same time period (the "10th grade dip").[8] Further, a peer mentoring approach may also help close the "mentoring gap," a national phenomenon uncovered in the 2014 report, *The Mentoring Effect.*[9] One in three young people overall and 37% of at-risk youth report they never had an adult mentor while they were growing up. Approximately 16 million youth will reach age 19 without a mentor. Through PGC, older students may help fill this gap.

Existing innovative strategies. PGC is a school-based peer group mentoring program for 9th grade students designed to improve non-cognitive abilities that support educational outcomes by immersing freshmen in safe, supportive groups led by older peer leaders. PGC is innovative in that it capitalizes on existing resources such as staff, students, and time in the school day. PGC: *trains existing school faculty members* rather than requiring non-school or additional school staff; *taps into older students*, an underutilized resource, as peer leaders who support younger

students; *ensures peer leaders receive rigorous training* through a credit-bearing daily leadership course; and *is integrated into the school day* increasing the likelihood that it becomes institutionalized and sustained over time. PGC is also a *universal intervention* designed to enhance non-cognitive skills among all students through a systems-wide approach. In addition, *intensity and duration* of PGC activities are especially robust. Peer leaders are trained in a daily leadership development class (i.e., 45 minutes, five times per week) and contact with younger students includes weekly, 45-minute mentoring sessions, all as part of their regular school schedule. Peer leaders meet with the same groups of freshmen throughout their 9th grade year.

New strategies that build on existing strategies. Previous research notes the importance of addressing capacity in high-need schools, where implementation quality and sustainability of programs like PGC can be compromised.[10,11] Therefore, the proposed project seeks to enhance high-quality program implementation by tapping into schools that are already implementing PGC with fidelity in high-need, rural NC communities to become advisors and coaches to the new PGC schools proposed for this project, providing important support as new schools try to get the program off the ground while also keeping an eye toward long-term sustainability. *The proposed project represents the first time that PGC will be implemented with a codified school peer support system in place*. In addition, peer groups will research, plan, and execute a service learning project, using a structured framework to support meaningful, youth-led community involvement through a multi-layered action research model. *The proposed project also represents the first time PGC will be implemented with service learning as an essential program component.* Therefore, we seek to couple an evidence-based program with promising new strategies for improving schools' capacity for implementation and deepening student learning.

National significance. Various studies spanning several decades have found that high schools across the country are failing to engage their students.[12] Dropping out of school has consistently been linked to student disengagement:[13] nearly half (47%) of students who drop out report being bored and disengaged from high school, 69% said they were not motivated or inspired to work hard, and 42% spent time with people who were not interested in school.[14] Despite historically high national graduation rates, the "silent epidemic" of dropout disproportionately affects minority, low-income, and other high-need students.[15] According to the 2015 *Building a Grad Nation Report*, the 2012-13 estimated national 4-year adjusted cohort graduation rate (ACGR) for public high school students hit a record high of 81.4%.[16] While there have been promising gains among Hispanic/Latino and African-American students, these subgroups still fall well below the national average at 75.2 and 70.7 percent, respectively.[17] In contrast, the ACGR for White students fell above the national average at 86.6%.[18] Graduating on time is the norm for middle- and high-income students, but not for their low-income peers. In 38 states, 85% or more of middle- and high-income students graduate high school in four years, but only two states graduate 85% or more of their low-income students on time.[19] Low-income students, students with limited English proficiency, and students with disabilities all had 4-year ACGR rates below the national average at 73.3, 61.1, and 61.9 percent, respectively.[20]

Evidence of promise. PGC seeks to improve students' non-cognitive skills and student engagement in service of improving students' academic, career, and life outcomes and has empirical evidence demonstrating its promise to impact high school graduation rates. Rutgers University conducted a randomized, 4-year longitudinal study of the effect of PGC on 4-year cohort graduation rates at one high school in an urban community serving an economically disadvantaged population. Results indicated that PGC improved graduation rates of participants

by 9 percentage points and improved the graduation rates of male participants by 18 percentage points.[21] Please see *Appx. D* for additional details on evidence.

Target population. Four North Carolina LEAs eligible for the 2014-15 Rural Low Income Schools (RLIS) program (20% or more of children ages 5-17 years served by the LEA are from families with incomes below the poverty line) and are targeted as project partners. Across these four LEAs, CSS will partner with six high schools. See *Table 3* for school profiles:

District/ LEA	High School	% Economically Disadvantaged Students in District[22]	Average District 4-year cohort graduation rate over 5 years – *All students*[23]	Average District 4-year cohort graduation rate over 5 years – *Economically Disadvantaged Students*[24]	Average District 4-year cohort graduation rate over 5 years *African American Students*[25]	Average District 4-year cohort graduation rate over 5 years – *Latino Students*[26]	% of Children from Families below Poverty Line[27]
Beaufort	Northside HS	67.9	75.5	71.2	69.7	66.6	27.8
Beaufort	Southside HS	67.9	75.5	71.2	69.7	66.6	27.8
Beaufort	Washington HS	67.9	75.5	71.2	69.7	66.6	27.8
Greene	Greene County HS	79.7	79.6	78.1	78.5	72.8	33.8
Warren	Warren County HS	86.6	76.3	76.4	75.8	64.5	33.5
Yancey	Mountain Heritage HS	58.1	82.3	75.8	N/A	54.2	27.4

Needs and assets of rural communities. U.S. poverty rates are higher in rural than in urban areas. In 2012, 17.7% of people living in rural areas of the country were poor, compared to 14.5% in urban areas and 15% nationwide.[28] Students from poor rural communities drop out at more than twice the national average,[29] and are at disproportionate risk for teen pregnancy[30] and drug and alcohol use.[31,32] Rural students, especially in low-income communities, have less access to college and career preparation activities and counseling to help prepare for their futures.[33] Rural communities can also face unique and considerable challenges to effectively implementing

interventions to support students' non-cognitive skill development and educational outcomes, due to geographic isolation, a dearth of activities, and lack of trained staff.[34,35,36] However, rural schools are also characterized by long-standing and supportive relationships between teachers, students, and families, and frequently serve as the community hub for activities and socialization.[37,38,39] There is also a growing body of evidence to suggest that *social capital,* including sense of community and neighborhood cohesion, may represent a considerable asset for rural communities and may be significantly higher for rural adolescents than urban adolescents.[40,41] PGC addresses many of the needs of rural communities (e.g., peer mentors and mentees are physically located in the same school building; PGC offers a comprehensive curriculum of weekly activities; PGC provides extensive, ongoing training for faculty advisors and peer mentors). PGC also capitalizes on the assets of adolescents' sense of community and cohesion and leverages them to improve social, emotional, and academic outcomes. This project may reveal PGC as a highly effective and practical strategy for high-need, rural schools.

Theoretical basis. Social and emotional learning (SEL) theory "teaches the skills we all need to handle ourselves, our relationships, and our work, effectively and ethically."[42] A mounting body of evidence clearly indicates that, compared to students who do not participate in such programs, students who receive SEL programming academically outperform their peers, get better grades, and graduate at higher rates.[43] SEL has been found to improve motivation, commitment, attendance, study habits, cooperative learning, grades, test scores and subject mastery.[44] Peer group interactions and school culture and climate have consistently been named among the most influential factors on student learning.[45] PGC is also grounded in social learning theory. Diverse groups of students from different levels of risk for school dropout participate together in the program. Lower-risk students, who demonstrate fewer overt signs of distress but may still be

vulnerable to dropout, receive peer and adult support to overcome obstacles that could eventually lead to more serious problems. Youth at both high and moderate risk for dropout benefit from exposure to more motivated and academically successful students in a supportive setting.[46,47]

Contributions to the field. The proposed project will build strong evidence for adopting a school-based, cross-age peer mentoring model for promoting students' non-cognitive skill development to ensure a successful transition from middle to high school and to improve academic achievement. While peer interventions like peer helping, counseling, and tutoring are common, authentic *cross-age peer mentoring* models like PGC are distinct in their emphasis on the development of a mutually supportive, close relationship between different-aged peers over an extended period of time.[48] In addition, the mentor's focus is not on interpersonal or academic deficiencies but rather on facilitating youth development in domains such as interpersonal skills, connectedness to school, prosocial bonding, social skills, and self-esteem. The prevalence of true cross-age peer mentoring is difficult to determine and empirical research on these models is extremely limited.[49] *According to a 2009 review, no large-scale randomized studies of the effects of cross-age peer mentoring programs on mentees have been reported in the literature.*[50] Experts strongly recommend robust efficacy trials of peer mentoring models to help establish a sufficient empirical base that will yield recommendations for specific practices and approaches.[51] A comprehensive search of the literature also revealed no comparable studies of the impact of peer mentoring programs on education outcomes in low-income rural LEAs. Several of Karcher's studies[52,53,54] were conducted in rural Wisconsin; however, these studies had much smaller sample sizes (73 - 120 participants), were not specific to low-income schools, and did not assess academic outcomes of peer mentoring. While no search can be assumed to identify all relevant studies, our search suggests that this may be the first large-scale study of its kind.

Replicability. The replicability of PGC is evidenced by its successful track record of implementation in over 200 high schools in urban, suburban, and rural communities ranging from high-poverty to more affluent across 13 states. The initial investment to launch PGC is typically a one-time-only occurrence that pays for CSS's training, curriculum, and technical assistance to help the program become integrated into the fabric of the school day and sustained in perpetuity without ongoing support. PGC taps into the critical resources that schools already have in place (students and faculty) and results in a recurring cost to schools of only a few dollars per student per year. PGC's integration into the school day provides a built-in mechanism for participation and retaining participants in contrast to extracurricular models that are vulnerable to a variety of scheduling, transportation, and commitment challenges. Because of this, PGC is highly replicable, scalable, and demonstrates greater likelihood than many other approaches of becoming institutionalized and sustained over time. We are also confident that the new strategies proposed within the present project will become replicable components of PGC.

B. PROJECT DESIGN AND MANAGEMENT PLAN. Goals, objectives, and outcomes. The proposed project has four goals: 1) build the capacity of low-income rural high schools serving high need students to implement PGC; 2) increase non-cognitive abilities and student engagement; 3) improve academic achievement as measured by decreased dropout rates, improved on-time promotion rates to the next grade level, and improved 4-year cohort graduation rates; and 4) obtain teacher and principal support for expansion and sustainability and prepare for scale. Specific objectives and outcomes are listed in *Table 4*:

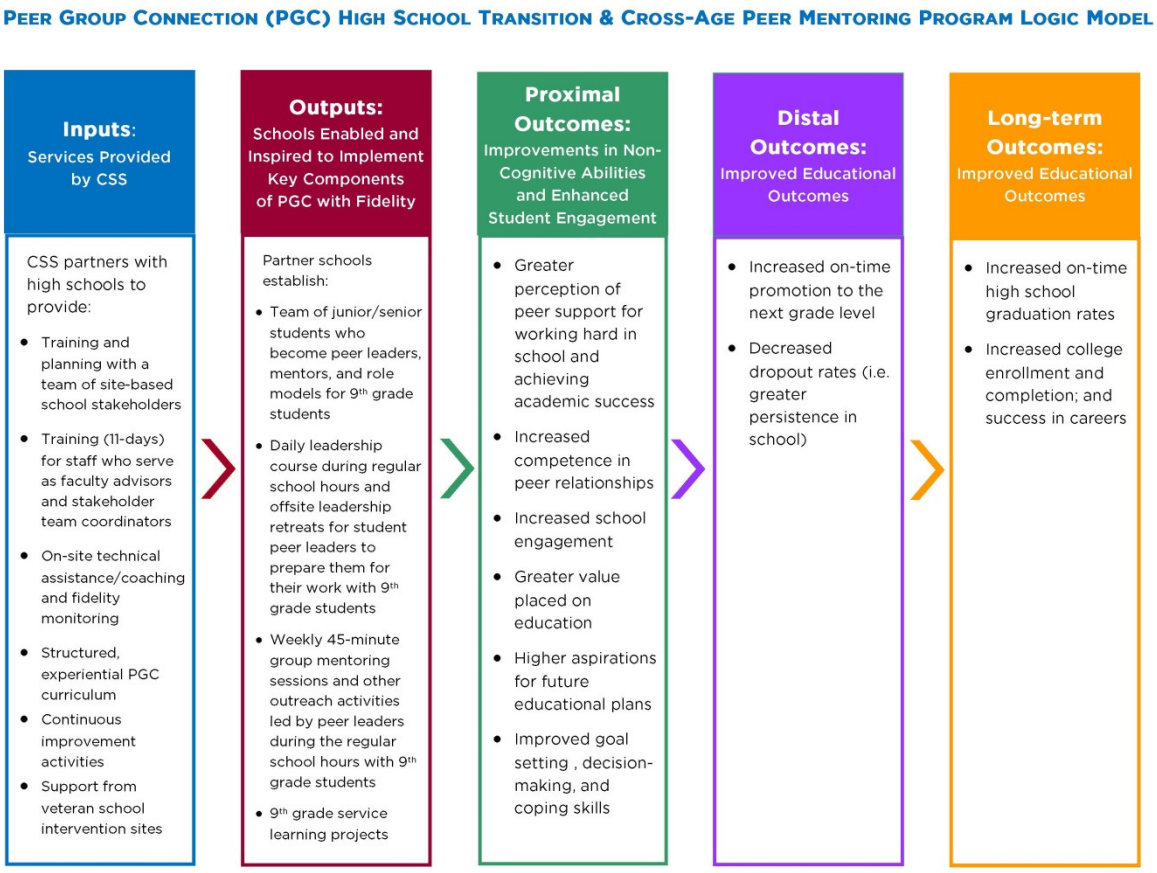
Goal #1: Build the capacity of 6 low-income rural high schools serving high need students in North Carolina to implement the *Peer Group Connection (PGC)* high school transition and cross-age mentoring program
Obj. 1.1 Each partner school will convene a stakeholder team of 6-10 key district and school-level personnel to plan and prepare for implementation, and participate in on-site consultation provided by CSS
Obj. 1.2 A team of at least three school staff from each partner school will participate in 11-days of comprehensive training to prepare them to implement PGC
Obj. 1.3 Each partner school will recruit and identify 16-20 junior and/or senior peer mentors to enroll in a daily leadership course to prepare them to be effective mentors and facilitators for freshmen

Obj. 1.4 In each partner school, 250 students will enroll in a randomized control trial (RCT) over two years.
Obj. 1.5 Each partner school will offer a credit-bearing daily PGC leadership course for the 16-20 junior and/or senior peer mentors
Obj. 1.6 Each partner school will conduct weekly outreach sessions with freshmen
Goal #2: Improve non-cognitive abilities and student engagement
Obj. 2.1 After one year of program participation and as compared to students in the control group, PGC participants will demonstrate a .10 *sd unit* higher score on measures of **perception of peer support for working hard in school and achieving academic success.**
Obj. 2.2 After one year of program participation and as compared to students in the control group, PGC participants will demonstrate a .10 *sd unit* higher score on a measure of **competence in peer relationships.**
Obj. 2.3 After one year of program participation and as compared to students in the control group, PGC participants will demonstrate a .10 *sd unit* higher score on a measure of **school engagement**.
Obj. 2.4 After one year of program participation and as compared to students in the control group, PGC participants will demonstrate a .10 sd unit higher score on a measure of **valuing education.**
Obj. 2.5 After one year of program participation and as compared to students in the control group, PGC participants will demonstrate a .10 sd unit higher score on a measure of **intentions/aspirations for future education.**
Obj. 2.6 After one year of program participation and as compared to students in the control group, PGC participants will demonstrate a .10 *sd unit* higher score on measures of **competence in goal setting, decision-making and coping skills.**
Goal #3: Improve academic achievement as measured by decreased dropout rates, increased on-time promotion rates, and increased 4-year cohort graduation rates
Obj. 3.1 Beginning in Year 2 and each year thereafter, students in the treatment group will demonstrate an aggregate **on-time promotion rate** that is 5% higher than the on-time promotion rate among students in the control group.
Obj. 3.2 Beginning in Year 2 and each year thereafter, students in the treatment group will demonstrate an aggregate **dropout rate** that is 5% lower than the dropout rate among students in the control group.
Obj. 3.3 By the end of the grant period, students in the treatment group will demonstrate an aggregate **4- year cohort graduation rate** that is 5% higher than the 4-year cohort graduation rate among students in the control group.
Goal #4: Obtain teacher and principal support for expansion and sustainability and prepare for scale
Obj. 4.1 Expand the PGC model to reach all freshmen in a school in the third year of implementation
Obj. 4.2 Ensure the PGC model continues to operate at the conclusion of the grant period
Obj. 4.3 Package the intervention with any revisions made over the course of the grant period
Obj. 4.4 Disseminate project findings and lessons learned

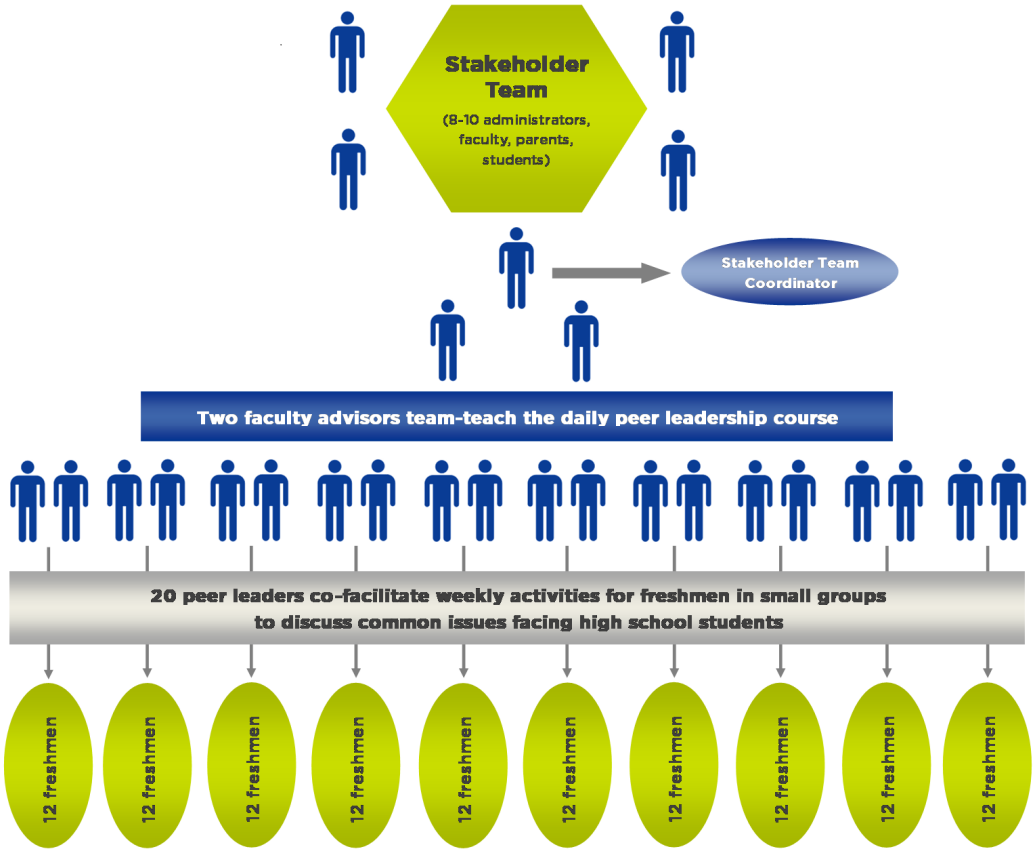
Potential risks. While we expect these to be minimal, the following may occur (*Table 5*):

Potential risks	Steps to mitigate
Ability to gain access to all necessary data	CSS has obtained documentation from each partner district/school supporting this project and agreeing to provide evaluation data. Funds are budgeted to support district time in collected the needed data. CSS has developed a formalized process for securing data sharing agreements from district partners which has been successfully executed on other grants. In the unlikely event that insurmountable challenges exist, CSS will engage the North Carolina Education Research Data Center (NCERDC)[55] which stores and manages data on the state's public schools, students, and teachers.
Administrative and staff turnover	CSS will develop a stakeholder team at each school, inclusive of district representation, so that the program is supported as both a district and school initiative. The Project Director will conduct a meeting with district leadership, the principal, and the rest of the stakeholder team immediately upon substantive staff changes. CSS will train 2 stakeholders, in addition to the 2 faculty advisors and Stakeholder Team Coordinator, at each school so that there are trained individuals who can step in immediately should there be staff turnover.

Logic model. The logic model for achieving the goals and objectives is depicted in *Figure 1*:



Project design and intervention components. PGC trains select school faculty to prepare older students, specifically high school juniors and seniors, to mentor and educate younger students, specifically freshmen. PGC's launch begins with the assembly of a ***stakeholder team*** of administrators, including the school scheduler, as well as faculty, parents, and students and led by a coordinator, who receive the training, tools, and resources necessary to meet regularly to plan for implementation of PGC, troubleshoot obstacles, and ensure PGC's long-term sustainability. We will serve nearly all of the high schools in the target counties and have worked closely with district leadership in each of the LEAs to ensure greater impact of this initiative than could be expected by solely working with individual schools. See *Appx. J-4* and *Figure 2:*



Faculty members are carefully selected by the stakeholder team to serve as ***faculty advisors***. CSS provides the stakeholder team with written protocols to select faculty advisors, including the *PGC Guide for Selecting Faculty Advisors* which includes resources for assessing qualifications and fit. Faculty advisors should be exceptional faculty members who consistently demonstrate leadership and excellence among their peers. Prospective advisors are assessed for criteria within general categories such as attitude, character, interpersonal skills, communication skills, and experience. Specifically, faculty advisors must demonstrate evidence of: enthusiasm for the PGC program and peer mentoring; commitment to positive youth development; demonstrated ability to follow through on commitments; ability to work collaboratively; openness to professional development and feedback; creativity and energy; and general program management skills. Faculty advisors participate in an 11-day intensive train-the-trainer course over a 1½-year period to learn how to run the program and teach the daily leadership course.

Juniors and/or seniors are carefully selected by faculty advisors to become ***peer leaders*** and serve as mentors for 9th graders. CSS provides the stakeholder team with guidance and written protocols to select peer leaders, including a rubric for assessing qualifications and fit. Prospective peer leaders are assessed for criteria within general categories such as attitude, character, interpersonal skills, communication skills, and experience. Prospective peer leaders complete a written application, participate in a group interview, and obtain faculty recommendations. Specific criteria for selection includes a clear commitment to the role of mentor; ability to work collaboratively; friendliness; appeal to younger students as a role-model; demonstrated leadership; ability to communicate clearly; willingness to participate and share opinions in a group setting; ability to offer encouragement; and self-confidence. Students must also demonstrate adequate academic performance, strong attendance, and no serious discipline infractions. CSS supports faculty advisors to select a diverse group of peer leaders that accurately reflects the racial/ethnic composition of the school community, neighborhood affiliation, socio-economic status, known cliques, and an equal number of girls and boys.

Peer leaders are trained and conduct weekly outreach sessions as part of their regular school schedule in a ***daily, 45-minute leadership development class*** typically offered as an elective course for credit. Within the daily class, peer leaders receive 4 days of training for every 1 day of mentoring they provide to freshman. This helps peer leaders prepare to lead their groups each week and debrief following each session, sharing successes, challenges, and suggestions for handling issues. As a school-based program that is integrated into the school day, PGC provides a built-in mechanism for retaining participants in contrast to extracurricular models.

CSS works closely with faculty advisors to assign students to ***peer groups***. Within each school, the research team will randomly assign 9th grade students to peer groups, with

stratification by gender, race/ethnicity, and at-risk status (i.e. missing 20+ days and/or having 1+ suspensions the previous year). PGC typically replaces one day per week of physical education (PE) for freshmen. CSS also provides a structured, 2-hour protocol for co-leader selection and assignment to lead peer groups (i.e., co-leader teams should be male/female and complement one another's skills and interests). CSS works closely with administrators to coordinate scheduling.

Peer leaders work in pairs to co-lead groups of 10 to 14 freshmen in ***outreach sessions*** once each week during the school day in which the freshmen participate in engaging, hands-on activities and simulations. In peer groups, freshmen spend approximately six weeks engaged in activities designed to help students get to know one another, build a cohesive group, and set ground rules for working together. Following this, sessions focus on skill development through ***experiential learning*** activities. See *Appx. J-6* for curriculum overview.

As noted above, the proposed project represents the first time that PGC will be implemented with a codified ***veteran/new school peer support system*** in place**.** In 2010, we began a partnership with Sampson County Schools (SCS) to implement PGC in the district's highest need high schools. This district serves a low-income community with 30.3% children from families below the poverty line and more than 76% receiving free or reduced lunch.[56] Additionally, a substantial percentage of students in SCS are Hispanic/Latino (35%) or African American (19%), representing the two racial groups with the lowest graduation rates.[57] In 2013-14 the 4-year cohort graduation rate in Sampson County was 80.2%[58] compared to 65.6%[59] in 2010-11, the year prior to PGC implementation in the district. PGC has become a vital and thriving part of SCS culture and the program has now been implemented district-wide. We will tap into the "veteran" PGC schools in SCS to become advisors and coaches to the "new" PGC schools proposed for this project, providing important support as new schools try to get the

program off the ground. This approach may help increase buy-in at the new schools ("if they can do it, so can we") and even provide a healthy dose of competition to drive new schools to excel ("if they can do it, we can do it better"). This can also create a support network for faculty advisors and students through shared events, school visits, and social media.

In addition, the proposed project represents the first time PGC will be implemented with ***service learning*** as an essential program component designed to support meaningful, youth-led community involvement. Service learning has demonstrated significant positive effects on students' academic performance, values, self-efficacy, leadership, and interpersonal skills.[60] During the second half of the year, each peer group and their peer leaders will research, plan, and execute a service learning project using a structured, multi-layered action research model in which students not only participate in community service, but also assess the need for the project, plan its components, observe its effect, evaluate outcomes, and reflect.

Management plan; Roles and responsibilities of partners. ***CSS*** will oversee all aspects of the project, and will: recruit, confirm, and retain LEA and school partners; provide stakeholder development at each school; train school-based faculty advisor teams; provide on-site technical assistance and coaching; fidelity monitoring; continuous improvement; implementation-related performance measures; and work closely with the evaluation team at PRG. ***PRG*** will conduct the independent, RCT evaluation and will obtain IRB approvals and parent consent; conduct random assignment procedures; finalize and administer the student survey; obtain student record data; analyze all data; submit progress reports; and collaborate with CSS to develop articles and conference presentations to disseminate study results. ***School staff*** at each program site will implement PGC, manage day-to-day project activities, and provide all requested data per the evaluation requirements. Through the guidance of CSS, ***Sampson County Schools (SCS)*** will

provide mentorship to the new LEAs as they launch PGC. SCS will participate in a continuous improvement process along with the LEAs to assist CSS in making program enhancements and any necessary course corrections. The ***Einhorn Family Charitable Trust (EFCT)*** has already committed the required 15% matching grant of $354,893. (See *Appx. J-2* for project personnel and organizational structure.) See *Appx. G* for MOUs and commitment letters from partners.

Project staff. CSS and PRG will each have a designated lead. ***Sherry Barr, Psy.D.,*** VP of Operations and Evaluation at CSS, will serve as Project Director (PD). Dr. Barr has been on staff at CSS for 15 years and has managed projects in a wide variety of schools. She has extensive expertise directing federally and state-funded studies and is a previous co-investigator for the multi-site, NIDA-funded study of PGC in an urban high school and current PD for two USDHHS-funded projects to evaluate the impact of peer-based programs on teen sexual behavior and educational outcomes in high-need urban and rural schools. She has a successful track record of recruiting and partnering with rural NC high schools. ***Eric Jenner, Ph.D, Lead Evaluator, PRG,*** directs research projects relating to the evaluation and study of regional, state and federal social, education and economic welfare programs. Dr. Jenner is the Principal Investigator (PI) for two current i3 Development grants, and several other ongoing RCTs, quasi-experimental, and observational studies in the field of education. Additionally, Dr. Jenner serves as a peer reviewer for the *Journal of Education for Students Placed At Risk* and received his What Works Clearinghouse Certification for group design standards from the USED Institute of Education Sciences in June 2014**. CSS and PRG staff** have successful track records working with the target population on similar interventions and conducting similar types of evaluation projects. See *Table 6* for staff and roles; also see *Appx. F* for résumés and *Appx. J-2* for personnel and structure.

CSS Key Personnel	
Dr. Sherry Barr, ***Vice President, & Project Director***	Serve as PD. Oversee all aspects of the project; facilitate team meetings; liaison with PRG, USDOE, superintendents; recruit and ensure partner schools uphold commitments; address implementation obstacles; train/supervise project staff; develop and coordinate external communications; and prepare required progress reports.
Morgan Silk, ***National Curriculum & Training Director***	Coordinate NC trainings; oversee all updates and revisions to the PGC curriculum & training manuals, informed by continuous improvement
Scott Albert, ***Senior National Trainer***	Lead trainer at all NC trainings
Melissa Reagan, ***Lead Project Manager***	Provide on-site stakeholder development, training to faculty advisors, on-site coaching and technical assistance, on-site fidelity monitoring, assist schools with scheduling students according to outcome of randomization, collect feedback and performance measures data.
Lindsay Shouldis, ***National Evaluation Coordinator***	Track continuous improvement and implementation data, monitor/manage implementation data databases, summarize implementation data, and provide feedback to project team
Lauren Wainczak, ***Director of Finance***	Oversee all fiscal and budgetary management of the project.
PRG Key Personnel	
Dr. Eric Jenner, ***Lead Evaluator***	Oversee development of the impact evaluation/analysis plan, including: instrumentation (questionnaire content), research design, analytic sample, research questions, RCT methods, analytic methods.
Dr. Susannah Anderson, ***Senior Research Analyst***	Under the supervision of the Lead Evaluator, prepare initial drafts of the impact and implementation evaluation/analysis plan, including: instrumentation (questionnaire content), research design, analytic sample, research questions, RCT methods, analytic methods.
Carrie Ullman, ***Research Analyst***	Day-to-day management of the evaluation, from conducting literature reviews, to developing the evaluation plan to working with each site to operationalize how the study will work at their school, to training staff at each site, to setting up datasets for data collection

The **management plan** involves (*Table 7*):

Project Team	Led by PD, the project team (CSS staff) will meet monthly to develop and implement effective strategies related to program implementation, evaluation, networking and publicity, replication, and sustainability. The team will articulate a common vision for the project, define partners' roles and responsibilities, monitor implementation, respond to challenges, manage financial and other resources, support data collection and analysis, and promote the sustainability of PGC in each school. The Project Team will have the lead responsibility for executing the project according to the timeline and ensuring progress metrics and annual performance targets are met.
Workgroups	Two workgroups will meet monthly in the first year and then quarterly to address aspects of program implementation and evaluation including: (a) *Technical Assistance, Coaching, & Training Workgroup* to oversee on-site coaching and training for stakeholders and faculty advisors; and (b) *Continuous Improvement, Fidelity Monitoring, & Evaluation Workgroup* to oversee fidelity monitoring and evaluation activities, make recommendations for enhancements, and disseminate
Site-based stakeholder teams	Each school will have a stakeholder team coordinator responsible for leading the stakeholder team, managing project activities, providing all requested data, and serving as the key point of contact for CSS.The NC Project Manager will work closely with site-based coordinators to: convene bimonthly stakeholder team meetings to discuss action plans, accomplishments and challenges; conduct biweekly telephone meetings (following a carefully designed protocol) with each site-based coordinator as a supplement to biweekly written reports; and coordinate monthly on-site observations and technical assistance visits.

Project timelines and milestones. Key project activities, milestones, and timeline *(Table 8):*

PHASE ONE: Milestones and Timeline (January 2016 – September 2016)			
Project Category	Key Milestone	Date Due	Responsible
Implementation	Identify 3 cohort 1 (C1) and 3 cohort 2 (C2) partner schools	Feb 2016	CSS (PD)
Evaluation	Finalize evaluation design; USDOE approval	Mar 2016	PRG
Implementation	Finalize management plan; USDOE approval	Mar 2016	CSS (PD)
Implementation	Conduct at least 6 annual on-site planning meetings with C1 school-based stakeholder teams (SBST)	Aug 2016	CSS; SBST
Implementation	Select faculty advisors and stakeholder team coordinator (STC) at each C1 partner school	Mar 2016	CSS; SBST
Implementation	Develop and implement protocols for veteran district to mentor new PGC partner schools	May 2016	CSS; SCS
Implementation	Select 16-20 peer leaders at each C1 partner school; schedule into daily leadership course	June 2016	CSS; SBST
Evaluation	Obtain necessary IRB approvals	May 2016	PRG
Evaluation	Develop and finalize Outcome Questionnaire	June 2016	PRG
Implementation	Finalize continuous improvement tools	July 2016	CSS; PRG
Implementation	Conduct initial 4-day residential training for project staff at each C1 partner school to prepare them to implement PGC	Aug 2016	CSS
Evaluation	Obtain parental consent for study participation (C1)	Aug 2016	PRG; CSS
Evaluation	Randomly assign study participants to participate in PGC or participate in a control group	Aug 2016	PRG
Evaluation	Ensure students are scheduled into the program according to the outcome of random assignment	Aug 2016	CSS
Evaluation	Administer baseline surveys to study participants	Aug 2016	PRG
Implementation	Launch PGC with at least 60 freshmen at each C1 partner school (minimum 18 outreach sessions with freshmen)	Sep 2016-May 2017	CSS; SBST
PHASE ONE: PERFORMANCE TARGET	**Launch PGC in 3 selected schools with at least 188 students; Enroll 375 total students in the study**	**September 2016**	**CSS; PRG**
PHASE TWO AND THREE: Milestones and Timeline (October 2016 – December 2020)			
Project Category	Key Milestone	Date Due	Responsible
Implementation	Conduct 1-day follow-up training and 3-day residential training for project staff at each C1 partner school	Dec 2016	CSS
Evaluation	Administer post-program student surveys	May 2017/18/19	PRG
Implementation	Conduct at least 6 annual on-site planning meetings with C1 and C2 school-based stakeholder teams	May 2017/18/19/20	CSS; SBST
Implementation	Select faculty advisors and stakeholder team coordinator (STC) at each C2 partner school	Mar 2017	CSS; SBST
Implementation	Select 16-20 peer leaders at each C1/C2 partner school; schedule into daily leadership course	June 2017/18/19/20	CSS; SBST
Implementation	Conduct initial 4-day residential training for project staff at each C2 partner school to prepare them to implement PGC	Aug 2017	CSS
Evaluation	Obtain parental consent for study participation in each C1/C2 partner schools	Aug 2017/18	PRG; CSS
Evaluation	Randomly assign C1/C2 study participants to participate in PGC or participate in a control group	Aug 2017/18	PRG
Evaluation	Ensure students in C1/CS schools are scheduled into the program according to the outcome of random assignment	Aug 2017/18	CSS
Evaluation	Administer baseline surveys to C1/C2 study participants	Aug 2017/18	PRG
Implementation	Launch PGC with at least 60 freshmen at each C1 & C2 partner school (minimum 18 sessions with freshmen)	Sep 2017-May 2018; annually	CSS; SBST
Implementation	Conduct 1-day follow-up training and 3-day residential training for project staff at each C2 partner school	Dec 2017	CSS
Implementation	Conduct Annual Advisor Summit with advisors from C1	April	CSS

	and C2 study schools	2017/18/19/20	
Evaluation	Complete analysis of annual results	August 2017/18/19/20	PRG
Dissemination	Disseminate project lessons learned and findings through at least one professional conference and one publication	August 2017/18/19/20	CSS; PRG
PHASE TWO: PERFORMANCE TARGET	Launch PGC in 6 selected schools with at least 376 students; 750 total students enrolled in the study	August 2017	CSS; PRG
PHASE TWO: PERFORMANCE TARGET	Launch PGC in 6 selected schools with at least 376 students; 1,500 total students enrolled in the study	August 2018	CSS; PRG
PHASE TWO: ANNUAL PERFORMANCE TARGET	1. Deliver PGC to at least 376 students per school year 2. SBST demonstrate commitment to continue the program for the following school year 3. Freshmen report PGC is positively impacting engagement, connectedness, and non-cognitive skills 4. SBST report observation of positive changes in PGC participants	August 2017/18/19/20	CSS; PRG
Project scalability	Assess PGC expansion in each partner school and to additional rural schools in NC	Dec 2019	CSS; SBST
Dissemination	Submit at least one manuscript on project results/lessons learned to a peer-reviewed journal	Dec 2019	CSS; PRG
Project evaluation	Complete full evaluation & summarize lessons learned	Aug 2020	PRG
PHASE THREE: PERFORMANCE TARGET	Refine plan for sustain program beyond i3 grant; expand program in each partner school; and, if applicable, expand program to additional rural schools	Dec 2020	CSS

Ensuring feedback and continuous improvement. To understand variations in how PGC works in practice, collect and evaluate data to assess progress against interim and longer-term goals, make mid-course corrections, interpret the efficacy of the intervention, and identify features and conditions necessary for sustainability and effective replication, the evaluation design will include comprehensive fidelity of implementation (FOI) measures. Measures include program dosage, regular observations by trained observers of the intervention in action, fidelity monitoring logs, faculty advisor and student feedback forms and focus groups, and assessments of relationship quality completed by freshmen about their peer leaders. *Table 9* outlines strategies to ensure active communication, accountability, and continuous improvement:

Project Team Meetings (Monthly)	Project team reviews project progress toward milestones and goals at each partner site and identifies and problem-solve challenges.
Site-based Stakeholder Team Meetings (Monthly)	Held at each implementation school. Include the CSS Project Manager, principal, district-level representative, stakeholder team coordinator, and other site-based stakeholder team members to prepare for launch and evaluation of PGC, ensure program operations are running smoothly, the program is well resourced, and school staff is well supported.

Advisor Team Check-Ins, Observations, & Fidelity Monitoring (Every Other Week)	CSS Project Manager will check in with the PGC advisor team regarding progress on PGC implementation and to troubleshoot obstacles. Check-ins will include a review of program attendance tracking, observations of the peer leadership training class and the weekly outreach sessions with freshmen, feedback to advisors, and fidelity monitoring logs as described in greater detail the Project Evaluation Plan (Section D).
District and School Leadership Check Ins (Quarterly)	CSS PD will meet with district and school leadership to review progress toward major milestones, assess any areas that require modifications, and, if necessary, develop an action plan for modification. This meeting will include at least one check-in to review student survey forms to see if students are reporting changes in key non-cognitive abilities and level of engagement at school.
Implementation Feedback (Ongoing)	Gathered from administrators, other stakeholders, faculty advisors, peer leaders, and freshmen at each LEA, including quarterly feedback forms and annual focus groups regarding the perception of the intervention's value and impact.
Annual Advisor Summit	Offered annually for faculty advisors/stakeholders across sites to review the previous academic year's program, share successes and challenges, receive mentorship from other successful implementation sites, review data, prepare for integration of any program enhancements, prioritize areas of improvement for the following school year.

Dissemination. We will publish manuscripts about the project in peer-reviewed journals, present at regional and national conferences, and share results with stakeholders and prospective school partners. Dr. Jenner will take the lead on writing articles for journal publication in close collaboration with CSS. Journals of focus include: *American Journal of Education, Educational Researcher, ENGAGE, and The Journal of Educational Research.* CSS and PRG will submit proposals to present at professional conferences such as American Educational Research Association, Institute of Education Sciences, National Mentoring Summit, and Society for Research on Educational Effectiveness. We will also provide a report of lessons learned and evaluation results to administrators and stakeholders at each of the participating LEAs/schools and will host information sessions and webinars for schools throughout the state to learn more about the project. Study results will be disseminated through popular media so that parents and public can learn about the impact of PGC. Research results will be posted on the CSS website and sent to the 8,000+ national education stakeholders who receive the CSS e-newsletter.

C. EVALUATION PLAN. Overview. CSS has engaged The Policy & Research Group (PRG) as the independent evaluator (see MOU in *Appx. G*). The logic model (*page 11*) hypothesizes how a year-long, school-based, cross-age peer mentoring model grounded in theories of social and

emotional learning (SEL) will promote and improve 9th grade students' non-cognitive factors (perceived peer support; competence in peer relationships; competence in goal-setting, decision-making, and coping skills; intentions/aspirations for future education; valuing education) and school engagement, thereby improving their educational outcomes, as demonstrated by on-time promotion and decreased dropout (i.e. persistence in school). These expectations are based on ***evidence of promise*** (*Appx. D*). The evaluation will test these hypotheses by: 1) an individual-level randomized controlled trial (RCT) to draw causal inferences about the effects (impact) of PGC on non-cognitive abilities, student engagement, and educational outcomes; and 2) an implementation evaluation to understand how PGC works in practice, interpret its efficacy, provide feedback for program improvement, and identify features and conditions necessary for sustainability and replication. The impact evaluation investigates whether PGC impacts specific participant-reported non-cognitive abilities and educational outcomes.

Research questions. We are proposing to answer two ***primary research questions***: 18 months after the end of treatment, what is the impact of PGC (treatment) relative to the control condition (business as usual) on participants': **1)** on-time grade promotion, and **2)** persistence in school? In addition, we may investigate the following ***exploratory (secondary) research questions:*** What are the short-term (immediate post-program) impacts of PGC (treatment) relative to the control condition (business as usual) on participants' reported: **1)** perceived peer support, **2)** competence in peer relationships, **3)** school engagement, **4)** perceived value of education, **5)** intentions/aspirations for future education, and **6)** competence in goal-setting, decision-making, and coping skills? And, finally: **7)** To what extent do components of fidelity of implementation (i.e., adherence, quality, experiences of control group, and context) impact the effect of PGC on students' outcomes, and how might this inform replication efforts?

Methods for impact study. The impact study design and methods will meet What Works Clearinghouse (WWC) evidence standards *without reservations*. For the impact study, the primary educational outcomes of interest are on-time grade promotion and persistence in school. Evaluating PGC's impact on longer-term outcomes identified in the logic model (e.g. on-time high school graduation, college enrollment/completion) is not feasible in the grant time frame.

Sample identification/selection, sample size, and minimal detectable effect size. The target population is all students who enroll in 9th grade at three partner schools during the 2016-17 and 2017-18 school years and three partner schools during the 2017-18 and 2018-19 school years. In each school, students will be recruited and individually randomized into study conditions each year for two successive years. Total annual 9th grade enrollment across all six schools is approximately 1,000 students (*Appx J-6).* We estimate a 75% consent rate, resulting in a total sample of 1,500 total. As prior research does not provide estimates, we will use an effect size of .25 as a benchmark, which WWC identifies as the point at which impacts become substantively important. The evaluation as currently proposed (1,500 students randomly assigned to treatment and control conditions) will be adequately powered to detect an effect of this size. Based on a number of standard assumptions and reasonable expectations this study should yield a Minimal Detectable Effect Size (MDES) of approximately .23 after two years of data collection.[2] In fact, because we propose to estimate impacts while controlling for theoretically relevant covariates, we expect that we should have even more precision and statistical power.

PRG staff will be responsible for implementing and monitoring all random assignment procedures. In August of each study school year, PRG will: 1) obtain final student rosters of all

[2] Effect size estimates are calculated with *Optimal Design* and reflect the following expectations: power (β) = .80, significance (α) =.05 and a two-tailed significance test, with a random effects model.

9th grade students enrolled and attending each partner school; 2) identify all students eligible for the study (those who have attended one week, provided parent consent/youth assent for the evaluation, and not previously participated in PGC); and 3) randomly assign eligible youths at the individual level to either the treatment (PGC) or control condition (business as usual). CSS project managers will then work with schools to ensure that treatment condition-assigned students' schedules are adjusted to reflect their participation in their weekly PGC peer group outreach sessions. Assignment procedures will occur *prior to* the provision of any programming or collection of baseline data. Joiners will not be a concern because the evaluators will randomly assign new students to treatment on control conditions on a rolling basis for the next two weeks, after which point new students will be excluded from the study. For ninth graders assigned to the treatment condition, PGC peer group sessions will replace one day of physical education (PE) or health class each week. There will be no alternative program or additional activities offered to the control group, other than attending regularly scheduled PE/health class.

Outcome measures and data collection. To measure the impact of the intervention, PRG will collect outcome data from two sources: 1) student-level school record data from partner schools for the primary research questions and 2) an *Outcome Questionnaire* to collect self-reported data directly from students for the exploratory research questions. The *Outcome Questionnaire* will collect background characteristics and outcome data on participant-reported perceived peer support, competence in peer relationships, valuing education; school engagement; intentions/aspirations for future education; and competence in goal setting, decision-making, and coping skills. All items and scales used for outcome measurement will be composed of measures that have been used and validated in peer-reviewed research (*Appx. J-5* includes possible scales for outcome measurement). The same questionnaire will be administered by PRG staff at

baseline and at the end of the school year. Data collection procedures will be identical for both treatment and comparison conditions. Attrition will be closely monitored and analyzed routinely; PRG will execute a comprehensive follow-up plan to retain participants in the study based on the evidence-based Engagement, Verification, Maintenance, and Confirmation Model.[61] While interaction between individuals in the intervention and control groups does present the potential for diffusion of intervention effects, this is not expected to be substantial, given that the intervention itself is relationship-based and not information-based. Educational outcome data (on-time grade promotion, persistence in school, graduation) will be requested by PRG from all partner schools in the fall of grant years three, four, and five (for previous year's data); data-sharing agreements with all schools will be formalized. We summarize data sources, collection methods, timelines, and analytic approaches by research question in *Appx. J-3*.

Analytic approach. For primary research questions, the analytic approach will be to regress outcome measures on a treatment/comparison indicator, blocking indicators, and relevant individual-level covariates, including baseline measure of outcome variables using a multi-level model. While a comparison of means should produce un-biased estimate of impact, we propose a multi-level modeling approach to increase the precision of impact estimates, and to account for blocking procedures. Statistical significance will be inferred at $p < .05$, using a two-tailed test.

Methods for implementation study. PRG will design and conduct an implementation evaluation to understand variation in how PGC works in practice, interpret the efficacy of the intervention, provide feedback for program improvement, and identify features and conditions necessary for sustainability and replication. The implementation evaluation will assess and report on: 1) adherence, 2) quality, 3) control group experiences, and 4) contextual factors. Implementation data will be analyzed and reported to the CSS team semi-annually as formative

feedback and to encourage modifications to improve program effectiveness. Annual thresholds will be set for each key component depicted in the logic model. Fidelity measures will include: program dosage, observations by trained observers of the intervention, fidelity monitoring logs, faculty advisor and student feedback forms and focus groups, and assessments of relationship quality completed by freshmen about their peer leaders. We describe each implementation element, data used to assess each element, frequency of data collection, and responsible party in the *Implementation Evaluation Summary Table* in *Appx. J-4*. Quantitative data, such as dosage data and close-ended questions from the survey, will be analyzed descriptively. To analyze qualitative data gathered in interviews and open-ended survey questions, the evaluators will use a grounded theory approach. CSS and school partners will complete *Implementation Summary Forms* to report the input and output data such as training and planning activities.

Sufficient resources. The budget allocates sufficient resources for an evaluation that includes an RCT with 1,500 students (avg. $125,000 per year).

Qualifications of independent evaluator. The evaluators (PRG) are well-qualified to conduct the evaluation, having led over 40 federally-funded evaluations, including six RCTs. The principal investigator (PI), Dr. Eric Jenner, received his *What Works Clearinghouse Certification* for group design standards in June 2014 from the USED Institute of Education Sciences. He is the PI for two current i3 Development grants, and several other ongoing RCTs, quasi-experimental, and observational studies. Dr. Jenner has over 10 years' experience in supervising rigorous evaluations and authoring evaluation reports, and he serves as a peer reviewer for the *Journal of Education for Students Placed at Risk*. He will be assisted by Dr. Susannah Anderson and Carrie Ullman. See *Appx. F* for PRG résumés.