

**Part 4: Project Narrative
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4.A Project Design

4.A.1. Goals, Objectives, and Outcomes.

There are persistent and large achievement and excellence gaps between those who have economic need and those who are more financially stable. Excellence gaps are differences between subgroups of students at high levels of achievement. For example, there is a 22-point gap between the top performing students who are eligible for free/reduced lunch and those who are not on the National Assessment of Educational Progress (NAEP, known as the Nation's Report Card). This gap has remained stable for over 20 years (Plucker & Peters, 2016).

With such large and persistent excellence gaps, providing effective interventions that change the academic trajectory of high-achieving students with economic need is an urgent societal need. **Closing excellence gaps is critical.** However, in a world of limited resources, it is also critical for parents, educators, and policymakers to understand the return on investment of academic interventions. Specifically, which interventions effectively and efficiently change the long-term academic trajectory of participants? Based on five years of data from three cohorts of participating students, **Project Launch by Duke TIP has strong initial experimental evidence that it is an effective intervention at changing the academic trajectory of high-achieving students with financial need.** With this proposal, we seek to expand Project Launch offerings into **Project Launch Plus**, to achieve three broad objectives. The objectives of Project Launch Plus are **to grow capacity for sustained engagement of students from rural areas and high-poverty schools in:**

- 1. The identification of -and services for- gifted students;**
- 2. Computer science engagement; and**
- 3. The promotion of effective instruction for gifted students.**

A broad overview of all project activities is shown in Table 1. More detailed explanation of the expected number of individuals served by each activity can be found below in Table 2.

Table 1. Overview of Project Launch Plus Activities

	Year 1	Year 2	Year 3	Year 4	Year 5	Long-Term Follow-up
1. Identification of Gifted Students						
A. Targeted Outreach Recruitment	20 sessions	10 sessions	10 sessions	10 sessions	10 sessions	Student performance on above-level tests from the schools/districts served
B. Targeted Services	Cohort A, Year 1	Cohort A, Year 2. Cohort B, Year 1.	Cohort B, Year 2. Cohort C, Year 1.	Cohort C, Year 2. Cohort D, Year 1.	Cohort D, Year 2. Cohort E, Year 1.	Subsequent engagement; College Enrollment
2. Computer Science Engagement						
A. Targeted Services		CRISIS and eInvestigator Computer Science experiences	CRISIS and eInvestigator Computer Science experiences	CRISIS and eInvestigator Computer Science experiences	CRISIS and eInvestigator Computer Science experiences	Subsequent engagement; College Enrollment
3. Promote Effective Instruction						
A. Targeted Outreach Training	Topic Selection; 20 sessions	10 sessions, Content Review	10 sessions, Content Review	10 sessions, Content Review	10 sessions, Content Review	Student performance on above-level tests from the schools/districts served
B. Create New Knowledge	Data Collection	Data Collection, Initial Analysis	Data Collection, Analysis, Initial Results Write-up and Presentation	Data Collection, Analysis, and Presentation	Data Collection, Analysis, Presentation, and Publication	Publication, assessment of college enrollment behavior

Objectives

1. **Identification of gifted students** in rural areas and high-poverty schools (RaHPS).

A. Targeted Outreach Recruitment.

A.1. Provide 60 outreach recruitment sessions to at least 3,000 parents in RaHPS.

A.2. Identify at least 1,000 more academically talented students from RaHPS.

B. Targeted Services.

B.1. Participating families will be better able to advocate for their child.

B.2. Participants will show high engagement in programs.

B.3. Participants will have successful experiences in engagement opportunities.

B.4. Participants will demonstrate sustained academic engagement behaviors.

B.5. Participants will apply to more selective college than comparable peers.

2. **Computer Science Engagement** for gifted students in rural areas and high-poverty schools.

A. Targeted Services.

A.1. Enroll 1,643 students in engagement opportunities.

A.2. 95% of students complete CRISIS and 70% complete eInvestigators.

A.3. 95% of those who complete demonstrate success in their performance.

3. **Promote Effective Instruction** of gifted students in RaHPS.

A. Targeted Outreach Training.

A.1. Provide 60 outreach recruitment sessions to at least 3,000 educators in RaHPS.

B. Create new knowledge about effective instruction.

B.1. Uncover effective strategies for the sequencing of interventions.

B.2. Discover effective communication methods for changing behaviors.

To meet the outcome goals of the Javits grant, **we will track the academic growth of**

participants as they take the standardized PSAT 8/9 and SAT/ACT tests and eventually enroll in college. Because Project Launch Plus participants will be randomly selected from the Duke TIP Talent Search participants who qualify for free or reduced lunch, we are able to make causal inferences about any mean group differences between participants and their peers. In other words, we can measure academic growth via standardized tests scores that are more precise measures of their growth and performance because they will not suffer from the ceiling effects commonly found in state assessments (for further description, see 4.A.2).

4.A.2. Project Design and Needs of the Target Population

Project Launch Plus seeks to address: the need for gifted identification, appropriate challenge for gifted students, providing gifted students with opportunities to be grouped with similar-ability peers, and addressing the opportunity gap in which some gifted students are unable to afford supplemental programs. Further, Project Launch Plus focuses on providing services to gifted students in rural areas and in high-poverty schools.

Gifted Student Needs: Underchallenged. Gifted students often report higher levels of boredom than their typically-achieving peers because of the lack of challenge (Kanevsky & Keighly, 2003; Plucker et al., 2004). However, setting matters. Gallagher, Harradine, and Coleman (1997) found that gifted students had lower levels of boredom in their gifted programs than in their regular classrooms.

The lack of appropriate challenge for gifted students has more consequences than potential boredom. Rambo-Hernandez and McCoach (2015) found that initially average-achieving students made substantial gains during the school year but not in the summer. On the other hand, students who were already high-achieving made academic gains in reading at nearly the same rate during the school year as they did during the summer. Being in school was not

associated with more learning for them.

Gifted Student Needs: Grouped with Like-Ability Peers. In a meta-analytic review of over 100 effects from more than 50 studies, Lou, Abrami, and Spence (2000) found that high-ability students benefited the most from within-class grouping compared to average- and low-ability students. In other words, being with like-ability peers for instruction made the biggest differences for high-ability students, a result also found in Kulik and Kulik's 1992 meta-analytic review when content coverage was altered. Moreover, when high-ability students are grouped together, more underrepresented students are identified as high-achieving over time (Card & Giuliano, 2014; Gentry, 2014).

Gifted Student Needs: Addressing the Opportunity Gap. Not only are gifted students being underserved in schools, but there also is an opportunity gap. If student needs are not being met in schools, then there is a question of affordability of supplemental programs for students who demonstrate readiness and need for challenge. In fact, among the top 25% of first graders, those from low-income homes were no longer considered high-achieving by fifth grade more often than those from high-income homes (44% vs. 31%; Wyner, Bridgeland, & DiIulio, 2007).

Underserved Students: Gifted Students in Rural Areas. The excellence gaps for gifted students in rural areas extends from elementary school through high school (Plucker & Harris, 2015). In fact, these students "represent a culturally unique, underidentified, and underserved population" (Assouline, Ihrig, & Mahatmya, 2017, p. 250). Their educational opportunities are limited due to such issues as geographic isolation, lack of technological support for online access, limited access to advanced STEM coursework, and economic barriers, including consistent underfunding of gifted education programs (Baker & McIntire, 2003; Howley, Rhodes, & Beall, 2009; Kittleson & Morgan, 2012; National Science Board, 2014).

Underserved Students: Gifted Students in High-Poverty Schools. Students from low-income families are persistently underidentified and underserved in gifted education (Borland, Schnur, & Wright, 2000). These students tend to have fewer opportunities to learn than their peers from higher-income families (Peters & Engerrand, 2016). Moreover, their school environment affects their achievement above and beyond the influence of their family and neighborhood (Esposito, 1999; Perry & McConney, 2010). In fact, school poverty predicts the percent of students identified as gifted within the school (Hamilton et al., 2018). Additionally, they are less likely to be served or have access to advanced classes; for instance, limited resources in high-poverty schools means that these schools are less likely to offer advanced mathematics courses (Raudenbush, Fotiu, & Cheong, 1998).

Project Launch Plus: Addressing Gifted Student Needs. To address these needs of gifted students, **Project Launch Plus provides opportunities for appropriate challenge with like-ability peers to gifted students from low-income backgrounds** through a variety of interventions including a week-long, summer, face-to-face, residential program; an online learning experience; and a book club (see Table 1 for more detail). Further, to address the opportunity gap, **much of the Project Launch Plus funding is devoted directly to Outreach Recruitment aimed at increasing identification rates and providing services so that students from low-income homes are able to participate in supplemental programs designed to foster their sustained engagement.** Project Launch Plus particularly seeks to identify and serve students from rural areas and high-poverty schools. Programs outside of the traditional school have several advantages, particularly when students' home schools are under-resourced (Plucker & Harris, 2015).

Duke Talent Identification Program

Duke TIP is a nonprofit organization with over 80 full-time staff dedicated to serving academically gifted and talented youth. Duke TIP recognizes academically talented students and provides advanced learning opportunities that foster their intellectual and social growth. Founded in 1980, Duke TIP has served nearly 3 million youth through its talent search. Each year, Duke TIP identifies roughly 100,000 new gifted students and provides academic programs to over 12,000 students.

Duke TIP Identification Methods

Duke TIP has two talent searches: one for 4th-6th grade students and one for 7th grade students. **To participate in a talent search, students must have scored in the 95th percentile on a grade-level standardized test within the last two years.** Such students are scoring near the top (“the ceiling”) of grade-level tests and may not have their talents measured precisely because these tests may be too easy for them (Lohman & Korb, 2006; Rambo-Hernandez & Warne, 2015). To get a more accurate assessment of their talents, Duke TIP provides an opportunity for students take a test designed for older students. Students in the younger talent search take the PSAT 8/9 whereas students in the 7th grade take either the ACT or the SAT in the 7th grade as an above-level test. Because these tests are designed for much older students, they have a higher ceiling than most grade-level tests (Warne, 2014). As such, the above-level testing experience helps differentiate students who have mastered the material several years above their grade-level from those who have “merely” mastered on-level material, identifying differences in student performance and learning needs even within the top 1% of students (Robertson, Smeets, Lubinski, & Benbow, 2011). Further, above-level tests do not have the same limit as grade-level achievement tests related to regression toward the mean. When students are scoring in the 95th percentile and greater on grade-level achievement tests, regression toward the mean does not

allow meaningful measurement of growth (Rambo-Hernandez & Warne, 2015). Thus, the higher ceiling and ability to meaningfully measure growth help differentiate long-term outcome assessment of gifted program participation that might otherwise be masked by students' achieving extremely high on-level test scores.

Additionally, above-level test scores on the PSAT, SAT, or ACT from talent searches can also be used by schools as part of their identification and service model (Thomson & Olszewski-Kubilius, 2014). Because the tests have higher ceilings, they can help provide schools with more precise, domain-specific information about the magnitude of service appropriate for that specific student.

Targeted Outreach Recruitment

The targeted group for the proposed outreach recruitment is parents in rural areas and high-poverty schools whose children could benefit from going through the gifted identification process. Duke TIP has fostered long-standing relationships with educators at the state, district, and building level, with over 10,000 schools. Targeted locales will be selected using heat maps that contrast previous engagement with student population size. Such maps reveal rural areas and high-poverty schools with historical under-engagement. Additional recruitment efforts will include leveraging existing relationships with National Blue Ribbon Schools, Avid Program Schools, National Heritage Schools, IDEA Public Schools and regional Charter School Networks like the Knowledge is Power Program (KIPP). The team will also target Parent and Teacher Associations as well as Associations for School Counselors, School Psychologists, and School Social Workers.

The Outreach Team participates in grassroots community engagement at the building level through fostering relationships with school and community organization, holding events

around school improvement, and maintaining contact and support after initial engagement.

Events are offered in person as well as virtually, or through equipping local leaders to hold their own events. To ensure accessibility, publications are translated into Spanish and the team works to ensure translation services are available at outreach events.

Project Launch Identification Methods

To participate for Project Launch, students must meet all of the following criteria:

- A) Qualify for participation in TIP (see previous section),
- B) Qualify for free/reduced meals under federal guidelines,
- C) Be in the 5th grade, and
- D) Live in one of three geographic regions in four-hour driving proximity to Duke TIP

program locations (Durham, NC; Georgetown, TX; or Tampa, FL). [This geographic component is to limit transportation costs to and from programs.]

Conservatively, there are over 138,000 academically talented 4th-6th grade students eligible for free/reduced lunch nationwide. In the last two years, nearly 13,000 such students have enrolled in the Duke TIP 4th-6th Grade Talent Search. The geographic, ethnic, and socio-economic diversity of Duke TIP's students provides the opportunity for them to meet, get to know, and learn with students from varied backgrounds but with similar ability and interests, often for the first time.

All students who meet all four of the identification criteria are then randomly assigned to one of four conditions to be invited to be a part of Project Launch (see Table 2). Two of the conditions are considered a "high-dose" intervention, with students being invited to participate in CRISIS, eInvestigators, the book club, nudges, and above-level testing. The difference between the high dose conditions is the sequencing of interventions. One of our outstanding questions is

whether the timing of a single CRISIS experience – after fifth grade or after sixth grade – affects students’ and families’ engagement in the 7th Grade Talent Search and beyond. This is why High Dose A and High Dose B interventions exist. Project Launch Plus will assess how to optimize the distribution of interventions to further develop and refine our understanding of how to serve high-achieving students with financial need most effectively. Randomly assigning students to each condition will allow us to make causal inferences about the effects of providing interventions in various order (i.e., does participating in a face-to-face intervention before an online intervention foster greater long-term engagement than getting the online intervention first?).

The “low-dose” intervention consists of students receiving nudges and a free above-level testing experience. The nudges are a low cost, highly scalable intervention that provides timely research-based advice and resources to parents. The above-level testing opportunity is a relatively low cost, highly scalable intervention that provides a more precise measure of a student’s academic talent than can be used by schools and families as part of the process to determine what services would be appropriate for the student. Students in this low dose group also serve as a comparison group to help us assess the effects of the high dose treatments. All remaining students will still receive the nudges.

Table 2. Project Launch Service Model

Two-Year Intervention Plan			
	Year 1	Year 2	Number of Students
	5th Grade Transitioning to 6th Grade	6th Grade Transitioning to 7th Grade	
High Dose A	1 CRISIS program experience	1 CRISIS program experience	Year 1: 61 Years 2-5: 83
	1 eInvestigators program experience	1 eInvestigators program experience	
	2 Book Club experiences	2 Book Club experiences	
	Nudges	Nudges	
	PSAT 8/9 Above-level test	7th Grade Talent Search Registration with ACT	
High Dose B	1 eInvestigators program experience	1 eInvestigators program experience	Year 1: 61 Years 2-5: 83
	1 CRISIS program experience	1 CRISIS program experience	
	2 Book Club experiences	2 Book Club experiences	
	Nudges	Nudges	
	PSAT 8/9 Above-level test	7th Grade Talent Search Registration with ACT	
Low Dose	Nudges	Nudges	Year 1: 189 Years 2-5: 167
	PSAT 8/9 Above-level test	7th Grade Talent Search Registration with ACT	
All Other 5th Students with Financial Need	Nudges	Nudges	>5,000 each year
			High Dose: 786
			Low Dose: 857
			Total Students Other: >25,000

Promoting Effective Instruction

Similar to the Targeted Outreach Recruitment activities discussed above, the targeted population in the proposed outreach training will be from rural areas and high-poverty schools. But in this case, the population will be educators who could benefit from learning more about how to apply best practices in gifted education and services. **The project will create an Advisory Panel to select the topics of content covered in the Targeted Outreach Training** (e.g., universal screening, local norms, talent development opportunities, etc.) using best-evidence, best-practices, NAGC Program Standards, and relevance to local context as the guiding principles. Once topics are selected, Duke TIP's Research and Evaluation, Partnerships

& Engagement, and Outreach teams along with other relevant staff (see Table 3), will create engaging series of workshops and related materials (e.g., free webinars, blog posts).

All materials will be made freely available to anyone with an internet connection on the Duke TIP websites resources pages. No login or password will be required. **Marketing materials advertising the free availability of these workshops and materials will be targeted toward school staff in rural areas and high-poverty schools.** As shown in Table 1 above, the project is budgeting 10 sessions per year (20 in Year 1 to frontload benefits) where **project staff will travel to rural areas or high-poverty schools to improve school staff's understanding and ability to implement these practices in their local context.**

Create New Knowledge

The primary targeted population in creating new knowledge through the experimentally designed research study is the research community. Publishing research on the order- and dose-effects of interventions will help inform the research community about what matters when serving gifted students. An indirect target population in creating new knowledge are parents and practitioners. Even if they do not read the original journal articles, **parents and practitioners are the ultimate consumers of research findings.**

4.A.3. Rationale for Exceptional approach for Meeting Requirements

Project Launch Plus is a coordinated program combining (1) Targeted Outreach aimed at increasing gifted identification rates for students from rural areas or high-poverty schools; (2) A suite of Program Services for gifted students with financial need that are innovative, problem-based learning curricula, research-based advice and guidance, and differentiated outreach; and (3) Targeted Outreach Training to promote effective instruction for gifted students in rural areas or high-poverty schools.

Targeted Outreach Recruitment

Our Outreach and Talent Search teams have fostered long-standing working relationships with educators at the state, district, and building level, establishing a network of over 10,000 schools. The Outreach Team participates in grassroots community engagement at the building level through fostering relationships with school and community organization contacts, actively participating in meetings and forums around school improvement, and following up with contacts after initial outreach events. Outreach events are offered in person as well as virtually using webinars or video conferences, and through equipping school personnel or community organization leaders to hold their own events. To ensure accessibility, publications are translated into Spanish and the team works to ensure translation services are available at outreach events.

Recruitment will rely on NCES locale coding of rural (fringe, distant, and remote) to determine rurality and Title 1 status as well as Census Tract of “high-poverty” as metrics to determine high-poverty schools. This will be combined with heat maps that reveal rural areas and high-poverty schools with historical under-engagement that are in need of targeted recruitment. Doing so will assure that project resources will be devoted to the targeted population.

Targeted Program Services

The one-week CRISIS summer residential program employs cross-disciplinary, problem-based learning curricula, allowing gifted and talented students to examine a complex, real-world problem – such as a hurricane, oil spill, or disease outbreak – as a member of a research focused team on a particular academic discipline, while also recognizing and exploring interdependencies with other academic and professional fields. Many of the research teams focus on STEM fields, including medicine and engineering; research teams focused on computer science will be

deployed in Year 2. The CRISIS experience meets talented students' academic and social-emotional needs by providing rigor and engagement with advanced content in an authentic setting, as well as a collaborative learning environment of talented peers and dedicated instructors, teaching assistants, and counselors who serve as role models.

The four-week eInvestigators online program uses an innovative modification of problem-based learning – what TIP calls mystery-based learning – that allows students to assume the role of a professional – doctor, prosecutor, marine archeologist – to solve a real-world mystery. Many of the cases focus on STEM mysteries, and one or more cases involving computer science will be released by Year 2. The eInvestigators experience addresses gifted students' educational needs through rigorous, real-world problem solving and through meaningful connections with other gifted students and an instructor, all while facilitating the development of important 21st-century digital-learning skills.

TIP's online Book Club provides students with copies of books and with challenging discussion prompts that help students develop critical and creative reading and writing skills. The curricular materials for each book also provide students with curated resources and activities that encourage students to explore connections in science, technology, engineering, and math. Students share their responses to discussion or activity prompts with other talented students on a moderated online platform.

Duke TIP provides professional development experiences and online resources (via TIP's *Teachers Workshop* blog) that share the CRISIS and eInvestigators curricular models – including philosophy, rationale, samples, and templates – with educators working with these students. We also publish all of the curricular content for each Book Club selection, in an easily downloadable format, on *Teachers Workshop*, facilitating teachers' use of these materials in whole-class, small-

group, pull-out, or after-school contexts.

Project Launch also provides two above-level testing experiences, which are valuable tools for identifying areas and extent of academic strength that traditional grade-level assessments do not. Students, families, and educators can use these above-level results to design differentiated learning plans – to include in-school and supplemental experiences – that allow students to refine and deepen their academic talents and interests.

Achieving these engagement results requires **financial resources and differentiated, proactive advising and support:**

- Notifying Project Launch families in advance that there are no costs to them for programs and opportunities removes uncertainty, allowing families to apply without worrying about how much financial assistance they might receive.
- An assigned advisor – the Program Coordinator – provides both proactive and responsive communication that establishes and fosters personal connection with Project Launch families and their support network (i.e., school counselors, faith leaders, family friends).
- Differentiated communication – including additional touchpoints before, during, and after the application period for programs and opportunities – helps families complete applications and necessary follow-up steps.
- The Program Coordinator collaborates with internal working groups to deepen awareness of students’ and families’ needs, to modify processes as needed, and to ensure continuity of communication and support.

4.A.4. Supporting Evidence Evidence of effectiveness of identification

The Talent Search model has 40 years’ worth of evidence supporting its effectiveness (e.g., Thomson, Olszewski-Kubilius, 2014). It not only meets students’ needs to be challenged

with like-ability peers through supplemental programming, but **the Talent Search model also provides information beneficial to the identification of and services provided to gifted students in traditional schools.** Using above-level testing provides more details about students' skills and knowledge in a domain, allowing course and program recommendations to be better matched to their needs, including the ability to match for appropriate scope of knowledge and pace of instruction (Olszewski-Kubilius, 1998). With talent search data, enrichment, acceleration, and course sequence recommendations can be made to help students develop throughout middle and high school, college, and beyond. Moreover, enrichment programming, like that provided by Project Launch, is a critical component both of talent identification and talent development for traditionally underidentified and underserved populations, such as students from low-income families (Olszewski-Kubilius & Clarenbach, 2012).

Targeted Services

Duke TIP has assessed the impact of Project Launch for the last five years. Aligned with its objectives (see above, 4.A.1), **Project Launch participants consistently show that they are more deeply and more consistently academically engaged** than students with financial need not participating in Project Launch. The annual creation of new cohorts allows for the project to incorporate feedback into its practices and procedures. Additionally, because Duke TIP does not rely on a larger bureaucracy, we are able to change procedures when the situation dictates that change will help us more effectively achieve project objectives. As an example, when Project Launch was created, online independent mentorship was part of the suite of services. Evidence suggested it was not effective at sustaining engagement, so it was replaced with eInvestigators. If the outcome data suggest that eInvestigators is not effective, it will also be removed from services. If dropped, providing more students with CRISIS and above-level testing experiences

would be the likely replacement.

Similarly, the computer science-based CRISIS research teams and eInvestigator case experiences will rely on student performance and feedback to evolve to deliver appropriately challenging, engaging experiences that foster long-term academic engagement.

4.A.5. Performance Feedback and Continuous Improvement

We will rely on several forms of feedback to assure continuous improvement of both participants and the project. Project performance will be based on how well it achieves its objectives, and the project delivery is designed to evolve based on performance feedback. The following feedback will be gathered each grant year and will be used to adapt project delivery.

Targeted Outreach Recruitment Feedback

- Surveys that gather satisfaction, understanding, and action-taking by participants will be used to gauge effectiveness and to evaluate recruitment itself.
- Student enrollment and performance on above-level tests from the schools/districts served will be tracked over time as an indirect assessment.

Targeted Services Feedback

- Data from pre- and post-intervention surveys, as well as the application, participation and performance overview of students involved in the CRISIS Program and eInvestigators.
- Student enrollment in and performance on above-level tests from the schools/districts served will be tracked over time as an indirect assessment of impact of the project.

Although not a state assessment, these metrics (including the Science portion of the ACT) will allow for causal inference on the effects of the project.

- We will monitor Book Club blog posts to assess depth of engagement.
- We will compare open and click rates of nudges for participants and non-participants.

- We will compile qualitative feedback received from parents, students or educators.
- We will follow participants as they age into college age as a form of “ultimate criterion” of academic trajectory. StudentTracker allows Duke TIP to record participant enrollment in college and when they graduate with what degree and major.

Targeted Outreach Training Feedback.

- Surveys that gather satisfaction, understanding, and action-taking by participants will be used to gauge effectiveness as well as how the sessions should be improved.
- Student performance on above-level tests from the schools/districts served will be tracked over time as an indirect assessment of impact of the services provided.

Knowledge Creation Feedback

- Knowledge Creation data will also assess the effectiveness of all program components.
- Specifically, it will inform us whether eInvestigators fosters sustained engagement. If it does not, then this intervention will be discontinued for subsequent cohorts.

4.B Project Personnel

Duke University is an Affirmative Action/Equal Opportunity Employer committed to providing employment opportunity without regard to an individual's age, color, disability, gender, gender expression, gender identity, genetic information, national origin, race, religion, sex, sexual orientation, or veteran status. Duke also makes good faith efforts to recruit, hire, and promote qualified women, minorities, individuals with disabilities, and veterans. In accordance with Title IX of the Education Amendments of 1972, Duke prohibits discrimination based on sex. Sexual harassment is a form of sex discrimination. Duke has designated a Title IX coordinator in the Office for Institutional Equity.

4.B.1. Project Director and Principal Investigator Qualifications

Project Director: Paris Andrew

Paris Andrew joined TIP in 2012 and most recently served as TIP's Dean of Students and Assistant Director for Residential Affairs. In 2018, Paris transitioned into her current role overseeing TIP's Partnerships and Engagement division. In this role, Paris provides strategic direction to nineteen full time staff members making up the Outreach, Marketing and Communications, and Customer Experience teams. Together, her division communicates with over 60,000 families, 10,000 educators, and 450,000 students annually. With the goal of diversifying TIP's outreach models to more effectively promote awareness, understanding, and participation in Duke TIP's programmatic opportunities, Paris serves as point person for stakeholders seeking to partner on initiatives that offer innovative ideas, solutions, and resources in alignment with TIP's mission, vision, and values.

Paris serves as lead for priorities within Duke TIP's three-year strategic plan that are focused on increasing opportunities and engagement, and currently serves as co-chair for Professional Learning within the National Association of Gifted Children (NAGC) Special Populations Network. In her time at TIP, Paris has provided front-line guidance and training to foster a seamless learning environment that is attentive to the social and emotional needs of academically talented students. Harnessing her MEd in Higher Education Administration from NC State University, Paris brings an affinity toward serving the needs of high-achieving, underrepresented and diverse student populations. In addition to establishing connections to various units across Duke University, Paris remains involved at the state and national level with professional organizations in gifted education.

Before joining TIP, Paris worked at the University of Arizona where she developed a partnership between Residential Education and the Office of International Affairs to co-create and implement an International Student Transition Series. Paris has facilitated social justice

workshops with the National Coalition Building Institute (NCBI) and she has served as cluster facilitator for the LeaderShape Institute. As an avid poet with an interest in critical media literacy and arts-based engagement, Paris is pursuing her PhD at the University of North Carolina at Greensboro, where her research focuses on the sociocultural experiences of high achieving culturally and linguistically diverse students in highly selective academic enrichment environments.

The Primary Investigator is Dr. Matthew C. Makel, the Director of Research and Evaluation

Dr. Makel has been working with gifted and talented students for 19 years and is a leading expert in gifted education and advancing research methods in the social sciences. He has given invited talks on three continents to researchers, educational administrators, educators, and parents. His substantive research focuses on how academically talented individuals experience the world and how gifted identification and services can be more equitably allocated and implemented. His methodological work focuses on improving research methods in terms of transparency and rigor so that consumers can better understand the generalizability, reproducibility, and replicability (or lack thereof) of research findings.

His research has been published in top gifted education journals (*Gifted Child Quarterly* [9x], *Journal of Advanced Academics* [3x], and *Journal for the Education of the Gifted* [3x]), as well as the top educational (*Educational Researcher*, *Review of Educational Research*, *AERA Open* [2x]) and psychological (*Psychological Science*, *Journal of Educational Psychology*, *Intelligence* [3x], *Current Directions in Psychological Science*, *Perspectives on Psychological Science*) research journals. Publishing in top journals assures that the results reach the attention of larger audiences needed to help catalyze change. Dr. Makel has edited two books, published by the American Psychological Association and Prufrock Press.

Dr. Makel has been awarded numerous awards for Excellence in Research by the Mensa Education & Research Foundation and was given the Early Scholar Award in 2017 by the National Association for Gifted Children (NAGC). At NAGC, he has served as the Chair of the Research & Evaluation Network, is a member of the NAGC Publication Committee, was a member of its Network Task Force, co-Chair (with Susan Johnsen) of its 2018-2019 Definition Task Force, and currently serves on its search committee for a new Executive Director. Dr. Makel co-created Project Launch with Brian Cooper (see Table 3) and Dr. Shayne Goodrum (retired). He has been serving as the evaluator of Project Launch since its inception and served as the Primary Investigator for grants and contracts worth over \$1 million.

4.B.2. Key Project Personnel Qualifications

Co-Primary Investigator, Dr. Jill Adelson, Research Scientist

Dr. Adelson has examined gifted and talented populations spanning from prekindergarten to college with a focus on both academic and social-emotional outcomes. She studies gifted programming and curricula for academically talented students, and her research has contributed to the field's understanding of talent development in mathematics. As a gifted education researcher, she conducts methodologically rigorous research to help move the field forward, to inform practice and benefit schools, and to improve educational equity, excellence, and engagement for students of all backgrounds.

Additionally, she serves as a translational methodologist, bridging the gap between advanced methods and applied research through collaborations with researchers outside the education field and through methodological dissemination. Dr. Adelson presents to researchers, administrators, teachers, parents, and graduate students, bringing her lens as a former elementary school teacher, as a parent, and as a researcher. Her contributions in conducting and reporting research and her leadership and service in the field of gifted education has been recognized by

the National Association for Gifted Children's Early Scholar and Early Leader Awards. She is coeditor of *Gifted Child Quarterly*.

Project Manager, Teresa Cerrato-Amador, Program Coordinator.

Teresa Cerrato-Amador has worked in education and non-profit spaces for most of her career. Her work helping low-income families and underserved populations access educational opportunities is the perfect way to combine her passion for education and service. She has worked as a teacher, advisor, translator, and administrator for different educational programs and non-profit organizations. Currently, she serves as the Program Coordinator for Project Launch at Duke TIP, where she works directly with low-income families to facilitate their access to educational programs and to increase their engagement with Duke TIP.

Additional Project Staff

With over 80 full-time staff, Duke TIP identifies roughly 100,000 gifted students each year and offers academic programs to over 12,000 students each year. As shown, in Table 3, numerous staff will play some role in making Project Launch Plus succeed. All effort estimates represent time spent directly on Project Launch Plus activities. However, **no grant funds will be spent on staff effort. Duke TIP will contribute all staff effort as part of a cost-sharing effort, worth \$964,000.**

Table 3. Project Launch Staffing Organizational Chart

	Project Role		Role	Year 1 Effort	Year 2 Effort	Year 3 Effort	Year 4 Effort	Year 5 Effort	Project Actions
Project Leadership	Project Director	Paris Andrew	Oversee and manage all operational aspects of the project.	20%	10%	10%	10%	10%	1A, 1B, 2A, 3A
	Primary Investigator	Dr. Matthew C. Makel	Oversee and help manage all aspects of the project.	10%	5%	5%	5%	5%	All
	Co-Primary Investigator	Dr. Jill Adelson	Assist in overseeing managing all aspects of the project.	10%	5%	5%	5%	5%	All
	Project Manager	Teresa Cerrato-Amador	Manage the day-to-day operations and communciation with students participants in Project Launch Plus	100%	100%	100%	100%	100%	1B, 2A
	Program Coordinator		This to-be-hired position will work with the Project Manager	0	100%	100%	100%	100%	1B, 2A
Comm's	Information Designer	Catherine Bergman	Graphic design for Outreach Recruitment and Training material	3 days	Update Materials As Needed			1A, 3A	
	Media Coordinator	Ivan Ross	Design all video content for all Outreach materials	3 days	Update Materials As Needed			1A, 3A	
	Website Administrator	Elizabeth Simmons	Upload all relevant materials so that they are freely available online	.5 days	Update Materials As Needed			1A, 3A	
Outreach & Research	Outreach Director	Judy Elsey	Oversee, manage, and schedule Targeted Outreach Recruitment.	20%	10%	10%	10%	10%	1A, 3A
	Regional Manager-TX office	Traci Guidry	Assist in scheduling, conducting, follow-up Targeted Outreach Recruitment.	15%	10%	10%	10%	10%	1A, 3A
	Florida Operations Coordinator	Kim Thomas-Cain	Assist in scheduling, conducting, follow-up Targeted Outreach Recruitment.	15%	10%	10%	10%	10%	1A, 3A
	Operations Specialist	Devin Patterson	Assist in scheduling, conducting, follow-up Targeted Outreach Recruitment.	15%	10%	10%	10%	10%	1A, 3A
	Gifted Education Research Specialist	Dr. Rick Courtright	Will be involved in the creation and delivery of Targeted Outreach Recruitment And Training materials.	15%	10%	10%	10%	10%	1A, 3A
	Postdoctoral Research Associate	Dr. Lisa Ridgley	Helping collect, analyze, write-up and disseminate findings.	5%	5%	10%	10%	10%	3B
Outreach Assistance									
Various	Director of Educational Innovation & Online Learning	Brian Cooper	Will be involved in the creation and delivery of Targeted Outreach Recruitment And Training materials.	5%	5%	5%	5%	5%	1A, 1B, 2A, 3A
	Assistant Director of Admissions	Renee Janerico	Assist in the placement and enrollment of all student participants	2 days	2 days	2 days	2 days	2 days	1B, 2A
	Advisory Board	3-5 professionals	To be selected in consultation with Grant Program Officers, will assist in selecting topics and developing materials for Targeted Outreach Training	2 days					3A

4.C Management Plan

4.C.1. Management Plan Adequacy

As outlined in Table 3, numerous staff have responsibilities related to the success of the project activities. Because much of the project is aimed at expanding the number of students with financial need who have access to programming, much of the success of the project hinges on the successful delivery of existing programs. Duke TIP has a 40 year history of providing successful programs and has a full-time staff of 80, with seasonal hiring of over 1,000 additional staff. Because such staffing is already in place, Duke TIP is not requesting federal funds for staffing.

Targeted Outreach Recruitment

In 2018, Outreach staff conducted over 150 talks and events. Adding the Targeted Outreach Recruitment events is well within their ability. However, **Javits funds will allow for substantial growth in capacity to recruit specifically from targeted groups in rural areas and high-poverty schools.** Without Javits funding, such targeted sessions will likely not happen. Table 4 provides a timeline of benchmark goals for Targeted Outreach Recruitment.

Targeted Services Management & Timeline

In 2018, Duke TIP served over 12,000 students in its programs, including 1,530 in CRISIS and 1,623 in eInvestigators. Since 2014, 579 students have participated in Project Launch. **Javits funds will allow for substantial growth in capacity to enroll targeted students in programs (786 high dose, 857 low dose).** Without Javits funding, access to programming by these students will likely not happen. Project participants are given early enrollment opportunity in both CRISIS and eInvestigators to assure access. The timeline in Table 5 outlines the experiences of Cohort A, which will be identified in Year 1. Subsequent Cohorts will be identified in each subsequent year, following the same timeline. To avoid redundancy, the timeline only follows Cohort A, but notes when Cohort B will begin its experiences.

Table 4: Targeted Outreach Recruitment

Five-Year Targeted Outreach Recruitment Plan			
Month(s)	Actions and Focal Areas	Number of Sessions	Number of Families
Oct – Jan	<ul style="list-style-type: none"> • Initiate differentiated targeted outreach and recruitment • Maintain school/community partner contact information and engagement notes • Increase awareness and engagement in TIP’s Talent Search and benefits • Share about Financial Aid and Scholarship Opportunities to participate in TIP programs; i.e. Named Scholarships from TIP Donors, Jack Kent Cooke Foundation (JKCF), etc. 	<ul style="list-style-type: none"> • Year 1: 16 • Years 2-5: 8 	Year 1: ≥ 800 Years 2-5: ≥ 400
Feb – April	<ul style="list-style-type: none"> • Continue targeted differentiated outreach and follow-up with contacts • Maintain school/community partner contact information and engagement notes • Increase awareness and engagement in TIP’s Talent Search and benefits • Communicate with families who qualified for State Recognition Ceremonies • Communicate with families who qualified to attend summer educational programs (on-campus and online) Share about Financial Aid and Scholarship Opportunities to participate in TIP programs; i.e. Named Scholarships from TIP Donors, Jack Kent Cooke Foundation (JKCF), etc.	<ul style="list-style-type: none"> • Year 1: 4 • Years 2-5: 2 	Year 1: ≥ 200 Years 2-5: ≥ 100
May – Sept	<ul style="list-style-type: none"> • Communicate with families who qualified to attend summer educational programs (on-campus and online) • Comprehensive review of targeted outreach strategies and outcomes • Maintain school/community partner contact information and engagement notes • Consult with Project Leads, Advisory Teams and other stakeholders • Outreach Planning Retreat • Refine strategies and update as needed targeted recruitment efforts 		
Five-Year Targeted Outreach Total:		60 sessions	$\geq 3,000$ families

Table 5. Targeted Service Timeline.

Month	
Oct – Dec Year 1	<ul style="list-style-type: none"> • Eligible families are notified and invited to apply for Project Launch • Randomization into Doses occurs
Jan Year 1	<ul style="list-style-type: none"> • Notification via mail & email • Administration of baseline measures
Feb – May Year 1	<ul style="list-style-type: none"> • Students' CRISIS application and research team choices submitted (Feb) • eInvestigators application and case choices submitted (March/April) • Communication with selected families to prepare for participation
June – July Year 1	<ul style="list-style-type: none"> • CRISIS program experience • eInvestigators program experience • Administration of post-program assessment • 1st Book Club books shipped; activities published online (July)
Aug Year 1	<ul style="list-style-type: none"> • PSAT 8/9 Test registration • Nudges begin
Sep – Dec Year 2	<ul style="list-style-type: none"> • 2nd Book Club books shipped; activities published online (Nov) • PSAT 8/9 Above-Level Testing opportunities • Nudges continue • New Cohort begins Project Launch Plus Activities
Jan Year 2	<ul style="list-style-type: none"> • PSAT 8/9 Test opportunities • Nudges continue
Feb – May Year 2	<ul style="list-style-type: none"> • CRISIS application and research team choices submitted (Feb) • eInvestigators application and case choices submitted (March/April) • 3rd Book Club books shipped; activities published online (March) • Communication with selected families to prepare for participation
June – July Year 2	<ul style="list-style-type: none"> • CRISIS program experience • eInvestigators program experience • Administration of post-program assessment • 4th Book Club books shipped; activities published online (July)
August Year 2	<ul style="list-style-type: none"> • Registration for 7th Grade Talent Search and ACT/SAT Above-Level Testing
Oct – Feb Year 3	<ul style="list-style-type: none"> • ACT and SAT Testing opportunities
March – April Year 3	<ul style="list-style-type: none"> • Registration for Summer Studies and eStudies programs for qualifying students

Targeted Outreach Training

In 2018, staff conducted 21 outreach training sessions. Adding the Targeted Outreach Training events represents attainable growth. **Javits funds will allow for substantial growth in capacity to conduct training sessions specifically for teachers in rural areas and high-poverty schools (60 sessions for 3,000 educators).** Without Javits funding, such targeted

sessions will likely not happen.

The project will create an Advisory Panel to select the topics of content covered in the Targeted Outreach Training (e.g., universal screening, local norms, talent development opportunities, etc.) using best-evidence, best-practices, NAGC Program Standards, and relevance to local context as the guiding principles. Once topics are selected, Duke TIP's Research and Evaluation, Partnerships & Engagement, and Outreach teams along with other relevant staff (see Table 3), will create engaging series of workshops and related materials. All materials will be made freely available to anyone with an internet connection on the Duke TIP websites resources pages. No login or password will be required. **Materials advertising the free availability of these workshops and materials will be targeted toward school staff in rural areas and high-poverty schools.**

Knowledge Creation

The Duke TIP Research team is highly active and has published over 100 journal articles, including 12 in 2018. The Co-PI has published numerous papers on previous Javits projects. Javits funds will allow for the creation of knowledge specifically on how to effectively identify and serve the targeted gifted population.

4.C.2. Procedures for Feedback and Continuous Improvement Targeted Outreach Recruitment

Surveys that gather satisfaction, understanding, and action-taking by participating families will be used to gauge effectiveness and how the sessions should be improved. All parts of the recruitment that receive lower than 90% satisfaction will be amended to improve satisfaction levels. Similarly, student enrollment and performance on above-level tests from the schools/districts served will be tracked as an indirect assessment. If student enrollment numbers and performance on above-level tests do not improve, the recruitment methods will be amended.

Targeted Services

The annual creation of new cohorts allows for the project to regularly incorporate feedback. Because Duke TIP does not rely on a larger bureaucracy; we are able to change procedures when the situation dictates. For example, online independent mentorship was originally part of the suite of services. Evidence suggested it was not effective at sustaining engagement, so it was replaced with eInvestigators. If the outcome data suggest that eInvestigators is not effective, it will also be discontinued as a service.

Similarly, the computer science-based CRISIS research teams and eInvestigator case experiences will rely on student performance and feedback to evolve to deliver appropriately challenging, engaging experiences that foster long-term academic engagement.

Targeted Outreach Training

Surveys that gather satisfaction, understanding, and action-taking by participating educators will be used to gauge effectiveness as well as how the sessions should be improved. All parts of the training that receive lower than 90% satisfaction will be amended to improve satisfaction levels. Similarly, student enrollment and performance on above-level tests from the schools/districts served will be tracked as an indirect assessment. If student enrollment numbers and performance on above-level tests do not improve, training methods will be amended.

4.D Project Services

4.D.1. Quality of Services

1. Identification of gifted students in rural areas and high-poverty schools.

Duke TIP has a 40-year history of working with schools to identify academically talented students. Since its founding, Duke TIP has served nearly 3 million students, including nearly 100,000 in 2018. Of those, about 24% were eligible for free/reduced lunch. Although this means Duke TIP works with tens of thousands of students with financial need, it suggests that low-

income students are underrepresented in TIP. Javits funding would facilitate Targeted Outreach sessions to be conducted in rural areas and high-poverty schools to increase the identification of gifted students in these areas. This assures that 100% of recipients will meet the grant priorities. All recruitment materials will be translated into Spanish and made freely available online.

1.B. Targeted Services.

Project Launch Plus builds on the success of and expands the reach of Project Launch, which has been in operation for five years. Data from Project Launch clearly indicate that participation has led to a change in trajectory for students from low-income households. Participants not only benefit from participating in academic enrichment opportunities, but also continue pursuing challenging experiences.

- 47% of participants qualify for TIP summer programs (via ACT or SAT scores) compared to 32% of comparable non-Project Launch students from low-income backgrounds.
- Participants apply for subsequent engagement opportunities (CRISIS, eInvestigators, above-level testing) at significantly higher rates than non-Project Launch students.
- Participants report feeling more accepted by and connected to their peers at CRISIS than in their regular school environments and feeling that their CRISIS peers were more supportive and appreciative of their intelligence and academic talents than students at their regular schools.

2. Computer Science Engagement for gifted students in rural and high-poverty schools.

Research teams for CRISIS focused on computer science and one or more eInvestigator cases involving computer science will be deployed by Year 2. These will rely on the same problem-based principles, rigor, and quality of content as existing Duke TIP program experiences.

3. Promote Effective Instruction of gifted students in rural and high-poverty schools.

Duke TIP has worked with partnering schools and districts for decades. Additionally, for the last two years, Duke TIP has been invited to present to the Council of State Directors of Programs for the Gifted at their annual retreat and helped plan and execute North Carolina's professional development sessions for its public school AIG coordinators. Duke TIP is also partnering with North Carolina's Department of Public Instruction to publish a guide to Equity and Excellence. These activities illustrate that Duke TIP's training is considered excellent by the field. All Targeted Outreach Training sessions will be conducted in rural areas and high-poverty schools. This assures that 100% of recipients will meet the grant priorities. Additionally, all training materials will be translated into Spanish and made freely available online.

3.B. Create new knowledge through experimentally designed research. All research products will be submitted to peer-reviewed academic journals (e.g., *Gifted Child Quarterly*, *Journal of Advanced Academics*) to assure that they meet the highest standards of academic research.

4.D.2. Equal Access

Project Launch Plus is targeted to serve students who qualify for free and reduced meals, an underrepresented population in gifted services. Project funds will not be spent on any other students. Although not directly targeted through the project, because students of color are disproportionately represented in the population of students who are eligible for free and reduced meals, they will also be disproportionately likely to benefit.

To assure fair access and treatment of project participants, Duke TIP offers priority course enrollment to project participants. Additionally, program site staff are not told which students have financial need. These actions assure that project participants are treated the same as all other participants.

To ensure equal access for students who are twice-exceptional, students with documented

learning disabilities are eligible to receive testing accommodations. Whether they receive accommodations for testing is not a consideration for eligibility or participation.

4.D.3. Impact of Project Services

The expected impact of **Targeted Outreach Recruitment** includes 60 sessions given to 3,000 parents and the identification of at least 800 more academically talented students from RaHP. **Targeted Services** expect to enroll 786 students in high dose engagement opportunities, 857 in low dose engagement opportunities, and over 25,000 with email nudges. We expect 95% to complete CRISIS and 70% to complete eInvestigators and 95% of those who complete to demonstrate success in their performance in engagement opportunities. Participating families will be better able to advocate for their child and participants will: show high engagement in programs; have successful experiences in engagement opportunities; demonstrate sustained academic engagement behaviors; apply to more selective college than comparable peers.

To **Promote Effective Instruction** of gifted students in rural areas and high-poverty schools, we will provide 60 outreach recruitment sessions to 3,000 educators, leading to greater use of effective gifted identification and service practices in schools. Additionally, this should lead to more underrepresented student participation in Duke TIP.

The expected impact of Project Launch Plus extends beyond the impact on its participants. The Knowledge Creation component will inform the world about how to more effectively provide interventions to maximize long-term academic engagement. Nobel Prize winning economist James Heckman has long shown that the “return on investment” for educational interventions is generally much higher in relatively younger individuals (<https://heckmanequation.org/>). It is our belief that Javits funding of Project Launch Plus has the potential to lead to outsized impact on the academic trajectory of its participants.

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