Defining College Readiness on Long Island
Long Island Regional Advisory Council on Higher Education (LIRACHE) REPORT
Superintendents/College Presidents Partnership Study, May 1, 2017
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Background/Rationale

College enrollment rates are on the rise in the U.S. In fall 2016, some 20.5 million students were expected to attend American colleges and universities, constituting an increase of about 5.2 million since fall 2000 (NCES, 2016). This is the case because the fastest growing jobs require students to obtain at least a Bachelor's degree (Carnevale, Smith, & Strohl, 2010; Kanter, Ochoa, Assif, & Chong, 2011). However, college students continue to face many barriers to persisting in college and earning a degree. One challenge is preparing students for the many demands and responsibilities of college life in terms of both academic and non-cognitive factors. For example, approximately one-third of matriculating students require a remedial course in college. In New York State, over 50% of students enrolled in two-year institutions of higher education take at least one remedial course (EngageNY.org). Research has shown that those students who require remedial courses are less likely to graduate (Adelman, 2004; Bailey, 2009; McCabe, 2000; Parsad & Lewis, 2003). In fact, high levels of college remediation are associated with lower college completion rates and greater financial burdens on students, parents and the states (Pheatt, Trimble, & Barnett, 2016; The National Center for Public Policy and Higher Education and The National Center for Higher Education Management Systems, 2010). Thus, the societal costs on individuals and states when students are underprepared for college level courses necessitate changes in policies to narrow the college readiness gap.

This divide between what is taught in high school and what is expected in college is most pronounced for low-income and/or minority students who take fewer advanced courses during high school (ACT, 2006). Therefore, college readiness continues to be a concern for high schools, colleges and universities, national advocacy groups and, increasingly, state and federal governments concerned about expenditures and the financial toll college tuition has on families (Conley, 2008; Pheatt et al., 2016). College readiness is of particular importance on Long Island, New York because large gaps exist between high poverty high schools and more advantaged ones. There are also persistent graduation rate gaps among Black, Hispanic, and White students across Long Island (see Table 1). As Table 1 illustrates, the total breakdown of students earning an advanced designation diploma are roughly 44% White students, 14% Hispanic students, and 10% Black students. Additionally, a 2015 report showed that Long Island "schools with a large percentage of economically poor students face a much greater challenge in academically preparing their students for college" (Long Island Index, 2015).

Table 1:

Statewide, the graduation rate achievement gap by racial/ethnic group persists, particularly for the Advanced Designation Diploma

All Students in Public Schools After 4 Years
Results Through June

	Black Cohort Members	Hispanic Cohort Members	White Cohort Members
Regents Diploma	51.0%	48.9%	41.0%
Regents Diploma with Advanced Designation	10.3%	13.9%	43.7%
Local Diploma	6.4%	4.8%	3.8%
Total Graduates	67.7%	67.6%	88.4%
Still Enrolled	21.5%	20.3%	6.3%
Non-Diploma Credentials (CDOS, Skills & Achievement, previously earned IEP)	0.9%	0.7%	0.8%
Dropped out	8.8%	10.5%	4.0%
Transferred to an Approved High School Equivalency Program	0.8%	0.8%	0.4%

Source: NYSED, 2017.

College readiness is a broad term that is used to define the cognitive and non-cognitive factors that lead to a student's successful transition from high school to college. Conley's (2008) "expanded" definition incorporates both dimensions:

> College readiness can be defined operationally as the level of preparation a student needs in order to enroll and succeed—without remediation—in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree…the student is also prepared to get the most out of the college experience by understanding the culture and structure of postsecondary education and the ways of knowing and intellectual norms of this academic and social environment… (pp. 5-6).

While the focus of the predominant research on college readiness has emphasized academic preparation and performance, there is a new focus, which broadens the definition of college readiness beyond standardized test scores to include non-cognitive skills (Barnett, 2016; Roderick, Coca, & Nagaoka, 2011; Venezia & Jaeger, 2013). Research has shown that non-cognitive skills can be taught and are crucial for college success (Farrington et al., 2012; Levin, 2012; Duffy & Sedlacek, 2011). The "Redefining Ready!" initiative is one example that uses the expanded college readiness definition. This national campaign emphasizes the whole child through its focus on preparing students to be *college ready, career ready, and life ready* (AASA, 2017). Therefore, the purpose of this study was to explore from multiple perspectives, what college readiness means in the regional context of Long Island.

Recognizing the importance of college readiness, the Long Island Regional Advisory Council on Higher Education (LIRACHE) charged its Superintendents/College Presidents Partnership
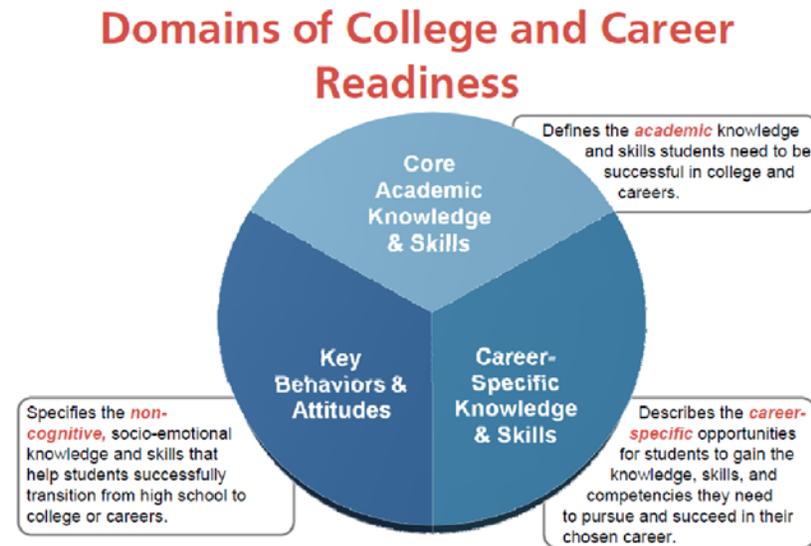
(S/CPP) with studying the issue at the regional level to foster a seamless transition from secondary education to college. LIRACHE is a consortium of the 15 colleges and universities on Long Island created to encourage collaboration and cooperation among the higher education providers on the Island, to create awareness of the quality work in the colleges and universities, and to promote a more seamless transition for high school to college. The LIRACHE Superintendents/College Presidents Partnership (S/CPP) is a unique and ongoing forum that recognizes the interdependency of P-12 and institutions of higher education. Specifically, the Partnership addresses matters affecting teaching and learning on Long Island, works to identify solutions that span academic levels, and collaborates with other organizations and agencies to improve the quality of life across the region. As a natural outgrowth, the group determined that probing into the non-cognitive, behaviors and attitudes associated with successful transition into college would provide a wealth of information that, as part of a larger, more comprehensive strategy, could inform involved stakeholders and potentially lead to successful interventions. Therefore, this study chose to investigate college readiness from three different perspectives, which included workgroups that focused on the following: literature review, quantitative analysis and qualitative investigation. An early exploration of the literature regarding college and career readiness provided direction for the development of a conceptual and theoretical framework that helped guide the development of the study. In line with the early decision to focus on non-cognitive factors, this study, which was rooted in sociological role theory, held as a foundational concept that college readiness is not restricted to academic skill.

The primary purpose of the study was to uncover student understandings about the role of being a first year college student. While the phrase "college ready" is often used, there is no commonly accepted operational definition for this phrase, nor are the factors and variables that foster college readiness well known. The quantitative survey findings revealed that there seems to be a disconnect between P-12 Common Core Math standards and high school advanced mathematics curriculum and the skills colleges and universities require students to possess to demonstrate "college readiness."

Ultimately, successful college students are not only prepared academically for college, but also prepared in non-cognitive dimensions and are able to draw upon them when needed. Therefore, the qualitative workgroup was tasked with looking at qualitative data that could be used to provide greater insight into the issues surrounding college and career readiness and, where possible, to suggest appropriate interventions. It was also noted from a preliminary literature review that simply looking at college readiness from an academic preparation perspective did not account for all aspects of college success. Discussions among P-12 administrators and counselors, as well as conversations at the college level, indicated that students who "look ready" by their transcripts nevertheless encounter difficulties that constrain success at college. They shift majors, transfer, find the need to take a semester or longer off, etc.

A review of the literature on college and career readiness provides insight on college readiness, but there is substantially less information available for career readiness. Early in the qualitative workgroup discussions, the decision was made to explore college readiness from multiple perspectives, given the increasing importance of the postsecondary credential and the focus on critical thinking and other important soft skills. Additionally, the group decided that narrowing the scope of the focus groups would allow for a richer and more useful dataset. To assist with

this process and to provide an organizing framework for the mixed methods study, the group reviewed the Domains of College and Career Readiness graphic, furnished by the New York State Education Department (EngageNY). The graphic, presented below, provides three critical domains for ascertaining the degree of student college and career readiness. Given the charge of the workgroup, it was decided that the most beneficial information that could be provided would be specific to key behaviors and attitudes.

Domains of College and Career Readiness

Core Academic Knowledge & Skills — Defines the *academic* knowledge and skills students need to be successful in college and careers.

Key Behaviors & Attitudes — Specifies the *non-cognitive*, socio-emotional knowledge and skills that help students successfully transition from high school to college or careers.

Career-Specific Knowledge & Skills — Describes the *career-specific* opportunities for students to gain the knowledge, skills, and competencies they need to pursue and succeed in their chosen career.

As stated in the above graphic, the group determined that probing into the non-cognitive, socio-emotional knowledge and skills associated with successful transition into college would provide a wealth of information that, as part of a larger, more comprehensive strategy, could inform involved stakeholders and potentially lead to successful interventions. After further discussions among the group, it was decided that the focus groups at the college level would include students, faculty, and academic counselors to provide information on not only the attitudes and behaviors associated with successful transition, but also insight into the strategies used to enhance preparedness. Moreover, the focus groups at the high school level would include high school seniors, parents, teachers, and guidance counselors.

The research questions guiding the overall study include:
1. To what extent are Long Island students enrolling and persisting in college?
2. What percentage of high school students are being placed in remedial college courses?
3. What does it mean for high school seniors to be college ready in the Long Island context?
4. How does a diverse group of Long Island students, faculty/teachers, and counselors at the high school and college level perceive the necessary non-cognitive, social-emotional knowledge and skills needed to be college ready?

The evidence from the quantitative study is that college remediation remains a major issue, and writing and math need particular attention at the high school level. Based on this finding, high

schools should develop common standards to define benchmarks for entering college credit courses. The qualitative study illustrates how high school students are frequently in a situation of learned helplessness in high school given the fact that teachers and parents are always ready to rescue them. To this end, in order for students to successfully transition from high school to college, they must have mastery of not only academic skills but also non-cognitive skills such as maturity and self-awareness. Overall, there is a need to align high schools and higher institutions more toward each other, with programs and initiatives serving as the specific recommendations outlined at the end of the report.

Literature Review

The Education Commission of the States (2013) reports that by 2020 a college degree will be required for sixty-five percent of all jobs in the U.S. To meet these national labor demands and remain competitive in the global economy, the United States has responded by revamping its K-16 programs with a focus on college and career readiness. College readiness in academic terms, as defined by Venezia and Jaeger (2013), is the "level of preparation a student needs to enroll and succeed in a college program (certificate, associate's degree, or baccalaureate) without requiring remediation" (p. 118).

In addition, over 90% of high school seniors in the U.S. plan to attend college (Howell, Kurlaender, & Grodsky, 2010; Venezia, Callan, Finney, Kirst, & Usdan, 2005). However, while student aspirations are high, approximately 63% of students enrolled in community colleges and 40% enrolled in four year colleges require remedial instruction in reading, writing or math (Venezia et al., 2005). High levels of college remediation are associated with lower college completion rates and greater financial burdens on students, parents and the states (Pheatt et al., 2016; The National Center for Public Policy and Higher Education and The Southern Regional Education Board (SREB), 2010). Thus, the societal costs on individuals and states when students are underprepared for college level courses necessitate changes in policies to narrow the college readiness gap.

This literature review highlights key areas that are instrumental in creating the college readiness divide: communication among stakeholders, collaboration and alignment of academic standards between P-12 and postsecondary institutions (P-16), curriculum, assessment and accountability measures, changing demographics in P-16 institutions, and funding of P-16 policy reforms to improve college readiness.

To address these issues and improve academic outcomes for all students, educational institutions across the states are implementing key political and economic initiatives to bridge the divide. This review is an analysis of the best practices of existing programs and initiatives that effectively prepare students for the academic rigors of college. The best practices identified represent solutions that address the key areas that contribute to the college readiness divide. A comprehensive review of the extant literature reveals that the best practices of successful programs and initiatives include: Supportive Leadership, Supportive Structure, Supportive Curriculum and Instructional Practices and Supportive Interventions.

The current literature on college and career readiness illustrates that in addition to a student's grade point average, a rigorous high school curriculum is the single most important predictor of

success in postsecondary education (Pretlow & Wathington, 2014). However, student success in P-12 schooling that leads to college achievement is dependent on supportive practices that help students develop both cognitive and non-cognitive knowledge and skills. Cognitive knowledge and skills include students' ability to grasp key content, engage in critical thinking, writing and argumentation (Barnett, 2016). Non-cognitive knowledge and skills include students' developing and practicing self-awareness, self-control, persistence, collaboration, and conflict resolution (Balfanz et al., 2014).

The programs analyzed show that when specific cognitive and non-cognitive developmental practices and programs are implemented, they lead to increased student outcomes. Some programs and initiatives such as California's Early Assessment Program (EAP) or Gear Up (Gaining Early Awareness and Readiness for Undergraduate Programs) are based within high schools while Early College High Schools (ECHS) or Middle College High Schools (MCHS) are typically based within college campuses. Dual enrollment programs, a collaborative effort between high schools and colleges, allow students to take courses in their current schools with trained staff or on college campuses. In addition, some programs focus on the development of college ready skills within elementary and middle schools. Other programs, like the Student Support Services (SSS) program is college based and supports students in their transition to college as they manage the academic and social responsibilities of college life.

Most college and career readiness programs are centralized at the high school to college level. Therefore, there is currently insufficient research available on college readiness programs in elementary grades. However, a major longitudinal study at the elementary level is the Tennessee STAR experiment of elementary students to monitor the effects of students in small and regular class sizes. The Tennessee STAR experiment randomly assigned 11,600 elementary school students and their teachers to a small class, regular-size class or regular-size class with a teacher-aide. The experiment began with the wave of students who entered kindergarten in 1985, and lasted for four years. After the third grade, all students returned to regular-size classes. Analysis indicates the effect of past attendance in a small class on standardized test scores through the eighth grade, on whether students took the ACT or SAT college entrance exam, and on how they performed on the ACT or SAT exam. The results suggest that attending a small class in the early grades is associated with somewhat higher performance on standardized tests, and an increase in the likelihood that students take a college-entrance exam, especially among minority students. Most significantly, being assigned to a small class appears to have narrowed the black-white gap in college- test taking by 54 percent (Krueger & Whitmore, 2000).

In the middle grades (five through eight) student support in transitioning from elementary years and in preparation for high school is an essential indicator for college and career readiness. In a study by Allensworth, Gwynne, Moore, and de la Torre (2014), the authors found that the following middle grade indicators were the most predictive for high school readiness: attendance rates, grades in specific classes, student GPA, test scores, study habits, grit, discipline records, and background characteristics. The author's findings indicate that grades are a strong measure of future success in college (Allensworth et al., 2014).

Program components in college and career readiness initiatives are not static; they are reflective of societal and individual needs of students. Therefore, educational leaders are continuously improving the standards and practices of their programs as they gain new information regarding

effective strategies. The best practices of Supportive Leadership, Supportive Structures, Supportive Curriculum and Instructional Practices and Supportive Interventions reflect a shift from a college and career readiness model wherein students and their family are primarily responsible for a student's college success to a more community based model inclusive of students, their family, and the school and community.

Supportive Leadership

Supportive Leadership is the foundation of successful college and career readiness programs. Supportive leadership is people centered. It is a style of leadership based on empowerment and relationship building designed to create and promote a positive, productive work experience for staff and students (Shin, Won-Kyung, Chang-Hyun, & Jee-Young, 2016). In implementing the top-down reform initiative of college and career readiness, supportive leaders engage in distinct practices or habits of mind and conduct that increase student academic achievement. These practices include, displaying "power with" and an "ethic of care," having a mindset of intentionality, monitoring program implementation and performing program assessments.

The supportive leadership practices help leaders to empower and build positive relationship with staff, students, and other stakeholders (Kreisberg, 1992; Thompson & Ongaga, 2011). Power with is evident through the distributive leadership opportunities created for staff, students, and parents through their participation on teams and their inclusion in the decision making process. Supportive leaders also connect with community-based organizations that provide internships for students to participate.

Ethic of care is made visible by the various activities designed to support the academic as well as social emotional learning of students. It also includes promoting collaboration and communication among stakeholders by engaging all involved in the process of educating students (Allensworth et al., 2014). For example, a key component of some programs is reaching out to families of students who are not making high grades through parent portals, and to let families know that a child is not on-track to be ready for college. This type of care helps strengthen the relationship between home and school and allows parents and students to have a clear understanding of grading policies.

Supportive leaders also display a mindset of intentionality (Bandura, 2005; Edmunds et al., 2012). Leaders are aware of the societal and individual benefits of students being college and career ready and seek to understand and implement a clear vision of the key elements that drive the successful preparation of students ready to assume the academic and social responsibilities of college and life. This vision is accomplished by having a detailed, well-structured program designed around principles or standards with specific behaviors for achieving each principle. In addition, principles or standards are designed to lead to specific student outcomes.

An excellent model of supportive leadership that displays power with, ethic of care, mindset of intentionality, and program implementation monitoring and assessment is exemplified by a North Carolina Early College High School. The school functions around four design principles with an outline of specific initiatives to accomplish within each design principle. The design principles are linked to intermediate and long-term student outcomes. The five design principles include: Purposeful Design, Professionalism, Personalization, College Ready, and Powerful Teaching and

Learning (Edmunds et al., 2010). Based on these design principles, intermediate student outcomes include: increased student attendance, increased frequency of higher level courses, improved attitudes toward self and school, improved behavior, increased aspirations toward college and improved student achievement (Edmunds et al., 2010). Long-term student outcomes include, increased graduation rates, increased enrollment in college and increased graduation from college (Edmunds et al., 2010). This model with its clearly articulated behaviors and outcomes serves as a guide to monitor program implementation with measureable outcomes to assess the program's success.

Therefore, North Carolina's Early College High School structure serves as a model for small learning communities (SLCs) that are designed purposely to ensure college and career readiness (Edmunds et al., 2010). The model reflects that reduction in size, from large comprehensive schools, is not the only component to the success of SLCs. Best practices for success are dependent on leadership vision, clearly defined objectives and student outcomes, ability to articulate and inspire staff and students to embrace the vision, provide regular monitoring of implementation and model assessment based on predetermined outcomes (Edmunds et al., 2010). It is within this carefully designed vision with specific outcomes that produce supportive structures.

Cullen's (1991) study of LaGuardia Community College's Middle College High School, located in Queens NY, outlines specific practices to create a sense of belonging and promote an inclusive culture. Some of these practices are evident in other successful programs:

☐ Respect Building. To develop open respectful relationships, students and staff are on a first name basis.

☐ Student Voices Matter. Students were responsible for writing the first Middle College Constitution with codes of conduct that applied to both teachers and students. In other programs students' voices in program development is heard and valued.

☐ Structure of communication. The MCHS school body at LaGuardia is comprised of sets of families, houses, clubs, guidance counselors and family workers who work together to improve student's academic success. In addition, students participate in weekly group counseling sessions with their guidance counselor to discuss concerns and share their experiences with peers. Counselors also help students develop coping strategies for dealing with various situations. Moreover, parents can attend a biweekly parent support group.

☐ Open Houses. Open houses feature workshops presented by teachers and include games, picnics, and sharing of the success-oriented values of the school. Open houses promote acceptance and are a means of socializing new students to the schools community. Open houses and orientation sessions are essential practices in acclimating students to high school as well as college life.

☐ Grading System. Failing grades are not issued. Students can receive an incomplete grade with the opportunity to make up the work, or a no credit grade (NC) in

which students attend summer school. Students are not held back because of failure.

☐ Grade Levels. The school also features no grade levels. Students are simply required to fulfill the credits they need to graduate.

Successful college and career readiness programs and initiatives are designed to meet the needs of students where they are. These programs incorporate both the academic and non-academic factors that impact the whole child and their ability to achieve academic success. Therefore, while successful programs create a culture of "academic press" (Lee & Smith, 1999), they also incorporate social and emotional learning (p. 914). To further develop students, some programs also feature community outreach in the form of internships giving students an opportunity to interact with businesses or other community organizations. As a result, students are allowed to see a vision of themselves as a contributing and needed part of the larger society. Students' engagement and participation in initiatives that create a supportive structure is dependent on well-designed supportive curricula and instructional practices.

Supportive Curriculum and Instructional Practices

Supportive curriculum and instructional practices are rooted in rigorous academic standards with high expectations for student success and high interest, engaging material (Cullen, 1991; Edmunds et al., 2010). Supportive curriculums feature high-quality, rigorous, and relevant instruction. Rigorous practices include student collaboration and discussion and provide formative and multiple assessments. The common standards allow students the opportunity to learn and apply higher order thinking strategies, application of knowledge, opportunity for extended communication around course content, apply what they learned to solve something new, explain their thinking through questioning techniques, and engage in cooperative learning projects related to real life (Edmunds et al., 2010). In some programs like LaGuardia Community College, students participate in interdisciplinary courses, open-ended remedial classes for students who need extra support, and the classroom methodology stresses collaborative projects in which students can form peer groups to accomplish tasks (Cullen, 1991). There is also close monitoring of student performance by faculty and guidance counselors.

In addition to the supports listed above some programs like "Talent Search", another federally subsidized program, offers students, career exploration workshops, aptitude assessments and early college readiness tests. The table below created by Venezia and Jaeger (2013) illustrates assessments of some intervention programs created to boost high school students in preparation for college.

Table 1. Strategies Used by Selected College Readiness Interventions and Reforms

Intervention reform strategy	Areas of student need					
	Better academic preparation	Increased psychosocial and behavioral support	Greater exposure to college	Better information about college and financial aid	Better alignment between high school and college assessment and curricula	Development of appropriate habits of mind
TRIO						
Upward Bound	✔	✔		✔		✔
Talent Search		✔	✔	✔		
GEAR UP	✔	✔	✔	✔		✔
Early College High School and Middle College High School	✔	✔	✔	✔	✔	✔
Dual Enrollment	✔		✔		✔	
Early Assessment Program	✔					✔
Default curricula	✔					✔

Source: Authors.

Source: Venezia & Jaeger, 2013

Despite the implementation of many measures to improve the college readiness of students, states still face significant challenges addressing this issue. However, as educators and policy makers continue to be engaged in policy reforms designed around the best practices outlined in this review, the gap between high school graduates being college eligible but not college ready will narrow significantly.

Summary

An amalgamation of social, political and economic forces contribute to the growing social issue of college readiness across the United States. This literature review highlights the best academic and non-academic practices that some institutions are using to bridge the college readiness divide. The success in these academic programs and initiatives is based on the collaborative effort between P-12 and postsecondary institutions. Recognizing that college readiness needs to be redefined collectively will ultimately prepare students to become successful career ready professionals. Viewing this issue as a joint imperative, benefits all stakeholders who share in the common cause of creating an educated workforce, building a stronger economy, and increasing the health and welfare of all citizens.

In looking at education from a macro level, this is the first time in history that so many citizens are continuing educational pursuits after high school. As a result, education systems across the spectrum will need time and resources to adjust to this shift. However, it is evident that a supportive structure, which includes a mixture of academic and psychosocial supportive practices, is invaluable in bridging the college readiness divide. These supports are also

instrumental in addressing many of the systemic inequalities in access to educational resources experienced by Black and Hispanic, and low-income students who account for the largest numbers of students not being college ready. It is clear that race and ethnicity, which is often linked to poverty and access, is a defining factor in college readiness. As research suggests, often the best practices of supportive institutional structures and leadership, begin at the local level – though local, regional and state educational policies.

Methods and Data

This study employed a mixed- methods design using both quantitative and qualitative measures. The quantitative methods included a survey questionnaire distributed to colleges and universities across Long Island to better understand the different remedial programs and resources being used to help student's transition and persist in college.

The qualitative analysis included a sample of 24 focus group interviews at both the high school and college levels to gather insight into student behaviors and attitudes associated with successful transition from high school to college. All focus groups were conducted between December 2015 to December 2016 at four public high schools and five public and private colleges/universities on Long Island. As expected with focus groups, the sites for the study, as well as the participants, were purposefully selected to include public and private institutions (at the college level only), geographical representation, and a diverse mix of racial/ethnic and socioeconomic populations. In accordance with standard focus group practices, the groups remained exclusive to one group (i.e. students, faculty, etc.) and included between 8 and 10 participants.

The individual facilitators at each of the nine sites were charged with setting up the sessions and were responsible for identifying participants and securing commitments. The focus groups at the high schools included the following groups: senior year high school students, parents, and teachers/guidance counselors. Focus groups at the college level included first year undergraduate students, college faculty members, and college academic advisors/counselors (please see Table 1). At the private colleges, the faculty and academic advisor focus groups were combined because students typically do not have separate advisors. Specifically, students and faculty from the college level were recruited from required freshmen orientation courses. As a result, our sample includes participants with a diverse and wide-ranging set of goals and ambitions.

Table 1: Focus Group Participant Categories

Data Sources	Number
HS Focus Groups	
High Poverty High School 1	3
Low Poverty High School 2	3
Low Poverty High School 3	3
Low Poverty High School 4	3

College Focus Groups	
Private College 1	2
Private College 2	2
Private College 3	2
Public College 4	3
Community College	3
Grand Total	24

The interview sessions were audio recorded and transcribed to ensure greater reliability. All interviews were approximately one hour in length. The data has been confined to Molloy and Adelphi institutions on locked and password protected machines, with access limited to the researchers. Paper copies of the transcripts were kept in locked cabinets until completion of the study, when they will be destroyed. To protect the confidentiality of the participants, no personal identifiers were included in the transcripts. The researchers have utilized Corbin and Strauss's (1998) three stage coding process on Dedoose to analyze the data. Analytic memos and reports were reviewed and approved by the qualitative working group.

Findings and Discussion

Tables 2 and 3 illustrate retention and graduation rates relative to Long Island colleges and universities. Table 2 compares college retention rates across Long Island higher education institutions between 2011 and 2012, and illustrates the larger trend.

Table 2: College retention rates across Long Island higher education institutions between 2011 and 2012

Retention Rates		
Institution Name	**% of Fall 2011 Freshmen Returning in Fall 2012**	**% of Fall 2012 Freshmen Returning in Fall 2013**
Adelphi University	82	81
CUNY Queens College	87	84
Dowling College	65	62
Farmingdale State College	80	82
Five Towns College	55	67
Hofstra University	78	78
LIU Post	68	72
Molloy College	88	89
New York Institute of Technology	70	72
Saint Joseph's College-New York	85	84
St John's University-New York	76	80
Stony Brook University	90	90
SUNY College at Old Westbury	80	76
Long Island Area Average	**77.2**	**78.2**

Source: Intergrated PostSecondary Education Data Set (IPEDS)

As shown in Table 3, college graduation rates on Long Island consistently increase when students persist between four to six years. Future research may investigate whether there is a relationship among remediation, retention, and persistence in obtaining a degree.

Table 3: Graduation Rates for Entering Fall 2006 and 2007 Freshman

Graduation Rates						
	Freshmen Entering Fall 2006 and graduating from the same institution on or before 8/31/12			Freshmen Entering Fall 2007 and graduating from the same institution on or before 8/31/13		
Institution Name	**% Graduated in 4 years**	**% Graduated in 5 years**	**% Graduated in 6 years**	**% Graduated in 4 years**	**% Graduated in 5 years**	**% Graduated in 6 years**
Adelphi University	54	64	66	53	61	63
CUNY Queens College	26	48	55	25	47	56
Dowling College	19	32	36	18	30	34
Farmingdale State College	21	39	45	21	41	43
Five Towns College	34	38	39	30	37	37
Hofstra University	45	59	61	50	61	62
LIU Post	27	40	42	22	34	39
Molloy College	34	58	62	39	62	66
New York Institute of Technology	24	41	46	25	43	47
Saint Joseph's College-New York	52	65	68	56	70	72
St John's University-New York	37	49	59	36	47	55
Stony Brook University	47	65	70	45	63	66
SUNY College at Old Westbury	21	31	35	20	32	36
Long Island Area Average	**33.9**	**48.4**	**52.6**	**33.8**	**48.3**	**52.0**

Source: Intergrated PostSecondary Education Data Set (IPEDS)

Quantitative Survey Study

In December 2016, the Quantitative Group created and distributed a survey to Long Island Colleges and Universities. The survey, as well as the listing of colleges and universities, can be found in Appendix A. Twelve colleges responded with data from 2012 through 2016. The freshman enrollment for these colleges ranged from 28 through 4,077 for fall 2016 for a total of 17,578 students. The freshman enrollment for Nassau County was 5,634 with a range of one through 2,918. The next highest enrollment to 2,918 was 467. The freshman enrollment for Suffolk County was 6,549 with a range of 3 to 3,981. The next highest Suffolk enrollment to 3,981 was 624. The percent of Long Island (Nassau and Suffolk Counties) students enrolled at these colleges for fall 2016 was 69.3%. The percent of Long Island enrollment at each college ranged from 30% to 99% (not including the smallest college). From Nassau County, 54% of the freshmen were male, and 52% from Suffolk were males. The enrollment numbers did not fluctuate substantially from year to year.

Six of the colleges responded with information about remedial courses. These colleges enrolled 4,359 students from Nassau County and 5,594 students from Suffolk County in 2016. Long Island students were 76% of the enrollment at these colleges in 2016. For one of the colleges, the enrollment for Long Island students in remedial writing dropped from 2204 to 854 from 2012 to 2016. About 45% more students participate in remedial mathematics than in remedial reading or remedial writing. The number of students from Long Island participating in remedial courses has been dropping from 2012 to 2016.

All of the colleges reported the number of students who returned the next year. The percent of students who returned over the years for all students was 76%. The percent of students who returned over the years for Long Island students was 75%. By year the retention rate for Long Island varied from 73% to 75% and from 75% to 77% for the freshman class of each year.

Implications

In order for public school districts in New York State to be afforded the opportunity to receive timely college ready feedback that will help facilitate change before students graduate high school, public school districts need student-level data on their enrollment, remediation (if needed), achievement, and persistence on the college and university level.

This could be accomplished by continuing to use NYSSIS IDs in NYS institutions of higher education (SUNY/CUNY), thus creating a P-20 data system. While we are waiting for a P-20 student-level data system, local colleges/universities and public school districts should agree on **aggregate feedback data** [enrollment, placement, achievement, and persistence of students in higher education] that can be produced and shared. The aggregate data indicated below should be made available and provided for five (5) years so that districts can determine if they are improving over time.

i.   Enrollment data • Counts of enrolled matriculated students by gender and
                race/ethnicity • Counts of students enrolled in remedial courses in mathematics
                and   English Language Arts

ii.   Achievement data   • First and second semester student GPA   • Final course grades in mathematics and English Language Arts

iii.   Persistence data   • For 2-year institutions - percentage of completers/graduates in 1, 2, 3, or greater than 3 years   • For 4-year institutions - percentage of completers/graduates in 3, 4, 5, or greater than 5 years   • Percent transfers prior to completion/graduation

iv.   Comparison data   • To better understand improvement status, districts need a point of comparison. To this end, districts should also be provided with aggregate data by: County (Nassau and Suffolk), Long Island as a region, and all students attending the institution

New York State also needs to bridge the gap between P-12 Common Core Math Standards and higher education math expectations. New York State currently has one mathematics Regents pathway to demonstrate mastery in high school which includes Algebra, Geometry, and Algebra 2. Under the current system, districts encourage students to persist through Algebra 2 and pursue an Advanced Regents Diploma to signify college readiness. However, according these research findings, colleges and universities seem to stress areas like statistics more than geometry and trigonometry. This is especially true if a student plans to major in a STEM field because math skills are more important to coursework and later career readiness.

The quantitative data strongly suggest that remediation levels remain high and that substantial numbers of students withdraw from college as a result of this deficiency. Thus, additional math Regents courses and exams, like statistics, may be needed to help bridge this gap. The issue is that Algebra 2 & Trigonometry is truly a complex, higher level mathematics course. As stated earlier, liberal arts colleges do not seem to demand such conceptually based courses, because many students major in the humanities and/or social sciences. As a result, something like statistics, with broader applicability to all college majors, might be a better pathway that could still present robust content at the high school level. This was also evident in the qualitative focus group data when students spoke about this issue of taking high school courses that directly prepare them for college. When asked whether students felt prepared for the college transition, one college freshman explained, "it depends on what you want to do, but I want to do physical therapy and last year taking trig did not help me at all, so… I mean I'm not saying cut it out, because obviously that's an important class, but yeah I just feel like some classes don't help you as much as they should toward preparing you for like a job in the future."

Qualitative Focus Group Study

The focus group data suggest that in order for students to successfully transition from high school to college, they must have mastery of not only academic skills but also non-cognitive skills such as maturity and self-awareness. These characteristics contribute to students' understanding of cultural know-how - without it, students cannot balance multiple roles and seek help when needed. Unlike the high school learning experience, college students are expected to take ownership over their learning and life style. Students often find that the learning methodologies differ from what they experienced in high school, whereby more material is covered and considerable independent work is expected outside of the classroom. Consequently,

students face challenges and can have a hard time adjusting to the college's cultural norms and expectations. This research confirms the importance of developing strong non-cognitive skills in high school students so that they effectively become college ready freshmen.

Cultural Know-How

Freshmen college students certainly have expectations before they set foot on any higher education campus. Some students are eager to venture out on their own, while others experience anxiety and angst as they encounter unexpected difficulties. To successfully transition and overcome freshmen year challenges, the findings illustrate that students need to possess an understanding of the institution's cultural context, or rather, cultural know-how. Students who can readily adapt and acclimate to the norms and expectations of the institution will meet with greater success. As this research indicates, if students have proficiency in non-cognitive behaviors and attitudes such as maturity, self-efficacy, and independence, they are able to negotiate the first year of college with greater ease. As described by respondents, maturity includes the ability to prioritize, self-monitor, and delay gratification.

The high school teacher focus groups concurred that maturity may be lacking because there is an emphasis on follow through skills in the classroom and at home, which was described as "rescuing" and "hand holding." High school students understandably rely on their parents to guide their education up to this point. As one student noted, parents are "a really big part of it [college transition] since they've been guiding us since we were so little." While teachers recognized the need to avoid rescuing students when they face challenges, they pointed out that parents also have a role in rescuing students. As one parent noted, "You need help, I will take you…I get up ay 6:30 and drive them to school." It is important for students and parents to understand that self-sufficiency is a necessary skill to possess in college. Students who have a capacity to resolve issues and work through challenges will have a more successful college experience.

Remarkably, when parents were asked about preparing their students for a successful transition to college, they made comments which indicated their restraint. Parents used phrases like, "it has to come from within them, not from the parents anymore," or "give them independence before they go…be more hands off, as far as their work." Undoubtedly, parents play a vital role in the development of their child's maturity. However, this research suggests that independence and maturity are closely linked. According to both students and parents, greater independence is needed but should also be given as a result of good decision-making and ushering sound judgement in order to better prepare high school senior for a successful transition to higher education.

Students bring with them expectations of what the role of faculty has been in their P-12 education. However, the interview data revealed that students needed to understand that when they enter college the professor's role is different compared to the high school teacher's role. For example, high school students could name at least one teacher or social support staff member whom they could go to for help in a variety of situations. High school senior students all commented on the supportive environments that they had during their senior year. There was a strong sense that students did not want to disappoint their teachers or ultimately fail.

Transitioning at this point can be very problematic for this group of students. In order for them to have a successful transition, they need to understand the importance of developing relationships with college faculty. This finding about cultural fit and the relationship it has with academic success is strongly supported in the research (Cohen & Garcia, 2008; Furrer & Skinner, 2003; Goodenow, 1992; Goodenow & Grady, 1993; McMillan & Chavis, 1986; Ryan & Deci, 2000).

Many of the college freshman, faculty members and counselors interviewed, described the high school senior year experience as being excessively teacher directed and structured, as well. For example, when asked what kinds of attitudes and behaviors helped or hindered students with the transition from high school to college, a private college academic advisor answered: "There's a lot of hand holding in high school versus trying to instill in them independence." A public university college student said that in high school teachers are "really babying you" and are "lenient with assignments," whereas in college he had to learn that "you are really independent of your own actions in whatever you do." In other words, respondents explained that many students arrive for their freshmen year in college without the needed resourcefulness to successfully transition. As one faculty member noted, "The vast majority of kids who come here, have no idea. …they don't have any sense of the mechanics of the system into which they are being dumped." This participant went on to discuss the importance of making a cultural lifestyle shift from "hearing a bell" and going to lunch or their next high school class to having a lot more "down time to stay on top of their work" in college.

College faculty and advisor focus group interviews revealed that students are expected to engage in independent work, take part in class discussions, and direct their own educational experience by keeping up with the work on the syllabus. Some faculty noticed that students are more likely to hand in work if there is a grade attached to the assignment. As one private college faculty member explained during the focus group:

> They don't see the relevance of an assignment because they don't know if the extra work is going to enhance the learning, or I don't really know that they want to learn as much as they want to move forward (laughs). Really, honestly I feel they want to just move forward and that's what they are used to doing and used to getting spoon-fed… I don't think they have a sense of how much work they need to do in a lot of cases to get to university level in work.

A second faculty member in the same focus group followed up by saying that students are not used to writing drafts and receiving grades and feedback on each draft. Another area of weakness is freshman student's ability to complete open-ended reading responses. One faculty member said she would get no response. Therefore, she starts the semester off by being very "structured" in her assignments because, as she explained: "It helps them go through the readings because they have to respond to certain kinds of prompts…I found I have to be very directed and structured. Do this, then this, this is what I am looking for and this is how the paper should look with an introduction. All of that. Seems like there is a lot of scripting I have to do with them."

This cultural shift in terms of academic expectations between high school and college seems somewhat foreign to college freshmen. One faculty member at a private university explained that

when students complain she often hears such comments as, "…you didn't say that…why didn't you remind me in class?" or "This wasn't clear…but then I say (to them) not one of you came over to me in my office hours. Not one of you emailed me. Not one of you called me. And if you are having an issue, please don't wait. I guess they're just waiting for us to move them along." In sum, successful college freshmen must have the ability to simultaneously be independent, guide their learning, and be comfortable with adult interactions if they need help or have questions. The interview analysis illustrates that although high schools are successful at helping students apply and gain acceptance into colleges, they do not eliminate the deficits in area of cultural know-how, as they negotiate their freshmen year experience. Possessing maturity and self-awareness as an incoming freshman seemingly facilitates a meaningful college career, as does knowing where to go when one needs help.

Help-Seeking

Successful college students are also expected to have a sense of agency in order to negotiate their first year. Of the students interviewed, many considered the role that effective communication played in their transition. During the focus group sessions, professors and counselors were asked what advice would you give college students about seeking help, and all of them expected students to be proactive and understand the importance of "office hours." Interestingly, students seemed more familiar with enacting a passive role with regard to help-seeking. Students and faculty used phrases like "hand-holding" or "lack of independence." As one private university counselor noted, "the attitude is there because they (students) don't know, so I don't know if they know how else to react sometimes… some of it is maturity and understanding that they are responsible now and it's not that they can just expect that we are going to do everything for them." Many faculty members and counselors described their understanding of the high school experience as overtly guiding. As such, students arrive their freshmen year without the needed resourcefulness to successfully transition. Parents agreed that help-seeking knowledge should not be viewed as a commodity but rather a shared interest, as one parent stated, "even in college my son would seek out professors during office time. You hear of so many college students not ... I think they need to be ... Students in general need to understand that colleges have these tremendous resources there and that they should utilize them. But if they're not used to them, they just won't ask for help." This study shows that if students have mastered the non-cognitive skill described here as help-seeking, they are able to successfully handle challenges in a constructive manner. Additionally, higher education faculty and counselors clearly expect students to take the initiative and ask for help.

Evidence from this research indicates that help-seeking in higher education is quite different than it presents during high school. On college campuses, the expectation is that students know where to go to get assistance. Faculty were eager to share the variety of help-seeking interventions available to students (academic support services, mentors, counseling services), and believed that through institutional constructs like orientation days and first year seminar courses students were well aware of these services. However, there seemed to be a clear disconnect on this issue. Students may have been aware of the services, but were not exactly sure how to access them and/or preferred to go their peers for help first before asking adults. During the high school student focus groups, respondents similarly stressed the importance of peer relationships. Specifically, high school seniors spoke about turning to friends for academic, social, and

emotional guidance and support. When asked about the expectations for college readiness, one student commented that in high school she relied on friends and teachers to support her. She went on to explain that in college she hopes this support will stay constant, but she seemed unsure.

In fact, when asked to describe a time when they needed support in college, the majority of freshman students in the focus groups stated that instead of going to tutoring or other academic support offices, they went to their peers when they had questions or needed help. They agreed that "being open" to meeting new people in class and getting involved on campus was the key to a successful college transition because they realized that their peers had a wealth of knowledge—particularly upperclassmen who were on their sports teams or clubs and had experienced the college transition. For example, when asked what advice would you give to students entering college, one private school student explained his strategy for the transition:

> I went to high school where I had class with the same 60 people for 4 years. So, when I came here, my idea was being open—letting myself get to know everyone I meet like saying "hello" "good bye" and getting involved. I was very involved in high school. My idea was to get involved and meet new people because you have new life experiences, which is helpful in the transition from high school to college. You meet people who have gone through stuff who can help you grow. I'm on student government and there's 48 people who are different majors and they all help you; they already know. If they are upper classmen, they already know what you need for your major, so they help with the transition [because] they have gone through it already so they give you that like support like you are not alone in the transition here.

Students explained that if their peers did not have the answer, then the next question they asked of them is where to go for help. Even some faculty said that "getting connected" to the college was a valuable thing for students to do in order to help them with the college transition. The tricky thing, however, is how to balance multiple roles and responsibilities if students get involved in too many activities at once. Time management skills can be a challenge for some students who are getting different messages from the institution and their peers. Another key finding, explained below, was that students have to realize that their primary responsibility is to fulfill the role of student by getting their school work done, However, they often have to deal with balancing multiple roles. At the high school level, students expressed interest in gaining more autonomy in high school, but often said that parents did not want them to be overextended.

Multiple Roles

College freshmen are faced with being more than just a student. Many hold down regular jobs, play a vital role in family life, and participate in clubs and activities. During high school, students are expected to enact one main role – that of being a student. At the same time, many students felt the need to overextend themselves to build their resumes for college acceptance. Some felt pressure to take more advanced level courses to appear competitive on college applications. Because of this high school experience, once they transition to college many either have or feel the need to take on multiple and often overwhelming responsibilities. In order to achieve a balance, college freshmen need to be more practiced in responsible decision-making.

One high school senior discussed the developmental nature of maturity and stated that, "a big part of getting ready (for college) is your maturity… learning how to exist without your parents. I've been fortunate enough that my parents have kind of helped me…to have them take a step back so I'm more in charge of my own schedule. You know, finding the things that I may want, maybe I'll pay for some of it myself instead of them just automatically paying for it."

As students begin to make the transition to college, they learn about themselves and develop skills to address the many unanticipated challenges they may face. Through focus group discussions, college freshmen participants discussed the importance of prioritizing their goals early in the semester to avoid academic failure. Having cultural know-how is certainly a necessary factor in practicing sound decision-making, especially when balancing the multiple demands of schoolwork and other responsibilities. Students all commented on the impact of time management. The students used such phrases as, "it's hard to juggle" or, "time management is crucial." College students seemed to understand that time management and goal setting affected their roles as college freshmen. When asked the question, "Tell us about a time when you were able, or not able, to balance the competing demands placed on you", one public college student noted, "it's not a one-sided thing.…they (faculty) want more, but at the end of the day they are the ones grading your paper and you're paying for it so you have to do whatever you have to do".

For many students, it was advantageous to plan appropriately and create some sort of written schedule to manage their responsibilities. Many students stressed the importance of not falling behind or "slacking off." One private college student described her way of staying organized: "I think that time management is really important and staying organized. I would color code my subjects and I always write what I had to do and when it is due by on a whiteboard. I really stay organized and it helps me keep my grades up and stay focused." During one of the public college focus groups, one student stressed the importance of staying on top of one's work because the semester goes by quickly: "In college you come for a semester, 4 months we have to learn a year's worth of work. So you can't come in and think oh I'm going to put less importance on this because I have time to bring up my grade. You have to go the whole way through because you don't have enough assignments to be able to say I have time. You don't have time. You only have time to do good the whole time round." Again, having the ability to prioritize takes a certain level of maturity and self-awareness.

College freshmen need to be able to know when they have over extended themselves and find strategies to overcome their competing interests. Faculty members agreed and commented that they "have students who have very heavy work schedules and they are extremely mature for their years and they come in with that". Although faculty members acknowledged students were balancing multiple roles, it appeared that faculty expectations were not always aligned with the realities of student lives. For example, students at the public colleges in particular explained that they have to work to help pay for their college expenses. When asked what strategies students used to stay focused and committed to their school work, one student described her situation: "I come from a single parent household, so I've tried to work two jobs to try and help my mother out, and as soon as I started school, like the first week, I had to quit both of them, just because you learn that your schoolwork is the most important thing, like when they said in high school that school work is going to change drastically [in college]." Ultimately, students who were successful could balance their time well, and be able to drop things off their schedule that took

away from studying. Besides the importance of academics, though, faculty and advisors said that students also need to take care of themselves by making sure they get enough sleep, and so on.

Recommendations

Findings from this study suggest the need for a more expansive view of college readiness. Students certainly need to possess both cognitive and non-cognitive factors to successfully transition into college, advance and ultimately earn a degree. High schools need to prepare students for the college experience, but colleges also must demonstrate readiness to support students during their first year transition. In the end, preparing students for postsecondary success becomes a shared responsibility between high schools and institutions of higher education. Having a collaborative research model, whereby schools and colleges work together to provide a better understanding of what is needed for a positive transition will help ensure greater retention and student success. In order for 21st century students to be college and career ready, they need to receive support from both ends – high schools that provide the necessary preparation in both cognitive and non-cognitive dimensions of learning as well as college environments that promote student growth and success.

There are implications for the roles of guidance counselors, faculty, parents, and college and high school administrators in designing programs that support students in developing non-cognitive dimensions to successfully transition to college. The research from this study indicate that high schools should begin to focus on increasing students' awareness of the expectations for college freshmen, prior to senior year. Additionally, college administrators should look to review what types of transitional programs they offer freshmen, with an emphasis on employing a design that provides counselors and/or active advising. Essentially, students need to be explicitly taught how to manage their time, communicate effectively with faculty, and seek help when needed.

High Schools

One of the major responsibilities of the high school guidance counselor has been to prepare juniors and seniors for college entry – deciding on and applying to a college. According to this research, counselors have excelled at preparing students for the college admissions process. Focus groups with high school teachers, parents, and students concurred that the emphasis is placed on the application process, including choice of college and major of study. Yet, respondents overwhelmingly stated that guidance counselors and high schools in general might do more to prepare students for the non-cognitive dimensions needed for a successful college transition. There seems to be a disconnect between students' perceptions about college expectations and taking personal accountability. As a result, many students struggle to successfully transition. We encourage high school counselors and other high school staff to work with their students to develop non-cognitive skills such as resiliency, self-advocacy, and autonomy. Perhaps including teachers of health in this conversation could lead to programmatic efforts to help students deal with stress and anxiety that is often associated with overachievement. Many high school guidance counselors devote significant time to the process of selecting and gaining acceptance into college and more time is needed on building students'

self-awareness and self-regulation. Perhaps striving for more of a balanced approach would improve students' readiness for the college transition. One recommendation from Hamedani, Zheng and Darling-Hammond's (2015) study is for high schools to educate the "'whole student' by providing a physically and emotionally safe learning environment, developing close and caring relationships among all members of the school community…and supporting students through critical transitions into college and career" (p. 4–5).

According to the high school seniors interviewed, many recommended that schools offer greater options, like personal finance math courses. Students discussed the value of having a balance of courses, including higher level AP classes as well as home economics. High school seniors and college freshman commented on the importance of being prepared, not just for college entrance, but rather for career readiness. This was captured by one senior student's comment, "Yeah I feel like there's not things preparing for beyond college, like I don't know what a mortgage is, and I feel like there needs to be classes to tell us how, like what those things are and how to do it." Students reported that they had taken some version of home economics during middle school, but urged researchers to emphasize the relevance of the skill set needed at the high school level to boost college and career readiness.

Many students find it challenging to manage their time during the freshmen year at college. Unlike high school, where assignments and classes are highly structured, college presents a more open- ended approach. One recommendation for high schools is to reconsider traditional class schedules (40 minute classes) and offer longer class periods to better replicate the college course experience. (However, block scheduling at the P-12 level has shown mixed results depending on what is taught during the extended period.) As reported through the findings, one could also expect assignments at the high school level to encourage more open-ended responses to model the expectations experienced at the college level. Several students commented positively with regard to internships. Students discussed the value of traveling away from their high schools and interacting with adults in a work setting. Findings from this study encourage more high schools to promote internship experiences during the senior year so that students can learn how to manage their time and responsibilities, once again readying themselves for the transition to higher education. There needs to also be a parent education focus at the high school level, whereby parents become practiced in guiding, rather than "rescuing" their child. Parents need support in allowing their children to make mistakes and experience the consequences. In doing so, students will have built the capacity to recover from a failed attempt, thus learning the value of making mistakes. Fostering independence during high school will inevitably help students as they begin their college experience. As one high achieving college student reminded us,

> …time management has been super easy, nothing's overwhelming. Everything's just kind of like you know what to do now…everyone in this room has like developed this drive, and we know what we have to get done. Even if it's not in school, like at home, we know how to take care of ourselves. Me and [a friend] take Drivers Ed over the summer and I had to ride my bike two miles to school every day back and forth. I was getting up at 5:45 for running in the morning for my sport. Like we just know what we have to get done, whether it's in school or out of school. We've all just kind of like matured at an early age.

Working with parents to consent to reasonable failure, at an early age, will only strengthen a child's ability to recover from letdowns in college and prepare them for future challenges. The common goal is to nurture independence to empower young people to enter adulthood with

confidence and purpose.

Higher Education

This research explored student and faculty perceptions across a variety of campuses and institutional contexts. Many of the institutions offer transition focused activities and courses to acclimate first year students to their campuses. However, the findings indicate that students are often overwhelmed by the information given during orientation and require more ongoing focused guidance sessions to successfully transition. The research indicates that having programs which utilize counselors, like one of the private college programs studied, can assist students in recognizing the non-cognitive dimensions needed to succeed in college and career (Karp et al., 2012). The program's motto, "You'll succeed, We promise" signifies its aim – to ensure the success of all first year students. The establishment of this program shows the college's commitment to students' retention and success. As the counselors at this institution stated, "just to have us have a second set of eyes to look at their schedule, I would say ok how can you manage this?" or, "let's try and solve the problem first and see if it works for a couple of weeks and if it doesn't let's go back and re-evaluate." The "success coaches," as they are called, serve as a bridge for students in gaining proficiency in taking ownership of their learning. This research strongly endorses this type of systematized first year approach that supports students across all learning domains – academic, social, institutional. The private college students who had success coaches agreed that the mentorship offered by them was very beneficial, especially with regard to providing effective communication between professors and students.

In order for high school students to become successful in their first year in college, they need to be comfortable asking for help and knowing which avenues to pursue to receive help. Based on the findings of this research, one suggestion is to offer professional development to college faculty on the importance of effective communication and relationship building with first-year students. This could benefit students who have grown accustomed to the intimate, caring relationships established by high school faculty and staff. Providing students with mentorship opportunities could close the gap between faculty and student expectations. Students who have gained the maturity to succeed in their first year will be able to understand the cultural context of the institution, balance multiple roles, and seek help when needed.

Next Steps

Additional Research

There are several avenues for future research endeavors. It should be noted that this study's purpose was to explore attitudes and behaviors that are needed for successful college transitions. The research clearly indicates that non-cognitive dimensions influence students' transition in important ways. In order to have greater consensus on what college readiness means across school districts and colleges on Long Island, additional research is needed. One research area that could be further explored is equity and diversity among school districts. A limitation of the current study is the lack of diversity among high school seniors chosen for the focus group interviews. The majority of seniors who participated were in good academic standing and enrolled in advanced level classes. A follow-up study could include a more diverse sample of students by academic track, race/ethnicity, and socioeconomic status. In addition, this study

could be expanded to include a broader sample of high schools on Long Island, including high poverty, diverse, and more affluent districts, in order to get different perspectives on college readiness.

Additional research could also explore other equity issues related to the ratio of guidance counselors to students, level of student support resources, and parent involvement across the different high schools on Long Island. There is also the problem of high rates of first year students withdrawing from college. Future studies could qualitatively explore the reasons that students give for not persisting in college.

Programmatic Opportunities

As our findings suggest, on Long Island, the average percentage of first year students enrolled in remediation courses in math and English are noteworthy. Math achievement poses a significantly higher challenge for entry to credit –bearing courses than reading or writing. Remediation rates for reading nevertheless remain a concern. As previously mentioned, high schools and institutions of higher education need to bridge the divide between P-12 curricular expectations and postsecondary performance. The discrepancy here points to the misalignment between high school advanced level mastery, and what postsecondary institutions want incoming freshmen to know and be able to do. This extends to a lack of consistency with high school exit assessments and college entrance exams, as well. Although many high schools offer college-preparatory coursework, it seemingly does not ensure the type of critical thinking skills needed for proficiency in math, reading, and writing at the college level.

Many educators work under the assumption that if high school students take the higher level content courses, like AP or IB-level, they will be prepared for college. As the findings indicate, this assumption is flawed. There is an apparent disconnect between the higher level mathematic topics emphasized in high schools and the math skills deemed most important for college success. For example, promoting statistics as a college preparatory course in high schools would better prepare college students for liberal arts and social science research. This claim can also be made for English – the 12th grade curriculum offers students a rich literature-based course, while college freshmen are required to take classes which stress expository reading and writing. This report strongly recommends establishing a clear linkage between local school districts and institutions of higher education to align course standards with postsecondary expectations. Based on our findings, another recommendation includes forming a network of high school and college instructors of core disciplines of math, English, and science to develop shared understandings of college entry level achievement and best practices in pedagogy. Another recommendation is to establish agreed-upon benchmarks for entry to college credit-bearing courses by screening students in their junior year of high school.

Students need both academic preparation and an understanding of the demands of college life. Based on our qualitative findings, recommendations at the high school level would include: expanding opportunities for AP, IB, and other college level course work to more students, offering more experiences for higher levels of student independence and advocacy in the high school senior year, establishment of high school courses devoted to "college knowledge," perhaps through health classes, and further promotion of internships to enable students to

develop a sense of agency. In general, there should also be a greater focus on counseling efforts at the high school level, to support the development of non-cognitive skills needed for college success.

Collaborative Endeavors

Barriers exist that make it difficult to analyze quantitative data regarding college readiness in students. This is the case because there is no glossary of common terms in which P-16 can effectively communicate. Therefore, developing a common vocabulary, as well as uniform reporting system for college readiness would benefit students' successful college transition. High schools and colleges could share the responsibility of developing a P-16 data system that includes, but is not limited to enrollment, remediation, achievement levels, and persistence in higher education. Another concern is the lack of data collection concerning transfer students. In order to achieve the data system, there must be collaborative efforts among high schools and colleges/universities to collect aggregate feedback from high school and college student records. This data can be shared across P-16 to develop longitudinal analyses that can determine if there has been college readiness improvement over time.

Through the support of our LIRACHE partners, we advocate for the broader educational community to envision a P-College (16) continuum. A first step would be to establish a task force that invites high school teachers with college faculty and counselors to collectively prepare students for successful college transition. The intention here is to ensure that college transition programs are relevant and sustained. We recommend providing information in manageable chunks and utilizing technology to create peer-to-peer support for incoming freshmen students. The evidence from this study indicates the vital role peers play in successful college transition. Therefore, we should leverage the power of peers: Establish social networks for college transition success that provide peer-to-peer mentoring (college to high school & college student to college student). In addition, we advocate for strengthening high school to college bridge programs through the comprehensive assessment of incoming student needs and in-depth training of all faculty and staff to better support students during the learning process. Working with the Tennessee Promise Program as a model, could guide development and planning to support students' academic needs and retention. This research supports the development of bridge programs that strengthen academic skills as well as foster a sense of maturity and responsible decision-making in college freshmen. Offering students sustained programs, like college boot camps for high school juniors or rising seniors to promote understanding of academic programs and college knowledge could bridge the divide and increase awareness.

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