

**College Student Inventory Overall Risk and Persistence for
First Year Students in College Discovery Program at Bronx Community College**

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Abstract

The vision is to provide creative solutions to address persistence and retention. The purpose of this study was to determine the impact of the College Discovery Program (CD) on retention for of high risk, low income, and first year students at Bronx Community College. The study was a quantitative study of 281 freshmen students enrolled from the Fall of 2012 to the Fall of 2013. The College Student Inventory (CSI) of the Noel Levitz Retention System was used to collect data on student's self-reported academic, personal and social experiences in three categories: Academic Motivation, General Coping Skills and Receptivity to Support Services. There were two major findings: The retention rate for Persisters, i.e., students who enrolled in the Fall semester and returned in the Spring semester, was 70.7% and 29.3% for Non-Persisters. The second important finding was the predictive power of the Overall Risk Index of the CSI. The Overall Risk Index significantly differentiated between many of the variables, such as High School GPA, Current Grades, Academic Factors, Sociability, and Receptivity to Personal and Financial Counseling, etc. The conclusion reached is that CD program and CSI were significant factors in improving retention for at-risk community college

students.

Many colleges and universities are confronted with the problem of student retention and persistence (Gaytan, 2013; Jensen, 2011; Racchini, 2005). Many studies have documented the extent of the problem among two-year and four-year colleges and universities (Pruett and Absher, 2015; Samuel and Scott, 2014; Alarcon and Edwards, 2012; Hanover Research, 2011). Universities and colleges are confronting the serious problems of retaining students or lowering student dropout rates by instituting various programs and freshmen classes designed to improve retention (Samuel & Scott, 2015; Pruett & Absher, 2015; Garza, Bain & Kupczynski, 2014; Hanover Research, 2011). Many studies since then have found high dropout rates in every type of college and university (Garza, Bain & Kupczynski, 2014; ACT, 2013).

Community colleges are experiencing a higher rate of first year students drop-out because they are the entry point of many of our low-income minority student (Hernandez & Lopez, 2005). Inadequate academic preparation, need for remedial education, inadequate financial support, poor study habits, time management skills, and competing obligations such as the need to work have been identified as some of the factors affecting retention (Rath, Rock, & Laferriere, 2013) A report issued by American College Testing (ACT) in 2013 showed that retention rates for two-year public colleges were 55% and 58% for two-year private college. The rates for public four-year colleges were 64.9% and 67.3% for private four year colleges. A report by the National Center for Education compared the retention rates for the Bronx Community College to 37 comparison

community colleges. The overall retention rates for student registered as full time at Bronx Community College was 58% (compared to 37 community colleges averages of 63%) and for part-time was 49% (compared to 37 community colleges averages of 45%) (National Center for Education Statistics, 2015). To improve retention, Bronx Community College instituted the College Discovery program.

Bronx Community College is part of the City University of New York. It serves mostly academically at-risk students enrolled in City University of New York (CUNY). Standardized tests indicate that 95% of these students are below college level in one or more basic skills. Ninety-seven percent are minorities, 75% are immigrants, 75% are single mothers, and the average income of these students is below \$20,000. The majority of the students are enrolled as Continuing Degree (7,622), followed by First Time Freshmen (789), Transferred Students (765), re-admits (699), and College Now (661). The majority are full time (6,241) the remaining group are part- time (4,468).

The College Discovery (CD) program was established within the community colleges by Board of Higher Education's resolutions to increase access to higher education for at-risk students, i.e., with lower academic standing than usually required for college admissions. Among the CUNY community colleges, Bronx Community College Bronx Community College's College Discovery Program is committed to meeting the needs of at-risk students. The objective was to determine the risks and protective factors that contribute to students' persistence to continue beyond the first semester.

The definition of retention or persistence varies depending on the research source

(National Center for Education Statistics, 2015; Center for Community College Student Engagement, 2012; Crosta, 2012). For example, retention rate as defined by the National Center for Education Statistics (2015) is “the percentage of first-time degree or certificate seeking students from the previous fall who either re-enrolled or successfully complete their program by the current fall” (p. 8). In contrast, other studies defined retention based on the number of first-time students who enrolled in the following semester. For example, the Center for Community College Student Engagement (2012) reported the results of 13 community colleges. As a results of the Intrusive Advising Program for at-risk students, Zane State College in Ohio reported student retention from first to second term retention in 2006 was 77% and rose to 82% in 2009. Similarly, Brazosport College students who enrolled in the Student Success Course had a fall to spring retention rate of 89% for the 2007-2009 cohorts who successfully completed the course. Crosta (2012), based on his study of 14,429 first-time college students who enrolled in five community colleges, defined Non-Persisters as students “who enrolled for one term of study but never returned to the same college for another term” and Persisters as “those who enrolled at least twice in the first four enrollment terms (fall, spring, summer, and fall)” (p. 1). This study used the definition of retention based on Crosta and those colleges identified previously by the Center for Community College Student Engagement. The primary research question was to determine whether the College’s Discovery Program improved the retention rates of students enrolled in the program compared to the total population of student. The second research question was to determine which variables differentiated between at-risk students who did not dropped out after the first semester

(Persisters) and those who dropped out after the first semester (Non-Persisters).

Review of Literature

However, many studies and reports have been conducted and issued to identify and analyze factors associated with student retention (Gaytan, 2013; Rath, Rock & Laferriere, 2013; Demetriou & Schmitz-Sciborski, 2011; Longwell-Grice & Longwell-Grice, 2008; Hossler, Ziskin, Moore III & Wakhungu, 2008; Bitzer & Troskie-De Bruin, 2004; Jensen, 2011; Racchini, 2005). As identified by Longwell-Grice & Longwell-Grice (2008), many students attending college are first-generation. For these students, financial difficulties, cultural differences, lack of support and alienation are just a few of the many factors that have been identified in the literature as impediments to student retention. Jensen (2011) identified factors at the individual level, institutional and social and external support. At the individual level, academic performance and attitude and satisfaction were identified. At the institutional level, academic engagement was identified. At the social and external support level, social and family support was identified (Pruett & Absher, 2015; Ezeala-Harrison, 2014; Alarcon and Edwards, 2013; Kuh, Kinzie, Buckley, Bridges & Hayek, 2006). Racchini (2005) identified the failure to develop social relationships, lack of acceptance into social structure, no feeling of commitment or alienation to the institution, poor academic performance, unpleasant experience early in college career, financial difficulty, family issues, underdeveloped academic goals and an absence of quality interactions with faculty and peers. Other studies have found that African-American and Latino students are less likely than

students from other racial and ethnic backgrounds to stay enrolled in college (Baker & Robnett, 2012). According to Baker and Robnett, factors, such as inequalities that exist in our public school system, inadequate academic preparation and lack of social capital negatively impact African American and Latino students. These facts are important to our study because, as described previously, the majority of the students enrolled at Bronx Community College are considered to be at-risk students.

Method

Participants

The summary and planning report in the Noel Levitz College Student Inventory (CSI) for the BCC/CUNY College Discovery program indicated that from the Fall of 2012 to the Fall of 2013, 281 students participated in the program. Of this sample, 153 were females (54.4%) and 128 were males (45.6%). For the category racial/ethnic origins, 195 (69.4%) were Hispanic or Latino, 63 (22.4%) were Black/African American (22.4%), 6 (2.1%) were Asian/Pacific Islander 6 (2.1%) were multi-ethnic or other and, White/Caucasian 1 (0.4%), and 10 (3.6%) preferred not to respond. Another important variable to be considered in this study was the variable of high school Grade Point Average (GPA). For the sample, 5 (1.8%) reported an A average, 56 (19.9%) reported a B average, 103 (37.4%) reported a C+ average, 43 (15.3%) reported a C average, 24 (8.5%) reported a D+ average, and one student reported a D average.

Assessment Instrument

The College Student Inventory (CSI) of the Noel Levitz Retention Management System (RMS) is an online early-intervention, early alert system that collects data on student's self-reported academic, personal and social experiences. The CSI is designed to identify students' strengths, attitudes, motivational patterns, resources, coping mechanisms, and receptivity to help. The CSI also contains background characteristics such as planned work hours, high school grades and family background. These characteristics can help begin discussions with students. Student's responses to the CSI are analyzed and compiled into three interpretive reports: advisor report, student report, and an institutional report. The CSI is comprised of 100 Likert Scale items ranging from 1 to 7, with 1 equaling "not true at all" and 7 equaling "completely true." These questions contain 17 different scales reported in two ways: as a percentile rank and as a bar graph. The questions are organized under three main categories: Academic Motivation, General Coping Skills and Receptivity to Support Services. The Overall Risk Index, the key independent variable in this study,

"assesses a student' academic risk based on both scale and demographic information. The index is the result of a regression analysis that included all available student data and kept only the most predicative elements, using the calculated academic risk score as the dependent variable" (Stratil, Schreiner, Miller, Herr and Edstrom, n.d., p. 56).

The Overall risk Index was used to identify significant relationship among the 10 dependent variables, i.e., study habits, math/science confidence, verbal confidence, high school grades, student grades (college), academic difficulty, sociability, sense of financial security, receptivity to personal counseling and receptivity to institutional help.

Reliability and Validity

The reliability of the CSI-A has been established as very high. The 21 major independent scales have an average homogeneity coefficient (coefficient alpha and Spearman-Brown split-half reliability) of .81 (Stratil et al., n.d.). Additionally, Stratil (n.d.) presented numerous studies to support the content validity, concurrent validity, and predictive validity and construct validity of the CSI-A instrument and the Overall Risk Index.

Researcher Questions

The primary research question was to determine whether the College's Discovery Program improved the retention rates of students enrolled in the program compared to the total population of student. The second research question was to determine which variables differentiated between at-risk students who did not dropped out after the first semester (Persisters) and those who dropped out after the first semester (Non-Persisters) (Center for Community College Student Engagement, 2012; Crosta, 2012).

Procedure

All incoming freshmen were registered in the College Discovery program and attended the first year orientation course developed for CD. Students were told about the CSI by their first year counselors who were their first year faculty advisors teaching the Orientation on Career Development course. The summer seminar explained and introduced the College Student Inventory –form A (CSI-A) of the Noel Levitz Retention Management System (RMS) to students as a valuable tool for personal and academic success. The CSI-A was administered to three cohorts of freshmen students who volunteered to participate in the study. The CSI-A was administered to the first cohort of students in the Fall of 2012. The second cohort of students completed the CSI online in the Spring of 2013. The CSI-A was administered to the third cohort of students in the summer of 2013. The survey was administered by computer in the CD computer lab, during the second half of the summer semester. Following the administration, students are told to print out the CSI-A Student Report, review it, and be prepared to discuss the results with a Counselor in a least 3 subsequent mandatory meetings. The Student Report ranks Motivational Assessment, Academic Motivation, General Coping, and Receptivity to Support Services. The scale is very low to very high in categories such as study habits, family emotional support and receptivity to academic assistance. Students were asked to discuss their individualized specific recommendations with their assigned counselors.

Statistics

The frequency and Pearson Produce-Moment correlation procedures of the Statistical Program for Social Sciences (SPSS) were used to analyze the data. The frequency procedure was used to describe the population demographics. The Pearson Produce-Moment correlation procedure was used to analyze the relationships between Overall Risk Index and the ten dependent variables.

Limitations of Study

The results of this study can only be generalized to community college serving comparable populations of students, at-risk and non-traditional students, attending two-year community colleges. Further, additional studies are required to establish the validity of these findings.

Results

Retention Rates for CD Students and Total Student Population

The primary research question was to determine whether the College's Discovery Program improved the retention rates of students enrolled in the Program compared to the total population of student. The overall retention rates for student registered as full time

were 58% and for part-time were 49% (National Center for Education Statistics 2015). Retention for these rates was defined as “the percentage of full time, first-time degree/certificate-seeking students from the previous fall who either re-enrolled or successfully completed their program by the current fall. Similarly retention rate was defined as the percentage of part-time, first-time degree/certificate-seeking students from the previous fall who either re-enrolled or successfully completed their program by the current fall. However, This study defined retention as student’s first-time students from the previous fall who enrolled successfully enrolled in the spring semester (Center for Community College Student Engagement, 2012; Crosta, 2012). Therefore, a statistical analysis for significant differences is not possible because of the lack of comparable units of measurements. Notwithstanding this caveat, the differences suggests strongly that the CD program was an important and successful in in retention as defined by Crosta. The retention rate for students who participated in the CD program was 70.2%, which is considerably higher than for total rate of 58% to the total population (See Table 1).

Table 1- Persistence

	Frequency	Percent
Persisters	181	70.7
Non-Persisters	75	29.3

Characteristics of Persisters and Non-Persisters

The second research question was to determine which variables differentiated between at-risk students who did not dropped out after the first semester (Persisters) and those who dropped out after the first semester (Non-Persisters). The analysis was based on the Overall Risk Index correlations to 10 variables: study habits, math/science confidence, verbal confidence, high school grades, student grades (college), academic difficulty, sociability, sense of financial security, receptivity to personal counseling and receptivity to institutional help.

Table 2 -Overall Risk Index and Bivariate Correlation Table

	1	2	3	4	5	6	7	8	9	10
Overall Risk Index	-	-	-	-	-	.632**	-.132*	-	-	.579**
	.566**	.251**	.457**	.565**	.216**			.310**	.576**	
1.Study Habits	-	.346**	.513**	.215**	.231**	-	.118	.084	-	-.074
						.808**			.175**	
2.Math/Science Confidence		-	.188**	.1468**	.068	-	.096	.102	-.070	-.043
						.522**				
3.Verbal Confidence			-	.199**	.114	-	.266**	.077	-	-
						.685**			.284**	.208**
4. High School Grades				-	.147*	-	.008	-.042	.027	-.044
						.250**				
5. Student Grades (College)					-	-	-.009	-.013	-.115	-.027
						.203**				
6.Academic Difficulty						-	-	-.154*	.305**	.134*
							.256**			

7.Sociability							-	.187*	-.152*	.090
8.Sense of Financial Security								-	.256**	.205**
9.Receptivity -Personal Counseling									-	.643**
10.Receptivity to Institutional Help										-

The correlation between Overall Risk Index and Study Habits was negative and significant, $r(259) = -.566$, $p < .001$. Higher risk students reported poorer study habits than lower risk students. The correlation between Overall Risk Index and Math and Science Confidence was negative and significant, $r(259) = -.251$, $p < .001$. Higher risk students reported that they were less confident than lower risk students in their math and science ability. The correlation between Overall Risk Index and Verbal Confidence was negative and significant, $r(259) = .457$, $p < .001$. Higher risk students reported less confidence in their verbal ability than lower risk students. The correlation between Overall Risk Index and High School Grades was negative and significant, $r(259) = -.565$, $p < .001$. Higher risk students were more likely than lower risk students to have lower high school grades. The correlation between Overall Risk Index and Student Grades (College) was negative and significant, $r(259) = -.530$, $p < .001$. Higher risk students were less likely than lower risk students to have high grades. The correlation between Overall Risk Index and Academic Difficulty was positive and significant, $r(259) = -.530$, $p < .001$. Higher risk students were less likely than lower risk students to have academic difficulty.

The correlation between Overall Risk Index and Sociability was negative and significant, $r(259) = -.132, p < .05$. Higher risk students reported that they were less sociable than lower risk students. The correlation between Overall Risk Index and Receptivity to Personal Counseling was positive and significant, $r(259) = .576, p < .001$. Higher risk students reported that they were more receptive to personal counseling than lower risk students. The correlation between Overall Risk Index and Receptivity to Financial Guidance was positive and significant, $r(259) = .399, p < .001$. Higher risk students reported that they were more likely than lower risk students to be receptive to financial guidance. The correlation between Overall Risk Index and Receptivity to Institutional Help was positive and significant, $r(259) = .579, p < .001$. Higher risk students reported that they were more likely than lower risk students to be receptive to be receptive to institutional help. (See Table 2).

Discussion

The results of the study validated the value of the CSI in assisting counselors in the efforts to improve the retention of at-risk students. In particular, utilizing Crosta (2012) and the National Center for Education Statistics' (2015) definition of Persistent students or students who enrolled in the Fall and continue in the Spring, the retention of rate of 70.3%, supported the benefits of the program. As noted earlier, the Center for Community College Student Engagement (2012) presented similar results for programs instituted to improved retention for first-time student attending community colleges.

These rates ranged from 77% for Zane State College to 89% for Brazosport College.

Crosta's (2011) analysis of 14,429 students enrolled in five community colleges in 2005 and 2006 reported a retention of 72% for first-time students.

The results of this study add to the literature of support for the validity of the CSI and in particular, the Overall Risk Index. Stratil et al. (n.d.) reported a direct and significant correlation between reported GPA and the Overall risk Index. It should be emphasized that the sample consisted of volunteers from a total population of students who were identified as at-risk students. Yet, the Overall Risk Index identified among this sample as to those students who were more at-risk than their at-risk peer. The Overall Risk Index identified the significant correlations between the variables of study habits, math/science confidence, verbal confidence, high school grades, student grades (college), academic difficulty, sociability, sense of financial security, receptivity to personal counseling and receptivity to institutional help. It should be noted that the descriptions that follows are the significant differences among all at-risk students.

In summary, Persisters reported higher level of confidence in math and science, their verbal ability, and had better studying habits than Non-Persisters. Persisters reported higher grade point averages coming out of high school and for their first semester in college than Non-Persisters. Persisters reported that they were less likely to have academic difficulties than Non-Persisters. Persisters reported they were more sociable than Non-Persisters. Persisters reported more receptivity to personal counseling, financial guidance and institutional help than Non-Persisters.

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