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## **A Survey of Research on Post-secondary Outcomes for International Baccalaureate Students**

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## Summary

A small body of research has focused on postsecondary enrollment and outcomes for students who participated in the International Baccalaureate (IB) program during high school. Research indicates that IB students generally have higher enrollment rates, higher retention and/or persistence rates, and higher graduation rates than the college population overall (Halic, 2013; Bergeron, 2015; Caspary 2011). Studies that attempt to control for academic achievement have yielded similar results (Shah, Dean, & Chen, 2010; Coca, et al., 2012; Conley, et al., 2014).

A small number of studies have examined student performance in particular subject areas and sought to identify differences based on exam score or type of exam (standard level or higher level). In their study of Florida IB students, Caspary & Bland (2011) found that IB students generally do well in their first college course in a subject area in which they have taken an IB exam. Higher IB exam scores were correlated with higher course grades and, in most cases, course grades showed little variation based on whether a student had taken the standard level or higher level exam. The exception was math, where students who took the higher level exam earned considerably higher course grades than students who took the standard level exam. Caspary & Bland also found that IB diploma recipients earned higher grades than students who participated in the IB diploma program but failed to earn the credential.

Shah, Dean, & Chen (2010) reached a similar conclusion in their study of University of California students. IB diploma recipients outperformed IB students who didn't earn the diploma. They found that IB exam scores were the best predictor of college GPA; but unlike Caspary & Bland, they did find a difference in GPA between students who took the higher level versus standard level exam, determining that the higher level exam score was a better predictor of GPA.

It should be noted that there is a limited body of research related to the post-secondary outcomes of IB students and much of the work that does exist has been prepared for the International Baccalaureate Organization.

## Annotated Bibliography

**Caspary, K. & Bland, J. (2011) First College Courses Taken by Florida IB Students. Research Brief. Menlo Park, CA: SRI International. Retrieved from:**  
<http://www.ibo.org/contentassets/d74675437b4f4ab38312702599a432f1/flcoursesresearchbrief2011-04-06.pdf>

Caspary & Bland examined the relationship between IB exam performance and college course grades. Their population included 4,845 students from Florida who took IB exams between spring 2000 and spring 2005 and entered the University of Florida in the fall term. They identified all college courses that each student took in each subject area within two years of matriculating and then isolated the first course taken. They also identified whether students took the standard level (SL) or higher level (HL) exam and their score for each exam. They compared course grades for students based on whether or not they earned the IB diploma and based on their exam level and score, but did not compare grades for the IB students to grades of other university students.

The researchers found that, on average, higher exam scores were correlated with higher course grades. Overall, 59% of students who scored a 6 or 7 on the IB exam earned an A in their first college course in the subject area; 26% earned a B; 8% earned a C; and 8% earned a D or W. For student who scored a 4 or 5 on the IB exam, 39% earned an A in their first college course; 32% earned a B; 16% earned a C; and 14% earned a D or W. Diploma recipients generally earned higher grades than non-recipients. For most courses, there was little difference in the grade distribution for IB students who took the SL exam versus those who took the HL exam. The exception was math, where students who took the HL exam did significantly better in their first math course when compared to students who took the SL exam.

Math is the only subject area in which only a small percentage of IB students (7%) did not take a corresponding course in their first two years of college, indicating that further math courses were required for most students who entered with IB credit. In other subject areas, a much larger percentage of IB students (32% to 86%) did not enroll in a course in a corresponding subject during their first two years of college, suggesting that the IB credits may have met the subject area requirements for many students.

This research was prepared for the International Baccalaureate Organization.

**Shah, S. Dean M. & Chen, Y.C. (2010). Academic Performance of IB Students Entering the University of California System from 2000-2002. Geneva: IBO. Retrieved from:**  
<http://www.ibo.org/globalassets/publications/ib-research/dp/academicperformanceofibstudentsenteringtheuniversityofcalifornia2010.pdf>

Shah, et al. examined college grade point averages and graduation rates of 1,547 high school students who participated in the IB program and enrolled in the University of California (UC) system between 2000 and 2002. IB students are compared to all other UC students as well as a comparison group matched on year of enrollment, race/ethnicity, family income, and academic performance (based on high school GPA and ACT or SAT score).

The researchers found that IB students earned higher grade point average and graduated at higher rates than UC students overall and students in the comparison group. IB diploma recipients performed better than non-recipients (candidates who didn't earn enough points or those who did not participate in the full diploma program). Average IB exam score was the best predictor of GPA. Performance on higher level (HL) exams was a stronger predictor of GPA than performance on

standard level (SL) exams. Performance on HL exams was also a better predictor of GPA than indicators of high school academic performance.

For two of the three cohorts studied, four-year graduation rates were about 4% higher for IB students than other UC students or students in the comparison group; the graduation rate was similar for all groups for one entering cohort. The six-year graduation rate was 6-7% higher for IB students than the other groups for two cohorts and again, nearly equal across groups for one cohort.

This research was conducted by the International Baccalaureate Global Research unit.

**Halic, O. (2013). Postsecondary Educational Attainment of IB Diploma Programme Candidates from U.S. High Schools. Geneva: IBO. Retrieved from:**  
<http://www.ibo.org/globalassets/publications/ib-research/dp/nscpostsecondaryfullreportfinal.pdf>

Halic examined postsecondary enrollment, retention, and completion for students who participated in the IB diploma programme (DP students) in U.S. high schools and registered for IB exams in 2005. She relied on the National Student Clearinghouse to track college enrollment and outcomes. More than 11,000 students were in the original population; 9,654 (86%) were identified in the student clearinghouse; 8,679 (77% of the original population) enrolled in a college or university after high school; this group is the population used for the analyses.

The first-year retention rate of DP students enrolled at four-year institutions was 98% - much higher than the national average (75%). The four-year graduation rate for DP students was 74% (the comparative national average was 38%) and the six-year rate was 87% (the comparative national average was 56%).

Halic's study compared retention and graduation rates for IB students to the U.S. national average. Outcomes were not examined relative to a comparison group. This research was conducted by the International Baccalaureate Global Research unit.

**Bergeron, L. (2015). Diploma Programme Students' Enrollment and Outcomes at US Postsecondary Institutions. Geneva: IBO. Retrieved from:**  
[http://www.ibo.org/globalassets/publications/ib-research/continuum/ibteacherresearchsummary\\_final.pdf](http://www.ibo.org/globalassets/publications/ib-research/continuum/ibteacherresearchsummary_final.pdf)

Bergeron used data from the National Student Clearinghouse to track postsecondary enrollment and outcomes for IB diploma programme (DP) participants in the U.S. and Latin America who took IB exams in 2008. The final analyses were based on records of 15,680 students. She found a high rate of enrollment among IB students (78% vs. a national average of 60%). An overwhelming majority enrolled at four-year institutions. The retention rate for DP students was 98%, again much higher than the national average (77%). The four-year graduation rate for DP students was 79% and the six-year graduation rate was 83%. Graduation rates were higher for diploma recipients than non-recipients. The four-year rate for recipients was 84% versus 66% for non-recipients. The six-year graduation rate for recipients was 87%, compared to 72% for non-recipients.

Beregon's study compared retention and graduation rates for IB students to the U.S. national average. Outcomes were not examined relative to a comparison group. This research was prepared for the International Baccalaureate Organization.

**Caspary, K. (2011) Postsecondary Enrollment Patterns of IB Certificate and Diploma Candidates from U.S. High Schools. Research Brief. Menlo Park, CA: SRI International.**

Retrieved from:

<http://www.ibo.org/contentassets/d74675437b4f4ab38312702599a432f1/ibsuppdomesticresearchbrief2011-04-06.pdf>

Caspary used the National Student Clearinghouse (NSC) to track postsecondary enrollment and graduation rates for two cohorts of IB students: 11,653 certificate candidates and 12,834 diploma candidates who completed high school in 2000 and 2001. She found that most students (71%) enrolled full-time at a NSC participating institution and the majority of these students (67%) enrolled at a four-year institution. Most enrolled at an institution identified as "selective" or "more selective."

The four-year and six-year graduation rates for all IB students were 56% and 75%, respectively. IB diploma recipients had much higher graduation rates than non-recipients. The four-year rate for diploma recipients was 69% compared to 52% for non-recipients. The six-year rate was 85% for recipients compared to 72% for non-recipients. Graduation rates for IB certificate students were below the graduation rates for diploma recipients but higher than the graduation rates for diploma candidates who did not earn the diploma. Graduation rates for all IB students, overall, exceeded the national average.

Caspary's study compared graduation rates for different groups of IB students but did not compare outcomes to a comparable group of non-IB students. This research was prepared for the International Baccalaureate Organization.

**Conley, D., McGaughy, C., Davis-Molin, W., Farkas, R., & Fukuda, E. (2014). International Baccalaureate Diploma Programme: Examining College Readiness. Bethesda, MD: International Baccalaureate Organization. Retrieved from:**

<http://www.ibo.org/globalassets/publications/ib-research/collegereadinesssummaryeng.pdf>

Conley, et al. compared the academic preparedness and postsecondary success of two groups of students who enrolled in the honors college at the University of Oregon from 2005 to 2012. One group completed four or more courses in IB diploma program during high school; the other group did not participate in the IB program. Oregon mathematics placement test scores were used to measure academic preparedness. Persistence through college and first-year, second-year, and cumulative GPA were used to measure success.

The researchers found that, on average, IB students scored higher on the mathematics placement test than other students in the honors college. They determined that IB students had a higher persistence rate (98%) compared to the other group (91%), but there was no statistically significant difference in GPA after controlling for students' gender and minority status.

This report was prepared for the International Baccalaureate Organization.

**Coca, V., Johnson, D., & Kelley-Kemple, T. (2012). Working to My Potential: The Postsecondary Experiences of CPS Students in the International Baccalaureate Diploma Programme. Chicago, IL: University of Chicago Consortium on Chicago School Research. Retrieved from:**

**<https://ccsr.uchicago.edu/sites/default/files/publications/IB%20Report1.pdf>**

Coca et al. examined postsecondary outcomes for students who participated in IB diploma programs offered by the Chicago Public School system and graduated high school between 2003 and 2007. They used a comparison group to estimate the effects of the IB program on college enrollment and persistence.

The researchers found that IB students were more likely to enroll in a four-year institution, enroll in a more selective institution, and persist for two years at a four-year institution. The findings held when the researchers controlled for self-selection by comparing IB students with similarly high-achieving students who did not participate in the IB program.

This research was funded by the International Baccalaureate Organization.