

# Postsecondary outcomes of International Baccalaureate Diploma Programme graduates in the United States

Research summary

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## Background

Participation and success in postsecondary education are associated with a wide variety of positive outcomes. In the United States (US), college graduates are more likely to be employed and to enjoy higher median earnings than individuals with a high school degree only. Higher levels of educational attainment are also associated with positive health outcomes, increased civic engagement and decreased reliance on public assistance (Ma et al. 2016).

Previous research has found that International Baccalaureate (IB) Diploma Programme (DP) alumni enroll, persist and graduate from college at higher rates than students who did not participate in the IB programme (Bergeron, 2015; Caspary, 2011; Halic, 2013). To further investigate and extend previous research, this study explores the postsecondary outcomes of US DP students.

## Research methods

### Data sources

This study combines data from a variety of sources, including the IB Information System (IBIS), the National Student Clearinghouse (NSC), the Carnegie Classifications of Institutions of Higher Education (CCIHE), the Integrated Postsecondary Education Data System (IPEDS), and the Common Core of Data (CCD). Specific data elements from each of these sources were used (table 1). The 2013 DP graduating cohort was chosen because, at the time of data preparation, this was the most recent cohort that allowed for inclusion of four-year postsecondary graduation outcomes.

### DP student groups

This study included data for a total of 37,348 US DP students who graduated from high school in 2013. The sample comprised DP candidates (students pursuing the full DP, with all of its required courses and components) and DP course students (students taking one or more DP exams), with an even split between the two groups (50% each). Most of the DP students graduated from public high schools (93%) while 7% graduated from private high schools.

Data source	Year	Data element
International Baccalaureate Information System (IBIS)	2013	Results on IB assessments, programme type (DP candidates, course students)
National Student Clearinghouse (NSC)	2013–17	Enrollment dates, status (full/half-time), degree earned, institution-level (two-/four-year)
Integrated Postsecondary Education Data System (IPEDS)	2011 cohort	Four-year graduation rates for US postsecondary institutions
Carnegie Classification of Institutions of Higher Education (CCIHE)	2015 classifications	Institutional selectivity
Common Core of Data (CCD)	2012–13	Characteristics of US public high schools

Table 1. Data sources

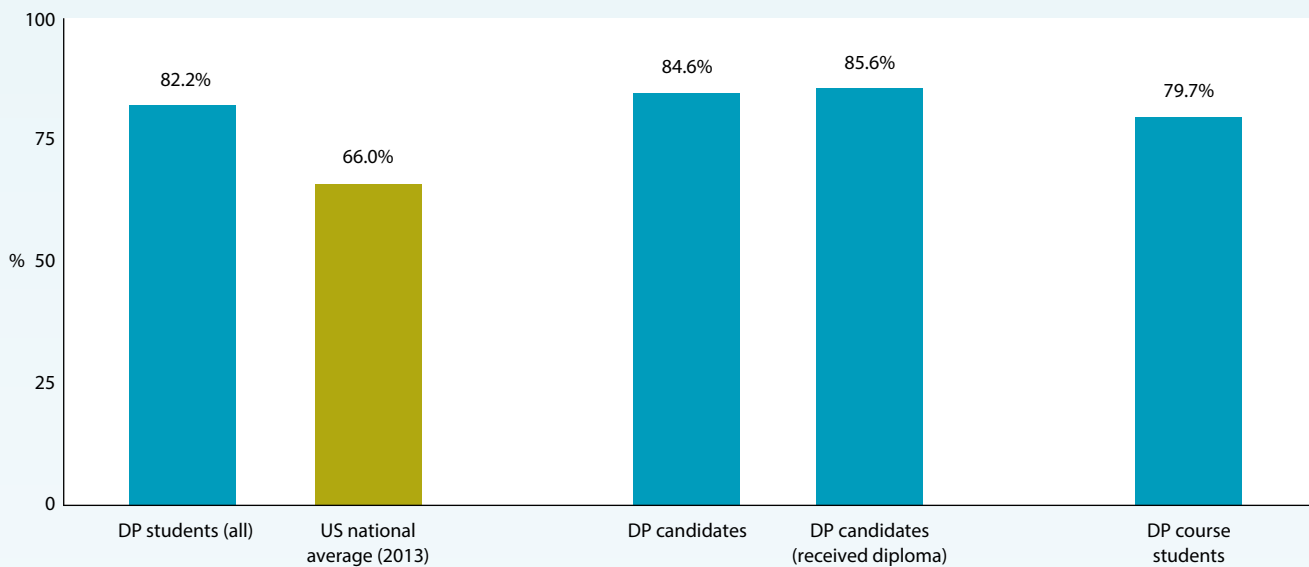


Figure 1. Immediate postsecondary enrollment of DP students compared to the US national average

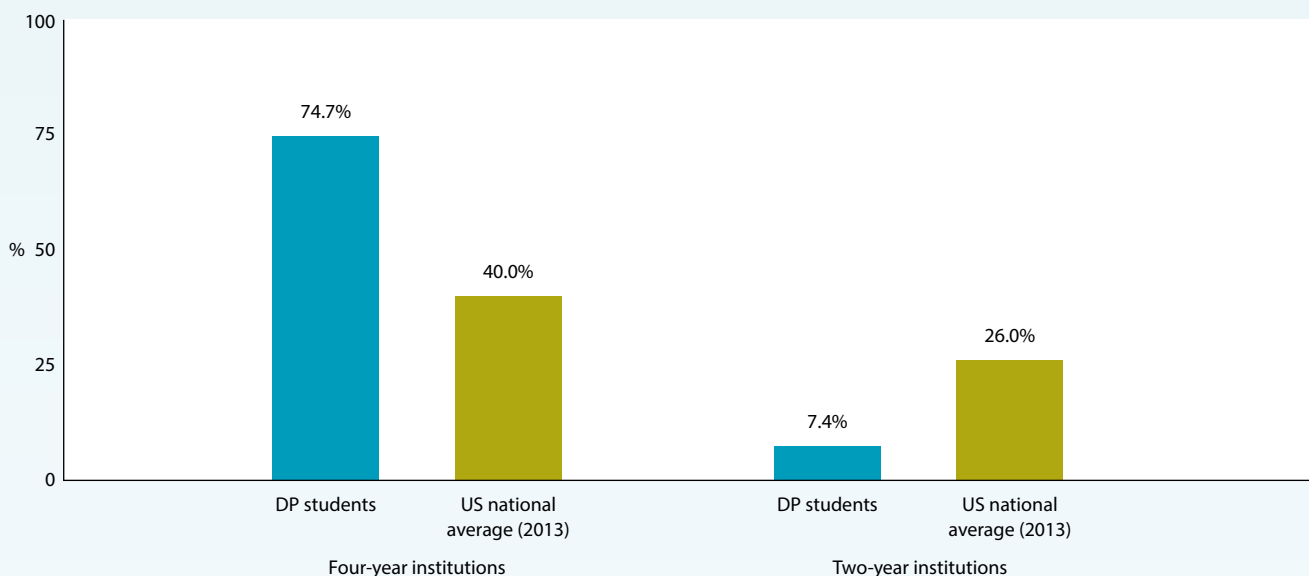


Figure 2. Immediate enrollment by institution type

Note. Source for 2013 US national average: Bureau of Labor Statistics, 2014

## Findings

### Postsecondary enrollment

In 2013, 82.2% of all DP students enrolled in university immediately after high school. This compares favorably to the US national average for immediate enrollment of 66% (2013). DP candidates who received the diploma had the highest immediate enrollment rate (85.6%), followed by DP candidates (84.6%) and DP course students (79.7%) (figure 1).

Additionally, the vast majority of DP students enrolled in four-year institutions (figure 2). The study found that 74.7% of DP students enrolled in four-year institutions and 7.4% enrolled in two-year institutions. As a comparison, about 40% of 2013 US high school graduates enrolled in four-year institutions and 26% enrolled in two-year institutions (Bureau of Labor Statistics, 2014). In terms of institutional selectivity, a greater percentage of DP students enrolled in more-selective institutions (64.2%), compared to selective (27.4%) or inclusive institutions (5.5%).

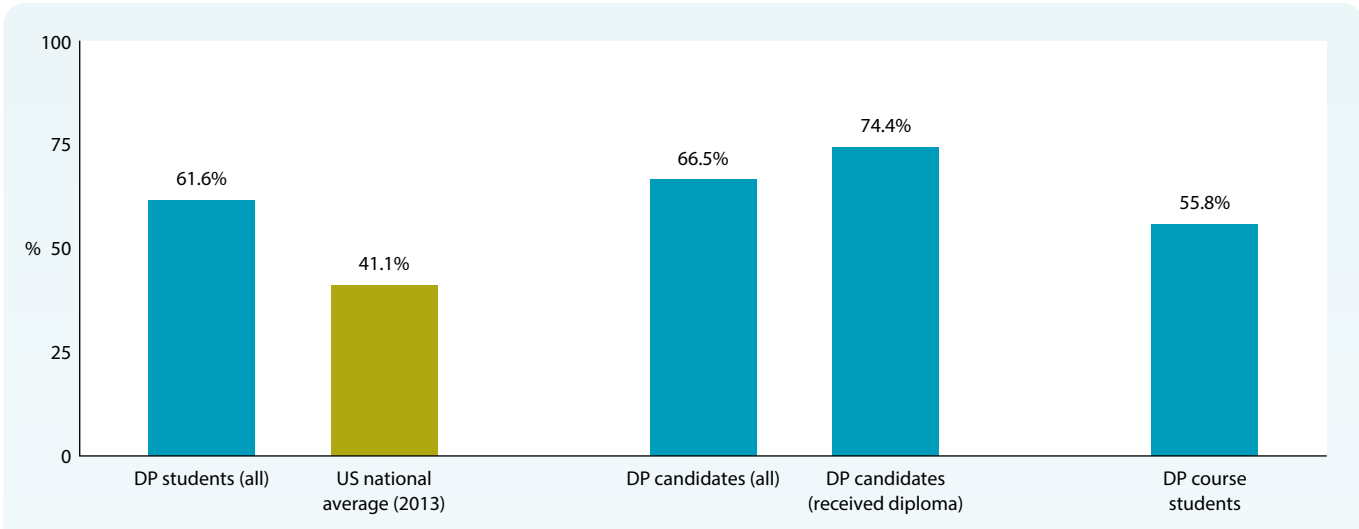


Figure 3. Four-year graduation rates of 2013 DP students and the US national average (2011)

### Persistence

DP students were also more likely to persist at university (continuing on to their second year) compared to students nationally. The study found that 88.1% of DP graduates who enrolled in a four-year postsecondary institution immediately after high school were enrolled in the same institution the following year. As a comparison, 80% of all US students who enrolled in four-year institutions in 2013 returned the following year (Kena et al., 2016). Persistence rates were highest among DP candidates who received the diploma (92.9%), followed by all DP candidates (90.4%) and DP course students (85.4%). Second year college persistence rates followed a similar pattern.

### Graduation

Among the DP students who enrolled in four-year institutions immediately after high school, 61.6% graduated within four years. As a comparison, 41.1% of all US students who enrolled in a

four-year institution in 2011 graduated after four years (IPEDS, 2017). Those who received the diploma had the highest four-year graduation rate (74.4%), followed by DP candidates (66.5%) and DP course students (55.8%) (figure 3). Four-year graduation rates of DP students were higher at more-selective institutions (73.0%) and highest among students who both received the diploma and attended more-selective institutions (77.6%).

### Most popular postsecondary destinations and majors

Many of the most popular postsecondary destinations were located in Florida and Virginia. Table 2 presents the top five most popular more-selective and selective four-year postsecondary institutions for DP graduates.

DP graduates majored in a range of different fields at university. The most common majors for the DP graduates who earned a four-year degree included the following.

Most popular more-selective four-year institutions	Most popular selective four-year institutions
1. University of Florida	1. University of Central Florida
2. Florida State University	2. University of South Florida
3. Virginia Polytechnic Institute and State University	3. Virginia Commonwealth University
4. University of Colorado Boulder	4. Oregon State University
5. University of Virginia	5. University of Arizona

Table 2. Top five most popular more-selective and selective postsecondary destinations for DP graduates

1. Biological and biomedical sciences (13.2%)
2. Liberal arts and sciences, general studies and humanities (11.8%)
3. Engineering (11.0%)
4. Business, management, marketing, and related support services (9.6%)
5. Health professions and related clinical sciences (6.0%)

## Predictors of postsecondary success

This section examines the factors that predict postsecondary enrollment, persistence and graduation among the sample of 2013 US DP graduates.<sup>1</sup> Results of multilevel analyses showed that indicators of IB participation and performance were associated with postsecondary educational success.

### DP course students

For course students, IB participation and performance were associated with positive postsecondary outcomes, after adjusting for students' demographic characteristics. The more DP assessments taken by a student, the greater their odds of enrolling in, persisting in and graduating from college. Specifically, each additional assessment taken by a student was associated with a 32% increase in the odds of college enrollment (odds ratio of 1.32), a 7% increase in the odds of persisting to a second year (odds ratio of 1.07), and a 12% increase in the odds of college graduation (odds ratio of 1.12).

Performance on these assessments was even more predictive of college success. Average DP examination score had the strongest positive relationship of any of the variables considered in this study for both college persistence and graduation. Each additional point on the exam score<sup>2</sup> was associated with a 35% increase in the odds of persisting (odds ratio of 1.35), and a 56% increase in the odds of graduating within four years (odds ratio of 1.56).

### DP candidates

For DP candidates, after accounting for students' demographic characteristics, total points earned towards the diploma was significantly associated with college enrollment, persistence and graduation. For each additional point earned toward the diploma, the predicted odds of college enrollment increased by 5% (odds ratio of 1.05), odds of persisting to a second year increased by 9%, and odds of graduating increased by 13%.

Further, the analysis suggests that the points students can earn from the theory of knowledge course and the extended essay (components of the DP core) were particularly effective at identifying students who were likely to succeed in college by earning a degree in four years (odds ratio of 1.46). The strength of the relationship between DP core points, which depend on strong writing and self-management skills, and college success is consistent with research that highlights the importance of both writing and interpersonal skills for academic success (Belfield et al., 2015; Conley, 2010; Farrington et al., 2012; Geiser and Studley, 2004).

<sup>1</sup> In public datasets, student demographic variables were only available for DP graduates from US public schools. As a result, this section examines the results of 2013 DP graduates from public schools (93% of the DP student cohort).

<sup>2</sup> DP examinations are scored on a scale from 1 to 7, with 1 being the lowest.



## Summary

This study finds that US DP graduates experienced more positive postsecondary enrollment, persistence and graduation rates than the average American high school student. Eighty-two percent of US DP graduates enrolled in college immediately after graduating from high school, as compared to 66% of all US high school graduates. Of the DP graduates who enrolled in college immediately after high school, 88% returned to the same institution the following year, compared to 80% of all US students. Three years later, 62% of DP graduates earned a four-year college degree, as compared to 41% of all US students.

For course students, the number of assessments and average assessment score were associated with greater postsecondary success. Similarly, DP candidates with strong IB performance, measured by either total DP points or DP core points, had higher predicted odds for college enrollment, persistence and graduation than their lower-performing peers.

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This summary was developed by the IB Research department. A copy of the full report is available at: [www.ibo.org/en/research/](http://www.ibo.org/en/research/). For more information on this study or other IB research, please email [research@ibo.org](mailto:research@ibo.org). To cite the full report, please use the following: Pilchen, A, Caspary, K and Woodworth, K. 2020. *Postsecondary outcomes of International Baccalaureate Diploma Programme graduates in the United States*. Bethesda, MD, USA. International Baccalaureate Organization.