



Understanding WSU Vancouver student retention and graduation:

A report commissioned by the WSU Vancouver Student Success Council

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Summary

To identify what factors predict student success at Washington State University Vancouver, outcome data were analyzed for students entering the university between 2004 and 2014. Students transferring to WSU Vancouver after completing associate's degrees have long made up the greatest percentage of the student population. This group has historically graduated at high rates and continues to have success up to the current year. However, increasingly students are enrolling at WSU Vancouver under diverse circumstances. Analysis identified seven predictors of increased risk of early withdrawal. These predictors may be thought of as pointing to the following groups:

- Students with a history of lower than average academic success as identified by a low high school or transfer grade point average.
- Students beginning their WSU Vancouver career as freshmen.
- Students transferring to WSU Vancouver with less than 60 transfer credits.
- Part-time students.
- Students identifying as belonging to an underrepresented minority group.
- Male students beginning as freshmen.
- Students with a high amount of unmet financial need.

The attached report presents evidence for each of these predictors as a means of better understanding the needs of WSU Vancouver's students and anticipating the challenges which are likely to present as the campus grows.

Acknowledgements

We are grateful to Stephanie Kane in the WSU Office of Institutional Research for her hard work pulling together student data from several sources and verifying its validity, to Laurel Rea-Bullion for help with data validation and input in understanding the complexities of student outcomes on the WSU Vancouver campus, and to the Student Success council for help forming hypotheses about student influences on success. Finally, we are grateful to April Tovar for feedback on student finances and financial aid.

Introduction

The following report presents a detailed look at WSU Vancouver student retention and graduation rates. Data were gathered for students entering WSU Vancouver between the 2004-2005 and 2013-2014 school years and examined for reliable predictors of student success. This effort was undertaken to understand the range of factors contributing to student success and therefore makes use of outcome data from all undergraduate students on campus. This report stands in contrast to conventional governmental reporting (e.g. IPEDS), where only a fraction of students are counted. Graduation and retention rates presented here should be understood within the context of understanding the WSU Vancouver student population, rather than comparing this institution to others.

Comparisons between student groups are presented based on both academic and non-academic factors as a means of identifying obstacles facing the WSU Vancouver student population. While in some cases these group comparisons produce large differences, it should be noted that it is still difficult to predict the success of an individual student. By looking at global population influences, we can seek to understand the challenges facing WSU Vancouver students as well as the means to meet those challenges.

Graduation and retention rates over time

The past decade has seen a time of great growth and change for WSU Vancouver. Over this period, incoming classes have doubled in size. The campus began admitting freshmen in 2006 adding further complexity to its mission. Furthermore, today's student body is more demographically diverse than ever before. With such rapid transformation, it is important to step back and understand how students are performing and what factors predict success.

We begin by examining historical retention and graduation rates. We focus on these narrow outcomes as a proxy for the wider goal of student success. While it is recognized that a student's success should be judged personally, educationally, and professionally by a range of metrics, these metrics are often tied to college completion. Furthermore, completion is easily defined and tracked. By measuring impacts to completion, we can hope to understand impacts to the wider goal of success.

Figure 1 presents retention and graduation rates for all entering classes in the data set. A few conclusions are apparent. First, WSU Vancouver has shown historically high rates of graduation for transfer students which have continued to the present. It should be noted however, that while retention rates have remained flat, graduation rates have slipped at all benchmarks, suggesting a small increase in the amount of time it is taking students to graduate over the study period. Conversely, freshman graduation rates have remained flat over the measured period while consistently lower than those of transfers (58.6 % vs 72.6 % 6-year grad rate for the study period). Determining an appropriate national comparison group against which to measure WSU Vancouver is difficult, due to the diversity of types of higher education institutions and students. The national center for education statistics reports a national

2012 6-year graduation average of 59% for first-time full-time students¹, suggesting that current WSU Vancouver outcomes are currently in a favorable range of outcomes.

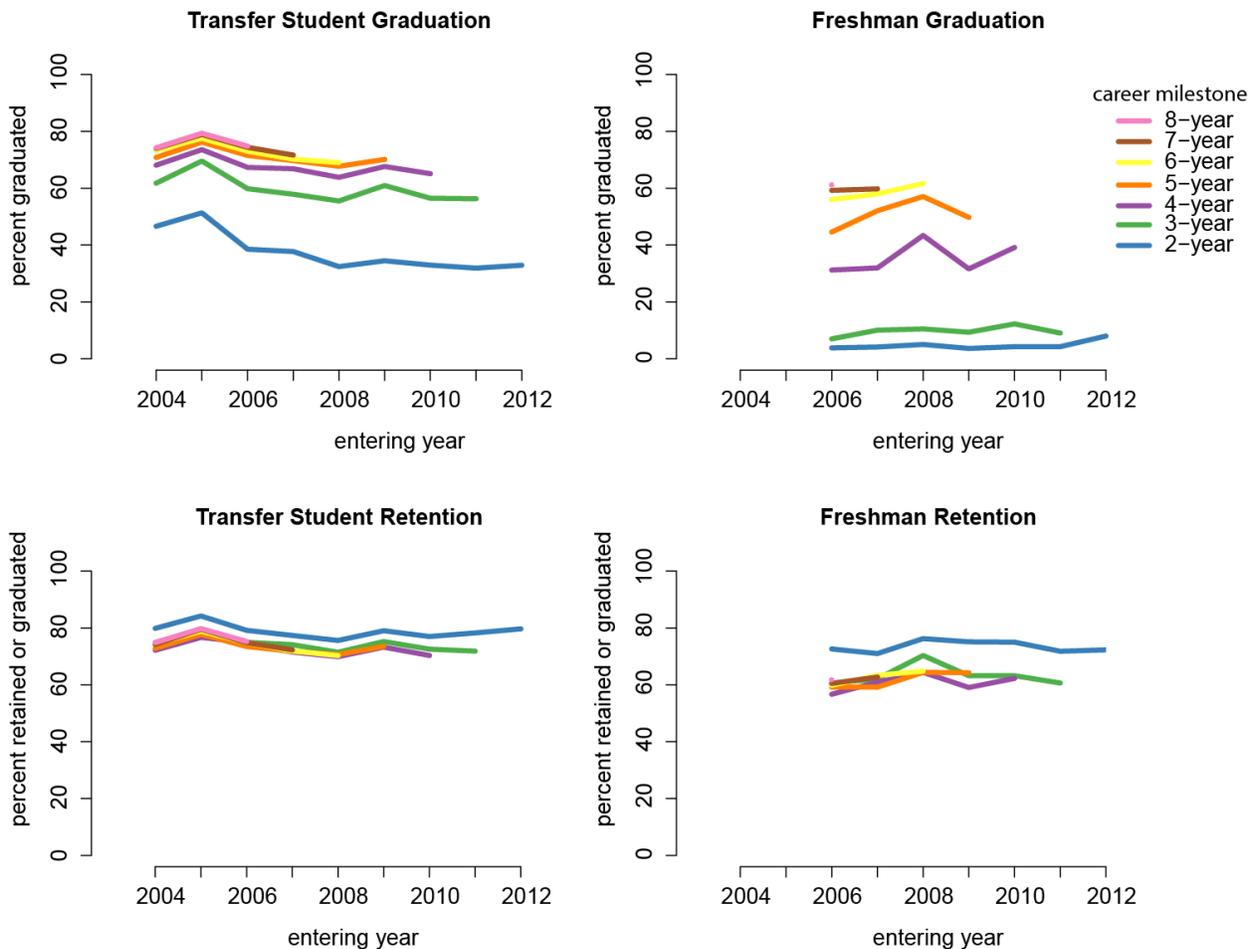


Figure 1. Graduation and retention rates for transfer students and freshmen displayed by year of incoming class.

To get a better sense of the student career progression on campus, figure 2 presents collapsed data for all students over the study period. Examining the retention plot, we observe that for the vast majority of transfer students, persisting the first year on campus assures graduation. While it may take a student six or more years to complete, those who make it to their second year are likely to succeed. For freshmen, additional losses occur in later years (dropping from a 2nd year retention rate of 74.9% to a 62.6% 4th year retention rate for full-time freshmen).

9% of new freshmen and 27% of new transfer students enter WSU Vancouver as part-time students. For transfer students, while incoming part-time status increases the time it takes to graduate, remarkable success rates are achieved over time. The gap between and full- and part-time graduation rates

¹ Source: Fast Facts, <http://nces.ed.gov>.

decreases to 12% by the 8th year. Conversely, while only a very small group of students historically, part-time freshmen have graduated at very low rates. Further effort will be needed to understand whether these students enter WSU Vancouver with the intention completing a diploma at another institution or if their lack of completion is attributed to other causes (e.g. financial aid, lack of connectedness).

Also visible in figure 6 is the fact that the great majority of student attrition across student types occurs in the first four years. For this reason, we will concentrate on 4-year retention/graduation rates to measure the influence of other factors for the remainder of the report.

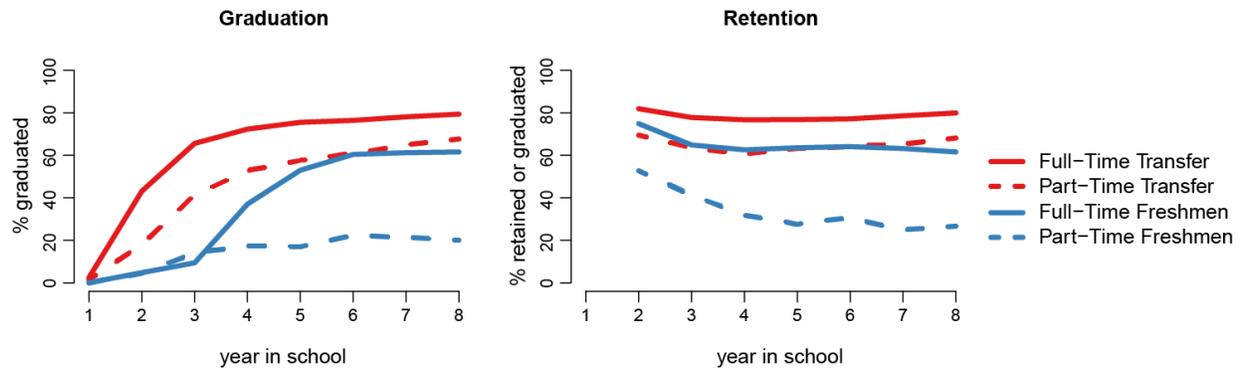


Figure 2. Student outcomes collapsed across incoming class to demonstrate career progression. Each data point reflects all students in the data set that have reached the temporal milestone. See methods notes for further detail.

Academic history

The strongest predictor of a student’s academic success at WSU Vancouver is a history of academic success in preceding study. Figure 3 presents 4-year success rates as determined by grade point average (GPA) at the previous institution. As is clearly visible, great differences in outcome exist between students with high and low high school or transfer GPAs.

While this differentiation is unsurprising, it is important to underline the predictive utility of this information. Before students set foot on campus, WSU Vancouver faculty and staff have a strong indication of which students are likely to require additional academic support.

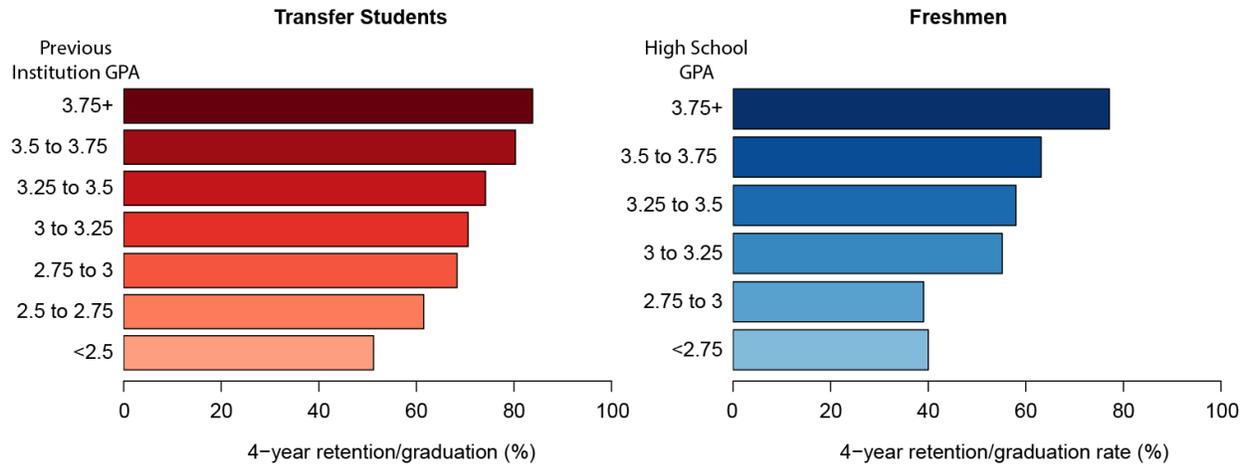


Figure 3. WSU Vancouver 4-year retention/graduation rates determined by previous GPA. GPAs for transfer students represent the previous higher education institution. High school GPAs are used for freshmen.

Transfer credits

In addition to establishing a student’s skill and value in navigating academics, a student’s history of academic study directly influences her college career in the concrete impact of transfer credits. While historical WSU Vancouver students were likely to begin their study on campus with a consistent, high number of credits afforded by completing an associate’s degree at a community college, today’s population enters with a wide range of transferable credits (See Figure 4). The admittance of underclassmen in 2006 also created a new class of transfer students, enrolling at WSU Vancouver after studying at another university but earlier than completing an AA degree. On the freshman side, the Running Start program and increasingly available high school AP courses have led to an increase in incoming transfer credits as well so that the line between freshman and transfer students is increasingly blurred.

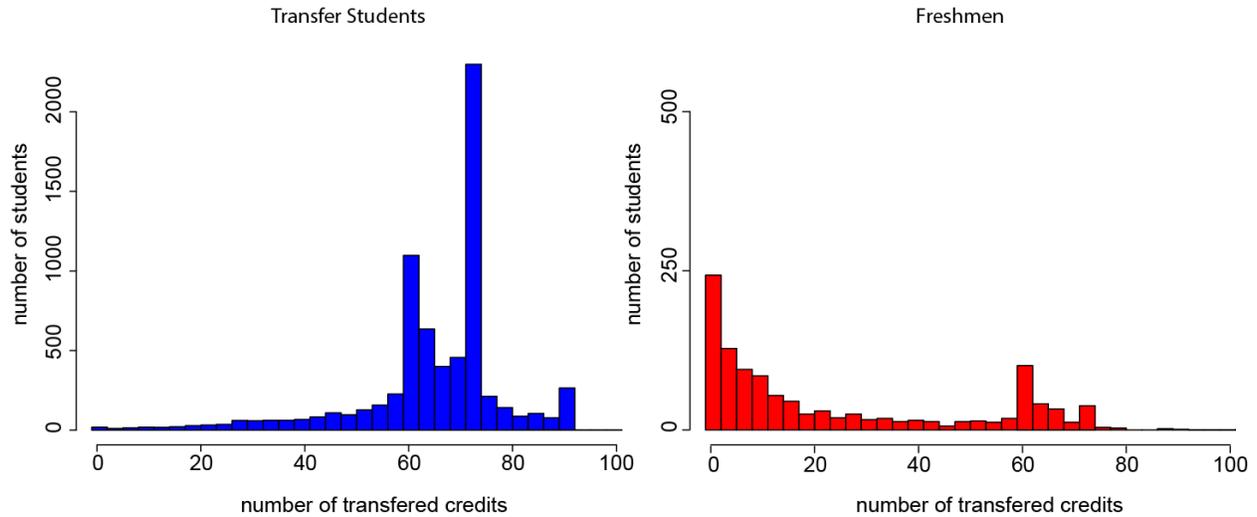


Figure 4. Transferable credits for incoming transfer and freshmen students. Median values for transfer students and freshmen were 69 and 12, respectively. Transfer credit information was not available for all students. Plots reflect credit information available for 69% of students.

The direct effect of transfer credits on a student’s success once they are on campus is not clear cut. As visible in figure 5, a high number of transferable credits for incoming freshman is very predictive of which students will graduate quickly (4 years or less). However, the effect lessens as time passes, such that by year 6, differences in student outcome associated with incoming transfer credits have disappeared for all but the most extreme cases.

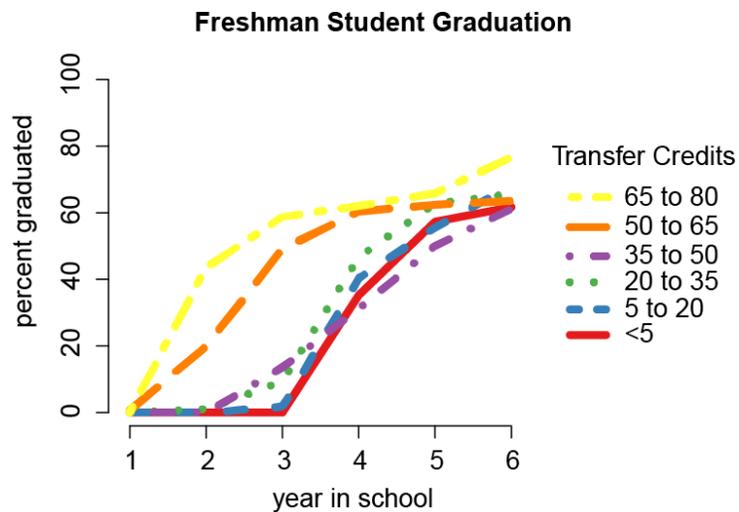


Figure 5. The effect of transfer credits on freshman graduation rates. Credits reflect those accepted by the university.

For transfer students, transferable credits tell a very different story. By examining the range of credits we identified a clear difference in outcomes between *early transfers* (less than 60 transferable credits) and *late transfers* (60 transferable credits or more). Early transfers are graduating in very low numbers (6-year graduation rate of 48%). Furthermore, school of origin does not seem to be relevant in determining the cause of these lower success rates. Early transfer students transferring from 4-year institutions and 2-year institutions graduate in equal numbers. Clearly, further work is needed to identify barriers for this population. Is there a common motivational attribute in early transfer students or is the university failing to connect to their needs? Over the past decade the population of early transfers has grown, making up 23% of the transfer student population for the incoming class of Fall 2013.

A further difference exists between the success rates of late transfer students transferring from 2-year as opposed to 4-year institutions. This difference also will need further effort to understand. It is likely that the intimate relationship between WSU Vancouver and local community colleges (especially Clark College) creates a benefit for students in terms of ease of transfer, leading to higher graduation rates. The difference may also reflect personal differences in the populations themselves. Repeated surveys on campus reveal community college transfer students are very location-bound to their lives in Southwest Washington. Students transferring from other locations may not have as strong a relationship to the area and thus feel a stronger pull to move away.

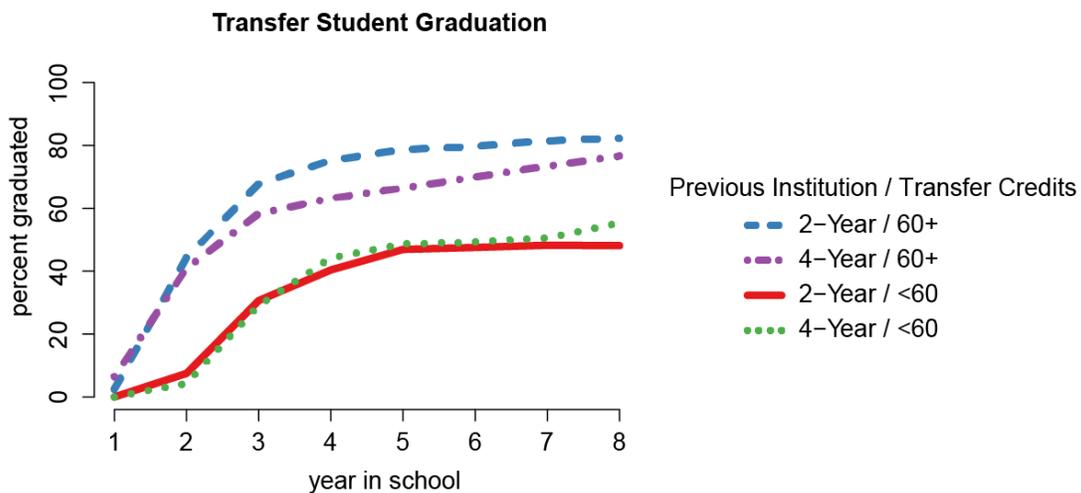


Figure 6. The effect of transfer credits on transfer student graduation rates. Data are differentiated based upon number of credits determined to be transferable and type of previous institution. Graduation rates over time are displayed to understand that the effect of transfer credits is not merely a hastening of graduation but rather a permanent advantage.

Student Demographics

Race/Ethnicity. Consistent with national trends, racial, ethnic, and gender disparities exist in retention and graduation rates on campus (see figures 7 and 9). Students identifying from underrepresented minority groups (African American, Hispanic, and Native American) were more likely

to withdraw from WSU Vancouver than white or Asian students. Disparities are currently smaller for freshmen than for transfer students. While differences between groups are statistically significant for transfers students they are not for freshmen. However, freshman statistics reflect very small groups at this point and are still likely to fluctuate over time. These are likely to reach significance once the campus has seen more classes of freshmen if the current trend continues.

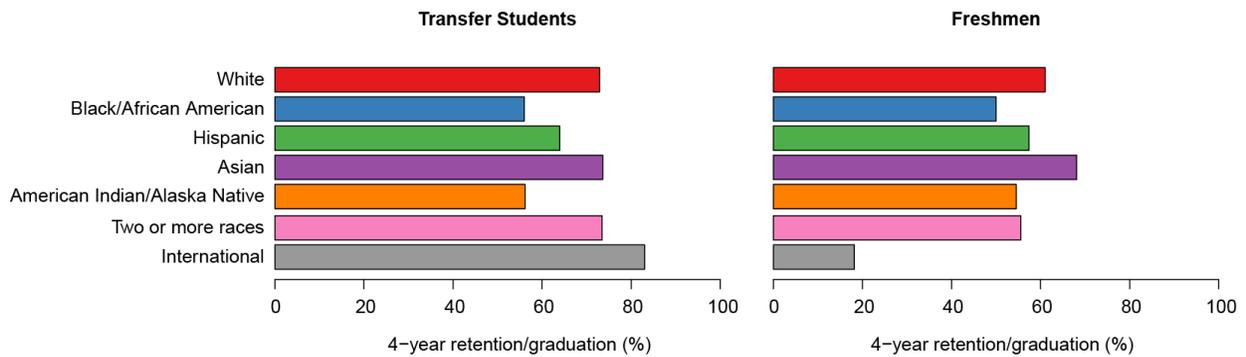


Figure 7. 4-year retention/graduation rates for racial/ethnic groups. Success rates for groups of size less than 5 are redacted.

It is important to view demographic disparities against the wider educational backdrop. Notably, disparities in transfer student graduation rates for racial/ethnic groups map directly onto disparities in earlier academic performance and student finances (see figure 8), suggesting underlying inequities are largely responsible for disparities on campus. Statistical models created to predict graduation rates based upon previous GPA and unmet financial need showed no additional explanatory power when racial/ethnic identifiers were added. (This finding should be viewed as preliminary due to the small numbers of students incorporated into the model.) These results suggest that efforts to reduce WSU Vancouver graduation disparities must address these underlying causal disparities.

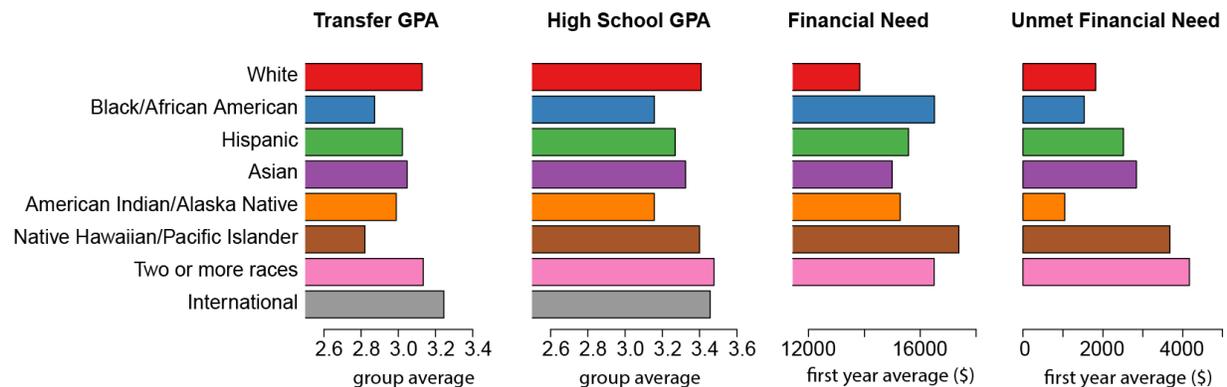


Figure 8. Previous institution GPA and unmet financial need by racial/ethnic group. Unmet financial need is defined as need – aid dispersed. Totals represent students from the entire 2004-2013 data set. International students are omitted from financial figures as filing for federal financial aid is atypical for these students.

Gender. In addition to differences associated with race/ethnicity differences in success, WSU Vancouver students show a 10% graduation advantage for women over men (see figure 9). Remarkably, such differences have been absent from WSU Vancouver transfer student outcomes, despite widespread national gender gaps across educational levels. What circumstance manifests this difference in freshmen but not transfer students? While it is possible that freshmen men are facing obstacles that their transfer counterparts have avoided, it seems more likely that this difference is evidence for a greater trend. WSU Vancouver freshmen in general are meeting additional challenges on campus, unseen by the historical transfer student population. These challenges may be as simple as facing a longer college career than transfer students do at the stage of entering WSU Vancouver. It may be connected to the fact that students transferring with associate’s degrees have already proven their ability to succeed in a higher education setting and thereby the most under-prepared students in the transfer population have not entered WSU Vancouver. It may stem from lower age/maturity. Whatever the description, this uneven gender effect may be taken as a caution of new campus stresses likely to expose vulnerabilities previously unexpressed in transfer students.

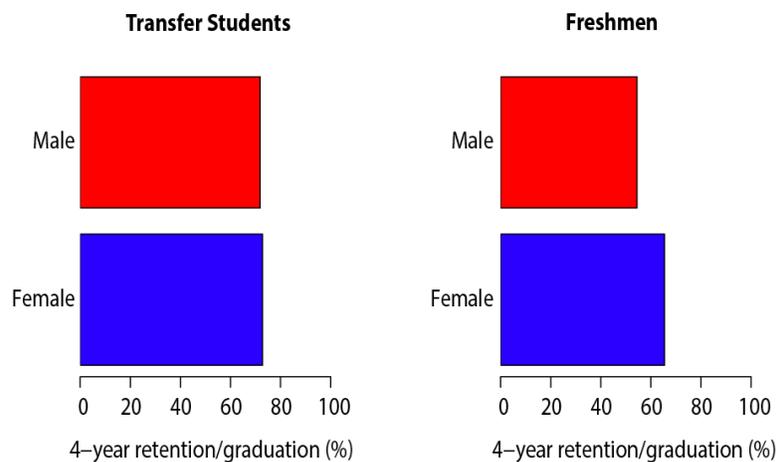


Figure 9. Gender differences in retention/graduation

Student Finances

To determine the predictive nature of student finances toward graduation, *financial need* (as determined by federal guidelines as cost of attendance minus expected family contribution) and *financial aid dispersed* were examined. This latter category is a single monetary descriptor pooling waivers, grants, and loans, including only the portion of the aid package accepted by students. Data on financial aid were only available for students’ first year. However, it is reasonable to treat this data as a stand-in for most student careers. Both need and aid were found to be predictive toward student success. However, the difference between the two, reflecting unmet need, was the most predictive. As demonstrated in Figure 10, transfer student unmet need correlates with lack of completion. The transfer student population in particular is a very high need population, averaging need values of \$21,120 for the

incoming Fall 2013 class², with more than 60% eligible for Pell grants. Clearly, unmet need has a strong impact on student ability to complete, both directly in terms of who can and can't register for classes and indirectly in terms of competing demands on a student's time from work and other obligations.

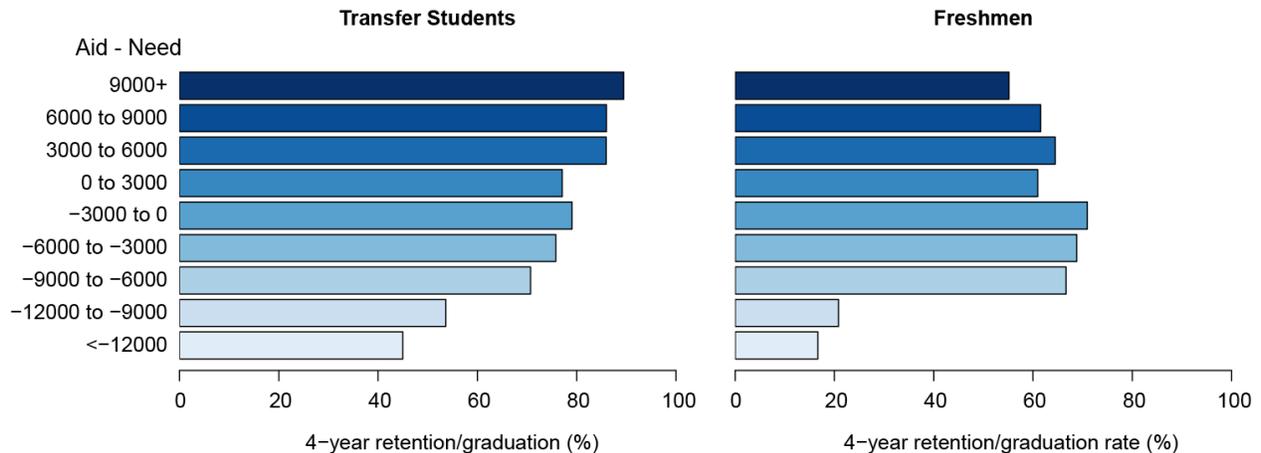


Figure 10. Financial Need – Aid Dispersed. All data reflect the student's first year award. Only fall admits were included in the analysis for consistency of data based upon a full year of aid.

For freshmen, the financial relationship is less clear. For extreme cases of unmet need, \$9000 or greater per year, freshman outcomes were very poor. However, other differences were statistically insignificant. It is currently unknown what leads to this weaker relationship for freshmen. To some extent, smaller numbers of students may lead to unreliable understanding of the impact of need and aid. However, other factors may be at play as well. The freshman population displays a considerably lower level of need than their transfer counterparts, while still high by national standards. In 2013, the average freshman need was \$14,873, with just over 40% Pell eligible. Furthermore, with a median age of 18.5 (as compared to 23.5 for new transfers), freshman student finances may be more closely intertwined with parent finances, thus providing a stronger support network.

Also notable is the extent to which the financial landscape has rapidly shifted over the course of time during which WSU Vancouver has admitted freshmen, suggesting that incoming freshman financial summaries may not be a good indicator of a student's entire career. Prior to 2009 (including at least the years present in the study period), the average student's dispersed financial aid matched her financial need. However beginning in 2009, tuition increases, increased student need due to the economic recession, and the inability of financial aid to match these new higher levels with grants or waivers, produced an increased gap of unmet need. For the combined transfer and freshman incoming Fall 2013 class, the average student need outpaced aid dispersed by \$5545 for just the first year (See figure 11). As the greatest increase occurred just 2 years ago, it is still too early to understand the full impact of this

² Financial summaries reflect just those students for whom financial information is available through federal filing (FAFSA).

new financial reality upon student retention and graduation. Further complicating this understanding is the fact that data available for aid dispersed group together very different mechanisms. To best understand the role of financial burden upon student success and maximize university resources, further study of specific aid mechanisms is imperative.

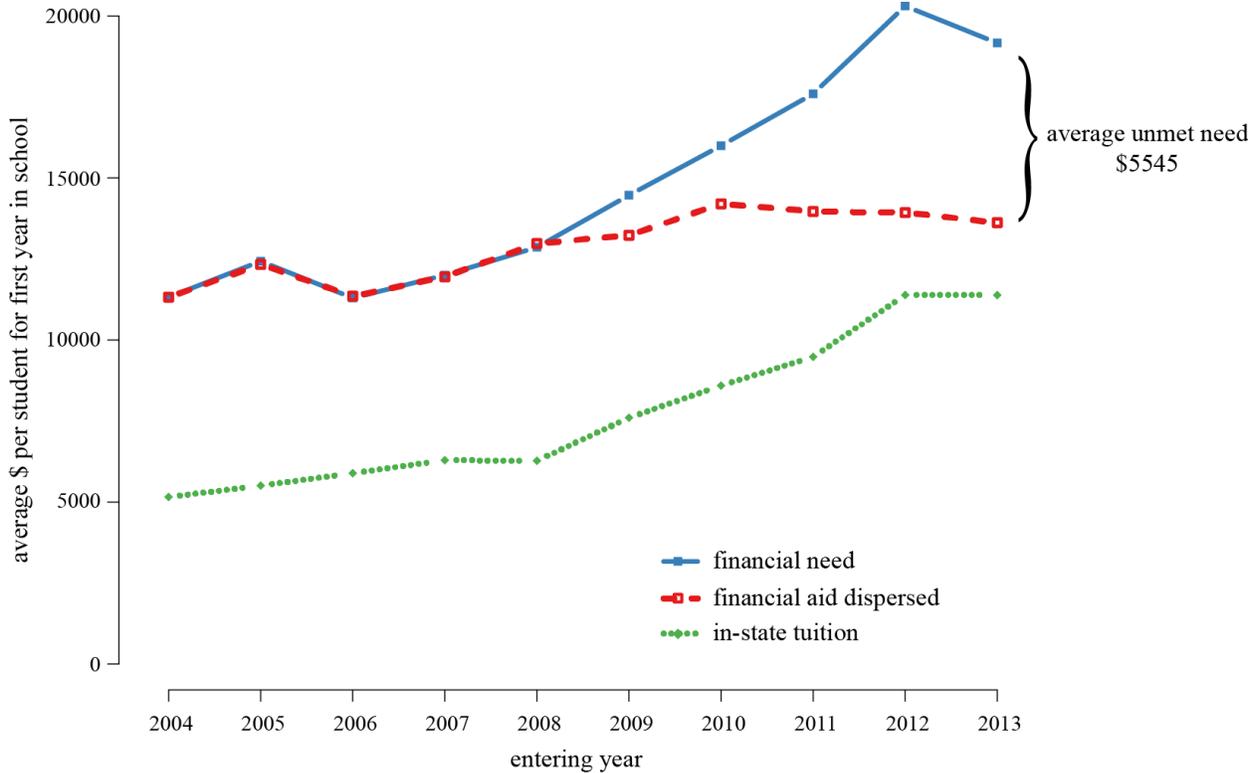


Figure 11. Student finances over time. All data reflect incoming student financial summaries. Only fall admits are included for consistency of data based upon a full year of aid.

Discussion

Graduation rates have been historically high at WSU Vancouver. In particular, the transfer student population that has comprised the bulk of WSU Vancouver’s student base since its creation has been well-served by the campus.

Notably, five of the identified factors indicating decreased degree attainment coincide with areas of growth in recent past which are likely to continue to produce change on campus. Over the past decade, WSU Vancouver has seen steady increases in student diversity (1) and in the percentage of male students (2). WSU Vancouver has also seen increases to freshman (3) and early transfer populations (4). Finally, new financial realities (5) have created a more difficult landscape for current students that are unlikely to reverse in the near future. Each one of these increases comes with increased importance to identify specific barriers facing students and strategies to overcome those barriers.

Many of the identified factors are correlated. Furthermore, while population statistics based upon the identified factors point to significant differences, there is still considerable variability amongst individual students unaccounted for by any of these factors. The preceding analysis is presented as a means of beginning to identify stress points for the WSU Vancouver population at large rather than picking off particular at risk students. By focusing on each individual significant factor, the campus can bolster existing support structures and look to address exposed gaps.

Methods Notes

All facts and figures are derived from analysis of students enrolling during the period beginning in Fall 2004 and ending with the incoming class of Spring 2014. Retention/graduation statistics are based upon yearly fall snapshots. The most recent snapshot was recorded in Fall 2014. Retention/graduation statistics are further calculated based upon all years for which they are valid. For instance, four-year retention statistics are based upon students whose earliest enrollment dated between Fall 2004 and Fall 2011. Five-year statistics are based upon Fall 2004-Fall 2010. While Spring and Summer admits are included in analyses for completeness, outcomes for these students can only be calculated based upon the yearly fall snapshots.
