September 22, 2006

MEMORANDUM

TO: Interested Colleagues

FROM: Jocelyn Milner
           Clare Huhn

Subject: Predictors of Time-to-Degree and Delayed Graduation for UW-Madison
           Undergraduates

The attached study is designed to identify factors that predict time-to-degree or continued
enrollment past the sixth year for UW-Madison undergraduates. This cover memo introduces
the question, gives a brief summary of the analytical approach and provides an overview of
findings. Comments on implications and recommendations start at the bottom of page 3. Refer
to the attached study for the detailed analysis.

The Question

Time-to-degree is a metric associated with several high-priority concerns in higher education,
among them the three "A's" - access, affordability, accountability - and diversity issues. About
access, it is important that each student graduate on time so that space becomes available to
enroll another student. The number of students the University is able to enroll at any time is
finite and there is a public interest in maximizing the number of students who complete a
degree. About affordability, students and their families are concerned about the high costs of
college attendance - both the direct costs and lost opportunity costs – and graduating on time
helps keeps the overall cost of attendance down. About diversity, minority students take longer
to graduate and we seek to close that gap. Time-to-degree is a measure of accountability for all
these issues.

The identification of factors that influence time to degree may point to strategies that enhance
timely progress to degree for all students and especially for those who take an atypically long
time. Of special interest are factors related to student behavior or factors the University can
influence.

For the most part, UW-Madison undergraduates complete degrees in a timely way. Currently,
the average time to degree is 4.17 elapsed calendar years. Students in programs designed to
be completed in four academic years tend to graduate in four academic year; students enrolled
in programs that are designed to be completed within five academic years (especially programs

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in Education and Engineering) tend to graduate within five academic years[1]. But about five percent of undergraduates finish in the sixth year and another two to three percent continue to be enrolled past the sixth year without a degree.

On average, targeted minority students take 6 months longer than other students to graduate[1,2] and are more likely to be enrolled beyond the sixth year than other students (approximately 5% of targeted minority students compared with 2% of other students). Thus, strategies that reduce time-to-degree for all students may especially assist targeted minority students and help close the gap in progress to degree.

Overview of the Analytical Approach
The study population combined three freshmen cohorts who entered UW-Madison in fall 1997, 1998 or 1999 (17,149 students). We focus on two groups: 1) 13,552 *graduates* - students who graduated within six years (79%) and 2) *delayed graduates* - 440 students who were still enrolled after the sixth year without a degree (2.5%)[3]. The students who are enrolled past the sixth year are referred to as delayed graduates[4] because their continued enrollment is taken as a signal that they aspire to complete a bachelor's degree although they haven't done so yet.

Thirty-one independent variables were included in regression analyses. The variables were available from the student record and were measured as of the sixth year or as of the last term enrolled for earlier graduates. Variables include demographics, measures of high school preparation, enrollment patterns, major, school/college, financial aid, and participation in athletics or study abroad. These variables have been linked to progress to degree at UW-Madison or in national studies[1,5].

Some Key Findings AMONG GRADUATES

o The strongest variables influencing time-to-degree include:
  - The number of credits completed per term enrolled. Students who take more than 14.3 credits - the average for graduates - graduate sooner. No surprise; most programs are designed to be completed in eight semesters at 15 or 16 credits.
  - Stopping out. Each time a student is readmitted after a break in enrollment adds an average of 1.26 terms to the time to degree. This finding is consistent with common sense and with national research. The slowing effects of stopping out are only partially reversed by transfer credits accumulated while not enrolled at UW-Madison.
  - Taking several terms to first declare a major, declaration of more majors after the first one, and switching between school/college units are actions that add time-to-degree.

[1] See the Fall 2004 Time-to-Degree analysis performed by Bruce Beck for more detail and for a by-major listing of the average time to degree, http://apa.wisc.edu/TimeToDegree.htm
[2] Targeted minority students include students with permanent domicile rights in the USA who self-identify at admission as African American, Hispanic, American Indian, or South East Asian.
[3] Students who graduated (~ 80% of freshmen cohorts) and those who are still enrolled (~ 2% of freshmen cohorts) are students for whom we have enrollment records. Students who left the university are important, but the methods used in this analysis are not applicable and we do not have records of their experience after they left UW-Madison.
[4] Previously we have referred to these students as "lingerers" or "persisters".
[5] The Toolbox Revisited: Paths to Degree Completion from High School through College, Clifford Adelman, US Dept of Education, 2006.

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For example, students who delay first declaring a major to their sixth term, on average, add half a term more to their time-to-degree.

- Graduating in certain schools/colleges adds time-to-degree: the School of Education (1.1 terms), the College of Engineering (1.1 terms), or CALS (0.6 terms).

o Some variables have a significant but modest effect and add less than one-third term to time-to-degree: each term studying abroad, each term on academic probation, each term in which a student withdraws.

o Some variables have no significant effect after controlling for other factors: high school performance, financial need, cumulative GPA, enrollment in summer terms, and participation in athletics.

o Targeted minority status alone does not have a significant effect on time-to-degree, but targeted minority students do take longer, on average, to graduate. As a group, targeted minority students are more likely to engage in behaviors that are linked to longer time-to-degree: stopping out, taking fewer than average credits, withdrawing.

Some Key Findings AMONG DELAYED-GRADUATES

o The variables most strongly influencing the probability that a student will be a delayed graduate include:
- Stopping out. Each time a student is readmitted increases the probability of being a delayed graduate by 22%. The slowing effects of stopping out are only partially reversed by transfer credits accumulated while stopped out.
- Majoring in the School of Education. Students in Education are almost 7% more likely than other students to become delayed graduates.

o Some variables have a significant but modest effect and increase the probability of delayed graduation by about 2%: any incidence of withdrawing from a term, each term enrolled part-time, dropping 10% or more of enrolled credits, ever receiving a Pell grant (a proxy for low income); delaying the first declaration of major.

o Some variables have no significant effect after controlling for other factors: measures of high school performance, changing majors (except into the School of Education), cumulative GPA, enrolling in summer terms, studying abroad, and participation in athletics.

o Targeted minority status alone is not a significant indicator for being a delayed graduate, but targeted minority students, as a group, are more likely to delay graduation because they are more likely to engage in behaviors that are linked to delayed graduation: stopping out, taking fewer than average credits, dropping 10% or more of credits, withdrawing.

Some Implications and Recommendations
This analysis reinforces the findings of earlier studies and points to a number of strategies that may enhance students' ability to make timely progress to degree.

- Support timely major declaration. We took one step in this direction in August 2005 when we made available to students for the first time a list of requirements for entry to each

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undergraduate major in a single web document. Another step in this direction would be for programs that do not allow admission to the major before the junior year to examine policies and consider ways to allow sophomore entry. (For example, the School of Business is currently engaged in such a review.) In addition, earlier working groups recommended that students be required to declare a major by the time they achieve senior class standing and perhaps we should reconsider if there is value in implementing that recommendation.

- Support improvements in the way that readmitted students get connected to advisors and university resources. These students need some extra attention to re-establish their academic momentum after stopping out. A review of current policies and procedures that connect readmitted students with advisors may be a good starting point.

- Encourage students to take an average of at least 15 credits per semester. If a student is best served by taking fewer than 15 credits in one semester, students should balance a low-credit term with a higher-credit term.

- Encourage students to be continuously enrolled and to avoid stop-out terms: part-time enrollment is better than stopping out.

- Especially in Education, Engineering and CALS, and in other units if appropriate, review academic requirements and processes to determine if time-to-degree is academically appropriate and to identify opportunities to promote timely degree completion.

- Especially in the School of Education, and in other units if appropriate, review requirements for entrance to majors and for degree completion to identify potential opportunities to reduce the incidence of delayed graduation.

- Support strategies that communicate to students the benefits of seeking help before withdrawing or stopping out. Currently a student is able to drop all their courses and withdraw without talking to anyone on campus. Can we more effectively communicate to students that withdrawing or taking a break from college may not be their only or best option?

These are just a few observations: perhaps you see other implications of the study. We will be contacting many units and groups around campus to talk about these findings and learn more about how we can act on strategies that enhance the ability of students to complete degrees in a timely manner.

Please contact one of us of you have questions or comments. (Jocelyn – 263-5658, jlmilner@wisc.edu; Clare – 265-9276, chuhn@vc.wisc.edu).

This memo and the attached study are available at: http://apa.wisc.edu/TimeToDegree.htm

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ANALYTIC OBJECTIVES
The purpose of this analysis is twofold:
1) to identify predictors of time-to-degree in general
2) to identify predictors of delayed graduation (enrollment spanning more than 6 years without degree completion)

POPULATION
The overall study population consists of 17,149 new freshmen who entered UW-Madison in fall 1997, 1998 or 1999. These are the three most recent cohorts that have had at least six years to graduate (the national standard measurement point).

To identify predictors of time-to-degree in general, the number of fall/spring terms spanned (whether or not the student was enrolled at UW-Madison in those terms) was measured for the 13,744 students in these cohorts who completed degrees or equivalent. Consistent with standard methods of graduation rate calculation, students who entered the PharmD or DVM programs at UW-Madison without receiving bachelors degrees are counted as graduated when they accumulate 120 credits.

To identify predictors of "delayed graduation", the 13,552 freshmen who completed degrees within six years were compared to the 440 freshmen who were still enrolled after six years without degrees. Several independent variables were measured as of the 6th year (for students who were still enrolled) and as of the last term enrolled (for students who graduated).

Understanding the outcomes of the 2,965 freshmen members of these three cohorts who did not complete degrees and are not still enrolled at UW-Madison is important but not the focus of this analysis. These students started at UW-Madison but are no longer enrolled and never received a degree. These students either left UW-Madison and enrolled (and possibly graduated) somewhere else, are temporarily not enrolled but intend to re-enroll at UW-Madison at some point, or are not enrolled in college at all.

INDEPENDENT VARIABLES
The independent variables that were measured in this analysis are explained below.

Demographic
1. <u>Sex</u>: Male/female.

2. <u>Race/Ethnicity</u>: Department of Education methodology based on race/ethnicity and citizenship.

3. <u>Targeted Minority Indicator</u>: Based on race/ethnicity described above. Identification of African-American, Hispanic/Latino, American Indian, and Southeast Asian students.

4. <u>Residency</u>: Residency determination for tuition assessment purposes during the student's first term enrolled.

Source: Student_Analytical data view based on UW-Madison CDR submission, UW System Administration.

High School Preparation

5. High school rank percentile: Calculated from class size and class rank.

6. ACT/SAT score: ACT scores for those who took the ACT, SAT scores concorded to ACT Scores (College Board concordance table) for those who only took the SAT.

7. Test Credits: Number of "test" (mainly Advanced Placement and International Baccalaureate) credits the student had at entry.

8. Other Credits: Number of "other" non-test credits (retroactive language etc.) that the student had at the end of the first term.

Sources: Student_Analytical data view based on UW-Madison CDR submission, UW System Administration (5 and 6), Retention_Semester_History Infoaccess data view, UW-Madison (7 and 8)

Enrollment Patterns

9. First-term credits completed: Number of credits that the student completed in the first term.

10. Part-time terms: Number of fall/spring terms that the student was enrolled part-time (fewer than 12 credits).

11. Terms Withdrawn: Number of terms (fall and spring terms each count as 1) from which the student withdrew after the semester started.

12. Terms Readmitted: Number of times the student was readmitted (with or without transfer credits). Students are readmitted after they have been gone for at least one semester (except to study abroad) and this variable is a measure of "stop-out" behavior.

13. Dropped Credits: Total number of credits the student dropped (credits in course withdrawal) after the 10th day of each term enrolled.

14. Terms with Dropped Credits: Number of terms (fall, spring and summer each count as 1) in which the student dropped course credits (regardless of number of credits).

15. Percent credits dropped: An indication of the volume of credits dropped calculated by dividing the number of credits dropped by the student's total credits.

16. Number of Summer Terms: Number of summer terms in which the student enrolled and completed credits.

17. Credits Completed per Term Enrolled: One of several possible measures of academic progression calculated by the student's total number of credits divided by the total number of fall/spring terms they were enrolled.

Sources: Retention_Semester_History Infoaccess data view, UW-Madison (9-12, 16-17), Retention_Drop_History Infoaccess data view, UW-Madison (13-14).

Academic

18. Terms to major: Number of elapsed terms (fall, spring, summer each count as 1) before the student declared the first major.

19. Number of majors: Number of different majors the student has ever declared (regardless of the number they ended with). Pre-majors were not counted.

20. Number of school/colleges: Number of different schools/colleges associated with the student's declared majors.

21. First major school/college: School/college associated with the student's first major.

22. <u>School/college home of current major</u>: School/college associated with the student's current major. For students who completed degrees, this is the same as the school/college home of their degree program.

23. <u>Cumulative GPA</u>: Student's cumulative GPA as of the most recent term enrolled. For students who completed degrees, this is the same as the GPA at graduation.

24. <u>Terms on Probation</u>: Number of terms (fall, spring, summer each count as 1) the student was on academic probation.

25. <u>Transfer Credits</u>: Total number of transfer credits. Transfer credits can be earned in several ways: while the student is still in high school, when a student transfers to another institution and later transfers back to UW-Madison with course credits, and when a UW-Madison student takes courses at another institution during the summer and transfers the credits back to UW-Madison.

26. <u>Total number of non UW-Madison credits</u>: An indication of the amount of academic work completed outside of UW-Madison (regardless of the manner) calculated by summing a student's test, other and transfer credits.

Source: Retention_Semester_History Infoaccess data view, UW-Madison

Financial Aid
27. <u>First-Year Financial Need</u>: Amount of financial need during the student's first year (fall/spring). Financial need is calculated by subtracting the amount the student's family is expected to pay (EFC) from the cost of attendance (COA).

28. <u>Terms with financial need</u>: Total number of terms (fall/spring) the student's financial need was greater than $0. This is an identification of students who may experience more financial stress and problems than other students.

29. <u>Pell Grant Years</u>: Number of academic years (each fall/spring combination counts as 1, no summers) the student received a Pell Grant. This is a readily quantifiable identifier of low income students.

Source: Stfa_Aid_A data view based on UW-Madison CDR submission, UW System Administration.

Participation
30. <u>Athlete Terms</u>: Number of terms the student was part of a UW athletic team.

31. <u>Abroad Terms</u>: Number of terms (fall, spring summer each count as 1) that the student studied abroad through a UW-Madison program.

Source: Retention_Semester_History Infoaccess data view, UW-Madison

PREDICTORS OF TIME-TO-DEGREE

Linear Regression Analysis of Factors Related to Time-to-Degree
(Measured in Fall/Spring Terms Spanned for Students who Started as Freshmen between 1997 and 1999 and Completed Degrees)

#	Statistically Significant Independent Variables	Coefficient (B)	*t*	p-value
	Constant	7.028	151.7	.00
1.	Number of terms readmitted (indication of stopping out)	1.26	40.9	.00
2.	Degree in Education	1.06	25.4	.00
3.	Degree in Engineering	1.05	26.8	.00
4.	Degree in CALS	0.62	13.5	.00
5.	Wisconsin resident	0.42	18.9	.00
6.	Number of majors declared beyond the first one (whether or not completed)	0.35	24.2	.00
7.	Number of terms studying abroad	0.29	13.5	.00
8.	Number of terms withdrawn after start of term	0.25	7.4	.00
9.	Number of major changes between schools/colleges	0.24	23.7	.00
10.	Number of terms on academic probation	0.17	12.5	.00
11.	Fewer than average non UW-Madison credits (average is 10)	0.13	9.2	.00
12.	Number of elapsed terms to first major declaration	0.10	19.6	.00
13.	Female	-0.19	-8.6	.00
14.	Above average credits completed per term enrolled (average is 14.3)	-0.75	-50.68	.00

Number of observations = 13,744, r^2 = .46

Non-Statistically Significant Independent Variables

#	
15.	Targeted minority status
16.	Measures of high school performance (ACT/SAT and rank)
17.	First-term credit load
18.	Dropping credits and/or attending part-time (beyond any effect on average credits per term)
19.	Cumulative GPA at graduation
20.	Financial need (level need itself and whether Pell Grant recipient)
21.	Athlete
22.	Number of summer terms enrolled

1. Time-to-degree increases when students are not enrolled continuously at UW-Madison. Each time a student stops out and later re-enrolls, time-to-degree increases by 1.26 fall/spring terms.

2. Time-to-degree for students who complete degrees in Education is slightly more than 1 fall/spring term than for other students. The next section examining predictors of delayed graduation shows that Education majors are also more likely to be enrolled for longer than 6 years without a degree.

3. Time-to-degree for students who complete degrees in Engineering is slightly more than 1 fall/spring term than for other students.

4. Time-to-degree for students who complete degrees in CALS is 0.62 fall/spring term higher than for other students.

5. Wisconsin residents have longer time-to-degree than non-residents (including students from Minnesota). On average, Wisconsin residents graduate 0.42 fall/spring terms later than non-residents.

6. Time-to-degree increases for students who change majors and/or complete more than one major. Each major declared, whether or not it was completed, increases time-to-degree by 0.35 fall/spring terms.

7. Students who study abroad have time-to-degree that is slightly higher than students who don't study abroad. Each term abroad adds 0.29 fall/spring terms to time-to-degree.

8. Withdrawing after the start of a term increases time-to-degree. For each time a student withdraws, time-to-degree increases by 0.25 fall/spring terms.

9. On top of the increased time-to-degree for students who declare multiple majors, students who change majors between different schools and colleges add an extra 0.24 fall/spring terms to their time-to-degree.

10. Students who struggle academically take longer to graduate. For each term on academic probation, time-to-degree increases by 0.17 fall/spring terms.

11. Earning credits outside of UW-Madison either while in high school, at another school during the summer, or at another school while stopped out of UW-Madison decreases time-to-degree. In this cohort, students had, on average, 10 non-UW-Madison credits. Students who had no outside credits (one standard deviation below the mean) had time-to-degree that was 0.13 fall/spring terms higher than students with an average number of outside credits. Students who had 21 outside credits (one standard deviation above the mean) had time-to-degree that was 0.13 fall/spring terms lower than students with average outside credits. Note than any benefit from non UW-Madison credits earned after initial enrollment is reduced by the greater negative impact of stopping out and/or withdrawing.

12. Students who wait to declare a major incur slightly higher time-to-degree. For each term that passes without a student declaring a major, time-to-degree increases by 0.1 fall/spring terms. A student who waits 5 terms to declare a major adds, on average, half a term to his/her time-to-degree.

13. Female students have shorter time-to-degree than male students. On average, female students graduate 0.19 fall/spring terms faster than male students. This effect is after the gender differences in Engineering, Education and CALS enrollments have been factored in.

14. Students in this analytic cohort completed an average of 14.3 credits each fall/spring term enrolled. Increasing the average number of credits completed per term to 16.6 (one standard deviation above the mean) reduces time-to-degree by 0.75 fall/spring terms. Conversely, students who complete fewer than average credits increase their time-to-degree. In this case, one standard deviation below the mean is 12 credits per term (2.3 credits below the mean).

15. Average time-to-degree is higher for targeted minority students. However, this is because they are more likely to incur the risk factors for longer time-to-degree. Once these factors are considered, time-to-degree for targeted minorities is not significantly higher.

16. High school performance variables are not significant predictors of time-to-degree. However, high school performance may be related to other variables that ARE significant predictors of time-to-degree including the probability of having advanced placement credits and being on academic probation.

17. Unlike a recent U.S. Department of Education study showing that a student's first-term credits are predictive of time-to-degree, the number of credits taken by UW-Madison freshmen in their first semester is not predictive of time-to-degree. This is possibly because there is not much variance in number of credits freshmen take at UW-Madison. The variance in term credit loads comes after the first semester.

18. The effect of dropping credits, beyond any impact on average credits per term, is not a significant predictor of time to degree.

19. GPA itself is not a significant predictor of time-to-degree in this model. Academic probation, an indication of low GPA, is significant. It is important to note that all of the students in this analysis graduated and a minimum GPA is required for graduation. Therefore, the full spectrum of GPAs is not included in the model.

20. Average time-to-degree is higher for financially needy students. However, these students are more likely to engage in behaviors that increase time-to-degree such as taking fewer credits per term, stopping out, dropping credits, and withdrawing more frequently. Once these things are considered, financial need or Pell Grant status alone is not significant.

21. Athletes do not have significantly longer time-to-degree than other students.

22. Taking credits specifically in summer terms does not decrease time-to-degree. However, since summer term credits can increase the calculated average credits per fall/spring term, taking credits in the summer might have a positive effect on time-to-degree assuming at least average credit accumulation in the other terms.

PREDICTORS OF "DELAYED GRADUATION"

**Binary Logistical Regression Analysis of Factors Related to Delayed Graduation for Students who Started as New Freshmen between 1997 and 1999
(Continued Enrollment Beyond the 6th Year without Degree Attainment)**

#	Statistically Significant Independent Variables	Coefficient (B)	*p*-value	Odds Ratio	Delta *p*
1.	Number of terms readmitted (indication of stopping out)	2.345	.00	10.4	22.0
2.	Current (most recent) major in Education	1.247	.00	3.5	6.9
3.	Wisconsin resident	0.521	.00	1.7	1.9
4.	Has withdrawn from at least one term	0.463	.00	1.6	1.6
5.	Number of part-time terms (<12 credits)	0.483	.00	1.6	1.7
6.	Later major declaration (after first 50% of terms enrolled)	0.541	.00	0.6	1.4
7.	High number of dropped credits (10% or over)	0.318	.00	1.4	1.1
8.	Male	0.367	.01	0.7	1.1
9.	Number of years receiving a Pell Grant (very low income)	0.122	.03	1.1	0.3

Number of observations = 13,992 (13,552 graduates and 440 still enrolled beyond the 6th year), pseudo R^2 = .60

Non-Statistically Significant Independent Variables

10.	Targeted minority status
11.	Measures of high school performance (ACT/SAT and rank)
12.	First-term credit load
13.	Changing majors (except into Education)
14.	Cumulative GPA at graduation or as of the 6th year.
15.	Financial need
16.	Athlete
17.	Studying abroad
18	Enrollment specifically in summer terms

1. Compared to students who start at UW-Madison and stay continuously, students who stop out (leave UW-Madison and later re-enroll) are more likely to become "delayed graduates". Each stop out increases the probability of delaying by 22%. The number of credits the student transferred back after "leaving" was not significant in reducing the negative effects of stopping out. In other words, a break in continuous enrollment at UW-Madison, irrespective of what the student was doing during the absent time, is a significant risk factor.

2. Students whose current major is offered by the School of Education have a higher probability of delayed graduation than students in other schools/colleges. Students in the School of Education have a probability of delayed graduation that is almost 7% higher than other students. Within the School of Education, these delayed students are disproportionately enrolled in Art Education, Elementary Education, English, and History.

3. Resident students are more likely than non-residents to become delayed graduates. The probability of delayed graduation is almost 2% greater for residents. Students from Minnesota, who pay similar tuition to Wisconsin residents, are also less likely to become delayed graduates than resident students. This suggests that the relationship between delayed graduation and residency is not solely related to the amount of tuition paid.

4. Withdrawing at least once after the term starts increases the probability of being a delayed graduate by 1.6%.

5. Enrolling part-time increases the probability of delayed graduation. Each part-time term increases the probability of delayed graduation by 1.6%. Students who primarily enroll part-time have a very high probability of delayed graduation.

6. The later students declare a major, the higher the probability of becoming a delayed graduate. For students who declared majors in the latter half of their enrollment, the probability of becoming a delayed graduate increases by 1.4%.

7. Students who drop more than 10% of the credits they originally register for have a higher probability of becoming a delayed graduate. The probability of delayed graduation is 1.1% higher for students who drop higher numbers of credits.

8. Male students are more likely to be delayed graduates than female students. The probability of delayed graduation is 1.1% higher for male students than for female students.

9. Lower income students are more likely to delay graduation than higher income students. The probability of becoming a delayed graduate is 0.3% higher for each year that a student receives a Pell Grant (the proxy in this study for low income).

10. Targeted minority students are more likely to delay graduation than non-targeted students. However, this appears to be because they are more likely to engage in the behaviors that are risk factors for delayed graduation (stopping out, withdrawing, taking fewer credits). After controlling for these variables, targeted minorities are not significantly more likely to delay graduation.

11. High school performance is not predictive of delayed graduation. Delayed graduation is most related to behavior at UW-Madison rather than high school performance.

12. Unlike a recent U.S. Department of Education study that showed that a student's first-term credits were predictive of time-to-degree, the number of credits taken by UW-Madison freshmen in their first semester is not predictive of delayed graduation. This is possibly because there is not much variance in number of credits freshmen take at UW-Madison. The variance in term credit loads comes after the first semester.

13. Students who change majors, including majors between schools/colleges, and students who have multiple majors are not more likely to delay graduation. While, the act of changing itself is not predictive of delayed graduation, students who changed majors into the School of Education have increased probability of delayed graduation.

14. Academic performance variables are not predictive of delayed graduation. In other words, students with both low and high GPAs can become delayed graduates.

15. Students who receive Pell Grants have high financial need. There are other students with some financial need but not enough to qualify for a Pell Grant. Students who receive Pell Grants are at increased risk of becoming "delayed graduates" but students with less financial need are not at increased risk.

16. Students who participated in athletics are no more or less likely to become delayed graduates than other students.

17. Students who studied abroad are no more or less likely to become delayed graduates than other students.

18. The number of summer terms in which a student enrolled does not affect the probability of delayed graduation.