

Relationship between Midterm Grades, 2016 New Student Survey Responses, and Frosh Academic Standing and Retention

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Executive Summary:

The goal of this analysis was to determine whether after accounting for student background/demographic factors ([Appendix B](#)), which midterm grade and fall 2016 New Student Survey (NSS) responses were related to first semester end of term academic standing and retention into the following spring semester. NSS questions spanned topics such as: academic self-efficacy, plans to remain at UC Merced, use of resources, academic habits, and perceptions of academic barriers/obstacles (see [Appendix A](#)). This research question is important for student success because it identifies groups of students that may be at risk and can guide resource deployment and services for struggling students.

[Table 1](#) summarizes the key findings. Bold text indicates relationships that remained robust when all variables were included in the same regression analyses, thus representing the most promising risk factors and/or targets for intervention. For example, students who reported the positive academic habit of preparing for and attending classes (Habits: preparing for and attending classes) were less likely to be in poor standing at the end of their first semester (academic probation – P1 – or subject to academic dismissal – SAD) and were more likely to be retained to spring. However, when all variables were included in the same regression analysis, this academic habit was only robustly associated with a greater likelihood of being subject to academic dismissal, as indicated by the bold text in [Table 1](#). This suggests that preparing for and attending classes is a good predictor of whether or not students were subject to academic dismissal but perhaps not the best predictor of being placed on academic probation or being retained to spring. *The strongest and most consistent predictors of poor academic standing and of not being retained were (a) receiving at least one D or F grade at midterm and (b) expecting that one's final course grades would be C's or lower.*

Survey Administration and Sample:

The 2016 NSS was administered in the fall to all new, incoming students after midterm grade reports and closed the last week of classes. The survey had 1071 respondents of 2222 invited students, a 48% response rate. The sample was generally representative of the population with the exception that females were 6% more likely to respond than males. Transfer students (7.5%; n = 80) were not included in these analyses both because midterm grade reports are not collected for transfer students and because it is reasonable to expect that the new student experience for transfer students might differ substantively from that of new frosh. This left a working dataset comprised of 991 entering frosh respondents. Survey responses were merged with (a) fall 2016 end of term (EOT) academic standing and (b) retention to spring of 2017 (enrollment) data. Importantly, students who were in good standing at the end of the term were more likely to take the survey than those who were in poor standing (50% vs. 43%), and those who were retained were more likely to take the survey than those who were not (49% vs. 37%).

Table 1. 2016 NSS Analysis Summary: Predictors Related to Academic Standing and Retention in Logistic Regression Analysis

Model/Outcome Variance Accounted For (R ²)	(1) Relationship with Academic Probation (vs. Good Standing) 25-51%	(2) Relationship with Subject to Academic Dismissal (vs. Good Standing) 28-66%	(3) Relationship with Retention to Spring 2017 (vs. Not Retained) 12-35%
Block 1: Background/Demographic Variables			
SAT-R total (higher scores)	P1 less likely	SAD less likely	Retention more likely
High School GPA (higher GPAs)	P1 less likely	SAD less likely	Retention more likely
Block 2: Received at least 1D/F at midterm	P1 more likely	SAD more likely	Retention less likely
Block 2: Survey Scale/Items			
Academic self-efficacy (higher)	--	SAD less likely	Retention more likely
Expected final course grades C's or lower	P1 more likely	SAD more likely	Retention less likely
Satisfaction with expected GPA (higher)	P1 less likely ^a	SAD less likely	Retention more likely
Likelihood of changing major (higher)	--	SAD more likely	Retention less likely
Likelihood of participating in faculty research (higher)	P1 less likely	--	--
Likelihood of taking summer courses (higher)	--	SAD more likely	Retention less likely
Likelihood of leaving UCM at end of semester (higher)	--	--	Retention less likely
Likelihood of leaving UCM at end of year (higher)	--	--	Retention less likely ^a
Resource use: visited Disability Services	--	SAD more likely	--
Resource use: Library Services	P1 less likely	--	--
Resource use: Guardian Scholars	--	SAD more likely	--
Habits: engaging in effective study skills	P1 less likely	SAD less likely	Retention more likely
Habits: engaging in healthy behaviors	--	SAD less likely	Retention more likely
Habits: preparing for and attending classes	P1 less likely	SAD less likely	Retention more likely
Habits: engaging in scheduling activities	P1 less likely	SAD less likely	Retention more likely
Obstacles: adjustment/fit	--	SAD more likely	Retention less likely
Obstacles: academic preparation/environment	P1 more likely	SAD more likely	Retention less likely
Obstacles: competing responsibilities	--	SAD more likely	Retention less likely
Obstacles: coping with expectations	P1 more likely	SAD more likely	Retention less likely
Overall high number of frequent obstacles reported	--	SAD more likely ^a	Retention less likely ^a

Note: dashed lines indicate no relationship at the bivariate level such that the corresponding predictor was not included, except: ^avariable was associated with the outcome at the bivariate level but could not be included in the model due to high correlation with other variable(s). Academic standing: 00 = Good standing, P1 = Academic probation, SAD = Subject to academic dismissal. Hyperlinks link to details about each variable in [Appendix A](#) and [Appendix B](#). Additional variables were tested but were not included in models due to a lack of bivariate associations with outcomes of interest.

Summary of Analysis Strategy and Findings:

As noted, the goal of this analysis was to determine whether midterm grade performance and fall 2016 NSS responses differentiated incoming frosh students regarding their first semester end of term (EOT) academic standing and retention to spring 2017 after accounting for student demographic/background factors. Regarding academic standing for new frosh, three categories were examined: (1) Students are in good standing if their GPA is 2.0 or above (coded: 00). (2) Any student who has a semester GPA below 2.0 is considered to be on Academic Probation (coded: P1). (3) However, a more serious consequence applies to new students for whom their semester grade point average is less than 1.5 - s/he is considered Subject to Academic Dismissal (coded: SAD). Regarding EOT academic standing, 80% of respondents were in good standing (n = 785), 11% were on academic probation (n = 110), and 9% were subject to academic dismissal (n = 88). Regarding spring 2017 enrollment, 94% were enrolled (n = 928) and 6% were not (n = 63).

The analysis strategy had two key steps. Step 1: both Chi-squared analysis and Analysis of Variance (ANOVA) were used to examine bivariate associations between the student demographic/background factor predictors, midterm grade performance predictor, survey scale/item predictors, and academic standing and retention outcomes. Statistically significant bivariate predictor-outcome associations are summarized below and in [Table 1](#) (see also [Appendix A/Table 2](#) and [Appendix B/Table 3](#) for a summary of significant and non-significant findings).

Which predictors were associated with EOT academic standing?

- *Background/demographic:*
 - Students who were in good academic standing compared to those in poor standing (placed on academic probation or SAD) were MORE likely to:
 - Have higher **SAT-R scores** and
 - Have higher **high school GPAs**.
 - Additionally, there were several other findings, as follows:
 - Students who were in good academic standing compared to those were placed on academic probation were LESS likely to be **Hispanic**.
 - Conversely, students who were in good academic standing compared to those in poor standing (placed on academic probation or SAD) were MORE likely to be **Asian**.
- *Midterm grade performance:* Students who were in good academic standing compared to those in poor standing were LESS likely to have **received at least one D or F at midterm**.
- *Survey:*
 - Students who were in good academic standing compared to those in poor standing were MORE likely to say they:

- Expected to have **higher final course grades** and to be **more satisfied with their GPA**;
- Used particular resources more often, specifically **The Recreation Center** and **Library Services**; and
- Engaged in effective academic habits, and in particular **engaged in effective study skills, engaged in healthy behaviors, prepared for and attended classes, and engaged in scheduling activities.**
- Conversely, students who were in good academic standing compared to those in poor standing were LESS likely to say they:
 - Were likely to **change their major**;
 - Were likely to **leave UC Merced** at the end of the semester or academic year;
 - Used particular resources, specifically **Guardian Scholars**; and
 - Faced obstacles, and in particular **adjustment/fit, academic preparation/environment, competing responsibilities, and coping with expectations.**
- Additionally, there were several other findings, as follows:
 - Students in good standing and those placed on academic probation had HIGHER **academic self-efficacy** than those subject to academic dismissal.
 - Students in good standing and those subject to academic dismissal were MORE likely to say they would likely **participate in faculty research** compared to those placed on academic probation.
 - Students in good standing and those placed on academic probation were LESS likely to say they would **take summer courses** than those subject to academic dismissal.

Which predictors were associated with spring 2017 retention?

- *Background/demographic:* Students who were retained compared to those who were not were MORE likely to:
 - Have higher **SAT-R scores** and
 - Have higher **high school GPAs.**
- *Midterm grade performance:* Students who were retained compared to those who were not were LESS likely to have **received at least one D or F at midterm.**
- *Survey:*
 - Students who were retained compared to those who were not were MORE likely to say they:
 - Had higher **academic self-efficacy**;
 - Expected to have **higher final course grades** and to be **more satisfied with their GPA**; and
 - Engaged in effective academic habits, and in particular **engaged in effective study skills, engaged in healthy behaviors, prepared for and attended classes, and engaged in scheduling activities.**
 - Conversely, students who were retained compared to those who were not were LESS likely to say they:

- Would **take summer courses**;
- Were likely to **leave UC Merced** at the end of the semester or academic year; and
- Faced obstacles, and in particular **adjustment/fit, academic preparation/environment, competing responsibilities, and coping with expectations**.

Step 2: Considering only predictors associated with academic standing and retention outcomes and after ensuring that it was statistically appropriate to include these predictors (i.e., distributional assumptions and multicollinearity were considered), three separate logistic regression analyses were performed to predict: (Model 1; [Table 4a](#)) academic probation (vs. good standing), (Model 2; [Table 4b](#)) subject to academic dismissal (vs. good standing), and (Model 3; [Table 5](#)) retention to spring 2017 (vs. not retained). More specifically, the predictors were included in a stepwise regression equation with demographic/background variables in Block 1 and midterm grade and survey variables in Block 2 (see [Appendix C](#) - Tables 4a, 4b and 5 for full details of the analyses). Block 2 results revealed which midterm grade and survey response variables were significantly associated with each outcome after accounting for the background\demographic variables. For each model, the Block 1 and Block 2 models were significant, and adding the midterm grade and survey variables to the model in Block 2 accounted for a significant increase in the predictive power of the model. Model 1 accounted for 25-51% of the variance in academic probation status; Model 2 accounted for 28-66% of the variance in subject to academic dismissal status; and Model 3 accounted for 12-35% of the variance in retention to spring status. As noted, [Table 1](#) summarizes the results of these analyses, with bold text indicating which predictor variables were most robustly associated with the outcome(s) of interest. That is, after accounting for all predictors in the model, these continued to be statistically significant.

Which predictors were robustly associated with both academic standing and not being retained?

- After accounting for student demographic/background factors (e.g., high school GPA), knowing which students received **at least one D or F grade at midterm** and who **expected final course grades of C's or lower** enabled consistent prediction of both end of term poor academic standing and of not being retained into the second semester. Thus, these may represent the most promising routes for intervention and service/resource deployment.
- Regarding academic probation, the other robust predictor included having **not used Library Services** at least one time.
- Regarding being subject to academic dismissal, other robust predictors included being **less satisfied with one's expected GPA**, the **expectation of changing one's major**, the **expectation of taking summer courses**, being **less likely to prepare for and attend classes**, and being **less likely to engage in scheduling activities**.
- Regarding not being retained, other robust predictors included reporting a greater **likelihood of leaving UCM at the end of the semester** and being **less likely to engage in scheduling activities**.

Limitations and Future Analyses:

This analysis has several important limitations. First, only 48% of new freshmen responded to the survey. While the sample tended to be demographically representative (e.g., first-generation status, race/ethnicity, etc.), females were more likely to complete the survey than males, indicating that the results may best apply to females. Additionally, the results may be most representative of students who were doing well academically and who were retained, as those groups were significantly more likely to take the survey than students who were doing poorly academically and who were not retained. Second, though many associations between survey responses and academic standing and retention were significant, most effect sizes were quite small. Finally, because so many comparisons were performed, the possibility of false positives (i.e., Type I error) was high. However, this issue is somewhat mitigated by the use of regression analyses, which helped to identify robust predictors.

Future analyses might examine whether these results replicate over time and across cohorts¹. Future analyses might also examine predictors of academic standing and retention for transfer students, though several years of data may need to be pooled due to small sample sizes.

¹ Similar [analyses](#) were performed using 2014 New Student Survey data.

Appendix A: Survey Scales/Items and their Associations with Academic Standing and Retention

The majority of the survey items and scales are described below in addition to their bivariate associations with academic standing (defined as EOT academic standing – good standing, academic probation, or subject to academic dismissal status) and retention (defined as enrollment at UC Merced in spring 2017 – enrolled or not enrolled). Items not seen by Frosh (e.g., TRANSCEND Conference) or that were intended to evaluate units/programs (e.g., housing questions; ASCEND conference; Summer Orientation; Weeks of Welcome events) were not included in this analysis. The complete survey instrument can be found on the IRDS New Student Survey [webpage](#). Note that some items and/or scales had to be recoded such that the variables met the distributional assumptions of the statistical tests performed. Because separate tests were performed to examine the associations between each predictor and outcome, the possibility of Type I error (i.e., false positives) is high and should be considered in interpreting the findings. Effect sizes are provided when applicable. [Table 2](#) below summarizes these associations.

Feeling Welcomed and Connected to UC Merced

Student academic standing and retention were not associated with reported perceptions that students found the campus welcoming (1 = *very welcoming* to 3 = *not welcoming*) or with saying they felt more connected with UC Merced (1 = *very disconnected* to 4 = *very connected*).

College Choice

Student academic standing and retention were not associated with student reports that UC Merced was their first, second, third, or lower than third choice of colleges when they applied.

Highest Degree Aspiration

Student academic standing and retention were not associated with student reports that they intended to obtain a bachelor's degree, doctoral degree, or unsure/none degree.

Academic Self-Efficacy

Students responded to 7 items (below) about their academic self-efficacy on a 1 (*very unsure*) to 4 (*very sure*) scale, which were averaged such that higher scores indicated higher academic self-efficacy. Students tended to say they felt “somewhat” to “very” academically efficacious.

How sure are you that you can do each of the following:

1. Succeed academically at UC Merced
2. Do well on problems and tasks assigned in my courses
3. Do well on my most difficult course

4. Persevere even when I face academic challenges and obstacles
5. Improve my current skills and abilities
6. Find resources that will help me overcome academic challenges and obstacles (e.g., tutors, instructors, advisors)
7. Effectively use resources that will help me overcome academic challenges and obstacles (e.g., tutors, instructors, advisors)

Students who ended the term on good standing ($M = 3.29$) or who were placed on academic probation ($M = 3.24$) had higher average academic self-efficacy than students who were SAD ($M = 3.05$, p 's $< .01$), though the good standing and academic probation groups did not differ ($p = .29$). Students who were retained to spring 2017 had higher academic self-efficacy ($M = 3.28$) compared to students who were not ($M = 3.04$).

Expected Final Course Grades and Satisfaction with Expected GPA

Overall, the pattern indicated that students were relatively accurate at predicting their EOT grades when they completed the survey at midterm. This suggests that, on average, students can identify when they are struggling academically relatively well.

Student academic standing and retention were associated with student beliefs about their final semester course grades (i.e., “what do you think your final course grades will be this semester”), and in particular whether final course grades would be A’s or B’s versus C’s or lower. Students who ended the term subject to academic dismissal were most likely to say they expected C’s or lower (71%), followed by those who ended the term on academic probation (50%) or in good standing (10%). Students who were not retained were more likely to say they expected C’s or lower (61%) compared to those who were retained (18%).

Student academic standing and retention were also associated with student beliefs (i.e., “how likely are you to”) that they would be satisfied with their first semester GPA at UC Merced (1 = *very unlikely* to 5 = *very likely*). Students who ended the term in good standing expected to be more satisfied ($M = 3.42$) than those who ended the term either on academic probation ($M = 2.47$) or subject to academic dismissal ($M = 2.26$). Similarly, students who were retained expected to be more satisfied ($M = 3.26$) compared to those who were not ($M = 2.38$).

Likelihood of Engaging in Various Behaviors/Activities at UCM

Students indicated “how likely are you to” engage in ten behaviors (numbered below) on a 1 (*very unlikely*) to 5 (*very likely*) scale, though many of the item response options were later combined to meet the distributional assumptions of logistic regression – unlikely (combined *somewhat unlikely* and *very unlikely* responses); likely (combined *unsure*, *somewhat likely*, and *very likely* responses). Analysis results for each item are described below the list of items.

1. Change your major at UC Merced (*recoded to unlikely vs. likely*)
2. Change your choice of career while at UC Merced

3. Participate in research activities with a faculty member at UC Merced
4. Participate in an internship at UC Merced
5. Take courses at UC Merced next summer
6. Transfer to another college before graduating
7. Leave UC Merced at the end of this semester (*recoded to unlikely vs. likely*)
8. Leave UC Merced at the end of this academic year (*recoded to unlikely vs. likely*)
9. Form close friendships with other UCM students (*recoded to unlikely vs. likely*)
10. Form close friendships with UCM students that are not from the same racial or ethnic group as me (*recoded to unlikely vs. likely*)

Likelihood of changing major (1): Overall, 52% said they were likely to change their major, which was associated with academic standing and retention. Students who ended the term in good standing were less likely to say they would change their major (50%) compared to those subject to academic dismissal (68%), though both were similar to those placed on academic probation (54%). Retained students were less likely to say they would change their major (51%) compared to non-retained students (70%).

Likelihood of changing career (2): On average, students said they were “somewhat unlikely” to “unsure” they would change careers, which was not related to either academic standing or retention.

Likelihood of participating in faculty research (3): On average, students said they were “unsure” to “somewhat likely” they would participate in faculty research, which was related to academic standing but not retention. Students in good standing at the end of the semester ($M = 3.76$) and those subject to academic dismissal ($M = 3.72$) were more likely to say they would participate in faculty research than students on academic probation ($M = 3.47$).

Likelihood of participating in an internship (4): On average, students said they were “unsure” to “somewhat likely” they would participate in an internship, which was not related to either academic standing or retention.

Likelihood of taking summer courses (5): On average, students said they were “unsure” to “somewhat likely” they would take summer courses, which was related to academic standing and retention. Students in good standing at the end of the semester were less likely to say they would take summer courses ($M = 3.04$) than those subject to academic dismissal ($M = 3.49$); however, neither group differed from students on academic probation ($M = 3.11$). Retained students (vs. non-retained) were less likely to say they would take summer courses ($M = 3.07$ vs. 3.38).

Likelihood of transfer before graduating (6): On average, students said they were “somewhat unlikely” to “unsure” they would transfer before graduating, which was not related to either academic standing or retention.

Likelihood of leaving UCM at end of semester (7): Overall, 15% said they were likely to leave at semester's end, which was associated with retention, but not academic standing. Retained students were less likely to say they would leave (14%) compared to non-retained students (30%).

Likelihood of leaving UCM at end of year (8): Overall, 20% said they were likely to leave at year's end, which was associated with retention, but not academic standing. Retained students were less likely to say they would leave (19%) compared to non-retained students (33%).

Likelihood of forming close UCM friendships (9): Overall, 78% said they were likely to form close friendships, which was not associated with either academic standing or retention.

Likelihood of forming close UCM friendships with diverse others (10): Overall, 80% said they were likely to form close friendships with diverse others, which was not associated with either academic standing or retention.

Use of Campus Resources

Students responded to 20 items (below) about the frequency of their use of campus resources (*0 times, 1-2 times, etc.*). Analyses are described below the items.

1. Instructor or teaching assistant (office hour, appointment, etc.)
2. Workshops (study skills, time management, writing)
3. PALS: Peer Assisted Learning and Support (Tutoring)
4. DARTS: Degree Attainment for Returning and Transfer Students
5. Peer Advisors
6. Peer Success Mentors
7. Academic Advisors
8. Disability Services
9. Counseling and Psychological Services
10. Health and Wellness Services
11. Residence Life Staff/programs
12. Career Services/Professional Advancement
13. STEM Resource Center
14. Students First Center
15. Library Services

16. Recreational programs (e.g., outdoor trips, intramural sports)
17. The Recreation Center
18. Fiat Lux
19. Undocumented Student Services
20. Guardian Scholars

First, the **total number of unique resources** used (number used at least once) and **how often resources were used** overall (sum across all resource items to approximate frequency of resource use overall) were examined – neither was associated with academic standing or retention. Next, response options for individual resources were combined such that for each resource, the association between whether or not the student used it (*0 times vs. 1 or more times*) and academic standing and retention were examined. The use of three resources was associated with academic standing, but resource use was not associated with retention. Students in good standing were less likely to report having used **Disability Services** (5%) compared to those subject to academic dismissal (13%); however, neither group differed from those on academic probation (7%). Students in good standing were more likely to report having used **Library Services** (85%) compared to students on academic probation (75%); however, neither group differed from those subject to academic dismissal (77%). Students in good standing were less likely to report having used **Guardian Scholars** (4%) compared to those subject to academic dismissal (11%); however, neither group differed from those on academic probation (5%). Note that the findings for both Disability Services and Guardian Scholars should be interpreted with caution due to small cell sizes.

Effective Academic Habits

Students indicated how often they engaged in 22 positive academic and personal habits (below), which were taken from advice given at the ASCEND conference, on a 1 (*not at all*) to 5 (*all the time*) scale. These questions formed 5 scales for which items were averaged such that higher scores indicated higher engagement in the behaviors in that scale. To meet the distributional assumptions of logistic regression, the “Preparing for and attending classes” scale was dichotomized into frequent (4 or greater; corresponds to *frequently* or *all the time* responses) and infrequent (less than 4; corresponds to *not at all*, *rarely*, or *occasionally* responses) categories. The results of analyses for each scale are summarized below the items.

Engaging in effective study skills

1. Monitored course progress and made changes when needed
2. Allowed more study/work time for difficult classes and assignments
3. Engaged with material during study sessions (i.e., I didn’t just skim)
4. Avoided distractions during study sessions (e.g., texting friends, checking Facebook)

5. Reviewed material before and after class
6. Asked questions when I didn't understand something
7. Set reasonable goals and expectations for myself
8. Followed a regular study schedule
9. Read my course syllabi

On average, students reported engaging in effective study skills “occasionally” to “frequently,” which was associated with both academic standing and retention. Students who ended the term in good standing were most likely to report engaging in effective study skills ($M = 3.54$) followed by those on academic probation ($M = 3.33$) and subject to academic dismissal ($M = 3.14$), which also differed. Retained students (vs. not retained) were more likely to report engaging in effective study skills ($M = 3.50$ vs. $M = 3.19$).

Engaging in healthy behaviors

10. Followed a regular eating schedule
11. Followed a regular exercise schedule
12. Ate healthy food
13. Followed a regular sleep schedule

On average, students reported engaging in healthy behaviors “rarely” to “occasionally,” which was associated with both academic standing and retention. Students who ended the term in good standing were more likely to report engaging in healthy behaviors ($M = 2.85$) than those subject to academic dismissal ($M = 2.54$); however, neither differed from those on academic probation ($M = 2.70$). Retained students (vs. not retained) were more likely to report engaging in healthy behaviors ($M = 2.82$ vs. $M = 2.57$).

Engaging in extra/co-curricular activities

14. Got involved in organized activities outside the classroom (e.g., athletics, clubs, work)
15. Participated in major/academic-related clubs, organizations, or activities
16. Spent time with peers who support my academic success
17. Participated in a study group

On average, students reported engaging in extra/co-curricular activities “rarely” to “occasionally,” which was not associated with either academic standing or retention.

Preparing for and attending classes

18. Turned in course assignments on time
19. Went to my classes
20. Went to my classes prepared (e.g., having read assignments)

As noted above, average ratings were dichotomized into frequent or infrequent for analyses. Overall, 87% of students reported “frequently” preparing for and attending classes, which was associated with both academic standing and retention. Students who ended the term in good standing reported engaging in preparation behaviors more frequently (90%) compared to both those on academic probation (80%) and subject to academic dismissal (74%), which did not differ. Retained students (vs. not retained) reported engaging in preparation behaviors more frequently (88% vs. 70%).

Engaging in scheduling activities

21. Made a weekly schedule, including weekends, to help manage my time
22. Recorded my class deadlines

On average, students reported engaging in scheduling activities “occasionally” to “frequently,” which was associated with both academic standing and retention. Students who ended the term in good standing were most likely to report engaging in scheduling activities ($M = 3.56$) followed by those on academic probation ($M = 3.34$) and subject to academic dismissal ($M = 2.95$), which also differed. Retained students (vs. not retained) were more likely to report engaging in effective study skills ($M = 3.50$ vs. $M = 3.16$).

Academic Obstacles and Barriers

Students indicated how often 25 issues (below) had been obstacles to their schoolwork or academic success during their first semester on a 1 (*not at all*) to 5 (*all the time*) scale. These questions formed 6 scales for which items were averaged and indicated that the student more often experienced the issues in that category as obstacles. To meet the distributional assumptions of logistic regression, the “Expenses/transportation obstacles,” “Competing responsibilities obstacles,” and “Weak spoken English/writing skills obstacles” scales were dichotomized into frequent (4 or greater; corresponds to *frequently* or *all the time* responses) and infrequent (less than 4; corresponds to *not at all*, *rarely*, or *occasionally* responses) categories. The results of analyses for each scale are summarized below the items.

Adjustment/fit obstacles

1. Feeling out of place or like you just don’t fit on campus
2. Second guessing whether UC Merced was the right choice for you
3. Feeling depressed, stressed, or upset

4. Difficulty making new friends at UC Merced
5. Being away from family and friends: being “homesick”

On average, students reported adjustment/fit obstacles “rarely” to “occasionally,” which was associated with both academic standing and retention. Students who ended the term in good standing were less likely to report adjustment/fit obstacles ($M = 2.38$) compared to those subject to academic dismissal ($M = 2.63$); however, neither group differed from those placed on academic probation ($M = 2.52$). Retained students (vs. not retained) were less likely to report adjustment/fit obstacles ($M = 2.39$ vs. $M = 2.79$).

Academic preparation/environment obstacles

6. Difficulty studying (e.g., knowing how to start, how to get help, organize material)
7. Under-developed study behaviors (e.g., wait until last minute, easily distracted, too much social time, too much web surfing)
8. Difficulty adjusting to college-level work (e.g., coursework, exams, papers)
9. Difficult study environment (e.g., noisy roommate, poor Internet access, inadequate computer/software)
10. Under-developed library research skills
11. Weak math skills
12. Infrequent/poor quality feedback from instructors

On average, students reported academic preparation/environment obstacles “rarely” to “occasionally,” which was associated with both academic standing and retention. Students who ended the term in good standing were least likely to report academic preparation/environment obstacles ($M = 2.51$) followed by those placed on academic probation ($M = 2.75$) and those subject to academic dismissal ($M = 3.04$), which also differed. Retained students (vs. not retained) were less likely to report academic preparation/environment obstacles ($M = 2.56$ vs. $M = 2.98$).

Expenses/transportation obstacles

13. Finding affordable housing while a student at UC Merced
14. Paying for expenses
15. Transportation or parking issues
16. Infrequent/inconsistent access to a computer
17. Infrequent/inconsistent access to the Internet/web

As noted above, average ratings were dichotomized into frequent or infrequent for analyses. Overall, 5% of students reported “frequently” experiencing expenses/transportation obstacles, which was not associated with either academic standing or retention.

Competing responsibilities obstacles

18. Other competing responsibilities (e.g., athletics, clubs, internship)
19. Competing job responsibilities (i.e., paid employment)
20. Competing family responsibilities
21. Personal difficulties with family, intimate relationships, or friends

As noted above, average ratings were dichotomized into frequent or infrequent for analyses. Overall, 3% of students reported “frequently” experiencing competing responsibilities obstacles, which was associated with both academic standing and retention. Students who ended the term in good standing were less likely to report frequent competing responsibilities obstacles (2%) compared to those subject to academic dismissal (7%); neither group differed from those placed on academic probation (3%). Retained students (vs. not retained) were less likely to report frequent competing responsibilities obstacles (2% vs. 12%).

Coping with expectations obstacles

22. Being able to cope with expectations of parents and family
23. Being able to cope with the values and expectations of friends when they differ from your own

On average, students reported coping with expectations obstacles “rarely” to “occasionally,” which was associated with both academic standing and retention. Students who ended the term in good standing were less likely to report coping with expectations obstacles ($M = 2.39$) compared to those placed on academic probation ($M = 2.73$) and those subject to academic dismissal ($M = 2.73$), though the latter groups did not differ. Retained students (vs. not retained) were less likely to report academic preparation/environment obstacles ($M = 2.44$ vs. $M = 2.92$).

Weak spoken English/writing skills obstacles

24. Weak writing skills
25. Weak spoken English skills

As noted above, average ratings were dichotomized into frequent or infrequent for analyses. Overall, 6% of students reported “frequently” experiencing weak spoken English/writing skills obstacles, which was not associated with either academic standing or retention.

Overall high number of frequent obstacles reported

As an alternative to examining each type of obstacle individually, the sum of obstacles each student reported experiencing “frequently” or “all the time” was also computed. Most students (22%) reported experiencing zero obstacles “frequently” or “all the time,” with the maximum number of obstacles reported equal to 25 (the maximum possible). To satisfy distributional assumptions of normality for logistic regression, this variable was further dichotomized via a median split into frequent and infrequent categories. Three obstacles was the median such that 0-3 obstacles was grouped into the infrequent category and 4 or more obstacles was grouped into the frequent category; which was associated with both academic standing and retention. Students who ended the term in good standing were less likely to report an overall high number of frequent obstacles (42%) compared to those subject to academic dismissal (63%); neither group differed from those placed on academic probation (54%). Retained students (vs. not retained) were less likely to report an overall high number of frequent obstacles (44% vs. 70%).

Attendance of Student Affairs Programs

Because Summer Orientation and ASCEND conference attendance were mandatory, with 89% and 80% of respondents, respectively, reporting they attended, attendance could not be used as a predictor in analyses. However, only 70% of students reported that they **attended at least one Weeks of Welcome (WOW) Event** such that attendance could be examined. WOW attendance was not associated with either academic standing or retention.

Attachment to UC Merced

Students indicated their agreement with two statements about their attachment to UC Merced (below) on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale, which were averaged. Average responses ranged from “unsure” to “agree,” which was not associated with academic standing or retention.

- 26. If I had to do it all over again I would still choose UC Merced
- 27. I would recommend UC Merced to someone else who wants to attend college

Summary

[Table 1](#) and [Table 2](#) summarize the survey items/scales that were associated with the outcomes of interest. Regarding the analytic approach, for individual survey items or scale scores that were not normally distributed, a non-parametric Chi-squared analysis was performed on the raw or recoded (e.g. combined conceptually similar categories to minimize small cell size issues) data; otherwise a univariate ANOVA was performed. For the ANOVA analyses, respondents with standardized residuals greater than +/-3 were considered outliers and were removed. Though many associations between survey responses and academic standing and retention were significant, most effect sizes were quite small. Additionally, because so many comparisons were performed, the possibility of false positives (Type I error) was high. Refer to [Table 2](#) for reliability and descriptive information about the scales/items and results of all bivariate relationship analyses. Note that regarding “Resource Use”, only

resource use (did not use vs. used at least once) associated with either academic standing or retention are included in the table due to the large number (20) of resources included on the survey.

Table 2. Summary of NSS Scale Reliabilities, Descriptive Information, and Results of Bivariate Analyses with Outcomes

Survey Scale/Items	Scale Reliability	Percentage OR Average (SD) & Scale/Categories	Relationship with EOT Academic Standing	Relationship with Retention to Spring 2017
Found campus welcoming	--	76% very welcoming; 3 categories	$X^2(4) = 4.21, p = .38$	$X^2(2) = .25, p = .88$
Feeling connected to UCM	--	82% connected or very connected; 2 categories	$X^2(2) = .99, p = .61$	$X^2(1) = 1.49, p = .22$
College choice	--	45% 1 st or 2 nd choice; 4 categories	$X^2(6) = 4.06, p = .67$	$X^2(3) = 5.61, p = .13$
Highest degree aspiration	--	57% Masters or PhD; 4 categories	$X^2(6) = 11.17, p = .08$	$X^2(3) = 3.20, p = .36$
Academic self-efficacy	7 items; $\alpha = .88$	3.24 (.53); 1-4 scale	F(2, 960) = 9.51, p < .001, $\eta^2_p = .02$	F(1, 969) = 13.00, p < .001, $\eta^2_p = .01$
Expected final course grades	--	20% C's or lower; 2 categories	$X^2(2) = 249.11, p < .001$	$X^2(1) = 6.66, p < .001$
Satisfaction with expected GPA	--	3.21 (1.16); 1-5 scale	F(2, 966) = 72.69, p < .001, $\eta^2_p = .13$	F(1, 975) = 33.18, p < .001, $\eta^2_p = .03$
Likelihood of changing major at UCM	--	52% unlikely; 2 categories	$X^2(2) = 10.93, p < .01$	$X^2(1) = 7.83, p < .01$
Likelihood of changing career at UCM	--	2.72 (1.25); 1-5 scale	$F(2, 962) = 1.63, p = .20, \eta^2_p = .003$	$F(1, 971) = .89, p = .35, \eta^2_p = .001$
Likelihood of participating in faculty research	--	3.73 (.93); 1-5 scale	F(2, 965) = 4.83, p < .01, $\eta^2_p = .01$	$F(1, 974) = .02, p = .88, \eta^2_p = .000$
Likelihood of participating in an internship	--	3.85 (.92); 1-5 scale	$F(2, 948) = .42, p = .66, \eta^2_p = .001$	$F(1, 959) = 3.09, p = .08, \eta^2_p = .003$
Likelihood of taking summer courses	--	3.09 (1.20); 1-5 scale	F(2, 966) = 5.55, p < .01, $\eta^2_p = .01$	F(1, 975) = 3.88, p < .05, $\eta^2_p = .004$

Likelihood of transfer before graduating	--	2.43 (1.17); 1-5 scale	$F(2, 964) = .68, p = .51, \eta^2_p = .001$	$F(1, 973) = 1.14, p = .29, \eta^2_p = .001$
Likelihood of leaving UCM at end of semester	--	15% likely; 2 categories	$\chi^2(2) = 4.36, p = .11$	$\chi^2(1) = 11.34, p = .001$
Likelihood of leaving UCM at end of year	--	20% likely; 2 categories	$\chi^2(2) = 6.06, p = .05$	$\chi^2(1) = 7.78, p < .01$
Likelihood of forming close UCM friendships	--	78% likely; 2 categories	$\chi^2(2) = .87, p = .65$	$\chi^2(1) = .02, p = .88$
Likelihood of forming close UCM friendships with diverse others	--	80% likely; 2 categories	$\chi^2(2) = .45, p = .80$	$\chi^2(1) = .05, p = .82$
Resource use: Disability Services	--	6%% yes	$\chi^2(2) = 10.16, p < .01$	$\chi^2(1) = 2.16, p = .14$
Resource use: Library Services	--	83% yes	$\chi^2(2) = 9.29, p = .01$	$\chi^2(1) = .41, p = .52$
Resource use: Guardian Scholars	--	5% yes	$\chi^2(2) = 6.39, p < .05$	$\chi^2(1) = .48, p = .49$
Habits: engaging in effective study skills	9 items; $\alpha = .86$	3.47 (.68); 1-5 scale	$F(2, 940) = 17.09, p < .001, \eta^2_p = .04$	$F(1, 947) = 12.30, p < .001, \eta^2_p = .01$
Habits: engaging in healthy behaviors	4 items; $\alpha = .80$	2.80 (.91); 1-5 scale	$F(2, 943) = 5.24, p < .01, \eta^2_p = .01$	$F(1, 951) = 4.25, p < .04, \eta^2_p = .004$
Habits: engaging in extra/co-curricular activities	4 items; $\alpha = .72$	2.70 (.95); 1-5 scale	$F(2, 943) = .15, p = .86, \eta^2_p = .00$	$F(1, 951) = 2.34, p = .13, \eta^2_p = .002$
Habits: preparing for and attending classes	3 items; $\alpha = .68$	87% frequent; 2 categories*	$\chi^2(2) = 24.61, p < .001$	$\chi^2(1) = 16.97, p < .001$
Habits: engaging in scheduling activities	2 items; $r(951) = .62, p < .001$	3.47 (1.03); 1-5 scale	$F(2, 943) = 14.95, p < .001, \eta^2_p = .03$	$F(1, 951) = 6.10, p < .02, \eta^2_p = .01$
Obstacles: adjustment/fit	5 items; $\alpha = .81$	2.41 (.93); 1-5 scale	$F(2, 916) = 3.46, p < .04, \eta^2_p = .01$	$F(1, 924) = 10.27, p < .001, \eta^2_p = .01$
Obstacles: academic preparation/environment	7 items; $\alpha = .81$	2.60 (.77); 1-5 scale	$F(2, 911) = 22.30, p < .001, \eta^2_p = .05$	$F(1, 921) = 16.89, p < .001, \eta^2_p = .02$
Obstacles: expenses/transportation	5 items; $\alpha = .73$	5% frequent; 2 categories*	$\chi^2(2) = .15, p = .93$	$\chi^2(1) = .50, p = .48$
Obstacles: competing responsibility	4 items; $\alpha = .73$	3% frequent; 2 categories*	$\chi^2(2) = 6.13, p < .05$	$\chi^2(1) = 16.80, p < .001$
Obstacles: coping with expectations	2 items; $r(922) = .66, p < .001$	2.47 (1.12); 1-5 scale	$F(2, 916) = 6.67, p = .001, \eta^2_p = .01$	$F(1, 924) = 9.93, p < .01, \eta^2_p = .01$

Obstacles: weak spoken English/writing skills	2 items; $r(922) = .60, p < .001$	6% frequent; 2 categories*	$X^2(2) = 1.00, p = .60$	$X^2(1) = .97, p = .32$
Overall high number of frequent obstacles reported	25 items; $\alpha = .90$	46% ≥ 4 frequent obstacles; 2 categories*	$X^2(2) = 17.34, p < .001$	$X^2(1) = 14.67, p < .001$
WOW attendance	--	70% yes	$X^2(2) = .10, p = .95$	$X^2(1) = .92, p = .34$
Attachment to UC Merced	2 items; $r(918) = .69, p < .001$	3.79 (.84); 1-5 scale	$F(2, 898) = 2.12, p = .12, \eta^2_p = .01$	$F(1, 906) = 2.83, p = .09, \eta^2_p = .003$

Note: bolded text indicates statistical significance; dashed lines denote a single item/indicator such that scale reliability was not applicable. *Note that a continuous scale was created for these items; however, it did not meet distributional assumptions of normality and so was dichotomized into frequent vs. infrequent categories for analysis.

Appendix B: Midterm Grade, Demographic/Background Factors, and their Associations with Academic Achievement and Persistence

In addition to examining associations among survey items/scales and the outcomes of interest - academic standing (defined as EOT academic standing – good standing, academic probation, or subject to academic dismissal status) and retention (defined as enrollment at UC Merced in spring 2017 – enrolled or not enrolled) - demographic and background factors were also considered. Because separate tests were performed to examine the associations between each predictor and outcome, the possibility of Type I error (i.e., false positives) is high and should be considered in interpreting the findings. These associations are described below and are summarized in [Table 3](#).

Received at least 1D/F at midterm

Because UC Merced collects midterm grades for lower division courses and because the NSS was administered after students received their midterm grade reports, we examined whether having received at least one D or F at midterm (this also includes non-passing grades for courses that don't assign a letter grade) was associated with academic standing and retention. Note that neither the sum of poor midterm grades (D, F, non-passing) nor midterm grades in particular courses could be examined. The sum did not meet the distributional assumptions of normality, as most students (58%) did not receive a poor grade at midterm, such that it could not be included in a logistic regression analysis. Midterm grades in particular courses were not examined due to large amounts of missing data – that is, students who did not take a particular course could not be included in analyses resulting in missing data for 38-88% of students in courses of interest (e.g., MATH005, CHEM001, BIO001, PSY001, WRI001, etc.).

Overall, 42% of students received at least one D or F grade at midterm. Having received at least one D/F at midterm was associated with both academic standing and retention. Students who ended the term in good standing were less likely to earn at least one D/F at midterm (29%) compared to both those placed on academic probation (92%) and those subject to academic dismissal (94%), which did not differ. Retained students (vs. not retained) were less likely to earn at least one D/F at midterm (39% vs. 87%).

Race/ethnicity

Six race/ethnicity categories were considered in analyses: International (8%), Hispanic (56%), African American (5%), Asian (19%), White (9%), and Multi-racial (3%) – Pacific Islander (N = 3) and unknown race/ethnicity (N = 6) students could not be included due to small sample sizes. Race/ethnicity was associated with academic standing, but not retention. Regarding academic standing, there were only two racial/ethnic group differences. First, regarding Hispanic students, students who ended the term in good academic standing were less likely to be Hispanic (53%) compared to those placed on academic probation (67% Hispanic); neither group differed from those subject to academic dismissal (64% Hispanic). Second, regarding Asian students, students who ended the term in good standing were more likely to be Asian (22%) compared to both those placed on academic probation (10% Asian) and subject to academic dismissal (8% Asian); the latter did not differ. Because

race/ethnicity is highly associated with both first generation status (e.g., 89% of Hispanic students and 62% of Asian students also have first generation status) and Pell grant eligibility status (e.g., 81% of Hispanic students and 66% of Asian students are also Pell grant eligible) and because differences in academic standing were only present for Hispanic and Asian students, race/ethnicity was not used in the logistic regression analyses.

On campus housing

The majority (80%) of students lived in on-campus housing (compared to off-campus), which was not associated with academic standing or retention.

Gender

Only students who self-identified as male (42%) or female (58%) were considered in the analyses due to the small number of students with unknown gender (N = 2). Gender was not associated with either academic standing or retention.

Pell eligible/low income

Student Pell Grant eligibility status (an indicator of low income status; 67% of students were Pell eligible) was not associated with either academic standing or retention.

First generation

Student first generation college student status (defined in the UC system as neither parent having earned a 4 year degree; 77% of students were first generation) was not associated with either academic standing or retention.

First language

For analyses, student first language status was comprised of three categories: English only as first language (24%), another language only as first language (38%), or English and another language (38%). First language was not associated with either academic standing or retention.

School

UC Merced has three academic schools – the School of Engineering (24%); the School of Natural Sciences (28%); and the School of Social Sciences, Humanities, and Arts (29%). Student majors were classified into their respective schools (including students with an undeclared major within a particular school); and students who were undeclared (19%) were considered part of a fourth category. School was not associated with either academic standing or retention.

Enrolled in at least 15 credits

Whether or not a student takes 15 or more credits in his/her first semester is often seen as evidence that students are on track to an on time graduation, thus we examined whether the number of credits in which a student was enrolled in the first semester – 15 or more (68%) vs. less than 15 (32%) – was associated with academic standing and retention. It was not associated with either outcome.

SAT-R total

SAT-R total scores (M = 1441; SD = 195) were used for analyses because the pattern of findings was identical for the subscores – reading, math, and writing – and because the subscores were highly correlated (r 's ranged from .47 to .70, p 's < .001) such that they could not be used as simultaneous predictors in the same logistic regression analysis. SAT-R total scores were associated with both academic standing and retention. Students who ended the term in good standing had the highest SAT-R total scores (M = 1459), followed by those subject to academic dismissal (M = 1377) and those placed on academic probation (M = 1307), which also differed. Retained students (vs. not retained) had higher SAT-R total scores (M = 1441 vs. M = 1372).

High School GPA

High School (HS) GPA (M = 3.52; SD = .31) was associated with both academic standing and retention. Students who ended the term in good standing higher HS GPAs (M = 3.55) compared to those placed on academic probation (M = 3.45) and those subject to academic dismissal (M = 3.42); the latter did not differ. Retained students (vs. not retained) had higher HS GPAs (M = 3.53 vs. M = 3.44).

AWPE score

The UC Analytical Writing Placement Exam (AWPE) is taken by students admitted to a UC campus who have not satisfied the Entry Level Writing Requirement. Because no student can receive a score of 7, scores were recoded such that the scale was continuous – for this analysis scores ranged from 2-9 (M = 5.95, SD = 1.13) rather than 2-10 without the recode (that is, 1 was subtracted from scores of 8 or higher). Note that because not all students must take the AWPE exam, 22% of students in this sample had missing data. AWPE scores were associated with academic standing but not retention. Students who ended the term in good standing (M = 6.04) and those subject to academic dismissal (M = 6.04) had similar scores but both had higher scores than those placed on academic probation (M = 5.66). However, due to the large amount of missing data, AWPE scores were not used in the logistic regression analysis.

Summary

[Table 1](#) and [Table 3](#) summarize the midterm grade and demographic/background factors that were associated with the outcomes of interest. Regarding the analytic approach, for categorical variables, a non-parametric Chi-squared analysis was performed; otherwise a univariate ANOVA

was performed. For the ANOVA analyses, respondents with standardized residuals greater than +/-3 were considered outliers and were removed. Though some associations between survey responses and academic standing and retention were significant, most effect sizes were quite small. Additionally, because so many comparisons were performed, the possibility of false positives (Type I error) was high.

Table 3: Summary of Midterm Grade and Demographic/Background Factor Associations with Academic Standing and Retention

Midterm and Demographic/Background Factors	Relationship with EOT Academic Standing	Relationship with Retention to Spring 2017
Received at least 1D/F at midterm ^a	$\chi^2(2) = 266.43, p < .001$	$\chi^2(1) = 56.51, p < .001$
Race/ethnicity	$\chi^2(10) = 22.03, p < .02$	$\chi^2(5) = 10.78, p = .06$
On campus housing	$\chi^2(2) = 1.81, p = .41$	$\chi^2(1) = .25, p = .62$
Gender	$\chi^2(2) = 2.39, p = .30$	$\chi^2(1) = .05, p = .83$
Pell Eligible/Low Income	$\chi^2(2) = 5.77, p = .06$	$\chi^2(1) = 3.72, p = .05$
First Generation	$\chi^2(2) = 5.06, p = .08$	$\chi^2(1) = 1.02, p = .31$
First Language	$\chi^2(4) = 2.55, p = .64$	$\chi^2(2) = .79, p = .67$
School	$\chi^2(6) = 10.44, p = .11$	$\chi^2(3) = 5.76, p = .12$
Enrolled in at least 15 credits	$\chi^2(2) = 2.19, p = .34$	$\chi^2(1) = .01, p = .94$
SAT-R total ^b	$F(2, 880) = 33.52, p < .001, \eta^2_p = .07$	$F(1, 889) = 7.12, p < .01, \eta^2_p = .01$
High School GPA	$F(2, 980) = 10.42, p < .001, \eta^2_p = .02$	$F(1, 989) = 4.93, p < .03, \eta^2_p = .01$
AWPE score ^a	$F(2, 757) = 5.69, p < .01, \eta^2_p = .02$	$F(1, 758) = .94, p = .33, \eta^2_p = .001$

Note: dashed lines indicate no association. ^aMidterm grades in specific courses (e.g., Math005) could not be examined because between 38-96% of students didn't take the courses of interest, resulting in a large amount of missing data. For the same reason, AWPE scores (22% missing) could not be used. ^bThe same pattern was found for the math, reading, and writing subscores, thus the total score was used in analyses.

Appendix C: Results of Regression Analyses Predicting Academic Standing and Retention

The predictors differed for Academic Standing ([Table 4a](#) and [Table 4b](#)) and Retention ([Table 5](#)) because only variables that were (a) significantly associated with a respective outcome at the bivariate level (see bolded predictors in [Table 1](#) and [Table 2](#)) and (b) not multicollinear (i.e., highly correlated) with other predictors of that outcome were included in each model. Note also that this modelling approach excludes respondents who have missing data for any of the predictor variables (i.e., listwise deletion), and those who were outliers for a particular analysis (standardized residuals greater than -3 and less than +3) were also removed. The note below each table provides information about the sample size for each analysis, including the extent to which respondents were removed due to missing data. The note also contains the R^2 values, which indicate the proportion of variance in the outcome explained by the predictors included in the model – higher values indicate that the set of predictors included in the model do a good job of explaining student outcomes.

Table 4a. Final Logistic Regression Model Predicting Academic Standing – Model 1: Good Standing vs. Academic Probation

Block 1: Demographic/Background Variables	Odds Ratio and Significance
SAT-R total	1.00, $p < .001$
High School GPA	.74, $p = .58$
Block 2: Midterm Grade and Survey Variables	
Received at least 1D/F at midterm	52.06, $p < .001$
Expected final course grades C's or lower	4.31, $p < .001$
Likelihood of participating in faculty research	.94, $p = .71$
Resource use: Library Services	.45, $p < .04$
Habits: Engaging in effective study skills	1.27, $p = .39$
Habits: engaging in healthy behaviors	1.18, $p = .70$
Habits: preparing for and attending classes	.65, $p = .34$
Habits: Engaging in scheduling activities	.82, $p = .27$
Obstacles: Academic Preparation/environment obstacles	.72, $p = .15$
Obstacles: coping with expectations	1.24, $p = .13$

Note: bolded text indicates predictors that attained statistical significance – these predictors accounted for $R^2 = 25$ -51% of the variance in academic standing (good standing vs. academic probation). For this analysis, 23% ($n = 230$) of respondents were excluded due to missing data and 1% ($n = 6$) were removed due to being an outlier, such that 76% ($n = 755$) of the total sample was included in the analysis.

Table 4b. Final Logistic Regression Model Predicting Academic Standing – Model 1: Good Standing vs. Subject to Academic Dismissal

Block 1: Demographic/Background Variables	Odds Ratio and Significance
-------------------------------------------	-----------------------------

	SAT-R total	1.00, p = .72
	High School GPA	.824, p = .812
Block 2: Midterm Grade and Survey Variables		
	Received at least 1D/F at midterm	93.84, p < .001
	Academic Self-Efficacy	1.51, p = .45
	Expected final course grades C's or lower	16.72, p < .001
	Satisfaction with expected GPA	.52, p < .02
	Likelihood of changing major	2.57, p = .04
	Likelihood of taking summer courses	1.56, p < .03
	Resource use: Disability Services	2.55, p = .22
	Resource use: Guardian Scholars	2.62, p = .21
	Habits: Engaging in effective study skills	1.81, p = .18
	Habits: engaging in healthy behaviors	1.18, p = .57
	Habits: preparing for and attending classes	.32, p = .05
	Habits: Engaging in scheduling activities	.44, p < .01
	Obstacles: adjustment/fit	.65, p = .13
	Obstacles: Academic Preparation/environment obstacles	1.02, p = .95
	Obstacles: competing responsibilities	5.36, p = .10
	Obstacles: coping with expectations	1.19, p = .44

Note: bolded text indicates predictors that attained statistical significance – these predictors accounted for $R^2 = 28-66\%$ of the variance in academic standing (good standing vs. subject to academic dismissal). For this analysis, 26% (n = 259) of respondents were excluded due to missing data and 1% (n = 6) were removed due to being an outlier, such that 73% (n = 726) of the total sample was included in the analysis.

Table 5. Final Logistic Regression Model Predicting Retention – Model 1: Good Standing vs. Retention to Spring 2017

Block 1: Demographic/Background Variables	Odds Ratio and Significance	
	SAT-R total	1.00, p = .88
	High School GPA	1.46, p = .57
Block 2: Midterm Grade and Survey Variables		
	Received at least 1D/F at midterm	.10, p < .001
	Academic Self-Efficacy	1.07, p = .85
	Expected final course grades C's or lower	.30, p < .01
	Satisfaction with expected GPA	1.21, p = .36
	Likelihood of changing major	.73, p = .41

Likelihood of taking summer courses	.78, p = .12
Likelihood of leaving UCM at end of semester	.37, p < .02
Habits: Engaging in effective study skills	.91, p = .77
Habits: engaging in healthy behaviors	.90, p = .65
Habits: preparing for and attending classes	1.13, p = .79
Habits: Engaging in scheduling activities	1.52, p = .05
Obstacles: adjustment/fit	1.21, p = .42
Obstacles: Academic Preparation/environment obstacles	1.17, p = .62
Obstacles: competing responsibilities	.45, p = .30
Obstacles: coping with expectations	.71, p = .06

Note: bolded text indicates predictors that attained statistical significance – these predictors accounted for $R^2 = 12-35\%$ of the variance in retention (retained to spring 2017 vs. not retained). For this analysis, 16% (n = 161) of respondents were excluded due to missing data and <1% (n = 3) were removed due to being an outlier, such that 83% (n = 827) of the total sample was included in the analysis.