

What do 2014 New Student Survey Responses Tell Us about Academic Achievement and Persistence?

Prepared by Institutional Research and Decision Support, Fall 2015

Executive Summary:

The goal of this analysis was to determine whether student background/demographic factors, midterm grades, and fall 2014 New Student Survey (NSS) responses were related to first semester academic achievement (defined as GPA earned during the students' first fall semester) and persistence (defined as enrollment at UC Merced the following spring). Table 1 summarizes the findings. Bold text indicates relationships that remained robust when all variables were included in the same regression analyses and so likely represent the most promising risk factors and/or targets for intervention.

For example, students who indicated a greater likelihood of leaving UCM (Plans to leave UCM) tended to have lower first semester academic achievement and lower persistence to spring. However, when all variables were included in the same analysis, plans to leave was only robustly associated with persistence, suggesting that student plans to leave is a good predictor of whether or not they actually leave but is likely not the best predictor of first semester academic achievement.

Table 1. 2014 NSS Analysis Summary: Variables Related to Academic Achievement and Persistence

| Demographic/Background Factors | Relationship with First Fall Semester Academic Achievement | Relationship with Persistence to Spring |
|---|--|---|
| Gender | Men > Women | -- |
| Pell Eligible/Low Income | Non Pell > Pell | -- |
| First Generation | Non first gen > First gen | -- |
| SAT-R total | Higher Achievement | Higher Persistence |
| High School GPA | Higher Achievement | Higher Persistence |
| Poor midterm grade^a | Lower Achievement | Lower Persistence |
| Survey Scale/Items | | |
| Feeling connected to UCM | -- | Higher Persistence |
| Academic self-efficacy | Higher Achievement | Higher Persistence |
| Plans to leave UCM | Lower Achievement | Lower Persistence |
| Likelihood of to getting involved at UCM | -- | Higher Persistence |
| Likelihood of changing majors/careers at UCM | Lower Achievement | -- |
| Resource use: visited instructor or TA | Higher Achievement | -- |
| Resource use: attended workshops | Lower Achievement | -- |
| Resource use: visited CAPS | Lower Achievement | Lower Persistence |
| Resource use: visited Students First Center | Lower Achievement | -- |
| Habits: engaging in effective study skills | Higher Achievement | Higher Persistence |
| Habits: engaging in healthy behaviors | Higher Achievement | Higher Persistence |
| Habits: engaging in extracurricular activities | Higher Achievement | Higher Persistence |
| Habits: preparing for and attending classes | Higher Achievement | Higher Persistence |
| Obstacles: adjustment/fit | Lower Achievement | Lower Persistence |
| Obstacles: academic preparation/environment | Lower Achievement | Lower Persistence |
| Obstacles: competing responsibility | Lower Achievement | -- |
| Obstacles: coping with expectations | Lower Achievement | -- |
| WOW attendance | Higher Achievement | -- |

Note: dashed lines indicate no relationship; bolded text indicates variables that were robustly associated with the outcomes when all variables were included in the same analyses. These variables accounted for 54% of the variance in academic achievement and 16% of the variance in persistence. ^a defined as receiving at least one D or F grade at midterm.

Overview of Survey Administration and Dataset:

The 2014 New Student Survey (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 593 respondents (36% response rate). Transfer students (9%; n = 56) were not included in analyses because midterm grade reports are not collected for transfer students, which left a working dataset comprised of 537 entering freshmen, referred to as “respondents” from here on. Survey responses were merged with (a) data on midterm grades¹, (b) fall 2014 academic achievement (end of term GPA), and (c) persistence to spring of 2015 (enrollment) data.

Research Question:

Which responses to survey questions and/or midterm grade information were the best predictors of (a) academic achievement at the end of the first fall semester and (b) persistence/retention into the spring semester after accounting for student background/demographics? Survey 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.

Best Predictors of Academic Achievement and Persistence

All background/demographic variables, midterm grades, and survey responses significantly associated with fall semester academic success or spring persistence at the bivariate level (summarized in Tables 4 and 5 in Appendix A and Table 6 in Appendix B) were included in analyses to predict each outcome. Including all predictors in the same analysis for a given outcome improves on examining bivariate associations because it allows one to determine the best predictors of that outcome.

For each outcome, all predictors were first correlated to examine potential multicollinearity issues. Retained variables were then included in a stepwise regression equation with demographic/background variables in Block 1 and midterm grade and survey variables in Block 2. Block 2 results revealed which midterm grade and survey response variables were significantly associated with each outcome after accounting for the background\demographic variables.

Outcome: Academic Achievement (Fall 2014 GPA):

Linear regression analysis determined which midterm grade and survey response variables were most robustly associated with first semester academic achievement after accounting for background/demographic variables. 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, with the final model accounting for 54% of the variance in first semester

¹ Data provided by Elizabeth Boretz. Poor midterm grade was defined as receiving at least one D or F grade at midterm.

academic success². Table 2 summarizes the final model; bold text indicates the significant predictors of academic achievement. Refer to Appendix C, Table 7 for the linear regression coefficients.

Table 2: Summary of Academic Achievement Predictors

| Block 1: Demographic/Background Variables | Relationship with First Fall Semester Academic Achievement |
|---|--|
| Gender | -- |
| Pell Eligible/Low Income | -- |
| First Generation | -- |
| SAT-R total | Higher Achievement |
| High School GPA | Higher Achievement |
| Block 2: Midterm Grade and Survey Variables | |
| Poor midterm grade | Lower Achievement |
| Academic self-efficacy | -- |
| <i>Plans to leave UCM</i> | Lower Achievement |
| Likelihood of changing majors/careers at UCM | -- |
| Resource use: visited instructor or TA | -- |
| Resource use: attended workshops | -- |
| Resource use: visited CAPS | -- |
| Resource use: visited Students First Center | Lower Achievement |
| <i>Habits: engaging in effective study skills</i> | Higher Achievement |
| Habits: engaging in healthy behaviors | -- |
| <i>Habits: engaging in extracurricular activities</i> | Higher Achievement |
| Habits: preparing for and attending classes | Higher Achievement |
| Obstacles: adjustment/fit | -- |
| Obstacles: academic preparation/environment | Lower Achievement |
| Obstacles: competing responsibility | -- |
| Obstacles: coping with expectations | -- |
| WOW attendance | -- |

Note: bolded text indicates predictors that attained statistical significance; italicized text indicates predictors that approached statistical significance

Outcome: Persistence (Spring 2015 Enrollment):

Logistic regression analysis determined which midterm grade and survey response variables were most robustly associated with persistence. The Block 1 and Block 2 models were significant, and adding the survey predictors to the model in Block 2 accounted for an increase in the predictive power of the model, with the final model accounting for 16% of the variance in persistence³. It is possible that this model accounted for less variance in persistence compared to the variance accounted for in academic achievement because so few students in this sample (n = 26) were not retained from fall to spring. Table 10 shows a summary of the relationships in the final model, with bold text to indicate the significant predictors of persistence. Refer to Appendix C, Table 8 for the logistic regression odds ratios.

² Block 1 $F(5, 413) = 26.09, p < .001, R^2 = .23$; Block 2 $F(22, 396) = 23.28, p < .001, R^2 = .54$; Block R^2 change = .32, $F(17, 396) = 17.30, p < .001$.

³ Block 1 $\chi^2(2) = 13.79, p < .001, \text{Cox \& Snell } R^2 = .03$; Block 2 $\chi^2(14) = 72.65, p < .001, \text{Cox \& Snell } R^2 = .16$.

Table 3. Summary of Persistence (Spring 2015 Enrollment) Predictors

| Block 1: Demographic/Background Variables | Relationship with Persistence to Spring |
|---|---|
| SAT-R total | -- |
| High School GPA | Higher Persistence |
| Block 2: Midterm Grade and Survey Variables | |
| Poor midterm grade | Lower Persistence |
| Feel connected with UCM | -- |
| Academic self-efficacy | Higher Persistence |
| Plans to leave UCM | Lower Persistence |
| Likelihood of getting involved at UCM | -- |
| Resource use: visited CAPS | -- |
| Habits: engaging in effective study skills | -- |
| Habits: engaging in healthy behaviors | -- |
| Habits: engaging in extracurricular activities | Higher Persistence |
| Habits: preparing for and attending classes | -- |
| Obstacles: adjustment/fit | -- |
| Obstacles: academic preparation/environment | -- |

Note: bolded text indicates predictors that attained statistical significance.

Summary:

What factors best predicted first semester academic achievement?

- Students with higher **high school GPAs** and **SAT scores** had higher first term GPAs at UC Merced.
- Students who received **at least one D or F grade at midterm** had lower first term GPAs.
- Students who **visited the Students First Center** had lower GPAs. This is likely because students who struggle the most academically consult with staff at the SFC to help them locate resources and support.
- Students who spent more time **preparing for and attending classes** (e.g., read prior to class; turned in assignments on time) had higher GPAs.
- Students who perceived they were **not well prepared for college** (e.g., had poor study skills; had difficulty adjusting to college-level work) had lower GPAs.

What factors best predicted persistence?

- Students with higher **high school GPAs** were more likely to return in spring.
- Students who received **at least one D or F grade at midterm** were less likely to return in spring.
- Students with higher **academic self-efficacy** (i.e., beliefs they can succeed academically and overcome obstacles) were more likely to return in spring.
- Students who said they had **plans to leave UC Merced** (e.g., transfer before graduating) were less likely to return in spring.
- Students who more often engaged in **extracurricular activities** (e.g., participated in major/academic-related clubs, organizations, or activities; spent time with peers who supported academic success) were more likely to return in spring.

Limitations and Conclusions

This analysis has an important limitation - only 35% of new freshmen responded to the survey. While the sample tended to be demographically representative (e.g., first-generation status, race, etc.), females and higher achieving students were more likely to complete the survey, indicating that the results may best apply to these groups.

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** enabled more consistent predictions of both first semester academic achievement and persistence into the second semester than the survey responses about **academic self-efficacy, engagement in extracurricular activities, preparing for and attending class**, perceived **lack of preparation** for college, **plans to leave UCM**, or **use of the Students First Center**, although these survey responses were associated with either academic achievement or persistence.

Appendix A: Survey Scales/Items and their Associations with Academic Achievement and Persistence

Each survey item and scale is described below in addition to their bivariate associations with academic achievement (defined as GPA earned during the students' first fall semester) and persistence (defined as enrollment at UC Merced the following spring). Tables 4 and 5 below summarize these associations.

Feeling Connected to UC Merced

Students who said they felt more connected with UC Merced on a 1 (*very disconnected*) to 4 (*very connected*) scale were more likely to persist but were no more or less likely to achieve a high GPA.

Academic Self-Efficacy

Students responded to 7 items (below) about their academic self-efficacy (e.g., how sure are you that you can succeed academically at UC Merced) 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. The higher a student's academic self-efficacy, the higher his/her GPA and the more likely s/he was to persist.

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)

Plans to Leave UC Merced, Get Involved, and Changing Majors/Careers at UCM

Students indicated "how likely are you to" engage in several behaviors on a 1 (*very unlikely*) to 5 (*very likely*) scale.

Plans to Leave

Students responded to 3 items (below) about their plans to leave UCM (e.g., how likely are you to leave UCM at the end of this semester), which were averaged such that higher scores indicated a greater likelihood of leaving. Students tended to say they were "somewhat" to "very unlikely" to leave. The more likely students were to say they might leave, the lower their GPA and the less likely they were to persist.

1. Transfer to another college before graduating
2. Leave UC Merced at the end of this semester
3. Leave UC Merced at the end of this academic year

Plans to Get Involved

Students responded to 2 items (below) about their plans to get involved in research or an internship at UCM, which were averaged such that higher scores indicated a greater likelihood of getting involved. Students tended to say they were “unsure” to “somewhat likely” to get involved. The likelihood of getting involved was not associated with GPA, but the more likely students were to say they would get involved, the more likely they were to persist.

1. Participate in research activities with a faculty member at UC Merced
2. Participate in an internship at UC Merced

Plans to Change Majors/Careers

Students responded to 2 items (below) about their likelihood of changing majors or careers at UCM, which were averaged such that higher scores indicated a greater likelihood of changing majors/careers. Students tended to say they were “unsure” to “somewhat unlikely” to change majors/careers. The likelihood of changing majors/careers was not associated with persistence, but the more likely students were to say they would change majors/careers, the lower their GPA.

1. Change your major at UC Merced
2. Change your choice of career while at UC Merced

Use of Campus Resources

Students responded to 17 items (below) about the frequency of their use of campus resources. Neither the total number of unique resources used nor how often resources were used was associated with GPA or persistence. When use of individual resources (*yes or no*) was examined, 4 were associated with outcomes of interest. Having **visited an instructor or teaching assistant** was positively associated with GPA, with 88% having done so. The items that were negatively associated with GPA were: having **attended workshops** (72% did so), **visited Counseling and Psychology Services (CAPS)** (12% did so), or **visited the Students First Center** (60% did so). Having used CAPS was negatively associated with persistence. It is likely that students who are struggling academically or in general are most likely to attend workshops, visit CAPS, or visit the Students First Center. Additionally, all significant associations were very small such that they may not be meaningful.

1. Instructor or teaching assistant (office hour, appointment, etc.)
2. Workshops (study skills, time management, writing)
3. Free tutoring (courses, writing)
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

Academic and Personal 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 with higher scores indicating that higher engagement in the behaviors in that category. **Engaging in effective study skills** (e.g., avoided distractions during study sessions), which students typically reported doing “occasionally” to “frequently,” was positively associated with GPA and persistence. **Engaging in healthy behaviors** (e.g., followed a regular sleep schedule), which students typically reported doing “rarely” to “occasionally,” was positively associated with GPA and persistence. **Engaging in extracurricular activities** (e.g., participated in major/academic-related clubs, organizations, or activities), which students typically reported doing “rarely” to “occasionally,” was positively associated with GPA and persistence. **Preparing for and attending classes** (e.g., turned in course assignments on time), which students typically reported doing “frequently” to “all the time,” was positively associated with GPA and persistence. However, **engaging in scheduling activities** (e.g., made a weekly schedule, including weekends, to help manage my time), which students typically reported doing “occasionally” to “frequently,” was not associated with GPA or persistence. Though largely significant, the magnitudes of these associations were quite small.

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

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

Engaging in extracurricular 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

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)

Engaging in scheduling activities

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

Academic Obstacles and Barriers

Students indicated how often 23 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. **Adjustment/fit obstacles** (e.g., feeling out of place or like you just don't fit on campus) were negatively associated with GPA and persistence. **Academic preparation/environment obstacles** (e.g., inadequate study skills) were negatively associated with GPA and persistence. **Competing responsibility obstacles** (e.g., other competing responsibilities, e.g., athletics, clubs, internship) were negatively associated with GPA but not persistence. **Coping with expectations obstacles** (e.g., being able to cope with expectations of parents and family) were associated with GPA but not with persistence. Finally, **expenses/transportation obstacles** (e.g., finding affordable student housing) and **weak spoken English/writing skills obstacles** (e.g., weak writing skills) were not associated with either GPA or persistence. On average, students reported experiencing these obstacles "rarely" to "occasionally," with the exception of weak spoken English/writing skills obstacles, which were experienced "not at all" to "rarely." Though there were many significant associations, the magnitude of these associations tended to be quite small.

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"

Academic preparation/environment obstacles

6. Inadequate study skills (e.g., knowing how to start, how to get help, organize material)
7. Poor 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. Bad study environment (e.g., noisy roommate, poor Internet access, inadequate computer/software)
10. Poor library research skills
11. Weak math skills
12. Infrequent/poor quality feedback from instructors

Expenses/transportation obstacles

13. Finding affordable housing while a student at UC Merced
14. Paying for expenses
15. Transportation or parking issues

Competing responsibility obstacles

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

Coping with expectations obstacles

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

Weak spoken English/writing skills obstacles

22. Weak writing skills
23. Weak spoken English skills

Attendance of Student Affairs Programs

Because Summer Orientation and ASCEND conference attendance were mandatory, with 91% and 94% of respondents, respectively, reporting they attended, attendance could not be used as a predictor in analyses. However, only 60% of students reported that they **attended at least one Weeks of Welcome (WOW) Event** such that attendance could be examined. WOW attendance was positively associated with GPA but was not associated with persistence.

Summary

Table 4 summarizes the midterm grade and survey items/scales that were associated with the outcomes of interest. Though many associations between survey responses and academic achievement and persistence were significant, most were quite small. Refer to Table 5 for reliability and descriptive information about the scales/items and results of all bivariate correlation analyses.

Table 4: Summary of NSS Response and Midterm Grade Associations with Academic Achievement and Persistence

| | Relationship with First Fall Semester Academic Achievement | Relationship with Persistence to Spring |
|--|--|--|
| Poor midterm grade ^a | Lower Achievement | Lower Persistence |
| Survey Scale/Items | | |
| Feeling connected to UCM | -- | Higher Persistence |
| Academic self-efficacy | Higher Achievement | Higher Persistence |
| Plans to leave UCM | Lower Achievement | Lower Persistence |
| Likelihood of to getting involved at UCM | -- | Higher Persistence |
| Likelihood of changing majors/careers at UCM | Lower Achievement | -- |

| | | |
|--|--------------------|--------------------|
| Resource use: visited instructor or TA | Higher Achievement | -- |
| Resource use: attended workshops | Lower Achievement | -- |
| Resource use: visited CAPS | Lower Achievement | Lower Persistence |
| Resource use: visited Students First Center | Lower Achievement | -- |
| Habits: engaging in effective study skills | Higher Achievement | Higher Persistence |
| Habits: engaging in healthy behaviors | Higher Achievement | Higher Persistence |
| Habits: engaging in extracurricular activities | Higher Achievement | Higher Persistence |
| Habits: preparing for and attending classes | Higher Achievement | Higher Persistence |
| Obstacles: adjustment/fit | Lower Achievement | Lower Persistence |
| Obstacles: academic preparation/environment | Lower Achievement | Lower Persistence |
| Obstacles: competing responsibility | Lower Achievement | -- |
| Obstacles: coping with expectations | Lower Achievement | -- |
| WOW attendance | Higher Achievement | -- |

Note: dashed lines indicate no relationship. ^a defined as receiving at least one D or F grade at midterm.

Table 5. Midterm Grade and NSS Scale Reliabilities, Descriptive Information, and Results of Bivariate Correlation Analyses

| | Scale Reliability | Percentage OR Average (SD) & Scale | Relationship with First Fall Semester Academic Achievement | Relationship with Persistence to Spring |
|--|---------------------------------|------------------------------------|--|---|
| Poor midterm grade ^a | -- | 40.4% yes | r(535) = -.58, p < .001 | r(535) = -.21, p < .001 |
| Survey Scale/Items | | | | |
| Feeling connected to UCM | -- | 2.86 (.66) 1-4 scale | r(534) = .04, p = .33 | r(534) = .16, p < .001 |
| Academic self-efficacy | 7 items; $\alpha = .90$ | 3.27 (.58) 1-4 scale | r(525) = .27, p < .001 | r(525) = .26, p < .001 |
| Plans to leave UCM | 3 items; $\alpha = .77$ | 1.87 (.89) 1-5 scale | r(522) = -.15, p = .001 | r(522) = -.27, p < .001 |
| Likelihood of to getting involved at UCM | 2 items; r(522) = .65, p < .001 | 3.76 (.89) 1-5 scale | r(522) = .08, p = .085 | r(522) = .17, p < .001 |
| Likelihood of changing majors/careers at UCM | 2 items; r(521) = .71, p < .001 | 2.69 (1.27) 1-5 scale | r(522) = -.12, p < .01 | r(522) = -.07, p = .11 |
| Resource use: visited instructor or TA | -- | 88.1% yes | r(510) = .10, p < .02 | r(510) = .08, p = .09 |
| Resource use: attended workshops | -- | 72.2% yes | r(508) = -.09, p < .05 | r(508) = -.07, p = .12 |
| Resource use: visited CAPS | -- | 12.4% yes | r(507) = -.12, p < .01 | r(507) = -.10, p < .03 |
| Resource use: visited Students First Center | -- | 59.8% yes | r(505) = -.14, p = .001 | r(505) = -.07, p = .12 |
| Habits: engaging in effective study skills | 9 items; $\alpha = .87$ | 3.50 (.73) 1-5 scale | r(500) = .22, p < .001 | r(500) = .09, p < .05 |
| Habits: engaging in healthy behaviors | 4 items; $\alpha = .78$ | 2.84 (.89) 1-5 scale | r(499) = .12, p < .01 | r(499) = .10, p < .03 |

| | | | | |
|--|--------------------------------------|--------------------------|---|---|
| Habits: engaging in extracurricular activities | 4 items; $\alpha = .71$ | 2.79 (.98) 1-5 scale | $r(500) = .12$, $p < .01$ | $r(500) = .12$, $p < .01$ |
| Habits: preparing for and attending classes | 3 items; $\alpha = .68$ | 4.41 (.52) 1-5 scale | $r(500) = .29$, $p < .001$ | $r(500) = .19$, $p < .001$ |
| Habits: engaging in scheduling activities | 2 items; $r(499) = .62$, $p < .001$ | 3.46 (1.11) 1-5 scale | $r(500) = .06$, $p = .22$ | $r(500) = .06$, $p = .22$ |
| Obstacles: adjustment/fit | 5 items; $\alpha = .83$ | 2.54 (1.02) 1-5 scale | $r(479) = -.15$, $p = .001$ | $r(479) = -.16$, $p < .001$ |
| Obstacles: academic preparation/environment | 7 items; $\alpha = .79$ | 2.62 (.77) 1-5 scale | $r(480) = -.32$, $p < .001$ | $r(480) = -.12$, $p < .02$ |
| Obstacles: expenses/transportation | 3 items; $\alpha = .76$ | 2.32 (1.11) 1-5 scale | $r(479) = -.04$, $p = .44$ | $r(479) = -.06$, $p = .18$ |
| Obstacles: competing responsibility | 4 items; $\alpha = .74$ | 2.05 (.86) 1-5 scale | $r(479) = -.13$, $p < .01$ | $r(479) = -.07$, $p = .11$ |
| Obstacles: coping with expectations | 2 items; $r(478) = .73$, $p < .001$ | 2.54 (1.21) 1-5 scale | $r(479) = -.17$, $p < .001$ | $r(479) = -.08$, $p = .07$ |
| Obstacles: weak spoken English/writing skills | 2 items; $r(479) = .51$, $p < .001$ | 1.97 (.99) 1-5 scale | $r(479) = -.06$, $p = .19$ | $r(479) = -.02$, $p = .64$ |
| WOW attendance | -- | 60.3% yes | $r(479) = .11$, $p < .03$ | $r(479) = .01$, $p = .84$ |

Note: bolded text indicates statistical significance; dashed lines denote a single item/indicator such that scale reliability was not applicable. ^a defined as receiving at least one D or F grade at midterm (0 = no, 1 = yes).

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

In addition to examining associations among survey items/scales and these outcomes, demographic and background factors were also considered and are shown in Table 7.

Table 6: Summary of Demographic/Background Factor Associations with Academic Achievement and Persistence

| Demographic/Background Factors | Relationship with First Fall Semester Academic Achievement | Relationship with Persistence to Spring |
|---------------------------------|--|---|
| On or off-campus housing | -- | -- |
| Gender | Men > Women | -- |
| Pell Eligible/Low Income | Non Pell > Pell | -- |
| First Generation | Non first gen > First gen | -- |
| English Only as first language | -- | -- |
| Enrolled in at least 15 credits | -- | -- |
| SAT-R total | Higher Achievement | Higher Persistence |
| High School GPA | Higher Achievement | Higher Persistence |
| AWPE score | -- | -- |

Note: dashed lines indicate no association. Race/ethnicity and School were also examined and were associated with achievement only; but due to multiple categories and varying category sizes they could not easily be presented in the table or included in regression analyses.

Appendix C: Results of Regression Analyses Predicting Academic Achievement and Persistence

The predictors differed for Academic Achievement (Table 7) and Persistence (Table 8) because only variables that were (a) significantly associated with a respective outcome and (b) not multicollinear with other predictors of that outcome were included in each model.

Table 7. Final Linear Regression Model Predicting Academic Achievement (Fall 2014 GPA)

| Block 1: Demographic/Background Variables | Regression Coefficient and Significance |
|---|---|
| Gender | B = .06, p = .10 |
| Pell Eligible/Low Income | B = .01, p = .79 |
| First Generation | B = -.003, p = .94 |
| SAT-R total | B = .19, p < .001 |
| High School GPA | B = .19, p < .001 |
| Block 2: Midterm Grade and Survey Variables | |
| Poor midterm grade^a | B = -.49, p < .001 |
| Academic self-efficacy | B = .03, p = .39 |
| <i>Plans to leave UCM</i> | B = -.07, p = .07 |
| Likelihood of changing majors/careers at UCM | B = -.02, p = .55 |
| Resource use: visited instructor or TA | B = .02, p = .50 |
| Resource use: attended workshops | B = .04, p = .26 |
| Resource use: visited CAPS | B = -.06, p = .11 |
| Resource use: visited Students First Center | B = -.07, p = .05 |
| <i>Habits: engaging in effective study skills</i> | B = .08, p = .09 |
| Habits: engaging in healthy behaviors | B = -.05, p = .21 |
| <i>Habits: engaging in extracurricular activities</i> | B = .07, p = .07 |
| Habits: preparing for and attending classes | B = .16, p < .001 |
| Obstacles: adjustment/fit | B = .05, p = .28 |
| Obstacles: academic preparation/environment | B = -.09, p = .06 |
| Obstacles: competing responsibility | B = .03, p = .47 |
| Obstacles: coping with expectations | B = .002, p = .95 |
| WOW attendance | B = .04, p = .22 |

Note: bolded text indicates predictors that attained statistical significance; italicized text indicates predictors that approached statistical significance; B's are standardized regression coefficients. Gender was coded such that 0 = female and 1 = male; Pell eligible was coded such that 0 = not Pell eligible and 1 = Pell eligible; First generation was coded such that 0 = not first generation and 1 = first generation. ^a defined as receiving at least one D or F grade at midterm (0 = no, 1 = yes).

Table 8. Final Logistic Regression Model Predicting Persistence (Spring 2015 Enrollment)

| Block 1: Demographic/Background Variables | Odds Ratio and Significance |
|---|-----------------------------|
| SAT-R total | 1.00, p = .57 |
| High School GPA | 18.18, p = .02 |
| Block 2: Midterm Grade and Survey Variables | |
| Poor midterm grade^a | .06, p = .01 |
| Feel connected with UCM | 1.13, p = .78 |
| Academic self-efficacy | 2.90, p = .03 |

| | |
|---|-----------------|
| Plans to leave UCM | .40, $p < .01$ |
| Likelihood of getting involved at UCM | 1.05, $p = .89$ |
| Resource use: visited CAPS | .59, $p = .55$ |
| Habits: engaging in effective study skills | .74, $p = .58$ |
| Habits: engaging in healthy behaviors | 1.18, $p = .70$ |
| Habits: engaging in extracurricular activities | 2.46, $p = .02$ |
| Habits: preparing for and attending classes | 2.47, $p = .19$ |
| Obstacles: adjustment/fit | 1.18, $p = .68$ |
| Obstacles: academic preparation/environment | 1.16, $p = .77$ |

Note: bolded text indicates predictors that attained statistical significance. ^a defined as receiving at least one D or F grade at midterm (0 = no, 1 = yes).