

**Results from the MAP-Works Survey of First-year Undergraduates: Fall 2012**

GVSU participated in the MAP-Works program for the fourth time in the Fall semester of 2012. MAP-Works is an online student retention tool administered by Educational Benchmarking (EBI). The core of MAP-Works is a questionnaire that solicits information about students’ activities, motivations, impressions, and plans. Responses are combined to assess individual students’ risk factors for attrition from college. Each student who completes the survey is immediately presented with an evaluation report that identifies areas of risk and resources that are available to the student to ameliorate that risk. In addition, response data are available online to advisors (both faculty and professional staff) with indicators of which students are at greatest risk.

MAP-Works is primarily a tool to assess individual risks and facilitate contact between the students and support systems to help them persist. Nevertheless, it also creates a pool of student data that is valuable in the aggregate for assessing the needs and capabilities of GVSU students. This report presents a summary of that information in three contexts: in comparison to previous GVSU data; in comparison with peer institutions; and in relation to selected outcome measures.

**The population and response rates:** All GVSU students who were enrolled as degree-seeking freshmen or sophomores in Fall 2012 and whose first term at GVSU was in Winter 2012 or later were invited to complete the online survey between Sep 11 and Oct 9, 2012. This corresponds to the 3<sup>rd</sup> through 6<sup>th</sup> weeks of the semester. In total, 5,216 students were invited, of whom 3,960 (76%) completed the questionnaire. The following table summarizes demographic characteristics of respondents and non-respondents:

	Response
<b>Total</b>	75.9%
<b>Sex*</b>	
Female	81.6%
Male	67.5%
<b>Ethnicity*</b>	
Black or African American	76.7%
American Indian or Alaskan Native	77.8%
Asian or Pacific Islander	66.4%
Hispanic or Latino	74.5%
White	76.4%
Not Reported	71.0%
More Than One Ethnicity	74.1%
<b>Student Origin*</b>	
FTIAC	83.5%
Transfer	45.2%
<b>Residence*</b>	
Off Campus	34.3%
On Campus	93.5%
<b>Major*</b>	
Declared and Admitted	75.7%
Pre-major	72.8%
Undeclared	81.1%

	Response
<b>College of Primary Major*</b>	
Brooks Coll. of Interdisc. Studies	50.0%
Coll. of Commun. & Public Service	67.4%
Coll. of Health Professions	76.6%
Coll. of Liberal Arts and Sciences	77.6%
Kirkhof Coll. of Nursing	77.6%
Padnos Coll. of Engin. & Computing	71.0%
Seidman Coll. of Business	70.2%
Undeclared	81.1%
<b>Geographic Origin*</b>	
Tri County	60.9%
Detroit MSA	84.5%
Other MI	80.6%
Other US	86.7%
International	73.2%
<b>Other Characteristics</b>	
First Generation*	71.6%
Pell Eligible*	72.3%
Veteran*	57.2%
Honors College*	95.3%
Freshman Academy	81.6%

In addition to the significant demographic differences marked by asterisks above, participation was also significantly related to grades and persistence, meaning non-participation is itself an indication of student risk.

	Participated	Did not participate
<b>N</b>	3,960	1,256
<b>GPA</b>	2.947*	2.654
<b>Retention</b>	89.1%*	81.1%
<b>Good Standing</b>	93.8%*	89.4%

\* Participants significantly different from non-participants

**Peers:** This report includes data from 3 groups of comparison institutions that also participated in MAP-Works in Fall 2012. The first group consists of the 6 participating schools that are most like GVSU in size, undergraduate student composition, and persistence. This group’s average scores are labeled as “6 peers” in tables that follow. The second peer group includes all participating schools with the same basic Carnegie Classification (Masters-L) as GVSU, and the third comparison group includes all MAP-Works participants.

**GVSU outcome variables:** The report also summarizes relationships between survey responses and 3 “outcomes”: final fall 2012 GPA; enrollment in Winter 2013 classes at GVSU; and satisfaction with GVSU. Satisfaction is measured by a composite of items within the MAP-Works survey itself. Please note that no effort has been made here to study or control for the results of MAP-Works itself. To the extent that the project is working as intended – triggering behavioral adjustments by students or supportive contact by faculty or staff – the relationships to GPA and retention reported here may be confounded by those intervening steps.

All statistical associations reported as significant were evaluated at  $\alpha=0.05$ .

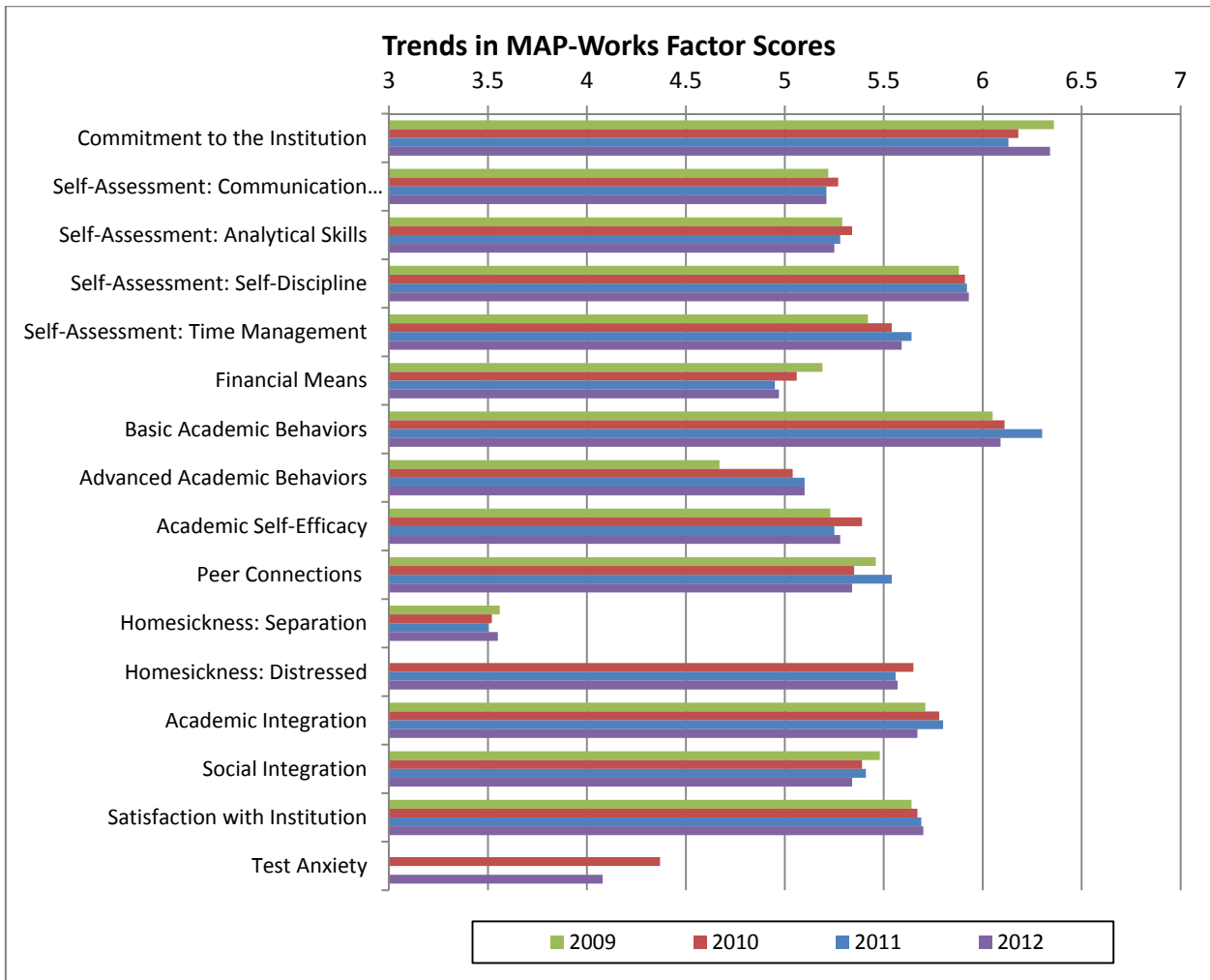
**Results:**

**MAP-Works Factors:** The developers of MAP-Works have identified several multi-item scales to measure separate (but related) risk factors for attrition among new undergraduate students. Each scale is an unweighted average of responses to two or more survey questions, each of which uses a seven-point ordinal scale. As a result, all the factor scores are scaled from 1 to 7, with higher values indicating greater anticipated probability for student success. The specific questions that contribute to each factor are described in Appendix A. The table below summarizes GVSU students’ responses on each of the scales in the past four years, responses of peer students, and relationships between the factors and grades, retention and satisfaction.

	2012	2011	2010	2009	6 Peers	Masters-L	All Schools	GPA Correlation	Retention Odds Ratio	Satisfaction Correlation
<b>Commitment to the Institution</b>	6.34*	6.13	6.18*	6.36	6.47†	6.34	6.41†	0.072‡	1.950‡	0.510‡
<b>Self-Assessment: Communication Skills</b>	5.21	5.21*	5.27	5.22	5.13†	5.13†	5.15†	0.038‡	0.880‡	0.098‡
<b>Self-Assessment: Analytical Skills</b>	5.25	5.28*	5.34*	5.29	5.14†	5.08†	5.15†	0.122‡	1.217‡	0.133‡
<b>Self-Assessment: Self-Discipline</b>	5.93	5.92	5.91	5.88	5.94	5.95	5.92	0.161‡	1.174‡	0.202‡
<b>Self-Assessment: Time Management</b>	5.59	5.64*	5.54*	5.42	5.57	5.57	5.54†	0.225‡	1.094	0.199‡
<b>Financial Means</b>	4.97	4.95*	5.06*	5.19	5.15†	4.91†	4.98	0.077‡	1.083	0.118‡
<b>Basic Academic Behaviors</b>	6.09*	6.30*	6.11*	6.05	6.12†	6.05†	6.06†	0.303‡	1.286‡	0.206‡
<b>Advanced Academic Behaviors</b>	5.10	5.10*	5.04*	4.67	5.13	5.16†	5.13	0.190‡	1.017	0.194‡
<b>Academic Self-Efficacy</b>	5.28	5.25*	5.39*	5.23	5.34†	5.33†	5.35†	0.140‡	1.033	0.231‡
<b>Peer Connections</b>	5.34*	5.54*	5.35*	5.46	5.59†	5.45†	5.47†	0.026	1.262‡	0.432‡
<b>Homesickness: Separation</b>	3.55	3.50	3.52	3.56	3.65†	3.65†	3.65†	-0.018	1.256‡	0.169‡

	2012	2011	2010	2009	6 Peers	Masters-L	All Schools	GPA Correlation	Retention Odds Ratio	Satisfaction Correlation
<b>Homesickness: Distressed</b>	5.57	5.56*	5.65	N/A	5.68†	5.58	5.61	0.063‡	1.382‡	0.325‡
<b>Academic Integration</b>	5.67*	5.80	5.78*	5.71	5.78†	5.76†	5.76†	0.218‡	1.284‡	0.396‡
<b>Social Integration</b>	5.34*	5.41	5.39*	5.48	5.63†	5.53†	5.53†	0.035‡	1.459‡	0.698‡
<b>Satisfaction with Institution</b>	5.70	5.69	5.67	5.64	5.88†	5.61†	5.67	0.066‡	1.488‡	1.000
<b>Test Anxiety</b>	4.08	--	4.37	--	4.20†	4.21†	4.23†	0.038‡	1.085‡	0.081‡

\* Average factor score is significantly different from previous year  
† Peer group average is significantly different from GVSU average (2012 data)  
‡ Factor is significantly related to the outcome measure



**Note regarding *Commitment to the Institution*:** GVSU students' scores on *Commitment to the Institution* have been affected by the inclusion of the phrase "spring term" in a question about students' intent to persist at the university. Since "spring term" refers to something very different at GVSU than at most other schools, this has caused some confusion and has resulted in lower GVSU scores for *Commitment to the Institution*. The troublesome question first appeared in the 2010 version of the MAP-Works survey, and was corrected on Sep 14, 2012 (after about 30% of this year's participants had responded.) Fall 2012 respondents who answered the corrected question had an average *Commitment to the Institution* score of 6.35, compared to 6.31 for those who answered the flawed question.

**Trend comparisons:** Although the year-to-year change in various factor scores has achieved statistical significance, the bar chart above shows that none of the factors scores has shown a particularly compelling upward or downward trend. *Financial Means* has decreased significantly since 2009, but shows a non-significant increase this year. *Time Management* has followed the opposite course, increasing for two years, followed by a non-significant decrease. Most of the other factor scores show a combination of increases and decreases that illustrate the variability of measures more than any particular trend among Grand Valley students.

**Peer Comparisons:** Grand Valley students rate themselves higher than their peers on their *Communication* and *Analytic* skills, but score lower on several social scales, including *Peer Connections*, *Social Integration*, and *Homesickness: Separation*. (Recall that all scales are scored so that higher scores are associated with higher theoretic probability of student success, so lower scores on the *Homesickness* scales actually indicate more homesickness. A similar dynamic applies to the *Test Anxiety* scale, where GVSU students also scored below their peers.) Grand Valley students' scores were also below peers for *Academic Integration* and *Academic Self Efficacy*. The 2012 "6 peers" institutions seem to be a more aspirational group than in previous years, so there are three scales where GVSU students outscored their broader peer groups, yet fell significantly short of the more select group's performance. These scales are *Financial Means*, *Basic Academic Behaviors*, and *Satisfaction with the Institution*.

**Fall Grades:** Most of the factors show some relationship with students' grades, but the strongest correlation by far is with *Basic Academic Behaviors*. That is unsurprising, since that factor measures such behaviors as attending class, taking notes, turning in homework and studying. Other factors that have relatively strong associations with grades are *Time Management*, *Academic Integration*, and *Advanced Academic Behaviors*. However, since all of these factors are inter-related, a multivariate analysis provides a more accurate picture of the relative value of the different factors in predicting grades. When considered jointly, the most important predictive factors for GPA are:

Factor	Standardized Coefficient
Basic Academic Behaviors	0.269
Academic Integration	0.088

**Fall-to-Winter Retention:** As with GPA, most of the factors are associated with fall-to-winter retention to some degree. The factors with the strongest bivariate associations with retention are *Commitment to the Institution*, *Satisfaction with the Institution*, and *Social Integration*. (Odds ratios are the increase in the probability of an event associated with a one unit increase in the associated variable. For example, the odds ratio shown for Commitment to the Institution -- 1.950 -- means that a student with a factor score of 6 is 1.95 times as likely to be retained as an otherwise-similar student with a score of 5.) In a multivariate model, the factors that combine to significantly predict retention are as follows. Note the negative coefficient for *Communication Skills*: in both bivariate and multivariate contexts, better self-perceived communication skill is significantly associated with lower probability of persistence.

Factor	Standardized Coefficient
Commitment to the Institution	0.358
Homesickness: Distressed	0.181
Self-Assessment: Communication Skills	-0.148

**Student Satisfaction:** All of the MAP-Works factor scores are correlated to satisfaction, which conforms to the survey's theoretic intentions. The strongest bivariate associations with satisfaction are those with *Social Integration*, *Commitment to the Institution*, *Peer Connections*, and *Academic Integration*. A multivariate model to predict satisfaction indicates that the strongest predictive factors are:

Factor	Standardized Coefficient
Social Integration	0.587
Commitment to the Institution	0.252
Academic Integration	0.103

**MAP-Works risk indicators:** MAP-works' interface for faculty, advisors, and administrators emphasizes a simplified diagnostic for identifying students at risk. Each student who completes the questionnaire is assigned a color-coded risk category for easy triage. EBI revised the computations for the triage categories this year, but the revised categories fail to accurately discriminate risk levels for poor grades or attrition. For all four outcomes below, "green" students outperformed the "non-green" students as expected, but the specific risk categories fail for each outcome: "red" students had a significantly higher retention rate than "yellow" students; "double-red" students earned higher grades than "red" students (and were consequently more likely to be in good academic standing); "yellow" students indicated significantly less satisfaction than either "red" or "double-red" students.

	<b>Green</b>	<b>Yellow</b>	<b>Red</b>	<b>Red x 2</b>	<b>Any Alert</b>
<b>Percent of Respondents</b>	83.1%	1.5%	5.8%	9.6%	16.9%
<b>Fall GPA</b>	3.075	2.539*	1.819*	2.572*	2.308*
<b>Good Standing (at end of fall)</b>	93.8%	78.3%*	44.8%*	77.7%*	66.5%*
<b>Fall-to-winter Retention</b>	95.9%	83.3%*	90.9%*	79.0%*	83.4%*
<b>Satisfaction</b>	5.79	4.63*	5.86*	4.92*	5.21*
* Significantly different from the preceding level. "Any Alert" includes Yellow, Red, and Double-Red, and asterisk indicates significant difference from non-alert (Green) average.					

**Summary:** MAP-Works data continue to indicate that GVSU students are relatively unsatisfied with the social aspects of their early college experience, and that these same social factors are important predictors of student persistence and satisfaction. These findings are based on GVSU students' responses to the following questions:

- On this campus, to what degree are you connecting with people: Who share common interests with you?
- On this campus, to what degree are you connecting with people: Who include you in their activities?
- On this campus, to what degree are you connecting with people: You like?
- To what degree do you: Miss your family back home?
- To what degree do you: Miss your old friends who are not at this school?
- Overall, to what degree: Do you belong here?
- Overall, to what degree: Are you fitting in?
- Overall, to what degree: Are you satisfied with your social life on campus?

In addition, this year's results show some academic concerns that weren't evident in previous years' results. The low *Academic Self-Efficacy* and *Academic Integration* scales are based on students' responses to these questions:

- To what degree are you certain that you can: Do well on all problems and tasks assigned in your courses?
- To what degree are you certain that you can: Do well in your hardest course?
- Overall, to what degree are you: Keeping current with your academic work?
- Overall, to what degree are you: Motivated to complete your academic work?
- Overall, to what degree are you: Learning?
- Overall, to what degree are you: Satisfied with your academic life on campus?

Finally, although it's clear that the MAP-Works factor scales continue to be significant and valuable predictors of first-semester student performance, persistence and satisfaction, the color-coded risk categories provided in the MAP-Works advisor interface are no longer as reliable as they have been in the past. We will communicate this concern to EBI, but may also need to assess the impact of the problem on our intervention efforts for at-risk students.