

**Results from the MAP-Works Survey of First-year Undergraduates: Fall 2011**

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GVSU participated in the MAP-Works program for the third time in the Fall semester of 2011. MAP-Works is an online student retention tool developed at Ball State University and administered by Educational Benchmarking (EBI). The core of MAP-Works is a student questionnaire that solicits information about students’ activities, motivations, impressions, and plans. These responses are combined to assess students’ individual 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 (and presumably have greatest need for supportive intervention). 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 aggregate 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 the Fall 2011 semester and whose first term at GVSU was in Winter 2011 or later were invited to complete the online survey between Sep 12 and Oct 3, 2011. This corresponds to the 3<sup>rd</sup> through 5<sup>th</sup> weeks of the fall semester. In total, 5,178 students were invited, of whom 3,605 (70%) completed the questionnaire. The following table summarizes demographic characteristics of respondents and non-respondents:

	<b>% Responding</b>
<b>Total</b>	69.6%
<b>Sex*</b>	
Female	75.9%
Male	60.8%
<b>Ethnicity*</b>	
Black or African American	75.4%
American Indian or Alaskan Native	52.6%
Asian or Pacific Islander	58.3%
Hispanic or Latino	62.0%
White	70.3%
Not Reported	49.4%
More Than One Ethnicity	69.5%
<b>Student Origin*</b>	
FTIAC	79.0%
Transfer	35.2%
<b>Major</b>	
Declared and Admitted	69.6%
Pre-major	68.3%
Undeclared	71.4%

	<b>% Responding</b>
<b>College of Primary Major*</b>	
Brooks College of Interdisciplinary Studies	26.7%
College of Community and Public Service	55.2%
College of Health Professions	79.3%
College of Liberal Arts and Sciences	70.4%
Kirkhof College of Nursing	78.3%
Padnos College of Engineering and Computing	64.3%
Seidman College of Business	66.1%
Undeclared	71.4%
<b>Residence*</b>	
Off Campus	25.0%
On Campus	88.6%
<b>Geographic Origin</b>	
Tri County	51.3%
Detroit MSA	82.4%
Other MI	76.4%
Other US	83.2%
International	49.1%
<b>Other Characteristics</b>	
First Generation*	66.0%
Pell Eligible*	65.7%
Veteran*	36.8%
Honors College*	91.6%
Freshman Academy	76.4%
* Characteristic is significantly related to response rate.	

In addition to the significant demographic differences above, participation was also significantly related to grades and persistence.

	<b>Participated</b>	<b>Did not participate</b>
<b>N</b>	3605	1581
<b>Fall GPA</b>	2.954*	2.641
<b>Good Standing (at end of fall)</b>	89.1%*	81.5%
<b>Fall-to-winter Retention</b>	94.5%*	88.6%
* Participants significantly higher than non-participants		

**Peers:** This report includes data from 3 groups of comparison institutions that also participated in MAP-Works in Fall 2011. The first group consists of the 6 participating schools that are most like GVSU in size, sector, and undergraduate student composition. 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 (see Appendix A for full list). The third comparison group includes all MAP-Works participants (Appendix B).

**GVSU outcome variables:** This report also investigates relationships between survey responses and 3 “outcomes”: final fall 2011 GPA; enrollment in Winter 2012 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  $\alpha=0.05$ .

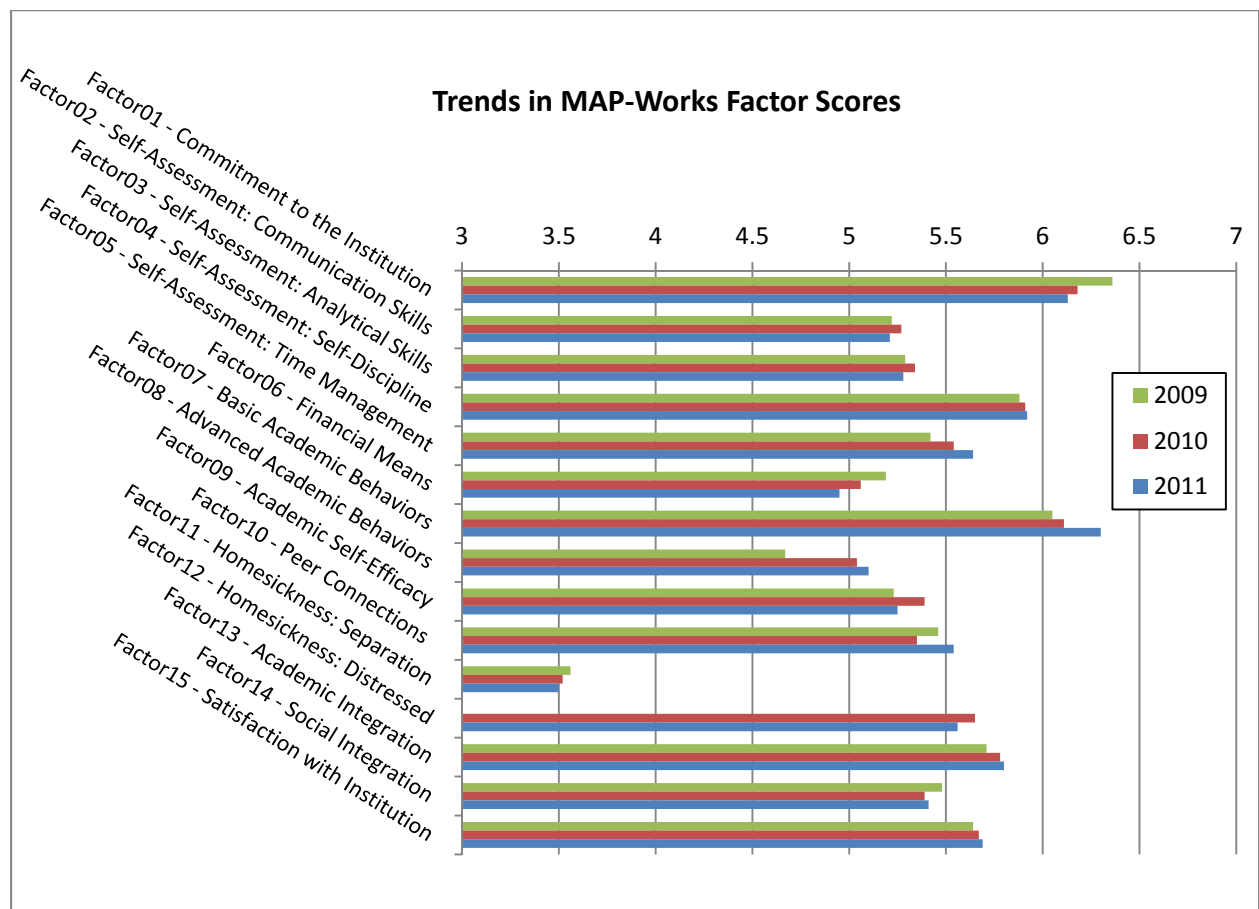
## Results:

**MAP-Works Factors:** The developers of the MAP-Works survey have identified 15 multi-item scales that they believe 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 generally indicating greater probability for student success. The specific questions that contribute to each factor are described in Appendix C. The table below summarizes GVSU students’ responses on each of the scales in the past three years, responses of peer students, and relationships between the factors and grades, retention and satisfaction.

	2011	2010	2009	6 Peers	Masters-L	All Schools	GPA Correlation	Retention O.R.	Satisfaction Correlation
<b>Factor01 - Commitment to the Institution</b>	6.13	6.18*	6.36	6.34†	6.30†	6.32†	0.046‡	1.847‡	0.444‡
<b>Factor02 - Self-Assessment: Communication Skills</b>	5.21*	5.27	5.22	5.02†	5.11†	5.14†	0.050‡	1.221‡	0.118‡
<b>Factor03 - Self-Assessment: Analytical Skills</b>	5.28*	5.34*	5.29	4.95†	5.01†	5.09†	0.120‡	1.308‡	0.138‡
<b>Factor04 - Self-Assessment: Self-Discipline</b>	5.92	5.91	5.88	5.88†	5.91	5.89	0.189‡	1.211‡	0.194‡
<b>Factor05 - Self-Assessment: Time Management</b>	5.64*	5.54*	5.42	5.54†	5.53†	5.50†	0.244‡	1.176‡	0.173‡
<b>Factor06 - Financial Means</b>	4.95*	5.06*	5.19	4.92	4.87†	4.94	0.079‡	1.051	0.122‡
<b>Factor07 - Basic Academic Behaviors</b>	6.30*	6.11*	6.05	6.12†	6.03†	6.02†	0.320‡	1.522‡	0.204‡
<b>Factor08 - Advanced Academic Behaviors</b>	5.10*	5.04*	4.67	5.00†	5.07	5.05†	0.119‡	1.139‡	0.170‡
<b>Factor09 - Academic Self-Efficacy</b>	5.25*	5.39*	5.23	5.18†	5.27	5.28	0.165‡	1.461‡	0.289‡
<b>Factor10 - Peer Connections</b>	5.54*	5.35*	5.46	5.55	5.58	5.57	-0.004	1.304‡	0.409‡
<b>Factor11 - Homesickness: Separation</b>	3.50	3.52	3.56	3.56	3.56†	3.59†	0.000	1.371‡	0.161‡
<b>Factor12 - Homesickness: Distressed</b>	5.56*	5.65	N/A	5.62	5.57	5.63†	0.055‡	1.539‡	0.349‡
<b>Factor13 - Academic Integration</b>	5.80	5.78*	5.71	5.79	5.81	5.80	0.200‡	1.600‡	0.410‡
<b>Factor14 - Social Integration</b>	5.41	5.39*	5.48	5.44	5.50†	5.50†	0.003	1.567‡	0.685‡

	2011	2010	2009	6 Peers	Masters-L	All Schools	GPA Correlation	Retention O.R.	Satisfaction Correlation
<b>Factor15 - Satisfaction with Institution</b>	5.69	5.67	5.64	5.61†	5.57†	5.62†	0.044‡	1.721‡	1.000
* Average factor score is significantly different from previous year									
† Peer group average is significantly different from GVSU average									
‡ Factor is significantly related to the outcomemeasure									

*Trend comparisons:* Over the 3 years of MAP-Works participation, GVSU’s average scores have decreased significantly for *Commitment to the Institution*, *Financial Means*, and *Homesickness: Distressed* (2 notes: a –this factor is scaled so that higher scores indicate **less** distress due to homesickness; b – the factor composition was changed in 2011, but GVSU average using the old definition declined from 5.72 in 2009 to 5.57 in 2010, then from 5.65 in 2010 to 5.56 using the new definition). Meanwhile, scores have increased significantly for *Time Management*, *Basic Academic Behaviors*, *Advanced Academic Behaviors*, and *Academic Integration*. Average scores for *Peer Connections* recovered in 2011 after decreasing last year.



*Peer Comparisons:* As in previous years, GVSU students score near or above peer students on most scales related to academic behaviors and confidence, including *Communication Skills*, *Analytic Skills*, *Time Management*, and *Basic Academic Behaviors*. They also report significantly greater overall satisfaction than peers.

Unfortunately, GVSU students scored lower than peers on some other measures, including *Commitment to the Institution*, *Homesickness: Separation*, and *Social Integration*. Please note, however, that one of the questions that contributes to *Commitment to the Institution* reads “To what degree do you intend to come back to this institution for the Spring term?” Of the three questions that constitute that scale, that is the only question where GVSU responses differ significantly from peers’. I believe that the difference arises mostly or completely from confusion about the phrase “Spring term”, which is used differently at GVSU than at many institutions across the country. I would interpret our 2011 level of commitment to the institution as similar to that found at other schools, and we have begun inquiries about clarifying that wording in future versions of the survey.

*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 *Self-Discipline*. 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	0.283
Self-Assessment: Time Management	0.111

*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*, *Academic Integration*, and *Social Integration*. (Odds ratios are the percentage 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* -- 1.847 -- means that a student with a factor score of 6 is 1.847 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:

Factor	Standardized Coefficient
Commitment to the Institution	0.295
Homesickness: Distressed	0.229
Self-Assessment: Analytical Skills	0.126
Satisfaction with Institution	0.116

*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*, *Academic Integrations*, and *Peer Connections*. A multivariate model to predict satisfaction indicates that the strongest predictive factors are:

Factor	Standardized Coefficient
Social Integration	0.569
Commitment to the Institution	0.217
Academic Integration	0.117
Homesickness: Distress	0.093

*MAP-Works risk indicator:* 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 to a risk

category for easy triage. As shown below, GVSU data indicate that these levels do differentiate levels of attrition risk and grade performance.

	<b>Green</b>	<b>Yellow</b>	<b>Red</b>	<b>Red x 2</b>	<b>Any Alert</b>
<b>Percent of Respondents</b>	53.7%	23.5%	19.5%	3.3%	46.3%
<b>Fall GPA</b>	3.194	2.908*	2.498*	2.009*	2.673*
<b>Good Standing (at end of fall)</b>	96.1%	90.9%*	73.4%*	54.7%*	81.0%*
<b>Fall-to-winter Retention</b>	97.7%	94.2%*	87.9%*	82.1%*	90.7%*
<b>Satisfaction</b>	5.98	5.44*	5.28	5.02*	5.34*
* Significantly different from the preceding level. "Any Alert" includes Yellow, Red, and Double-Red, and asterisk indicates significant difference from the non-alert (Green) average.					

For GPA, academic standing, and retention, each alert level is associated with significantly poorer performance than the alert category above it. This is generally true of satisfaction too, although the difference in satisfaction between then red and yellow categories is not statistically significant.

**Summary:** MAP-Works survey results indicate that our first-year students are relatively strong and improving in academic skills, behaviors, and self-confidence. However, their social experiences and commitment to staying at GVSU are relatively weak compared to peers at other participating schools. The information provided in the survey has genuine value for predicting short term academic achievement and persistence. This means that it can be an effective tool for targeting programs designed to improve student success.

**Appendix A: Masters-L institutions that participated in 2011 MAP-Works**

**Appendix B: Institutions that participated in 2011 MAP-Works**

**Appendix C: MAP-Works 2011 Factor Components**