

## Results from the MAP-Works Survey of First-year Undergraduates: Fall 2013

GVSU participated in the MAP-Works program for the fifth time in the Fall semester of 2013. 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 four contexts: in comparison to previous GVSU data; in comparison with peer institutions; in relation to same basic demographic characteristics, 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 2013 and whose first term at GVSU was in Winter 2013 or later were invited to complete the online survey between Sep 16 and Oct 7, 2012. This corresponds to the 4<sup>th</sup> through 6<sup>th</sup> weeks of the semester. In total, 5,225 students were invited, of whom 3,997 (76%) completed the questionnaire. The following table summarizes demographic characteristics of respondents and non-respondents:

	Response
<b>Total</b>	76.5%
<b>Sex*</b>	
Female	82.2%
Male	68.4%
<b>Ethnicity*</b>	
Black or African American	76.6%
American Indian or Alaskan Native	69.7%
Asian or Pacific Islander	69.4%
Hispanic or Latino	66.8%
White	76.9%
Not Reported	79.5%
More Than One Ethnicity	74.7%
<b>Student Origin*</b>	
FTIAC	86.1%
Transfer	40.8%
<b>Residence*</b>	
Off Campus	38.0%
On Campus	95.5%
<b>Major*</b>	
Declared and Admitted	75.5%
Pre-major	75.0%
Undeclared	83.9%

	Response
<b>College of Primary Major*</b>	
Brooks Coll. of Interdisc. Studies	28.6%
Coll. of Commun. & Public Service	65.8%
Coll. of Health Professions	81.1%
Coll. of Liberal Arts and Sciences	76.2%
Kirkhof Coll. of Nursing	87.2%
Padnos Coll. of Engin. & Computing	67.3%
Seidman Coll. of Business	74.3%
Undeclared	83.9%
<b>Geographic Origin*</b>	
Tri County	56.7%
Detroit MSA	88.7%
Other MI	82.0%
Other US	87.4%
International	76.4%
<b>Other Characteristics</b>	
First Generation*	72.4%
Pell Eligible*	73.0%
Veteran*	36.8%
Honors College*	96.1%
Freshman Academy*	97.3%

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>	3,997	1,228
<b>GPA*</b>	2.968	2.643
<b>Retention*</b>	93.9%	89.3%
<b>Good Standing*</b>	89.4%	79.7%

\* 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 2013 GPA; enrollment in Winter 2014 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.

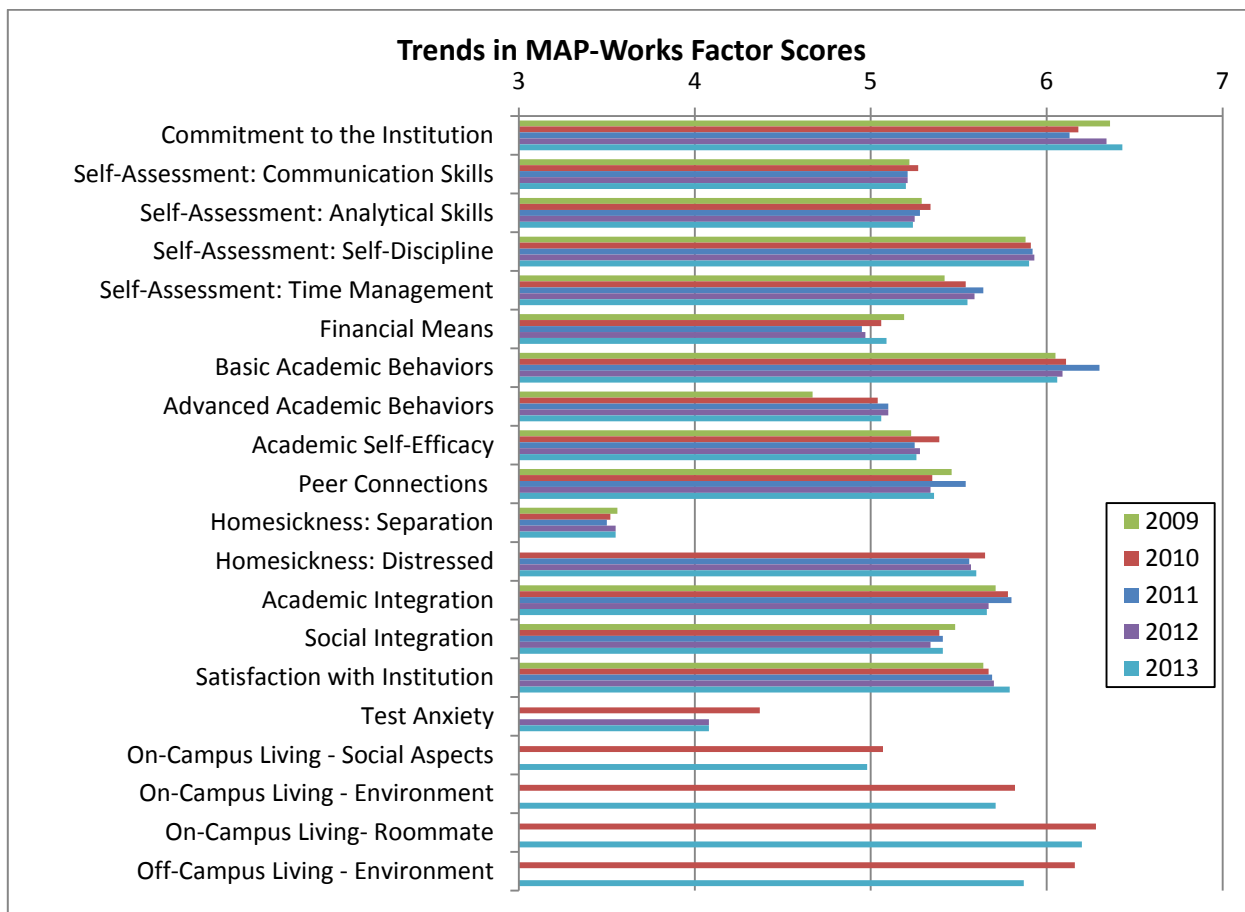
All statistical associations reported as significant were evaluated at  $\alpha=0.05$ .

**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.

	2013	2012	6 Peers	Masters-L	All Schools	GPA Correlation	Satisfaction Correlation	Retention Odds Ratio
<b>Commitment to the Institution</b>	6.43	6.34*	6.41	6.37*	6.40	0.067‡	0.573‡	2.212‡
<b>Self-Assessment: Communication Skills</b>	5.20	5.21	5.10*	5.14*	5.15*	0.048‡	0.098‡	1.097
<b>Self-Assessment: Analytical Skills</b>	5.24	5.25	5.09*	5.09*	5.16*	0.111‡	0.116‡	1.148‡
<b>Self-Assessment: Self-Discipline</b>	5.90	5.93	5.89	5.94*	5.90	0.148‡	0.183‡	1.275‡
<b>Self-Assessment: Time Management</b>	5.55	5.59	5.54	5.57	5.52	0.198‡	0.181‡	1.127
<b>Financial Means</b>	5.09	4.97*	5.14	4.92*	4.96*	0.090‡	0.163‡	1.191‡

	2013	2012	6 Peers	Masters-L	All Schools	GPA Correlation	Satisfaction Correlation	Retention Odds Ratio
<b>Basic Academic Behaviors</b>	6.06	6.09	6.04	6.05	6.03*	0.280‡	0.207‡	1.389‡
<b>Advanced Academic Behaviors</b>	5.06	5.10	5.11*	5.17*	5.13*	0.170‡	0.195‡	1.129
<b>Academic Self-Efficacy</b>	5.26	5.28	5.31*	5.34*	5.34*	0.164‡	0.231‡	1.298‡
<b>Peer Connections</b>	5.36	5.34	5.59*	5.40	5.43*	0.020	0.447‡	1.434‡
<b>Homesickness: Separation</b>	3.55	3.55	3.66*	3.70*	3.70*	-0.004	0.162‡	1.327‡
<b>Homesickness: Distressed</b>	5.60	5.57	5.67*	6.61	6.63	0.066‡	0.390‡	1.543‡
<b>Academic Integration</b>	5.66	5.67	5.75*	5.79*	5.77*	0.224‡	0.388‡	1.434‡
<b>Social Integration</b>	5.41	5.34*	5.54*	5.51*	5.50*	0.051‡	0.707‡	1.596‡
<b>Satisfaction with Institution</b>	5.79	5.70*	5.77	5.62*	5.65*	0.065‡	1.000	1.670‡
<b>Test Anxiety</b>	4.08	4.08	4.17	4.21*	4.21*	0.004	0.407‡	1.427‡
<b>On-Campus Living - Social Aspects</b>	4.98	5.07*	5.23*	5.22*	5.19*	0.036‡	0.430‡	1.457‡
<b>On-Campus Living - Environment</b>	5.71	5.82*	5.83*	5.82*	5.81*	-0.014	0.164‡	1.225‡
<b>On-Campus Living- Roommate</b>	6.20	6.28*	6.26*	6.25*	6.24	0.187‡	0.257‡	1.021
<b>Off-Campus Living - Environment</b>	5.87	6.16*	5.94	5.89	5.85	0.068‡	0.096‡	1.132‡
<p>*2013 average factor score is significantly different from prior year (2012 except as noted)  †Peer group average is significantly different from GVSU average (2013 data)  ‡Factor is significantly related to the outcome measure  Data not collected every year. Prior year data is from 2010.</p>								



**Trend comparisons:** *Satisfaction with the Institution* has increased consistently over the five years, including a significant increase this year. *Commitment to the Institution* has suffered from some inconsistency in the wording of component questions, so score changes over time shouldn't be interpreted as a compelling evidence of change in students' commitment. Two of the scales, *Self-Assessment: Communication Skills* and *Self-Assessment: Analytic Skills*, show an apparent decline over the 5 years even though few of the year-to-year drops were statistically significant. Each of the "On-Campus Living" and "Off-Campus Living" scales declined significantly between 2010 and 2013. The component item that most affected the trend in *On-Campus Living: Social Aspects* was "How much do you hang out with other residents?", while the drop in *On-Campus Living: Environment* was driven most by "Are you able to study in your room?" The *On-Campus Living: Roommate Relationship* items all declined about equally. The main problem contributing to the drop in *Off-Campus Living: Environment* was lower responses to "Are you able to study in your room/home?"

**Peer Comparisons:** This year's results provide cause for concern about both academic and social aspects of GVSU students' lives.

On the social side, GVSU students score below peers on *Peer Connections*, *Social Integration*, *Homesickness: Separation*, and all of the *On-Campus Living* scales. GVSU students' responses are below peers' on nearly all of the component items for these scales, but there are some items for which the responses are particularly low. The *Peer Connections* scores seem to be uniformly low across the component items, while the *Social Integration* gap is most strongly driven by weaker responses to "Are you satisfied with your social life on campus?" The *Homesickness: Separation* gap is related more to missing "old friends" than to missing family or boyfriends/girlfriends (although all contribute). The most glaring gaps between GVSU and peer responses to the *On-Campus Living* items are for "Are you satisfied with the social activities in your hall/building?" and "Are you able to study in your room?"

Among the academic measures, GVSU students average below peers on *Advanced Academic Behaviors*, *Academic Self-Efficacy*, and *Academic Integration*. Furthermore, the advantages previous GVSU students have reported in *Basic Academic Behaviors* are not evident for 2013 respondents. *Advanced Academic Behaviors* is a dubious construct that has shown an inconsistent relationship with GVSU grades. Still it's noteworthy that the item driving GVSU's low score is "Are you the kind of person who communicates with professors outside class?" GVSU students' problems in *Academic Self-Efficacy* are primarily expressed in their answers to "How certain are you that you'll do well in your hardest class?" Our students' responses to *Academic Integration* items are fairly uniformly below peers'. In *Basic Academic Behaviors*, our students are still more likely than others to say they turn in required assignments, but they no longer stand out in their tendency to attend class regularly, and elsewhere in the survey they were significantly less likely than peers to say they had attended all of their classes for the term.

GVSU students do score above peers on some scales. As in the past, our students rate themselves highly on their abilities in Communication and Analysis. Our students also scored higher than respondents from the broadest peer sets on *Financial Means* and *Satisfaction with the Institution*, but were not significantly different from our closest peers on either of those measures.

**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 *Academic Integration*, and *Time Management*. 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	0.263
Academic Integration	0.133

**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 *Homesick: Distress*. (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 – 2.212 -- means that a student with a factor score of 6 is 2.21 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	0.316
Homesickness: Distressed	0.103

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

Factor	Standardized Coefficient
Social Integration	0.572
Commitment to the Institution	0.321

**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. Analysis of respondents' grades and short-term retention substantiate the alert levels' value in identifying students at risk.

	<b>Green</b>	<b>Yellow</b>	<b>Red</b>	<b>Red x 2</b>	<b>Any Alert</b>
<b>Percent of Respondents</b>	89.6%	5.6%	4.2%	0.6%	10.4%
<b>Fall GPA</b>	3.02	2.54*	2.56	2.22	2.53*
<b>Good Standing (at end of fall)</b>	90.9%	76.3%*	77.4%	66.7%*	73.2%*
<b>Fall-to-winter Retention</b>	96.3%	87.0%*	56.9%*	58.3%	83.4%*
<b>Satisfaction</b>	5.95	4.71*	3.88	3.85*	4.33*
* Significantly different from the preceding level. "Any Alert" includes Yellow, Red, and Double-Red, and asterisk indicates significant difference from non-alert (Green) average.					