

Results from the MAP-Works Survey of First-year Undergraduates: Fall 2009

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GVSU Participated in the MAP-Works program in the Fall semester of 2009. 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.

The population and response rates: GVSU invited students to participate in MAP-Works surveys for first-year and second-year undergraduate students. Both groups of students were invited to complete the online survey between Sep 14 and Oct 12, 2009. This corresponds to the 3rd through 6th weeks of the fall semester. A follow-up survey for those who completed the initial questionnaire was available during the last two weeks of November, 2009. This report concerns itself only with responses to the initial survey of first year students. Results from the other surveys will be presented in other reports.

All GVSU students who were enrolled as degree-seeking undergraduates in the Fall 2009 semester and whose first term at GVSU was in Winter 2009 or later were invited to participate. This amounted to 4,797 students, of whom 3,164 (66%) completed the questionnaire. The following table summarizes demographic characteristics of respondents and non-respondents:

	% Responding
Total	66.0%
Sex*	
Female	72.2%
Male	57.0%
Ethnicity*	
Black	72.2%
Native American	63.2%
Asian	62.6%
Hispanic	61.9%
White	66.7%
Unspecified	32.7%
On-campus Residence*	
On-campus	86.8%
Off-campus	18.3%
Major Program	
Declared and admitted	64.9%
Pre-major (e.g. pre-Business, pre-Nursing)	67.0%
Undeclared	67.1%
* Association between this characteristic and participation is statistically significant ($\alpha = 0.05$)	

In addition to the significant demographic differences above, participation was also significantly related to grades and persistence. Those who completed the survey got better fall grades (2.96 GPA vs. 2.66) and were more likely to return to GVSU in the winter term (95.5% vs. 90.3%) than non-respondents. These differences are presumably indicators of response bias, not evidence of benefits of MAP-Works.

Peers and GVSU outcome variables: In this report, aggregate responses from GVSU participants are compared to those from 3 groups of comparison institutions that also participated in MAP-Works in Fall 2009. The first group consist of the 6 participating schools that are most like GVSU in size, sector (i.e. they're public Masters-level schools), 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. The third comparison group includes all MAP-Works participants.

This report also investigates relationships between survey responses and 3 "outcomes": final fall 2009 GPA; enrollment in Winter 2010 classes at GVSU; and satisfaction with GVSU. 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 reported here may be confounded by those intervening steps. All associations marked with a "*" are statistically significant with $p = 0.05$.

Results:

MAP-Works Factors: The developers of the MAP-Works survey have identified 23 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, and EBI has set an arbitrary benchmark of 5.5 for each scale. The specific questions that contribute to each factor are described [here](#). The table below summarizes GVSU students' responses on each of the scales, responses of peer students, and relationships between the factors and grades, retention and satisfaction.

Factor	GVSU Score	6 Peers	Masters-L	All Schools	GPA Correlation	Retention Odds Ratio	Satisfaction Correlation‡
1. Self-Assessment: Communication Skills	5.06	4.94*	4.97*	4.98*	0.036*	1.229*	0.173*
2. Self-Assessment: Analytical Skills	5.29	5.06*	5.05*	5.10*	0.067*	1.244*	0.154*
3. Self-Assessment: Self-Discipline	5.76	5.72*	5.74	5.71*	0.162*	1.298*	0.229*
4. Self-Assessment: Time Management	5.24	5.20*	5.21	5.17*	0.204*	1.087	0.169*
5. Self-Assessment: Health and Wellness	4.45	4.47	4.38*	4.34*	0.093*	1.019	0.122*
6. Commitment to Higher Education	6.88	6.79*	6.81*	6.82*	0.092*	1.599*	0.175*
7. Commitment to the Institution	6.36	6.33	6.29*	6.34	0.050*	1.876*	0.587*
8. Basic Academic Behaviors	6.05	6.00*	6.02	6.00*	0.273*	1.201	0.214*
9. Advanced Academic Behaviors: Active Involvement	3.92	3.90	3.97	3.92	0.085*	1.110	0.157*
10. Advanced Academic Behaviors: Short Term Studying	4.76	4.70*	4.73	4.77	0.151*	0.991	0.139*
11. Advanced Academic Behaviors: Readings and Reviews	4.24	4.34*	4.34*	4.26	0.026	0.990	0.121*
12. Advanced Academic Behaviors: Large and Long Term Projects	4.83	4.80	4.80	4.73	0.099*	1.126	0.198*
13. Academic Self-Efficacy	5.23	5.14*	5.14*	5.17*	0.178*	1.304	0.279*
14. Homesickness: Separation†	3.59	3.56	3.53	3.57	0.017	1.201*	0.165*
15. Homesickness: Distressed†	5.72	5.59*	5.59*	5.65*	0.045*	1.440*	0.412*
16. Peer Connections	5.50	5.59*	5.57*	5.55*	-0.027	1.410*	0.477*
17. On-Campus Living: Social Aspects	5.08	5.38*	5.31*	5.27*	-0.057*	1.318*	0.425*
18. On-Campus Living: Environment	5.71	5.78*	5.75	5.75*	0.000	1.501*	0.525*
19. On-Campus Living: Roommate Relationship	5.95	5.89*	5.87*	5.93	0.028	1.167*	0.275*
20. Off-Campus Living: Environment	6.20	5.97*	5.94*	5.97*	0.070	0.929	0.263*
21. Satisfaction with Institution	5.64	5.64	5.58*	5.63	0.034	1.717*	1.000
22. Social Integration	5.48	5.62*	5.55*	5.54*	-0.019	1.565*	0.703*
23. Academic Integration	5.71	5.71	5.72	5.69	0.204*	1.397*	0.419*

* Asterisks by peer factor scores indicate that the score is significantly different from GVSU's score. Asterisks by correlation and odds ratio values mean that the factor is significantly associated with the given outcome.

† All factors are scaled so that higher values are "better", so higher values on homesickness factors mean students indicate *less* negative impact of homesickness.

‡The satisfaction measure used is Factor 21 "Satisfaction with Institution"

Peer Comparisons: GVSU students score near or above peer students on most scales, with the exceptions being "[readings and reviews](#)", and several social adjustment factors (factors #[16](#), [17](#), [18](#), & [22](#)). One of the factors on which GVSU scored low, "[Peer Connections](#)", is among the factors identified by MAP-Works as a particularly important factor in predicting student satisfaction and persistence, so that is an area where we may want to focus particular attention as we look to improve our students' first-year experience.

GVSU students tended to score higher than peers on self-assessments of academic skills, along with [“Basic Academic Behaviors”](#) and [“Academic Self-Efficacy”](#), all indicating that our students are more confident in their ability to succeed in college-level work than their peers. GVSU students reported relatively greater [commitment to higher education](#) than [to GVSU in particular](#). GVSU students indicated above average conviction to completing their degrees, to completing their 1st years, and to returning in the winter semester. However, they expressed just average conviction to complete their degree *at GVSU* or to return next fall. This may be related to their satisfaction with GVSU itself, or it might reflect external factors, such as the state of the Michigan economy.

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 not too surprising, 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”](#), [Self-Assessment: Time Management”](#), [“Academic Self-Efficacy”](#), [“Self-Assessment: Self-Discipline”](#), [“Advanced Academic Behaviors: Short Term Studying”](#). 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	0.249
Advanced Academic Behaviors: Readings and Reviews	-0.171
Academic Integration	0.122
Social Integration	-0.081
Self-Assessment: Time Management	0.081
Academic Self-Efficacy	0.081

Note that negative coefficients mean that higher factor scores are associated with lower grades (after controlling for other significant factors). Thus, given similar academic behaviors and skills, [“reading and review”](#) behavior and social integration are actually associated with lower average grades.

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 Institution”](#), [“Commitment to Higher Education”](#), [“Social Integration”](#), and [“On-Campus Living: Environment”](#). (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” -- 1.876 - means that a student with a factor score of 6 is 1.876 times as likely to be retained as a student with a score of 5.)

In a multivariate model, the three factors that combine to significantly predict retention are:

Factor	Standardized Coefficient
Commitment to the Institution	0.290
Homesickness: Distressed	0.207
Self-Assessment: Health and Wellness	-0.108

As a reminder, the construction of the homesickness items (along with the positive coefficient) means that less distress due to homesickness is associated with better retention, while the negative coefficient for [“Health and Wellness”](#) means that a higher self-assessment of wellness is related to lower persistence (assuming that commitment and homesickness are constant). This finding is somewhat surprising, given that health and wellness in this case means “getting enough sleep and getting enough exercise.” Possibly it means there are some students who are valuing sleep and/or exercise over college study. This explanation is purely speculation, however.

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 [“On-Campus Living: Environment.”](#) A multivariate model to predict satisfaction indicates that the strongest predictive factors are:

Factor	Standardized Coefficient
Social Integration	0.502
Commitment to the Institution	0.311
On-campus Living: Environment	0.140
Academic Integration	0.126

Summary: MAP-Works survey results indicate that our first-year students are relatively strong in academic skills, behaviors, and self-confidence.

They indicate a strong commitment to higher education, but a somewhat weaker loyalty to GVSU in particular. Relative to peers at other participating schools, GVSU students indicate slightly weaker social integration into the campus community. 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.

Other MapWorks Items: In addition to the questions that contribute to the scales described above, participants answered a variety of other questions that may have diagnostic or descriptive value. Some use a similar seven-point scale to that used in the factor components above:

Question	GVSU Average	6 Peers	Masters-L	All Schools
To what degree are you confident that you can pay for the current term and next term's tuition and fees?	5.55	5.51	5.46*	5.46*
Overall, to what degree are you experiencing stress?†	3.82	3.97*	3.90*	3.90*
[if student indicated struggle in a particular class] Have you talked with your instructor regarding your difficulties?	2.64	2.49*	2.62	2.56*
[if student indicated struggle in a particular class] Have you turned in assigned homework?	6.38	6.25*	6.24*	6.22*
To what degree do you intend to attend student functions (i.e. sporting events, plays, art exhibits etc.)?	5.51	5.38*	5.36*	5.41*
To what degree do you intend to participate in a student organization?	4.98	4.80*	4.87*	4.91*
To what degree are you interested in holding a leadership position in a college / university student organization?	3.65	3.85*	3.86*	3.96*
[asked only of commuting students] To what degree are the following factors interfering with your ability to attend class or arrive on time to class: Lack of reliable transportation†	6.39	6.30	6.11*	6.18*
[asked only of commuting students] To what degree are the following factors interfering with your ability to attend class or arrive on time to class: Child care†	6.79	6.56*	6.59*	6.59*
[asked only of commuting students] To what degree are the following factors interfering with your ability to attend class or arrive on time to class: work schedule†	6.37	6.29	6.23	6.22
* Score is significantly different from GVSU's score. † Items are scaled so that higher means "better", so higher values on stress and conflict questions mean students indicate less stress and conflict, respectively.				

To summarize, GVSU first year students express less anxiety about financing their current year's tuition, but report more stress in general than peers. They're more interested than peers in participating in co-curricular activities and organizations, but less inclined to seek leadership roles in them. Our commuting students report less conflict between their classes and other aspects of their lives.

Following is a summary of responses and peer comparisons for several questions that are not ordinally scaled.

Question	GVSU	6 Peers	Masters-L	All Schools
Among the colleges/universities who admitted you, was this college/university your first choice?	74.3%	69.5%*	66.0%*	65.5%*
Your average grade in high school: B+ or better	82.2%	60.4*	66.9%*	67.8%*
What is the highest level of education you aspire to achieve?: Graduate degrees	61.5%	57.4*	66.2*	62.1

If you decide to transfer to another institution, what would be the most likely cause?				
Wanted a different location	28.8%	41.5%*		33.7%*
Wanted a different academic program	13.9%	14.7%	34.5%*	14.9%
Financial issues	12.0%	9.4%	15.0% 13.6%	14.7%
Wanted a different academic environment	12.0%	9.9%	10.1%	11.5%
Wanted a different social environment	27.6%	16.7%*	19.7%* 7.1%	18.0%*
Pursue a degree not offered at my institution	5.5%	7.8%		7.1%
What grades do you think you'll earn this term? Mostly A	37.9%	28.2%*	30.2%*	31.7%*
How many hours, on average, do you expect to spend studying for a test in college? 3 hours or more	58.6%	46.1%*	50.2%*	54.7%*
[if student indicated struggle in a particular class] Regarding the course you're having the most difficulty with, based on your current performance what would your grade be? B or better	48.0%	37.6%*	40.2%*	40.4%*
I have attended all my classes this term	66.1%	61.3%*	60.0%*	58.4%*
* Percentage is significantly different from GVSU's percentage.				

This table indicates that GVSU students have relatively high expectations and histories of academic achievement compared to students at other MAP-Works schools. They also have comparatively strong study and attendance habits. They're likely to have chosen GVSU as their first choice institution, but among those who are considering leaving GVSU, the social environment is a predominant factor.

Free-response Feedback: Respondents were given several opportunities to type open-ended comments. The responses are copious and varied, but following is a very brief summary of the most prevalent themes. Content analyses of text comments are always subjective. Faculty and staff are encouraged to read or sample the full text [here](#).

Students were asked "What do you like most about college?". The most common answer by far was "Independence," both in terms of freedom and new responsibilities. "Meeting new people" was the second most common answer. Roughly equal numbers of students praised their courses, co-curricular activities/organizations, and having less in-class time than high school. Praise for faculty, friendly peers, and the campus itself were less frequent, but still common (in roughly equal measure to each other).

When asked what they liked least about college, students said "Too much homework" more than any other response. The second most popular complaint was homesickness, followed by difficulty making friends. Although independence was lots of people's favorite thing about college, it also made a fair showing among their least favorite things too.

Responses to the question, "What could this institution do to improve your educational experience?" showed much less consensus than the previous questions. The most popular suggestion (other than "Nothing / things are great") was "Make it cheaper." That was followed pretty closely by "Have more events / activities", "Have better teachers.", and "Have better advising". The criticism of teaching (when it was at all specific) focused on a) instructors being unclear about expectations, b) instructors "not teaching", and c) non-native English speakers with accents. There was also a fairly strong current of discontent about class sizes, over-reliance on lectures and lack of "hands-on" course content. There were frequent suggestions to expand hours and availability of tutoring centers and to facilitate the creation of study groups. The students want more food options (with fewer restrictions on meal plan usage) and less attention from campus police.