

Analyzing the Use of Statistics in  
Two Articles about Academic Advising

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Academic advising has become an important issue in higher education today. The six-year graduation rate for students seeking a traditional four-year degree was 59% in 2015 (U. S. Department of Education, 2017). After the six years, 31% of students who began a degree program are no longer enrolled in college (Cooper, 2017).

One reason that has been identified for this lack of student retention is the quality of academic advising. According to the Executive Director of NACADA, the National Academic Advising Association, academic advising is often the only person-to-person contact a student makes with the institution (Marcus, 2012). Colleges are adopting various strategies in the hopes of improving advising. These range from hiring professional advisors to employing technological solutions such as automated reminders. Institutions are also seeking effective methods to assess the success of these programs.

Statistics are used to help make sense of large amounts of data. In mainstream media the statistics are often descriptive, used to help the reader understand the main points of a study. A scholarly study may use a broad variety of statistics to demonstrate the relationships between variables and the strength of those relationships. One common measure is the p-value, which can be thought of as the possibility that an observed relationship actually happened by chance. Many researchers consider a p-value  $< 0.05$  to be a significant finding that could not occur by chance (Salkind, 2017).

This paper will examine two articles written about academic advising. The first will discuss whether advising is best done by faculty or professionals. The second will look at

advising from the point of view of the advisor. The statistical analysis included in each article will be discussed.

### **Who Advises Best, Pros or Profs?**

The first article that was analyzed for this project appeared in the Education Life section of the *New York Times*. The full text of this article appears in Appendix A. Author Jeffrey Selingo (2014) notes that only 40% of students consider their academic advisors first when they need advice. Indeed, 10% of the students never meet with their counselor. Relying on bad advice, or no advice at all, can increase the time and cost to attain a degree. NACADA is the National Academic Advising Association, an association of professional academic advisors. The NACADA Executive Director points to ineffective faculty advising as part of the problem (Selingo, 2014).

According to a NACADA survey referenced in the article, 22% of institutions use only professional advisers, while 18% of institutions use only faculty. The balance uses some combination of professionals and faculty. The article notes that all parties are not in agreement that professional advisors are the answer. There are many faculty who believe that a faculty advisor can do a better job guiding students toward careers in their field.

There is no definitive conclusion in the article about whether professionals or faculty are more effective advisors. The article uses Temple University as an example of improvement due to the wide adoption of professional counselors. Counselors at Temple focus on the long-term, looking beyond the current semester to a long-range path to graduation. Temple is also identifying at-risk students using algorithms, and contacting them proactively, a practice known as “intrusive advising.” They believe that by reaching out to these students, they can prevent drop-outs. The author notes that Temple’s four-year graduation rate has improved from 35% in

2005 to 43% currently, and that student satisfaction with their advising experience has increased (Selingo, 2014).

The author presented the various opinions fairly, without an obvious bias toward any of them. Like the other mainstream media articles considered for this assignment, this article used only descriptive statistics. However, the author included a link to survey results from the National Survey of Student Engagement, which was used as a source document for his research. This document included frequency distributions for the survey, as well as means and standard deviations for each survey item. The survey results document is included in Appendix A.

### **Academic Advising Assessment Practices**

The second article examined for this project is a scholarly article which appeared in the *NACADA Journal* in 2014. The authors, Keith Powers, Aaron Carlstrom and Kenneth Hughey, conducted a study of academic advising in various institutions of higher education. The study was based on the concept that academic advising has its own curricula, pedagogy and student learning outcomes (SLOs), just as teaching has these dimensions. The study was designed to measure the extent to which the institution used formal SLOs to measure the effectiveness of their advising program.

The participants of the study included academic advisors at their institutions, all of which were NACADA members. The e-mail invitation was sent to 499 potential participants, and responses were received from 291. Of these, 230 responses were deemed complete, and included in the analysis. The survey consisted of two parts, a demographic section and a second section containing 21 items about specific SLOs.

Three specific hypotheses were identified. The following are abbreviated descriptions of each:

H1 – Participants from institutions with only professional advisors are more likely to use formal SLOs than those with only faculty advisors

H2 – Participants from institutions with mandatory advising are less likely to use formal SLOs than those without mandatory advising

H3 – Participants from institutions with a formal mission statement for advising are more likely to use formal SLOs than those without a formal mission statement

A series of Pearson's chi-square tests was utilized by the researchers to identify existing associations between the parameters described above. The analysis also examined the size and type of the institution, the type of advising utilized by the institution, the type of advisor employed by the institution, and whether the institution had formal SLOs and a mission statement.

For H1, the researchers found that participants from institutions with professional advisors were 2.82 times more likely to use SLOs than those from institutions with only faculty advisors. The p-value for this relationship was  $p = .017$ , which indicates that there is little possibility that this result was by chance. Therefore, the null hypothesis, which was not specifically stated by the authors, would be rejected.

For H2, the researchers found that a relatively equal number of participants from institutions which have mandatory advising have formal SLOs, as compared to participants from institutions which do not have mandatory advising. This result does not uphold H2. The authors did not provide a p-value for this analysis.

For H3, the researchers found a strong relationship between having a formal mission statement and using SLOs for assessment. The p-value for this relationship was  $p = .000$ , which means this relationship could not occur by chance. They also found a significant relationship

between having a formal mission statement and using assessment information to improve performance,  $p = .023$ . This small p-value indicates that this relationship is not likely to occur by chance.

One limitation noted by the authors was that the participants were all members of NACADA. They also all volunteered to take part in the survey. These facts could have a negative impact on the ability to generalize these findings to non-NACADA institutions.

### **Conclusion**

The most obvious distinction between the two articles examined for this project is the intended audience of the report. Mainstream media outlets such as the *New York Times* must appeal to a broad audience, many of whom are reading articles casually. In those cases, complicated data tables and analyses are inappropriate. However, the omission of such data and analysis requires the reader to trust the author to be non-biased and accurate in their interpretations of the data. The Selingo (2014) article presented a balanced picture of the debate between professional advisors and faculty advisors and did not lead the reader to one view or the other. The inclusion of the link to the survey data further enabled the interested reader to explore the topic at a deeper level and increased the transparency of the writing. This was the only article considered for this project that went to the extent of including the survey data.

On the other hand, the Powers, Carlstrom and Hughey (2014) article was clearly written for an academic audience. In addition to including a literature review which placed their study in the broader context of the existing scholarly works, they provided details about how the participants were chosen and what was included in their survey. They provided their findings with respect to their three main hypotheses, and extensive data tables and discussion to support their assertions. The analysis would have benefited from the inclusion of a p-value for H2, even

though they acknowledged that the hypothesis was not supported by their data. It would have been helpful if they had specified what p-value they established to indicate significance.

## References

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- Powers, K. L., Carlson, A. H., & Hughey, K. F. (2014). Academic advising assessment practices: Results of a national study. *NACADA Journal*, 34(1), 64-77. doi:10.12930/NACADA-13-003
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## Appendix A

## Weblinks to full text of the articles

Who Advises Best, Pros or Profs? (full text follows):

<https://www.nytimes.com/2014/04/13/education/edlife/who-advises-best-pros-or-profs.html>

Supplemental information for the article above -- National Survey of Student Engagement (full text follows):

<https://www.nytimes.com/interactive/2014/04/13/education/edlife/advising-module-document.html>

Academic Advising Assessment Practices (full text follows):

Powers, K. L., Aaron H., C., & Kenneth F., H. (2014). Academic advising assessment practices: Results of a national study. *NACADA Journal*, 34(1), 64-77. doi:10.12930/NACADA-13-003

**The New York Times** | <https://nyti.ms/1dV4717>

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EDUCATION LIFE

## Who Advises Best, Pros or Profs?

By JEFFREY J. SELINGO APRIL 11, 2014

Academic advising has always been one of those intractable problems on college campuses. Students rarely think about it until that frantic moment when they need someone to sign the registration form for next semester's classes.

Only 4 of 10 students consider counselors their primary source of advice regarding academic plans, according to the National Survey of Student Engagement, an annual poll of freshmen and seniors. A third of freshmen turn to friends or family. One in 10 students never even meet with an academic counselor.

While students may treat advising as an afterthought, the cost of acting on bad advice can be considerable. Take the wrong class to satisfy a requirement and you may not have enough credits to graduate on time. Withdraw from a course and you may put financial aid in jeopardy because you aren't taking enough credits.

Professors have long shrugged off such circuitous routes to a degree as once-in-a-lifetime opportunities for students to explore a wide array of academic disciplines. But as the cost of college has spiraled upward, and as federal and state officials try to tie taxpayer dollars to graduation rates, colleges and universities are focused more than ever on seeing students get through on time. In response, many have taken the job of advising away from professors and put it in the hands of professionals.

"When it comes to helping students be engaged, to give them advice about what they need to do outside the classroom, faculty are not always the best," said Charlie L. Nutt, executive director of the National Academic Advising Association, which represents professional advisers. "It's not because they don't care, but because they

are hired to teach a specific set of courses. So they end up advising like they were advised in college: They give students a schedule and send them on their way.”

About 22 percent of colleges today use full-time professional counselors, according to a 2011 survey by the association. About 18 percent use only faculty advisers. The remainder use both, though rarely do faculty members advise in the critical first two years of college, when students are more likely to transfer or drop out.

While advising takes time away from research and teaching, not all professors favor relinquishing their role to professionals. Many see themselves as essential fonts of information about majors, courses and graduate school. But there are also fewer full-time faculty members around to do mentoring. Some 75 percent are now part-time workers paid just to teach.

Benjamin Ginsberg, a professor of political science at Johns Hopkins, is author of “The Fall of the Faculty,” which takes aim at the growing ranks of nonfaculty staff. He argues that such staffing ends up adding to the cost of college because the workers take on unnecessary functions or assume roles that full-time faculty members used to perform and still could. But over the past several decades, student support services has been the fastest-growing category of employment in higher education, and the positions, which include academic advising, now make up nearly one-third of professional jobs on campuses. “Academic advising should be done by academics,” Dr. Ginsberg said. “Professional advisers seldom have the qualifications in the field about which they are offering advice.”

Indeed, it is unclear whether professional advisers — 65 percent of whom have master’s degrees, according to the 2011 survey — are really any better at giving advice than faculty. At small, teaching-focused colleges, where professors are more likely to still perform the bulk of advising, students reported the highest satisfaction on the student engagement survey when it came to the quality of their interactions with academic counselors. Meanwhile, students at large research universities were most likely to rate the quality of their interactions with advisers as poor.

Professional advisers have a linear focus: pushing students to sign up for the “right” classes to and graduate on time. “Advising at many schools has become so intrusive, so maternal,” said Robert Talbert, a professor at Grand Valley State

University, who writes a blog on teaching called Casting Out Nines. “The implicit assumption is that students are incapable of making their own decisions, so we have to be constantly in their business.”

But large public universities, with massive course catalogs to negotiate and many first-generation students to guide, are investing heavily in hand-holding. Temple University in Philadelphia, with more than 27,000 undergraduates, began to focus on improving advising in 2006, and since then has more than doubled its advising staff, hiring a cadre of 60 full-time counselors.

“Our hope is that students see us as more than just clerical workers,” said Irina Veramidis, a professional adviser at Temple. “We’re always here and we’re less intimidating than faculty, who are inaccessible to a certain extent.”

One morning near the end of last semester, Ms. Veramidis met with a sophomore who was debating between marketing and tourism as a major after she dropped her initial choice, biology. The student was debating between marketing and tourism.

Ms. Veramidis mentioned that the marketing major required a calculus course for business students. “You already took calculus for science and math and that didn’t work out so well,” she said, looking over the student’s record on her computer monitor. The student asked about the difference between the two calculus classes. The adviser read the course descriptions and then recommended an online tutoring tool and a talk with a peer adviser — a student who works in the advising center — who had taken business calculus. Before the student left, Ms. Veramidis took one last look at the transcript and noticed she had taken enough Spanish to come close to qualifying for a minor. “Keep that in mind,” she said. “We don’t want you to be here longer than you need to be.”

The appointment lasted a half-hour — longer than a student would be likely to get during a professor’s limited office hours — and the dialogue went beyond the initial reason for the appointment: advice on registering for spring classes. Rather than just focus on courses for the next semester, Ms. Veramidis is constantly looking at course sequencing over multiple semesters, to be sure students take classes in the right order and that required courses will be offered when they expect to take them

in subsequent semesters. The advisers go through training each summer to learn about changes within the university's 12 undergraduate schools.

Temple's goal is to increase retention and graduation rates, but progress is slow. The proportion who return for their sophomore year has remained relatively steady, around 88 percent. Meanwhile, the number of students graduating in four years has risen to 43 percent, from 35 percent in 2005 — the average for public colleges nationwide is 32 percent — and many report higher satisfaction with advising.

"It is important for us to be realistic about how much opportunity for improvement exists," said Peter R. Jones, Temple's senior vice provost for undergraduate studies. "Many of our students are first generation, and many face significant challenges and stop attending simply because they cannot afford to continue."

To more quickly move those numbers upward, Temple is developing "intrusive advising" strategies that identify students who need help the most but never seek it. A computer algorithm pinpoints students most at risk of dropping out. First semester, the algorithm is based on factors like high-school record, a job of more than 20 hours a week, and if first in their family to attend college. Of last fall's incoming class of 4,300 students, Temple identified about 650 at risk and contacted them at least five times, twice in person. Second semester, the algorithm is based on first-semester grades and credits completed.

To Dr. Jones, Temple's plethora of professional advisers is not indicative of administrative bloat but essential in "making sure students don't drop out when they don't have to."

In the past, he said, "we were so passive in advising." He added: "An adviser shouldn't be like a librarian who waits for students to come in for help. Too often, by the time students realize they need help, it's too late."

Jeffrey J. Selingo is author of "College (Un)Bound: The Future of Higher Education and What It Means for Students," and a contributing editor to *The Chronicle of Higher Education*.

A version of this article appears in print on April 13, 2014, on Page ED8 of *Education Life* with the headline: Here's Your Schedule, What's Your Hurry?.



## NSSE 2013 Topical Modules

### Profile of Participating Institutions and Respondents Academic Advising

Topical modules are short sets of questions on a topic related to current issues in higher education and student engagement that may be appended to the core survey. The **Academic Advising** module examines students' experiences with academic advising, including frequency of use, accessibility, information provided, and primary source of advice. In 2013, 224 U.S. institutions elected to append these items to the core survey. Of these, 209 belonged to one of the eight Carnegie classifications shown in the table below.<sup>a</sup>

The institutions and respondents participating in a given module are only a subset of all NSSE participating institutions and respondents. The table below displays the characteristics for module participants alongside NSSE 2013 participants as well as all bachelor's-granting U.S. institutions and students (all limited to the eight indicated Carnegie Classification categories).

	Institutions			Students		
	Academic Advising Module (%)	NSSE 2013 (%)	U.S. <sup>b</sup> (%)	Academic Advising Module (%)	NSSE 2013 (%)	U.S. <sup>b</sup> (%)
<b>Carnegie Basic Classification<sup>c</sup></b>						
Research Universities (very high research activity)	4	4	6	9	12	22
Research Universities (high research activity)	11	9	6	22	21	15
Doctoral/Research Universities	10	7	5	10	9	9
Master's Colleges and Universities (larger programs)	31	30	25	37	33	31
Master's Colleges and Universities (medium programs)	9	10	11	8	8	8
Master's Colleges and Universities (smaller programs)	4	5	8	2	3	4
Baccalaureate Colleges—Arts & Sciences	13	15	16	6	7	5
Baccalaureate Colleges—Diverse Fields	19	19	23	6	8	7
<b>Control</b>						
Public	47	39	34	66	57	64
Private	53	61	66	34	43	36
<b>Undergraduate enrollment</b>						
Fewer than 1,000	11	12	18	2	3	2
1,000 – 2,499	27	32	33	12	14	10
2,500 – 4,999	19	19	18	12	13	12
5,000 – 9,999	19	17	14	21	20	18
10,000 – 19,999	17	13	10	30	24	26
20,000 or more	8	7	6	22	26	33

a. All numbers are unweighted and based on U.S. postsecondary institutions that award bachelor's degrees and belong to one of the eight Carnegie Classification categories in the table. Totals may not sum to 100% due to rounding.

b. U.S. percentages are based on the 2011 IPEDS Institutional Characteristics file.

c. For information on the Carnegie Foundation's Basic Classification, see [classifications.carnegiefoundation.org](http://classifications.carnegiefoundation.org)



**NSSE 2013 Topical Modules**  
**U.S. Grand Frequencies by Class and Gender**  
**Academic Advising**

Item wording or description	Variable name	Response options	First-Year Students						Seniors					
			Female		Male		Total		Female		Male		Total	
			Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
<b>1. During the current school year, about how many times have you and an academic advisor discussed your academic interests, course selections, or academic performance?</b>														
	ADV01	0	2,067	8	1,340	10	3,407	9	4,974	13	3,481	14	8,455	13
		1	6,719	24	3,572	24	10,291	24	10,113	24	6,131	24	16,244	24
		2	9,017	31	4,859	31	13,876	31	10,804	26	6,764	26	17,568	26
		3	5,613	19	3,186	19	8,799	19	6,588	15	3,936	15	10,524	15
		4	2,571	8	1,389	8	3,960	8	3,714	8	2,091	8	5,805	8
		5	986	3	518	3	1,504	3	1,512	3	858	3	2,370	3
		6 or more	1,670	5	956	5	2,626	5	4,918	11	2,672	10	7,590	10
		Total	28,643	100	15,820	100	44,463	100	42,623	100	25,933	100	68,556	100
<b>2. During the current school year, to what extent have your academic advisors done the following?</b>														
a. Been available when needed	ADV02a	Very little	2,385	8	1,129	8	3,514	8	4,194	10	2,309	10	6,503	10
		Some	5,376	19	2,860	18	8,236	19	7,884	19	4,606	18	12,490	19
		Quite a bit	8,949	31	5,418	34	14,367	32	12,289	28	7,963	30	20,252	29
		Very much	10,187	35	5,476	34	15,663	34	15,778	36	9,513	35	25,291	36
		Not applicable	1,756	7	962	7	2,718	7	2,501	7	1,587	6	4,088	6
		Total	28,653	100	15,845	100	44,498	100	42,646	100	25,978	100	68,624	100
b. Listened closely to your concerns and questions	ADV02b	Very little	2,398	9	1,069	7	3,467	8	4,342	11	2,439	10	6,781	10
		Some	5,300	19	2,738	17	8,038	18	7,509	18	4,434	18	11,943	18
		Quite a bit	8,458	29	5,264	33	13,722	31	11,358	27	7,499	29	18,857	27
		Very much	10,591	36	5,588	35	16,179	36	16,156	37	9,413	35	25,569	36
		Not applicable	1,850	7	1,154	8	3,004	7	3,189	8	2,113	8	5,302	8
		Total	28,597	100	15,813	100	44,410	100	42,554	100	25,898	100	68,452	100
c. Informed you of important deadlines	ADV02c	Very little	4,160	15	1,911	13	6,071	14	7,405	17	4,363	17	11,768	17
		Some	5,557	19	3,178	20	8,735	19	8,124	19	5,021	19	13,145	19
		Quite a bit	7,844	27	4,850	30	12,694	29	10,334	24	6,705	26	17,039	25
		Very much	8,960	31	4,726	30	13,686	31	13,325	32	7,686	30	21,011	31
		Not applicable	2,012	8	1,125	8	3,137	8	3,324	8	2,125	8	5,449	8
		Total	28,533	100	15,790	100	44,323	100	42,512	100	25,900	100	68,412	100
d. Helped you understand academic rules and policies	ADV02d	Very little	3,945	14	1,828	12	5,773	13	7,543	18	4,353	17	11,896	18
		Some	6,071	21	3,457	22	9,528	21	8,609	20	5,409	21	14,018	20
		Quite a bit	7,795	27	4,736	30	12,531	28	9,318	22	6,253	24	15,571	23
		Very much	8,287	29	4,374	27	12,661	28	11,360	27	6,586	25	17,946	26
		Not applicable	2,415	9	1,378	9	3,793	9	5,595	14	3,244	12	8,839	13
		Total	28,513	100	15,773	100	44,286	100	42,425	100	25,845	100	68,270	100
e. Informed you of academic support options (tutoring, study groups, help with writing, etc.)	ADV02e	Very little	4,888	17	2,108	14	6,996	16	10,495	25	5,972	24	16,467	24
		Some	5,945	20	3,439	22	9,384	21	8,249	19	5,391	21	13,640	20
		Quite a bit	7,107	25	4,512	28	11,619	26	7,179	17	4,897	19	12,076	18
		Very much	7,866	27	4,242	26	12,108	27	8,863	21	5,195	20	14,058	20
		Not applicable	2,771	11	1,514	10	4,285	10	7,752	19	4,457	17	12,209	18
		Total	28,577	100	15,815	100	44,392	100	42,538	100	25,912	100	68,450	100
f. Provided useful information about courses	ADV02f	Very little	3,544	13	1,715	11	5,259	12	7,284	18	4,214	17	11,498	17
		Some	5,695	20	3,135	20	8,830	20	8,294	19	5,234	20	13,528	20
		Quite a bit	8,066	28	5,019	31	13,085	29	10,358	24	6,736	25	17,094	25
		Very much	9,634	34	4,966	31	14,600	32	13,018	30	7,472	28	20,490	29
		Not applicable	1,611	6	965	7	2,576	7	3,551	9	2,230	9	5,781	9
		Total	28,550	100	15,800	100	44,350	100	42,505	100	25,886	100	68,391	100

Note: Results weighted by gender, enrollment, and institution size. Counts are not weighted.



**NSSE 2013 Topical Modules**  
**U.S. Grand Frequencies by Class and Gender**  
**Academic Advising**

Item wording or description	Variable name	Response options	First-Year Students				Seniors							
			Female		Male		Female		Male		Total			
			Count	%	Count	%	Count	%	Count	%	Count	%		
g. Helped you when you had academic difficulties	ADV02g	Very little	4,721	17	2,327	15	7,048	16	7,723	19	4,780	19	12,503	19
		Some	5,135	18	2,989	19	8,124	18	6,575	15	4,141	16	10,716	16
		Quite a bit	5,746	20	3,535	22	9,281	21	7,247	17	4,658	17	11,905	17
		Very much	7,252	25	3,543	22	10,795	24	10,715	25	5,830	22	16,545	23
		Not applicable	5,672	21	3,389	22	9,061	21	10,179	25	6,453	25	16,632	25
		Total	28,526	100	15,783	100	44,309	100	42,439	100	25,862	100	68,301	100
h. Helped you get information on special opportunities (study abroad, internship, research projects, etc.)	ADV02h	Very little	6,080	21	2,815	18	8,895	20	9,937	24	5,835	23	15,772	24
		Some	5,203	18	3,218	20	8,421	19	6,607	15	4,443	17	11,050	16
		Quite a bit	5,359	19	3,398	21	8,757	20	6,645	15	4,484	17	11,129	16
		Very much	6,270	22	3,239	20	9,509	21	9,630	22	5,388	20	15,018	21
		Not applicable	5,570	21	3,100	20	8,670	21	9,567	24	5,689	22	15,256	23
		Total	28,482	100	15,770	100	44,252	100	42,386	100	25,839	100	68,225	100
i. Discussed your career interests and post-graduation plans	ADV02i	Very little	6,233	22	3,117	21	9,350	21	10,626	26	6,191	25	16,817	26
		Some	6,186	21	3,620	22	9,806	22	7,871	18	5,140	20	13,011	19
		Quite a bit	5,723	20	3,519	22	9,242	21	7,226	16	4,814	18	12,040	17
		Very much	6,954	24	3,390	21	10,344	23	11,423	26	6,261	23	17,684	25
		Not applicable	3,369	13	2,094	14	5,463	13	5,239	14	3,397	13	8,636	14
		Total	28,465	100	15,740	100	44,205	100	42,385	100	25,803	100	68,188	100

**3. During the current school year, which of the following has been your primary source of advice regarding your academic plans? (Select one)**

Variable name	Response options	Female	%	Male	%	Total	%	Female	%	Male	%	Total	%	
ADV03	Academic advisor(s) assigned to you	10,024	34	5,523	33	15,547	34	14,394	33	8,724	32	23,118	33	
	Academic advisor(s) available to any student	2,441	10	1,420	10	3,861	10	3,653	9	2,390	10	6,043	10	
	Faculty or staff not formally assigned as an advisor	2,760	9	1,603	10	4,363	9	8,364	19	4,618	18	12,982	18	
	Online advising system (degree progress report, etc.)	711	3	326	2	1,037	3	2,243	6	1,446	6	3,689	6	
	Web site, catalog, or other published sources	1,297	5	627	4	1,924	5	2,292	6	1,378	6	3,670	6	
	Friends or other students	4,073	14	2,511	15	6,584	14	4,103	10	2,639	10	6,742	10	
	Family members	5,362	18	2,515	16	7,877	17	3,743	8	1,889	7	5,632	8	
	Other, please specify:	785	3	381	3	1,166	3	1,545	4	949	4	2,494	4	
	I did not seek academic advice this year	1,169	4	946	6	2,115	5	2,288	6	1,923	7	4,211	6	
		Total	28,622	100	15,852	100	44,474	100	42,625	100	25,956	100	68,581	100

Note: Results weighted by gender, enrollment, and institution size. Counts are not weighted.





**NSSE 2013 Topical Modules**  
**U.S. Grand Means and Standard Deviations by Class and Gender**  
**Academic Advising**

Item wording or description	Variable name	First-Year Students						Seniors					
		Female		Male		Total		Female		Male		Total	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
<b>1. During the current school year, about how many times have you and an academic advisor discussed your academic interests, course selections, or academic performance?</b>													
	ADV01	2.27	1.48	2.23	1.49	2.25	1.49	2.35	1.77	2.26	1.74	2.31	1.75
<b>2. During the current school year, to what extent have your academic advisors done the following?</b>													
a. Been available when needed	ADV02a	2.99	.97	3.00	.94	3.00	.96	2.97	1.01	2.98	.99	2.97	1.00
b. Listened closely to your concerns and questions	ADV02b	3.01	.98	3.03	.94	3.02	.96	2.98	1.03	2.98	1.01	2.98	1.02
c. Informed you of important deadlines	ADV02c	2.82	1.07	2.83	1.03	2.82	1.05	2.76	1.12	2.74	1.10	2.75	1.11
d. Helped you understand academic rules and policies	ADV02d	2.79	1.06	2.80	1.01	2.79	1.04	2.67	1.12	2.66	1.09	2.66	1.11
e. Informed you of academic support options (tutoring, study groups, help with writing, etc.)	ADV02e	2.69	1.10	2.74	1.04	2.72	1.07	2.41	1.17	2.42	1.14	2.41	1.15
f. Provided useful information about courses	ADV02f	2.88	1.04	2.88	1.01	2.88	1.03	2.73	1.12	2.72	1.10	2.73	1.11
g. Helped you when you had academic difficulties	ADV02g	2.68	1.13	2.65	1.09	2.66	1.11	2.63	1.18	2.56	1.16	2.60	1.17
h. Helped you get information on special opportunities (study abroad, internship, research projects, etc.)	ADV02h	2.51	1.15	2.55	1.10	2.53	1.13	2.46	1.21	2.45	1.17	2.46	1.19
i. Discussed your career interests and post-graduation plans	ADV02i	2.52	1.15	2.51	1.10	2.52	1.13	2.48	1.20	2.46	1.17	2.47	1.19

Note: Results weighted by gender, enrollment, and institution size. For variable ranges, see codebook.

## Academic Advising Assessment Practices: Results of a National Study

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*Best practices of academic advising assessment involve identification of student learning outcomes, the development and use of multiple measures of student learning, and sound professional judgment to understand the information gathered and to improve student learning. However, the assessment results often come from minimal, narrow, and inconsistent evaluation practices, often based on student satisfaction surveys. Therefore, to generate a picture of the current state of assessment, we surveyed those conducting or deemed responsible for academic advising assessment. Although 80% of survey participants identified academic-advising student learning outcomes, one half assessed the achievement of those outcomes, with most using student surveys. Furthermore, 7% reported employing three or more measures while 60% reported improvements of practice and student learning based on the assessment.*

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**KEY WORDS:** academic advising, assessment, assessment measures, SLOs, student learning outcomes

Faculty members provide educationally purposeful activities in their classes by developing learning objectives to guide the information and methods by which they teach. Many in higher education view academic advising as a form of teaching that leads to student learning (Appleby, 2008; Creamer, 2000; Hemwall & Trachte, 2005; Lowenstein, 2005; Melander, 2005) and personal development (Crookston, 1972/1994/2009). Advisors provide educationally purposeful activities by developing procedures to guide students in looking beyond curricular requirements to discover opportunities that provide a breadth and depth of educational experiences. By promoting opportunities that will challenge and facilitate student intellectual and social development, good academic advising enables students to add value to the college experience (Campbell & Nutt, 2008). This growth in students throughout the college experience fulfills the mission of the institution and

demonstrates the impact of effective advising on the teaching and learning process.

According to the National Academic Advising Association (NACADA) (2006), academic advising consists of curricula, pedagogies, and student learning outcomes (SLOs) just as classroom teaching does. The Council for the Advancement of Standards in Higher Education (CAS) (2008) recommended that advising programs identify relevant and desirable development goals and SLOs that are purposeful and holistic. In addition, CAS (2008) suggested that advising provide programs and services needed to assist with the achievement of those outcomes. The advising program staff is responsible for determining the relevant outcome domains and related dimensions for students based on institutional mission.

According to Aiken-Wisniewski et al. (2010), the SLOs of the advising experience include cognitive (what students should know), behavioral (be able to do), and affective (value) outcomes as a result of participating in academic advising. Furthermore, SLOs of academic advising should be tailored to the needs of students (Martin, 2007) and enable them to reach their educational and career goals.

Assessment on college campuses is primarily driven by accreditation of outside organizations, consumers, public opinion, legislative pressure (e.g., Texas Gen. Laws 61, 2011), and an internal commitment to improvement (Ewell, 2009). If advising is viewed from a learning-centered paradigm that focuses on outcomes (Campbell & Nutt, 2008), assessment must be used to understand whether or not the SLOs have been achieved. CAS (2008) standards require evaluation and assessment for academic advising programs. As noted by Aiken-Wisniewski et al. (2010), assessment of academic advising supports student persistence, success, and learning. It also serves to improve advising delivery through continuous feedback (Robbins & Zarges, 2011) as the practice is reviewed and revised.

The methods and measures used in assessment should comport to the assessment questions asked and garner feedback on student learning. Assessment may include combinations of quantitative and

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qualitative types of inquiry, direct and indirect methods of measurement, and formative and summative means of evaluation (Robbins, 2009, 2011, 2013). Participants in the advising program may identify a wide range of SLOs. In addition, the multidimensional characteristics of learning mean that effective assessment must include multiple measures to provide encompassing and useful information (Campbell, 2005b; Huba & Freed, 2000; Maki, 2004; Palomba, 2002a; Suskie, 2009).

Student evaluation of advising interactions comprises the most predominant form of academic advising assessment (Habley, 2004; Macaruso, 2007); however, standard student evaluations can be problematic (McClellan, 2011; Robbins, 2009, 2011, 2013). Specifically, in addition to reflecting possible student biases toward advisors or advising, student evaluations often offer limited ability to measure the scope of advising processes or abstract concepts. In addition, Creamer and Scott (2000) stated, "Student satisfaction measures cannot capture long-term outcomes and may be influenced by unrealistic or uninformed expectations about the role of an advisor" (p. 344). Use of collective findings from multiple measures allows for better guidance that improves advising efforts (Creamer & Scott, 2000; Robbins, 2009, 2011, 2013).

To improve advising programs, administrators need systematically gathered and specific assessment data (Campbell, 2005a). More importantly, assessment must provide advising program personnel with an understanding of the ways and topics of student learning through their involvement in academic advising experiences. In addition to understanding student views on assessment, "Professionals must monitor their own behaviors and constantly examine their assumptions, practices, and outcomes" (White, 2006, ¶12).

**Purpose of Study**

The literature regarding assessment practices of academic advising SLOs is limited and lacks descriptive information on the methods being used to measure outcomes or the use of resulting data. The lack of research devoted entirely to assessment of academic advising SLOs inspired this study.

We investigate the extent to which academic advising SLOs are identified at colleges and universities engaged in the assessment of academic advising. We also determine the type and number of measures used to assess the achievement of the SLOs. In addition, we look at the use of the information obtained through the assessment

process. We also examine an association between institutional characteristics (e.g., institutional type and size, existence of a formal mission statement) and the identification of SLOs as well as use of formal measures of SLOs and the resulting assessment information.

**Method****Participants**

Participants for the study included administrators, advisors, and other personnel who practice or are responsible for the assessment of academic advising at their institutions. All participants came from institutions with members of NACADA and were recruited from those who had completed the *NACADA 2011 National Survey of Academic Advising* (Carlstrom & Miller, 2013) and had agreed to participate in follow-up studies. We also solicited some participants at the NACADA 2011 National Conference and by an invitation distributed via the NACADA Assessment Listserv. From these pools of potential participants, we invited 499 individuals via e-mail to complete a web-based survey. We collected data from 291 people, a 58% response rate. Out of this number, 230 (46% of the invited participants) had offered complete data that we used in the results.

The greatest percentage of respondents came from NACADA Region 5 (19.1%,  $n = 44$ ) and the fewest came from Region 8 (3.9%,  $n = 9$ ). These trends reflect the NACADA membership: Region 5 is home to the most members and Region 8 is home to the fewest; the percentages of participants were also proportional to the composition of NACADA membership per other regions (NACADA, 2012, 2014).

The highest percentage of participants by institution type came from public and private, nonprofit, doctoral degree-granting institutions (37.8%,  $n = 87$ ). Public and private, nonprofit, 2-year institutions were home to the next largest group of participants (24.3%,  $n = 56$ ), which aligns with the percentage (29.0%) they make up among all types of institutions surveyed.

Institutional size, based on the Carnegie Foundation for the Advancement of Teaching (2010) classification, reflects three categories (per undergraduate enrollments): small (fewer than 6,000); medium (6,000 to 23,999); and large (24,000 or more). Almost all of the participants, 83.4%, reported being from small and medium institutions; this group was evenly split at 41.7% from each nonlarge category.

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The data show that 53.0% ( $n = 122$ ) of participants reported job responsibilities associated with institution-wide undergraduate advising. Collected demographic data indicate that most hold the title of advising director/coordinator (45.7%,  $n = 105$ ), and 21.7% ( $n = 50$ ) said they work as an academic advisor. *Assistant/associate dean* described 9.6% ( $n = 22$ ) of the respondents while 5.2% ( $n = 12$ ) identified themselves as dean. The fewest self reported being a faculty advisor (1.7%,  $n = 4$ ).

Eighty-seven percent ( $n = 200$ ) of the participants indicated having some direct advising responsibilities, with 32.6% ( $n = 75$ ) representing situations exclusive to professional advisors and 20.0% ( $n = 46$ ) from situations in which only faculty advisors were employed. Nearly one half (45.2%,  $n = 104$ ) reported use of a split model such that both faculty and staff provide advising.

The data show that 42.2% ( $n = 97$ ) of participants work in programs that mandate advising for all students, and 22.6% ( $n = 52$ ) respondents indicated that advising requirements depend on specific situations (e.g., mandatory for new freshman, transfer, or probationary students). Roughly one third reported no mandates for advising. The results indicate that a formal mission statement for academic advising exists in 65.7% ( $n = 151$ ) of participants' advising situations.

#### Instrument

We specifically developed *The Survey on Assessment of Academic Advising* for this national study. Administered online, it was comprised of two sections. Items in the first section were included to obtain demographic information of the participants and characteristics of the institutions they represented (e.g., type and size of institution, personnel who advise undergraduates, existence of formal mission statement). The second section is comprised of 21 items related to a specific SLO. The outcomes were gleaned from the NACADA *Guide to Assessment in Academic Advising* (Aiken-Wisniewski et al., 2010); the Assessment of Academic Advising Institute; and the NACADA Clearinghouse, which includes *Constructing Student Learning Outcomes* (Martin, 2007) and sample academic advising syllabi (NACADA, 2011). The SLOs were presented as groups of cognitive, behavioral, and affective outcomes (see Appendix).

Participants who responded affirmatively to SLO items were presented with a list of options

and asked to select all used to assess the SLOs. The measures included those most frequently found in the assessment of academic advising literature and were also drawn and adapted, with permission from the National Institute for Learning Outcomes Assessment, from the national survey of provosts and chief academic officers on assessment practices (Ikenberry & Kuh, 2009). After selecting the measures used to assess the identified outcomes, participants chose all applicable options of assessment information use.

Participants received access to a write-in section where they could list any other academic advising SLOs that had been formally identified. In addition, participants could describe additional measures they used to assess SLOs and additional ways the assessment information was used.

#### Procedures

The Institutional Review Board at Kansas State University granted permission to conduct this study. The administration of the *Survey on Assessment of Academic Advising* took place in February 2012. Potential participants were sent an e-mail notification inviting them to take part in the survey over 3 weeks. A follow-up e-mail was sent after the first 2 weeks had passed to remind them of the survey and encourage them to complete it.

#### Hypotheses

We did not create hypotheses to address the exploratory values of institutional type and size or institutional level of advising. We created the following hypotheses for the other institutional variables based on the findings of Carlstrom and Miller (2013):

- H1. More participants from situations where only professional advisors are employed than from situations where only faculty advisors are employed report formal identification and measurement of SLOs and use of the resulting assessment data.
- H2. Fewer participants from situations where advising is mandatory than those from advising situations where it is not mandatory report formal identification and measurement of SLOs and use of the resulting assessment data.
- H3. More participants from situations in which a formal mission statement guides academic advising report formal identification and measurement of SLOs

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and use of the resulting assessment data than do those from advising situations with no mission statement.

**Statistical Analyses**

We collected data to determine the characteristics of participants' institutions as well as the number of participants reporting identification and measurement of academic advising SLOs. In addition, we collected information to determine the number of participants who reported utilization of multiple measures and who indicated that the assessment information is used to make decisions at their institutions.

We conducted a series of Pearson's chi-square tests to examine any existing associations between (a) institution type, (b) institution size, (c) institutional level of advising, (d) advising personnel, (e) mandatory advising for all students, and (f) the existence of a formal mission statement for academic advising with the following:

- formal identification of academic advising SLOs,
- use of formal measures to assess academic advising SLOs,
- use of three or more formal measures to assess academic advising SLOs, and
- use of assessment information.

We present only the chi-square analyses that meet the following requirements: (a) No more than 20% of cells had expected counts fewer than 5, and (b) no cells had expected counts less than 1.

**Results****Identification and Assessment of Student Learning Outcomes**

Results indicated that 77.8% ( $n = 179$ ) of the 230 participants reported formal identification of academic advising SLOs. Table 1 lists the numbers and percentages of participants who identified each of the three most frequently identified cognitive, behavioral, and affective outcomes.

The results indicated that 57.8% ( $n = 133$ ) of participants reported use of formal measures to assess academic advising SLOs. The outcome most frequently measured was "student knows the degree requirements of college/department" (see Table 1). However, the data show that 1.9% ( $n = 3$ ) of the participants who identified this

outcome indicated that three or more formal measures are employed to assess it.

Student survey or questionnaire was the overwhelming choice reported for measuring achievement of each SLO (see Table 2). For cognitive and behavioral outcomes, direct observations and written exams were the next most commonly reported forms of assessment.

**Use of Assessment Information**

Results indicated that 60.0% ( $n = 138$ ) of participants who identified academic advising SLOs ( $n = 179$ ) also said that the information gathered from assessing those outcomes contributed to decision making. The numbers and percentages of participants who reported using assessment information in specific ways are listed in Table 3. The participants reported the following actions in descending order: revising process/delivery outcomes, revising the advising curriculum, and evaluating the advising unit. The fewest cited using assessment information to meet institutional or accrediting body mandates, to revise SLOs, and to lobby for additional resources.

**Association Between Characteristics of Institutions Represented and Assessment Practices**

We considered responses of "Do not know" and "Choose not to reply" to the institutional variables as missing data because some participants likely chose these to avoid disclosing their lack of knowledge of assessment practices within their advising situation (McMillin, 2012). We decided little pertinent information would be gained from including the data from these respondents. Therefore, we subjected 171 cases to chi-square analyses.

**Type of institution.** We found no significant association between the type of institution and identification of formal SLOs and use of formal measures to assess academic advising SLOs, three or more assessment measures, or assessment information.

**Size of institution.** The association between the size of the institution and formal identification of SLOs was significant:  $\chi^2(2, N = 171) = 7.83$ ,  $p = .02$ . More participants from large and medium institutions indicated formal identification of SLOs than expected. We found no significant association between size of institution and use of formal measures to assess SLOs, three or more formal measures, or assessment information.

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**Table 1.** Numbers and percentages of participants who reported identification and assessment of student learning outcomes (SLOs),  $N = 230$

	Identified SLO		Assessed SLO		Used Two or More Measures		Used Three or More Measures	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Top 3 Reported SLOs</b>								
<b>Cognitive</b>								
Student knows the degree requirements of college/department.	155	67.4	102	65.8	17	11.0	3	1.9
Student knows where to locate resources on campus.	133	57.8	89	66.9	15	11.3	1	0.8
Student knows department/college policies.	117	50.9	73	62.4	12	10.3	1	0.9
<b>Behavioral</b>								
Student is able to develop long-term plans to meet education goals.	102	44.3	70	68.6	18	17.6	0	0.0
Student uses the online registration system to enroll in classes.	101	43.9	37	36.6	5	5.0	1	1.0
Student uses an educational plan to manage progress toward degree completion.	100	43.5	57	57.0	12	12.0	1	1.0
<b>Affective</b>								
Student values/appreciates how academic advising has contributed to his/her educational experience.	56	24.3	40	71.4	15	26.8	4	7.2
Student values/appreciates the importance of interacting with faculty members.	56	24.3	29	51.8	8	14.3	2	3.6
Student values/appreciates having a sense of ownership of one's educational experience.	51	22.2	28	54.9	10	19.7	2	4.0

**Institutional level of advising.** We found no significant association between the institutional level of advising and formal identification of SLOs or use of formal measures of assessment, three or more formal assessment measures, or assessment information.

**Advising personnel.** According to H1, we expected that more respondents from situations that hire only professional advisors than respondents from situations that hire only faculty members would report use of formal identification and measurement of SLOs and using the resulting assessment data. The data show, based on the odds ratio, respondents from solely professional-advising staffed situations were 2.82 times more likely to confirm use of identified outcomes than those from situations with other advising personnel. According to Field (2009), the odds ratio is a useful measure of effect size for categorical data.

Table 4 presents the difference between expected and observed values for advising personnel. There was a significant association between personnel and formally identified academic advising SLOs:  $\chi^2(2, n = 171) = 8.12, p = .017$ .

We found no significant association between advising personnel and use of formal measures to assess SLOs, three or more formal assessment measures, or assessment information. However, those from advising situations with only professional advisors were 1.77 times more likely to report use of assessment data than were those from situations that solely hired faculty advisors.

**Mandatory advising.** H2 stated our expectation that fewer respondents from advising situations characterized by mandatory advising for all students would report formal identification and measurement of SLOs as well as use of assessment data than their counterparts from situations where

**Table 2.** Numbers and percentages of participants who reported use of formal measures to assess student learning outcomes (SLOs): cognitive, behavioral, and affective

	Student Surveys/ Questionnaires		Direct Observation		Written Exams		Course Assignments		Student Work/ Portfolio		Focus Groups	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Top 3 Reported SLOs</b>												
<b>Cognitive</b>												
Student knows the degree requirements of college/department. ( <i>n</i> = 155)	94	60.7	11	7.1	7	4.5	3	1.9	3	1.9	0	0.0
Student knows where to locate resources on campus. ( <i>n</i> = 133)	80	60.2	7	5.3	5	3.8	4	3.0	1	0.8	3	2.3
Student knows department or college policies. ( <i>n</i> = 117)	70	60.0	5	4.3	3	2.6	2	1.7	6	5.1	3	2.6
<b>Behavioral</b>												
Student is able to develop long-term plans to meet education goals. ( <i>n</i> = 102)	62	60.8	8	7.8	4	3.9	4	3.9	5	4.9	0	0.0
Student uses an educational plan to manage progress toward degree completion. ( <i>n</i> = 100)	51	51.0	8	8.0	2	2.0	2	2.0	5	5.0	3	3.0
Student uses the online registration system to enroll in classes. ( <i>n</i> = 101)	31	30.7	4	4.0	0	0.0	0	0.0	0	0.0	1	1.0
<b>Affective</b>												
Student values appreciates how academic advising has contributed to his/her educational experience. ( <i>n</i> = 56)	36	64.3	14	25.0	8	14.3	2	3.6	1	1.8	0	0.0
Student values/appreciates the benefits of the general education requirements. ( <i>n</i> = 50)	29	58.0	9	18.0	6	12.0	6	12.0	5	10.0	0	0.0
Student values/appreciates how his/her academic major reflects personal interests. ( <i>n</i> = 50)	26	52.0	3	6.0	3	6.0	1	2.0	5	10.0	1	2.0

*Note.* Participants were directed to “check all that apply.” Thus, the values listed do not total 100%.

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**Table 3.** Numbers and percentages of participants who reported how information was used as a result of student learning outcomes (SLOs) assessment

	Used Assessment Information		Revising Process/Delivery Outcomes		Evaluating Advising Unit		Revising Advising Pedagogy		Revising Advising Curriculum		Evaluating Individual Advisers		Institutional Mandate	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
<b>Top 3 Reported SLOs</b>														
<b>Cognitive</b>														
Student knows the degree requirements of college/department. ( <i>n</i> = 155)	110	70.9	61	39.3	52	33.5	46	29.7	31	20.0	25	16.1	27	17.4
Student knows about academic majors available. ( <i>n</i> = 108)	75	69.4	35	32.4	37	34.3	25	23.1	30	27.8	23	21.3	17	15.7
Student knows department/college policies. ( <i>n</i> = 117)	81	69.2	42	35.8	43	36.8	29	24.7	25	21.3	25	21.4	19	16.2
<b>Behavioral</b>														
Student accesses academic advising in a timely manner. ( <i>n</i> = 53)	37	69.8	11	20.8	7	13.2	9	17.0	4	7.5	12	22.6	4	7.5
Student engages with appropriate resources to meet individual need for academic success. ( <i>n</i> = 78)	53	67.9	25	32.1	21	26.9	20	25.6	20	25.6	13	16.7	14	17.9
Student interprets a degree audit report for educational planning. ( <i>n</i> = 86)	56	65.1	27	31.4	26	30.2	17	19.8	26	30.2	14	16.3	12	14.0
<b>Affective</b>														
Student values/appreciates the role of internships as part of his/her undergraduate experience. ( <i>n</i> = 39)	26	66.7	11	28.2	6	15.4	6	15.4	8	20.5	4	10.3	11	28.2
Student values/appreciates how academic advising has contributed to his/her educational experience. ( <i>n</i> = 56)	26	46.4	13	23.2	0	0.0	14	25.0	16	28.6	12	21.4	12	21.4
Student values/appreciates having a sense of ownership of one's educational experience. ( <i>n</i> = 51)	29	56.9	12	23.5	11	21.6	12	23.5	14	27.5	9	17.6	11	21.6

Note. Participants were directed to "check all that apply." Thus, the values listed do not total 100%.



Table 4. Cross-tabs analysis of assessment practices by advising personnel

Assessment Practices	Advising Personnel								
	Faculty (n = 37)			Professional (n = 53)			Both Faculty and Professional (n = 81)		
	% Exp	% Obs	% Diff	% Exp	% Obs	% Diff	% Exp	% Obs	% Diff
Formally Identified SLOs	78.4	62.2	-16.2	78.3	86.8	+8.5	78.4	80.2	+1.8
Formally Measured SLOs	60.3	48.6	-11.7	60.2	69.8	+9.6	60.2	59.3	-0.9
Used Three or More Measures	8.1	10.8	+2.7	8.1	1.9	-6.2	8.1	11.1	+3.0
Used Assessment Information	61.4	48.6	-12.8	61.3	71.7	+10.4	61.4	60.5	-0.9

Note. Exp = expected; Obs = observed; Diff = difference; SLOs = student learning outcomes

academic advising is not mandatory. The association between mandatory advising and formal identification of SLOs was not significant. However, contrary to the hypothesis, a relatively equal percentage of participants from institutions with and without mandatory advising identified SLOs (see Table 5).

We found no significant association between mandatory advising and use of formal measures to assess outcomes, three or more assessment measures, or assessment data use. However, a greater percentage of participants from places with mandatory advising used formal measures, including three or more, than did those participants from places without mandatory advising. As hypothesized, a smaller percentage of participants from institutions with mandatory advising (54.1%) than those from institutions that did not mandate advising (62.5%) reported use of assessment data.

**Formal mission statement.** According to H3, we expected more participants from advising situations characterized by a formal mission statement to report formal identification and measurement of SLOs and use of assessment data than those from advising situations with no mission statement. As hypothesized, more participants in advising situations with a formal mission statement identified SLOs (87.9%) than did those from places without such a statement (58.2%) (see Table 6). We found a significant association between a formal mission statement and formal identification of academic advising SLOs,  $\chi^2(1, n = 171) = 19.47, p = .000$ , as well as use of formal measures to assess them:  $\chi^2(1, n = 171) = 9.33, p = .002$ . We found no significant association between a formal mission statement and use of three or more measures to assess academic advising SLOs.

As hypothesized, more from advising situations with a formal mission statement reported use of assessment information (67.2%) than those where a mission statement (49.1%) did not exist. We found a significant association between having a formal mission statement and use of assessment information:  $\chi^2(1, n = 171) = 5.19, p = .023$ .

**Discussion**

Assessment is vital to the achievement of the advising program mission for “without ongoing assessment it is not possible to determine with any certainty that the advising program is accomplishing its stated mission” (Habley, 2005, ¶6). The mission statement serves as the guide to determine

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**Table 5.** Cross-tabs analysis of assessment practices by mandatory advising

Assessment Practices	Mandatory Advising					
	Yes ( <i>n</i> = 78)			No ( <i>n</i> = 56)		
	% Exp	% Obs	% Diff	% Exp	% Obs	% Diff
Formally Identified SLOs	78.4	79.5	+1.1	78.4	78.6	-0.2
Formally Measured SLOs	60.2	65.4	+5.2	60.2	60.7	+0.5
Used Three or More Measures	8.2	12.8	+4.6	8.2	3.6	-4.6
Used Assessment Information	61.4	54.1	-7.3	61.4	62.5	+1.1

*Note.* Exp = expected; Obs = observed; Diff = difference; SLOs = student learning outcomes

advising program learning outcomes (American Association of Higher Education [AAHE], 1996; Campbell, 2008; CAS, 2008; Palomba, 2002a), and this study clearly shows that this first step in programming leads to greater assessment activities. More participants who reported their institutions have a formal mission statement identified SLOs, reported utilization of formal measures to assess learning outcomes and three or more measures to do it than did those reporting no such statement. More participants affirming mission statements also reported use of the resulting assessment information to inform and make decisions.

Over three fourths of those surveyed came from situations with identified SLOs. Participants of this study indicated prioritization of cognitive SLOs (e.g., degree requirements, the policies of their major department or college). Although provision of information is considered a prescriptive form of advising, students need to know the specifics for degree completion. Furthermore, they need to know the location of campus resources, a priority outcome according to some participants and one that likely affects retention (Cuseo, 2012).

Some participants cited recognition of the importance of behavioral SLOs (e.g., develop long-term goals, create and use an educational plan to manage progress toward degree completion). According to CAS (2008), helping students create an educational plan should be a primary

purpose of advising programs. The planning process encourages students to engage in higher levels of thinking, such as evaluating or creating (Kratwohl, 2002), by using all of the complex information available to them and generating a plan that meets their academic, career, and personal goals (Hurt, 2007; NACADA, 2006). Such plans are also purposeful and holistic (CAS, 2008), providing individualized attention to each student in his or her development.

Appleby (2007) noted that some outcomes are abstract and difficult to measure, which may be the reason few participants reported identification of affective SLOs. Advisors may believe that students appreciate the contribution of advising, but may not view the affective outcomes as significant or have the means to assess them. Perhaps better understanding of ways to measure affective outcomes, such as described by Erlich and Russ-Eft (2011) or Robbins (2009), would lead to more frequent identification of these outcomes.

More respondents identifying SLOs came from situations where both faculty and professional personnel advise. The results indicate that environments of shared obligation to assessment promote evaluation efforts. Palomba (2002b) noted that such an environment demonstrates a commitment to student success.

Of participants who identified SLOs, fewer than 65% reported measurements for those outcomes

**Table 6.** Cross-tabs analysis of assessment practices by mission statement

Assessment Practices	Mission Statement					
	Yes ( <i>n</i> = 116)			No ( <i>n</i> = 55)		
	% Exp	% Obs	% Diff	% Exp	% Obs	% Diff
Formally Identified SLOs	78.4	87.9	+9.5	78.4	58.2	-20.2
Formally Measured SLOs	60.3	68.1	+7.8	60.3	43.6	-16.7
Used Three or More Measures	8.2	10.3	+2.1	8.2	3.6	-4.6
Used Assessment Data	61.4	67.2	+5.8	61.4	49.1	-12.3

*Note.* Exp = expected; Obs = observed; Diff = difference; SLOs = student learning outcomes

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and fewer than 15% indicated use of multiple measures. They reported predominant use of a student survey/questionnaire to assess outcomes, a finding consistent with previous studies revealing that most who assess academic advising use student satisfaction surveys (Carlstrom & Miller, 2013; Habley, 2004; Macaruso, 2007). Student perceptions of the advising process can be an effective element of assessment, but they should not be the sole measure used (Robbins, 2009, 2011, 2013). Student surveys that assess outcome achievement (e.g., self-report of learning) to determine learning experienced are more effective means of measuring achievement than are those based on satisfaction (Robbins, 2009, 2011, 2013).

Participants suggested that student work or portfolios are seldom used to measure achievement of learning outcomes. This finding is surprising in light of the usefulness of these tools for tracking and demonstrating SLOs of academic advising interactions (Chen & Black, 2010). In addition, few participants reported the use of rubrics for assessing outcome achievement. According to Hurt (2007), use of rubrics to assess student work or performance promotes a holistic assessment of student learning.

The use of three or more measures to assess SLOs constitutes a best practice in assessment (Campbell, 2005b; Cuseo, 2008; Huba & Freed, 2000; Maki, 2004; Palomba & Banta, 1999; Robbins, 2009, 2011, 2013; Suskie, 2009). To capture the complexity of student learning gained as a result of academic advising, researchers need to employ multiple measures of assessment. The results show 7.8% of participants reported use of three or more measures to assess student learning, suggesting that advising units may not be collecting sufficient information to provide evidence of SLO achievement (Creamer & Scott, 2000; Robbins, 2009, 2011, 2013).

More participants from situations employing only professional (and not faculty) advisors reported assessments of outcome achievement. Professional advisors likely shoulder fewer demands for research and lighter teaching loads, which leaves more time for assessment efforts. More participants in situations where only faculty and where both faculty and professionals advise reported use of three or more measures than did those in situations where only professional advisors are employed. Perhaps faculty experience with conducting assessment explains this finding. A collaborative environment in which both professional and faculty advisors work together on

assessment efforts appears to provide the optimal results.

Assessment information proves useful to enhance advising performance that will lead to improved practices and SLO achievement (Ewell, 2009). Over one half of the participants in this study reporting identification of SLOs also indicated use of the results. They reported utilization in the following descending order: changing the advising process/delivery outcomes, evaluating the advising unit, and revising advising pedagogy and curriculum. However, because student surveys are the most frequently reported measure, the assessment information may have resulted in changes that increased satisfaction but not necessarily enhanced outcome achievement.

More participants reported use of assessment information than reported use of outcome measures. Informal assessments made during sessions with students inform practice only if advisors directly observe an expected performance level based on set criteria. Mere speculation that outcomes have been achieved likely result in inconsistent and unreliable data, which in turn may not lead to needed enhancements in advising delivery or student learning.

**Limitations**

Participants were solicited through their membership in NACADA. They indicated work with assessment at their institutions and volunteered to take part in the survey. As a result, study findings may not generalize to other advisors or administrators who work in academic advising at all institutions.

**Recommendations for Practice**

Leaders of advising programs need to determine their mission to students in efforts to guide the identification of relevant SLOs (AAHE, 1996; Campbell & Nutt, 2008; CAS, 2008; Maki, 2004; Martin, 2007; Robbins, 2009). Advisors should increase assessment efforts to provide evidence that students are learning from the advising relationship and program (AAHE, 1996; Angelo, 1995; Appleby, 2007; Ewell, 2009; Maki, 2004; White, 2006). The data inform determination of the advising programs that work well and those that need enhancement to positively influence student learning. Assessment efforts must include using multiple measures (e.g., exams, assignments, rubrics to measure student work/portfolios, direct observations of student performance, and reflective essays) to provide sufficient data in

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support of achieved learning outcomes (Creamer & Scott, 2000; Maki, 2004; Palomba, 2002a; Robbins, 2009, 2011, 2013; Suskie, 2009). Education or professional development on multiple measures and utilization of the resulting information must receive prioritization. Finally, administrators must make better use of valid assessment results to improve advising practices and increase student learning (AAHE, 1996; Ewell, 2009; Palomba, 2002a).

### Recommendations for Research

Based on the results of this study, we recommend additional research. For example, a study that determines the most effective measurement methods informs assessment practice, and a qualitative study that shows the impact of the advising process and increased student learning informs advising practice. Shared results of research on advising programs that feature SLO achievement measures and the actions taken based on assessment information benefit others (Palomba, 2002a). In addition, a longitudinal study designed to assess the entire educational experience through an advising program and that shows student progress through their academic career, even as the desired outcomes evolve, would contribute much to the field. Much could be learned from programs that have goals and objectives in place for assessing student development over time (CAS, 2008; Ewell, 2009). Finally, this study could be replicated with another sample of academic advising personnel who are not NACADA members. Those not affiliated with NACADA may have implemented sound assessment practices that could provide new information.

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**Appendix.** Student learning outcomes presented in survey on academic advising assessment

<p><i>Cognitive outcomes</i></p> <p>Student knows</p> <ul style="list-style-type: none"> <li>• the degree requirements of the college/department.</li> <li>• department/college policies (e.g., late withdrawal from courses, grade replacement, late adding of a course).</li> <li>• about academic majors available.</li> <li>• how to schedule an advising appointment.</li> <li>• how to compute his/her GPA.</li> <li>• where to locate resources on campus (e.g., tutoring, career services, financial assistance).</li> </ul> <p><i>Behavioral outcomes</i></p> <p>Student is able to</p> <ul style="list-style-type: none"> <li>• demonstrate effective decision-making skills.</li> <li>• develop long-term plans to meet education goals.</li> <li>• use an educational plan to manage progress toward degree completion.</li> <li>• engage with appropriate resources to meet individual need for academic success.</li> </ul>	<ul style="list-style-type: none"> <li>• interpret a degree audit report for educational planning.</li> <li>• prepare questions for an advising appointment.</li> <li>• use the online registration system to enroll in classes.</li> <li>• access academic advising in a timely manner.</li> </ul> <p><i>Affective outcomes</i></p> <p>Student values/appreciates</p> <ul style="list-style-type: none"> <li>• the benefits of the general education requirements (a liberal education).</li> <li>• how personal values relate to life goals.</li> <li>• how his/her academic major reflects personal interests.</li> <li>• having a sense of ownership of one's educational experience.</li> <li>• how academic advising has contributed to his or her educational experience.</li> <li>• the role of internships as part of his/her undergraduate experience.</li> <li>• the importance of interacting with faculty members.</li> </ul>
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