



Statistical and Survey Services Task Force Recommendations

The Statistical and Survey Services ad hoc committee of the Faculty Senate Research Committee has studied the state of statistical and survey services available to researchers within the University of Minnesota and recommends the following ways of improving statistical and survey support services.

1. **Collaborate.** Have representatives from internal statistical and survey groups and other relevant groups meet together regularly to discuss ways to better meet the needs of University researchers and understand the services that the other groups offer. Make internal contacts between staff members so that they can not only refer clients to the appropriate group, but when appropriate, they can work directly with staff from other groups to better serve researchers.
2. **Publicize.** Create a central web site describing each group and the services they offer, who they serve, and how services are paid for. Also describe University best practices and how these groups help researchers meet these goals. In particular, describe the potential disadvantages and risks of external third-party survey services and encourage researchers to discuss their needs with internal survey professionals so that they can make informed decisions about which services are appropriate for their needs. Additionally, work with OIT to increase the effectiveness of web search results so that researchers can more easily find the groups that provide these services.
3. **Increase availability.** Certain researchers have need of statistical and survey services but have limited funding available. Work with their departments and colleges to provide the funding necessary to provide them with the services necessary to support their research in a cost-effective manner. Additionally, advise researchers that do have funding but have traditionally not paid for services that this funding can and should be used for these type of services.

This ad hoc committee includes representatives from the various statistical and survey groups on campus, including the Statistical Consulting Service of the School of Statistics, the Bio-statistics, Design, and Analysis Center (BDAC), the Office of Research Consultation and Services (ORCS) of the College of Education and Human Development (CEHD), the Minnesota Center for Survey Research (MCRS), the Health Survey Research Center (HSRC), the Office of Measurement Services (OMS), the University Office of Information Technology (OIT), and the College of Liberal Arts Office of Information Technology (CLA-OIT).

Summary of Usage and Needs Survey

Overview of Results

To assist in forming these recommendations, this ad hoc committee surveyed University faculty to measure the usage of and need for statistical and survey services, including statistical software. The results should be considered more as measures of interest and need than as true estimates of university-wide percentages and proportions, especially as the response rate is low.

It is clear that a need does exist for these types of services, and that a significant portion of University researchers feel that it is important to have services like these available. Assistance with statistical issues was more widely needed than assistance with surveys, but those who needed survey help were more likely to get help from specialized organizations, as opposed to unaffiliated individuals.

Another important finding is that a substantial number of researchers do not know about the resources that are available to them. In addition, researchers frequently have gone outside the University for help. This may reflect collaboration with other researchers, but may also point to additional needs that are not being met. In particular, some researchers who have done surveys have used third party web survey software, which can pose legal risks and may not be allowed under University policy.

While most researchers are satisfied with the available services, a significant minority feel the University's statistical consulting and software services are inadequate. Many of these have had difficulty finding appropriate or available help, especially with new or specialized methodologies; some have also been dissatisfied with the help they have received or have had difficulty finding funding to pay for it.

Finally, many researchers have used services at no cost to them, and most would be more likely to use centrally funded services than to pay from their own budgets. However, those in certain colleges are more ready to pay; this may reflect more funding in those colleges as well as differing expectations and cultures.

Detailed Summary

This survey was sent to 1233 University faculty, of which 239 responded (19.4%). It was sent to all Directors of Graduate Studies (156) and all faculty new to the University within three years, not including those who were new this fall (178); the remainder were selected at random. Directors of Graduate Studies were asked to consider students, staff, and faculty in their graduate program; all others were asked to consider just their research group.

To investigate possible differences between colleges, four college groupings were considered: colleges associated with the Academic Health Center (AHC), colleges primarily located in St. Paul, the College of Liberal Arts, and all other colleges. The College of Veterinary Medicine is included in both the AHC and the St. Paul groups. It is likely that there are important differences within the grouping of other colleges, however, as these colleges had limited responses, they will not be considered here.

Also of interest was if new researchers are finding the services they need; to study this the results were divided between those at the University five or fewer years, and those at the University more than five years.

Statistical Services

Overall, 62% of respondents used statistical services in the last five years; the usage was greater in the AHC and St. Paul colleges (77%) than in CLA and the other colleges (45%). Similarly, in AHC and St. Paul, 94% of those who responded thought that the availability of these services was very or somewhat important, versus 64% in CLA and the other colleges. While 66% of those who responded thought the available services were definitely or probably adequate, a significant minority of 21% thought they were definitely not adequate.

Almost all respondents needed help with data analysis or statistical analysis; other major needs were help with calculating sample size and power, writing grant proposals, experimental design, and interpretation of results. Although these were all needed in each college group, the need for help with sample size calculations and grant proposals was higher in the AHC group, and the need for experimental design was higher in St. Paul.

Interestingly, more than half of those who needed help (54%) usually got help from individual students, staff, or faculty. Some of this may be genuine collaboration, but from the comments, a substantial portion of these researchers feel that they are imposing on those they ask for help. The St. Paul colleges, however, are an exception to this pattern; only 26% usually got help from individual students, staff, and faculty, and instead, 50% usually got help from the Statistical Consulting Service of the School of Statistics. Also of interest is that overall, 24% got some help from a person or business outside the University. While some of these researchers may be collaborating with researchers from other schools, it may also indicate that some statistical needs are not being met within the University.

The method of paying for these services also differed substantially by college; in the AHC, 47% had used services at no cost and 38% had used grant funds, but in St. Paul, 88% had used services at no cost and only 7% had used grant funds. In CLA and other colleges, the usage was between that of AHC and St. Paul. Note that respondents could choose multiple methods as they might have used multiple services. Also of interest is that those at the University for more than five years were more likely to have used services at no charge (66% vs. 44%), and that 8% had used personal funds. Overall, 77% of those who responded would definitely or probably use centrally funded statistical services, but only 51% would use these services at an hourly or per project rate. There is again a difference between AHC and St. Paul; for the AHC, potential usage drops from 83% to 67%, while for St. Paul, it drops from 87% to 52%.

Survey Services

Overall, 30% of respondents used survey research services in the last five years, and 52% thought these services were very or somewhat important. Of those who responded to the question, 71% thought the available services were definitely or probably adequate; 13% thought they were definitely not adequate. Differences between subgroups may exist, but the number of responses within groups is too small to confidently treat them separately.

A wide range of services was needed, from early tasks, such as questionnaire design, grant proposal assistance, information about sample sources, and sample size calculations, to the actual data collection and entry and the subsequent data analysis and interpretation. All of these services were needed by at least 20% of those who needed survey services. The most common need was for questionnaire design, at 75%.

Of those who needed survey help, 40% usually had help from individual students, staff, or faculty. As for the statistical services, this may be due in part to collaboration between researchers, but it may also indicate that some needs are not being met or that researchers are unaware of the services available to them. Additionally, it is important to note that 23% of those who had used survey services had used third party web survey software, which may not be allowed by University policy.

Overall, 52% used grant funds to pay for services, 28% used department funds, and 31% used services that had no charge. 10% had used personal funds. Respondents could again choose multiple answers as multiple services may have been used. While sample sizes are small, it does seem likely that there are differences between colleges; department funds were used much more in the AHC and CLA than in St. Paul and the other colleges. Finally, of those who responded, 64% would definitely or probably use centrally funded services, while only 37% would use services at an hourly or per project rate.

Software Services

Overall, only 7% of respondents did not use statistical software; this was highest in CLA, at 20%. Of those who did, 51% needed help of some kind, including purchasing, licensing, installation, maintenance, usage, and training. 72% thought these services were very or somewhat important; this was somewhat higher in the AHC and St. Paul, and 70% thought the available services were probably or definitely adequate. Interestingly, only 11% said they were definitely adequate.

This help was again most often provided by individual students, staff, or faculty; 48% of respondents usually got help in this way. There were various University groups that provided services, including University, college, and department information technology offices. Still, 11% usually went outside the University for this help.

Department funds, grant funds, and no cost services each were used by about a third of those who needed help. In AHC, department and grant funds were used more, and in St. Paul, no cost services were used more. Overall, 10% used personal funds. 78% would use centrally funded services of this kind; this drops to 39% if they were available at an hourly rate.

The most common statistical software programs used at the University are SAS and SPSS. Of those who use statistical software, 43% use each of these programs. Again, respondents were asked to select all programs they used. R is used by 23%, and 23% also used other programs not available through OIT. Usage does depend greatly on college. In the AHC, usage of SAS and SPSS are similar to the overall usage, but R is only used by 10%. In St. Paul, SAS is used by 70% and R by 53%, but SPSS only by 26%. And in CLA and the other colleges, SPSS is most used (57% and 40%).

Of those who have the need for and are aware of the University's software licensing program for statistical software, 84% are very or somewhat satisfied. However, 19% of those who need statistical software are unaware of this program.

This survey was funded by the Office of the Vice President for Research.



Statistical and Survey Services Usage and Needs Survey

Complete Results

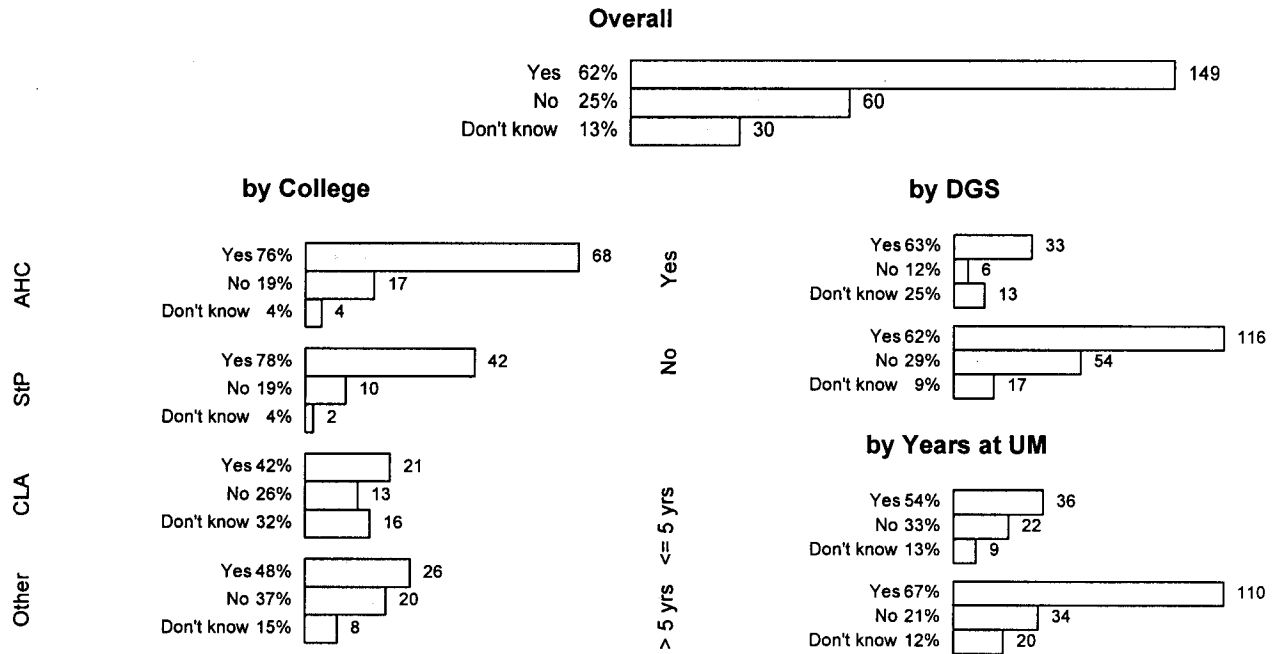
This survey was sent to 156 DGS's, 178 new faculty, and 899 additional faculty selected at random, of which 239 responded.

Included in this document are aggregate totals for the multiple choice questions, both overall and separately by college group, DGS status, and time at the University, as well as "other" responses and the answers to the open response questions. The college groups are:

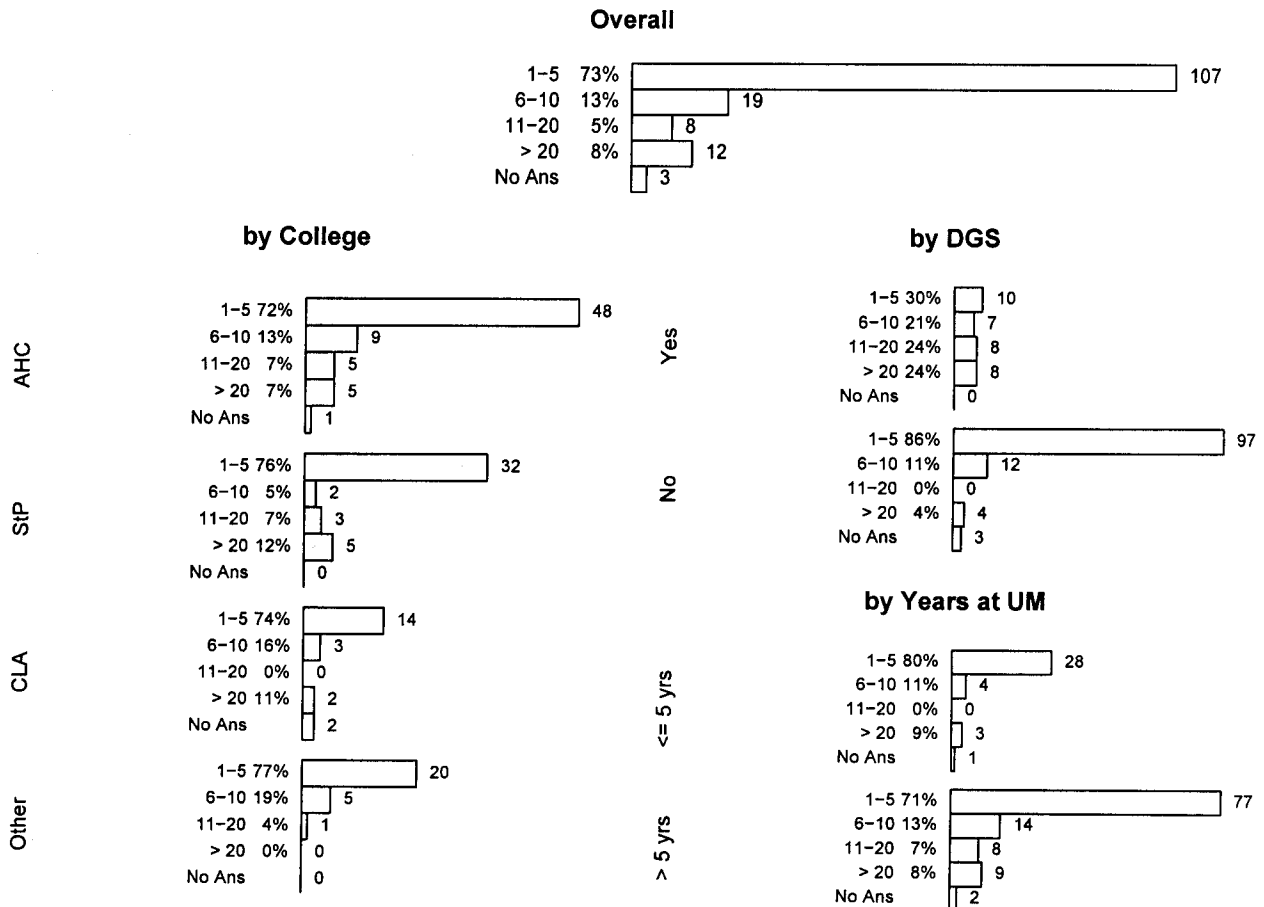
- *AHC*: Medical School, School of Nursing, School of Dentistry, College of Pharmacy, School of Public Health, College of Veterinary Medicine, Academic Health Center
- *StP*: College of Food, Agriculture, and Natural Resource Sciences, College of Biological Sciences, College of Veterinary Medicine, Extension, Multiple
- *CLA*: College of Liberal Arts
- *Other*: College of Continuing Education, College of Design, College of Education and Human Development, Institute of Technology, Carlson School of Management, HHH Institute of Public Affairs, Law School

Notice that the College of Veterinary Medicine is included twice, because they are of interest both as part of AHC and because they are on the St. Paul campus.

In the last five years, have students, staff, or faculty in your research group (or department, if a DGS) needed someone else to provide statistical consulting services?

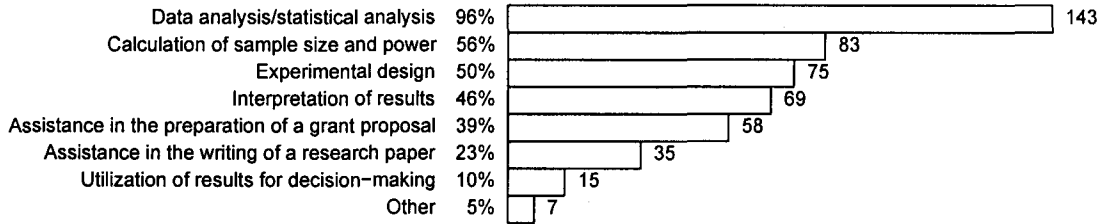


For approximately how many research projects per year were statistical consulting services needed?

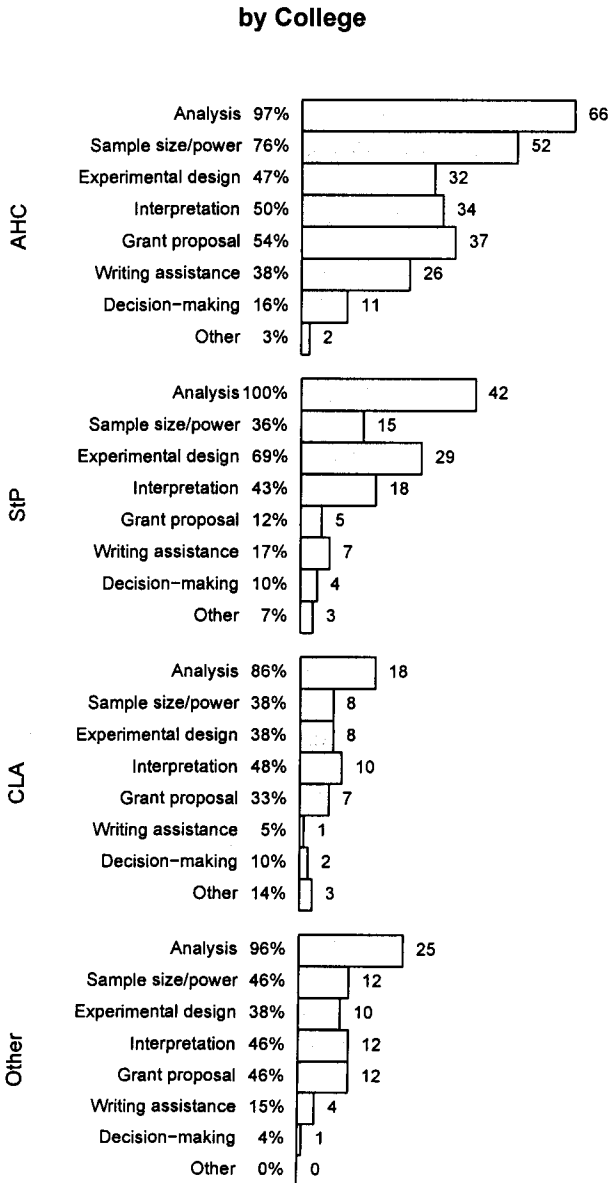


What specific statistical consulting services were needed?

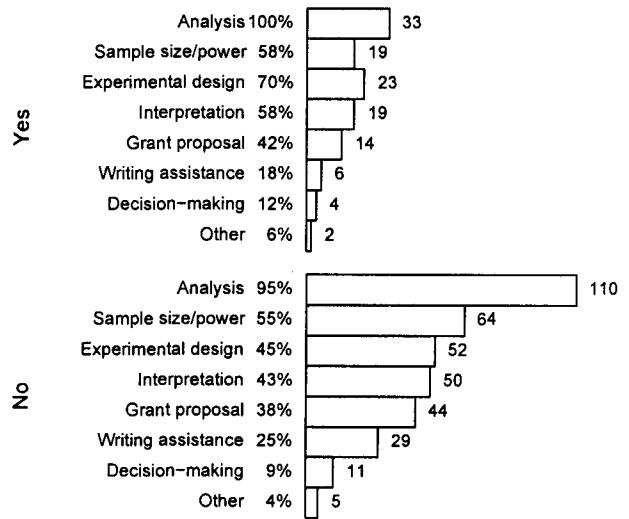
Overall



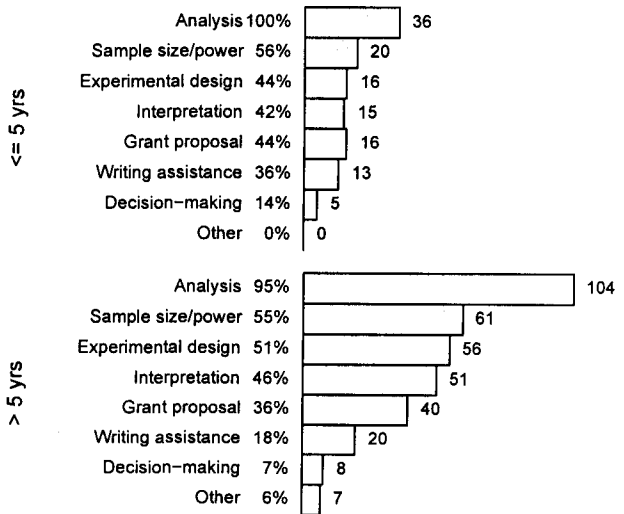
by College



by DGS



by Years at UM



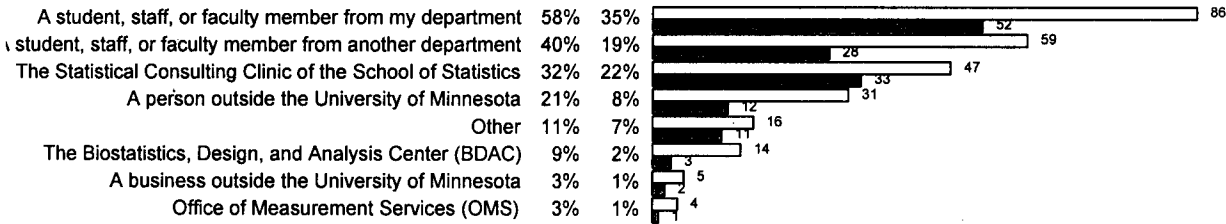
Who provided these statistical consulting services?

(first percentage and upper bar in plot)

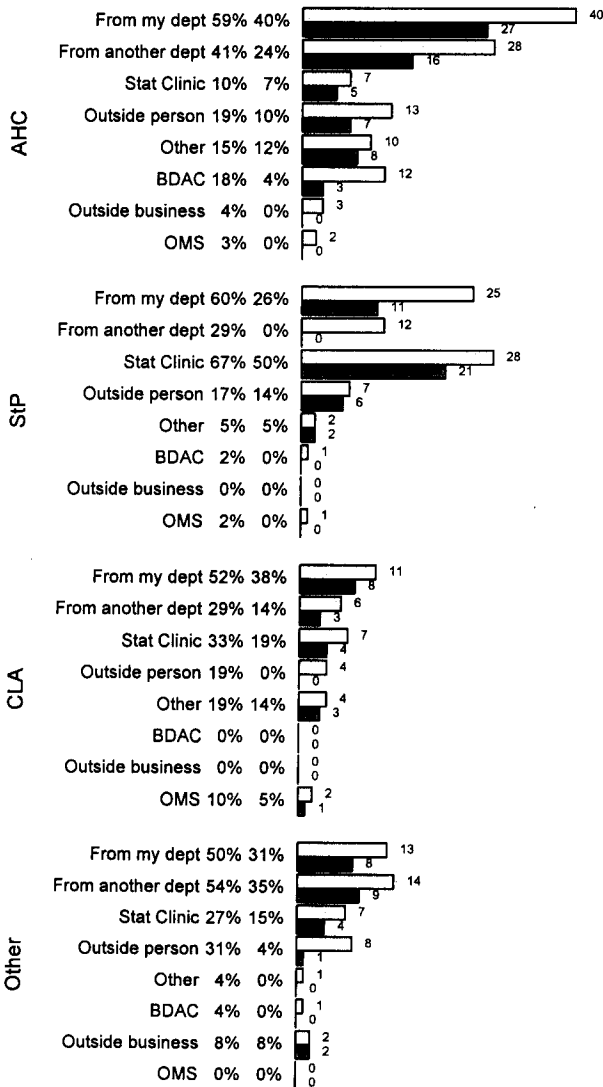
Which ONE of these USUALLY provided these statistical consulting services?

(second percentage and lower bar in plot)

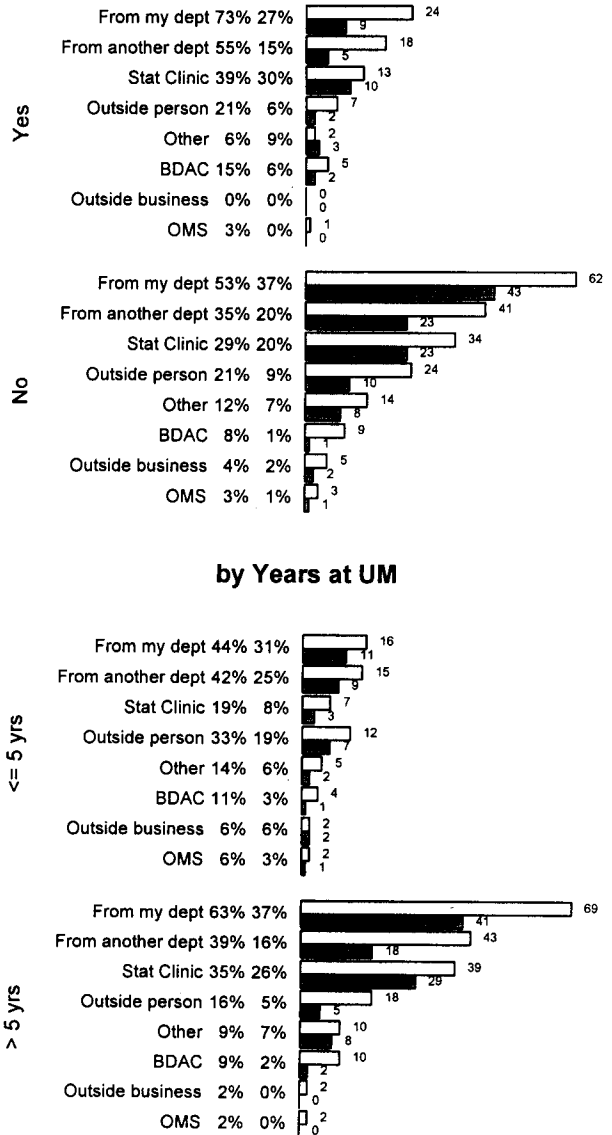
Overall



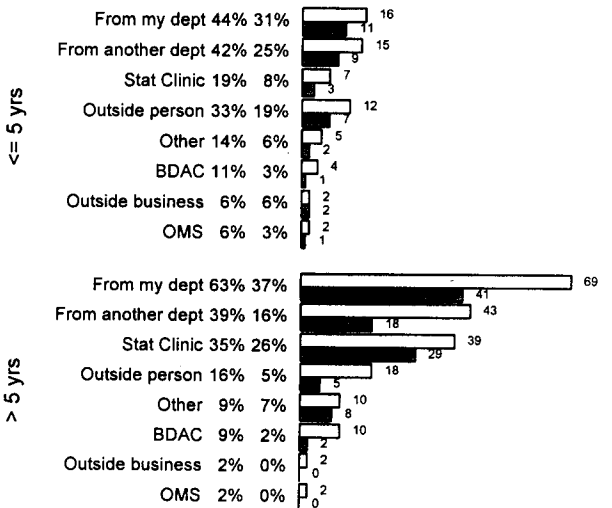
by College



by DGS

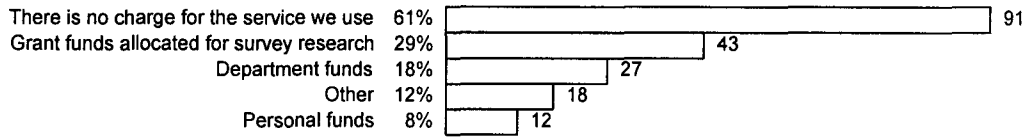


by Years at UM



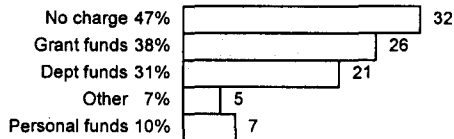
How are these statistical consulting services paid for?

Overall

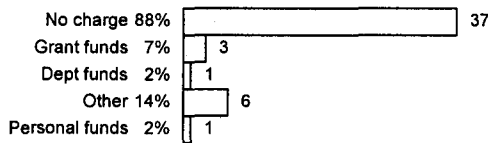


by College

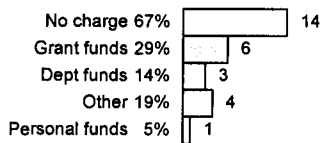
AHC



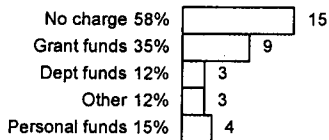
STP



CLA

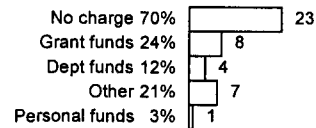


Other

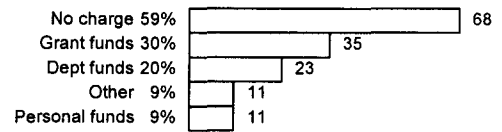


by DGS

Yes

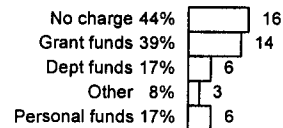


No

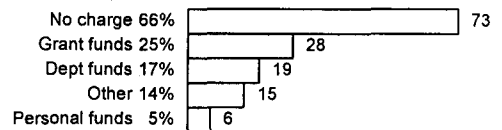


by Years at UM

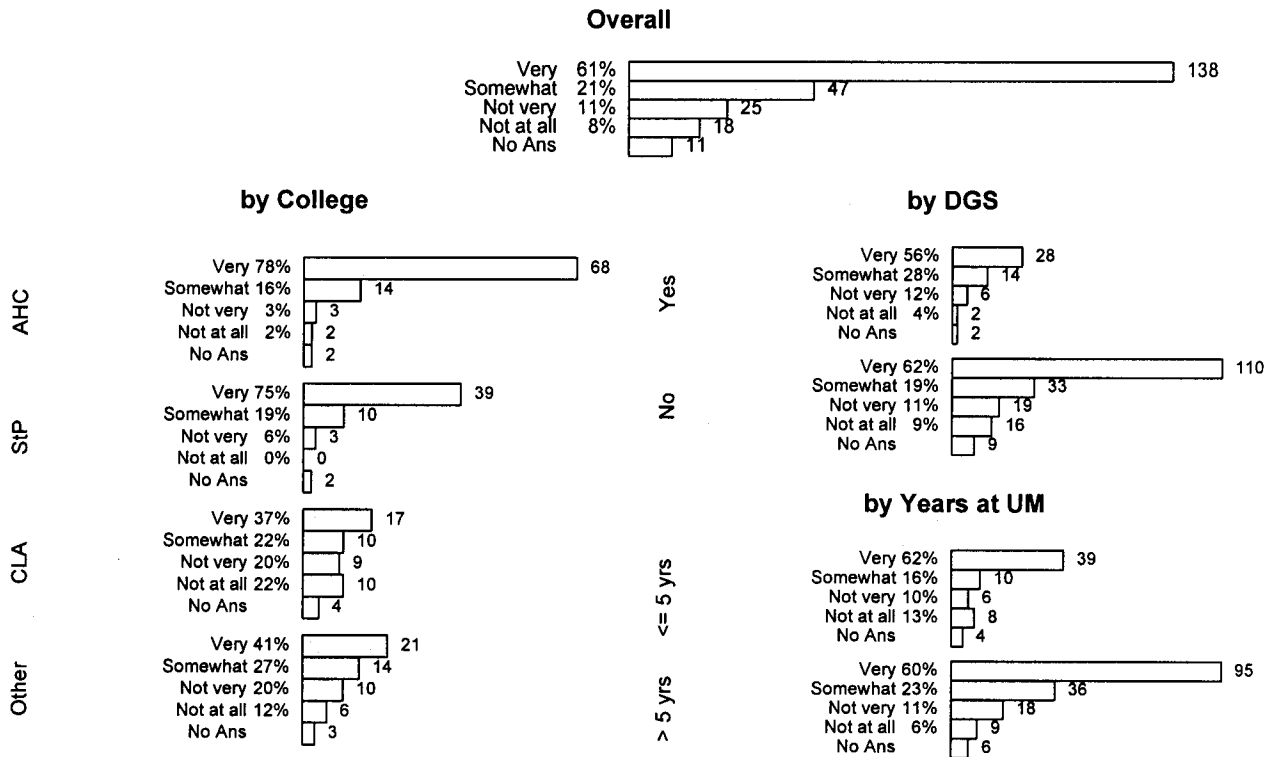
<= 5 yrs



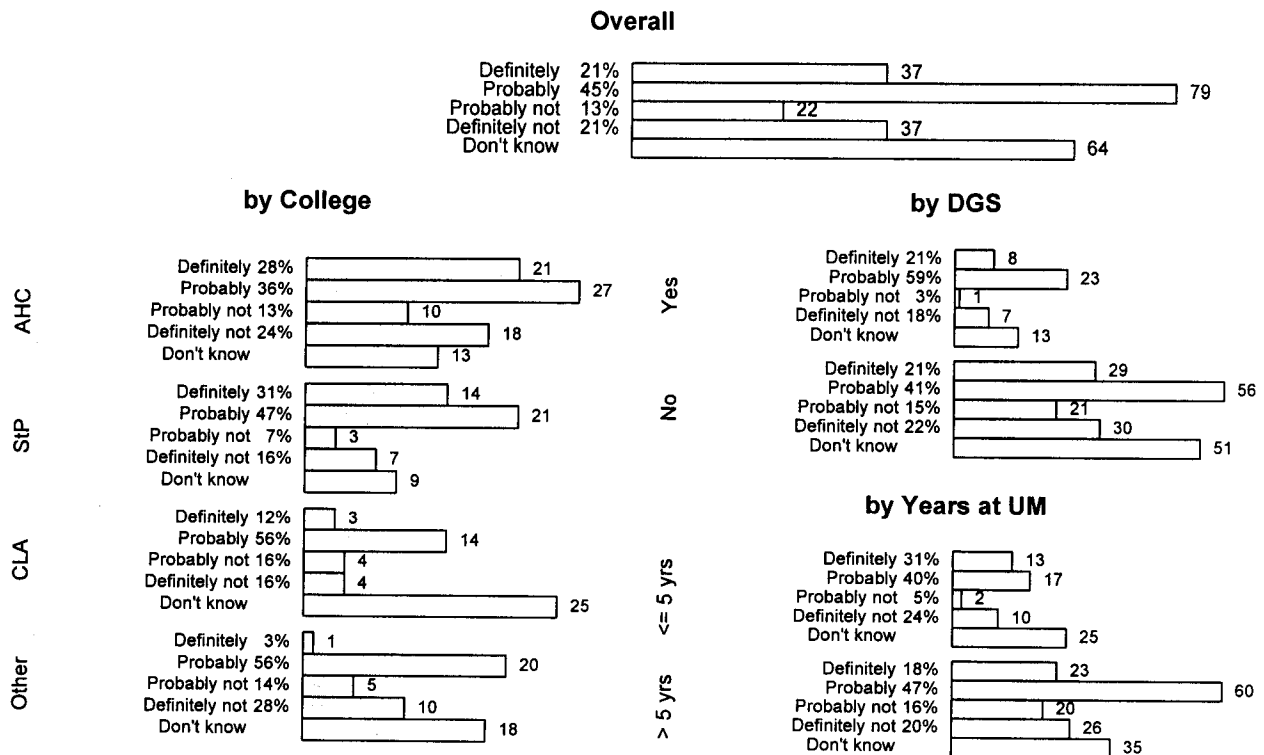
> 5 yrs



How important is the availability of on-campus services of the following types for you and the students, staff, and faculty in your research group (or department, if a DGS)? *Statistical Consulting*



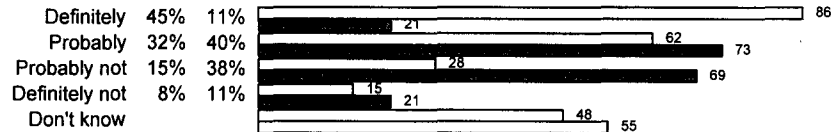
Are the services of the following types that are available for the students, staff, and faculty of your research group (or department, if a DGS) adequate for their needs? *Statistical Consulting*



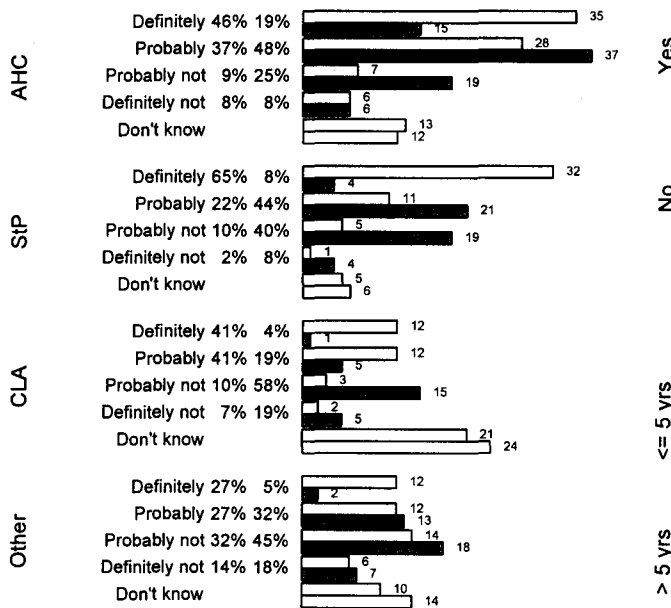
Would the students, staff, and faculty in your research group (or department, if a DGS) use centrally funded units that provide the following services? *Statistical Consulting*
 (first percentage and upper bar in plot)

Would the students, staff, and faculty in your research group (or department, if a DGS) use units that provides the following services at an hourly or per project rate? *Statistical Consulting*
 (second percentage and lower bar in plot)

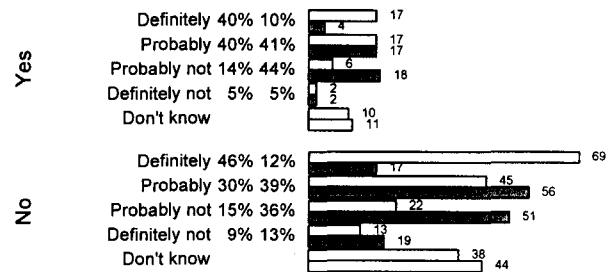
Overall



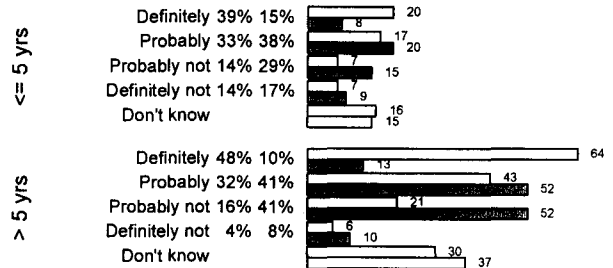
by College



by DGS



by Years at UM



Other Responses:**What specific statistical consulting services were needed?***Academic Health Center*

- IACUC animal use form (*Medical, Integrative Biology and Physiology, 11-20 yrs at UM*)

Veterinary Medicine

- determination of appropriate statistical analysis (*CVM, Veterinary Clinical Sciences, > 20 yrs at UM*)

St. Paul

- programming of specific statistical packages, e.g., SAS, R, ARC (*CFANS, Entomology (DGS), > 20 yrs at UM*)
- Signal analysis in proteomics (*Multiple, N/A (DGS), 6-10 yrs at UM*)

College of Liberal Arts

- complex statistical analysis (*CLA, Comm. Studies, 11-20 yrs at UM*)
- visualizing and presenting results (*CLA, SJMC, 6-10 yrs at UM*)
- assistance in writing a book (*CLA, English, > 20 yrs at UM*)

Who provided these statistical consulting services?*Academic Health Center*

- faculty member at CAREI (*Medical, Neuroscience, 11-20 yrs at UM*)
- 3 different people from the department of biostatistics (*Medical, Pediatrics, No Ans yrs at UM*)
- School of Public Health (*Medical, Pediatrics, > 20 yrs at UM*)
- statisticians in the psych dept, cmrr, cnbd. etc (*Medical, pediatrics, 11-20 yrs at UM*)
- me (*Medical, Orthopaedic Surgery, 1-5 yrs at UM*)
- just ourselves, tinkering with statistics software (*Medical, Orthopaedic Surgery, 1-5 yrs at UM*)
- statistical consultant in School of Nursing (*Nursing, NA, 1-5 yrs at UM*)
- biostatistician in school of public health (*Dentistry, restorative sciences, 11-20 yrs at UM*)
- School of Public Health Biostats faculty member (*Pharmacy, ECP, > 20 yrs at UM*)

Veterinary Medicine

- Cancer Center Biostatistics Core (*CVM, Veterinary Clinical Sciences, 11-20 yrs at UM*)

St. Paul

- sometimes a service provider was not found (*CFANS, Plant Pathology, 1-5 yrs at UM*)

College of Liberal Arts

- people with the Course Transformation Program (*CLA, Department of Spanish and Portuguese Studies, 1-5 yrs at UM*)
- Stats support through the cancer center (*CLA, Psychology, 11-20 yrs at UM*)
- Unsure (*CLA, English as a Second Language (DGS), 6-10 yrs at UM*)
- no one (*CLA, English, > 20 yrs at UM*)

Other

- Services often not provided (*Law, NA (DGS), 6-10 yrs at UM*)

Which ONE of these USUALLY provided these statistical consulting services?

Academic Health Center

- At other universities I've used stat consulting services (*Medical, Microbiology, 1-5 yrs at UM*)
- Department of biostatistics (*Medical, Pediatrics, No Ans yrs at UM*)
- as above (*Medical, Pediatrics, > 20 yrs at UM*)
- varies for faculty member (i'm not even sure what others do) (*Medical, pediatrics, 11-20 yrs at UM*)
- statistical consultant in School of Nursing (*Nursing, NA, 1-5 yrs at UM*)
- not sure (*Dentistry, developmental and surgical sciences (DGS), 6-10 yrs at UM*)

Veterinary Medicine

- Cancer Center Biostatistics Core (*CVM, Veterinary Clinical Sciences, 11-20 yrs at UM*)
- I don't know (*CVM, VBS (DGS), 6-10 yrs at UM*)

College of Liberal Arts

- Research Division (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)
- textbooks and long hours of study (*CLA, Comm. Studies, 11-20 yrs at UM*)
- Unsure (*CLA, English as a Second Language (DGS), 6-10 yrs at UM*)

How are these statistical consulting services paid for?

Academic Health Center

- grant funds for research (*Medical, Neuroscience, > 20 yrs at UM*)
- Don't know (*Dentistry, developmental and surgical sciences (DGS), 6-10 yrs at UM*)
- School of Dentistry funds (*Dentistry, Developmental and Surgical Sciences, 11-20 yrs at UM*)
- The statistician is an author on the paper. (*SPH, Health Policy & Management, 1-5 yrs at UM*)
- out of pocket by students and faculty (*Other AHC, Program in Occupational Therapy (DGS), 11-20 yrs at UM*)

St. Paul

- Agricultural Experiment Station (*CFANS, Entomology, 1-5 yrs at UM*)
- AES was paying for (*CFANS, FWCB (WRS DGS (DGS), > 20 yrs at UM*)
- The Agricultural Experiment Station provided funds for this service for students doing MAES supported research (*CFANS, Entomology (DGS), > 20 yrs at UM*)
- collegial advice (*CFANS, FWCB, 6-10 yrs at UM*)
- co-authorship (*CBS, NA (DGS), > 20 yrs at UM*)
- Grant funds for other than survey research (*Multiple, N/A (DGS), 6-10 yrs at UM*)

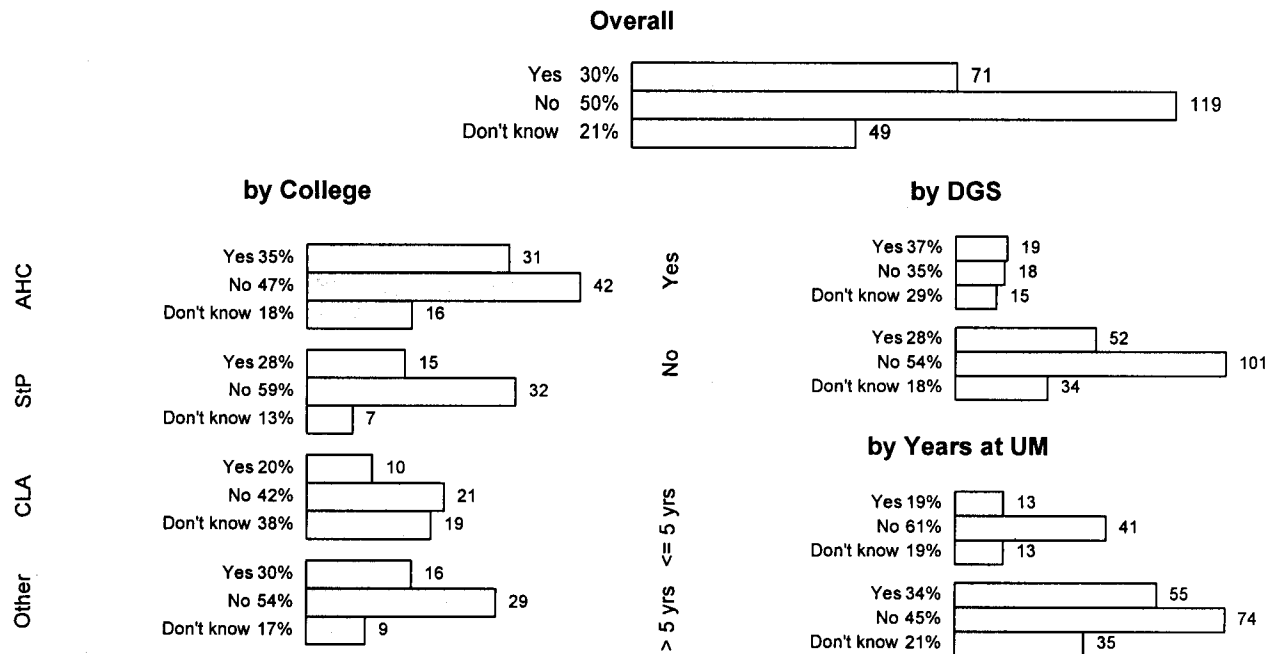
College of Liberal Arts

- weren't (*CLA, Comm. Studies, 11-20 yrs at UM*)
- Grant effort for stats guru within department is so small that it is basically a favor we have asked of him. (*CLA, Sociology, 6-10 yrs at UM*)
- research award (*CLA, English, > 20 yrs at UM*)
- person from my department is a colleague and is not paid for consulting; once I used the Statistics Clinic and I don't believe there was a charge. (*CLA, Anthropology, 1-5 yrs at UM*)

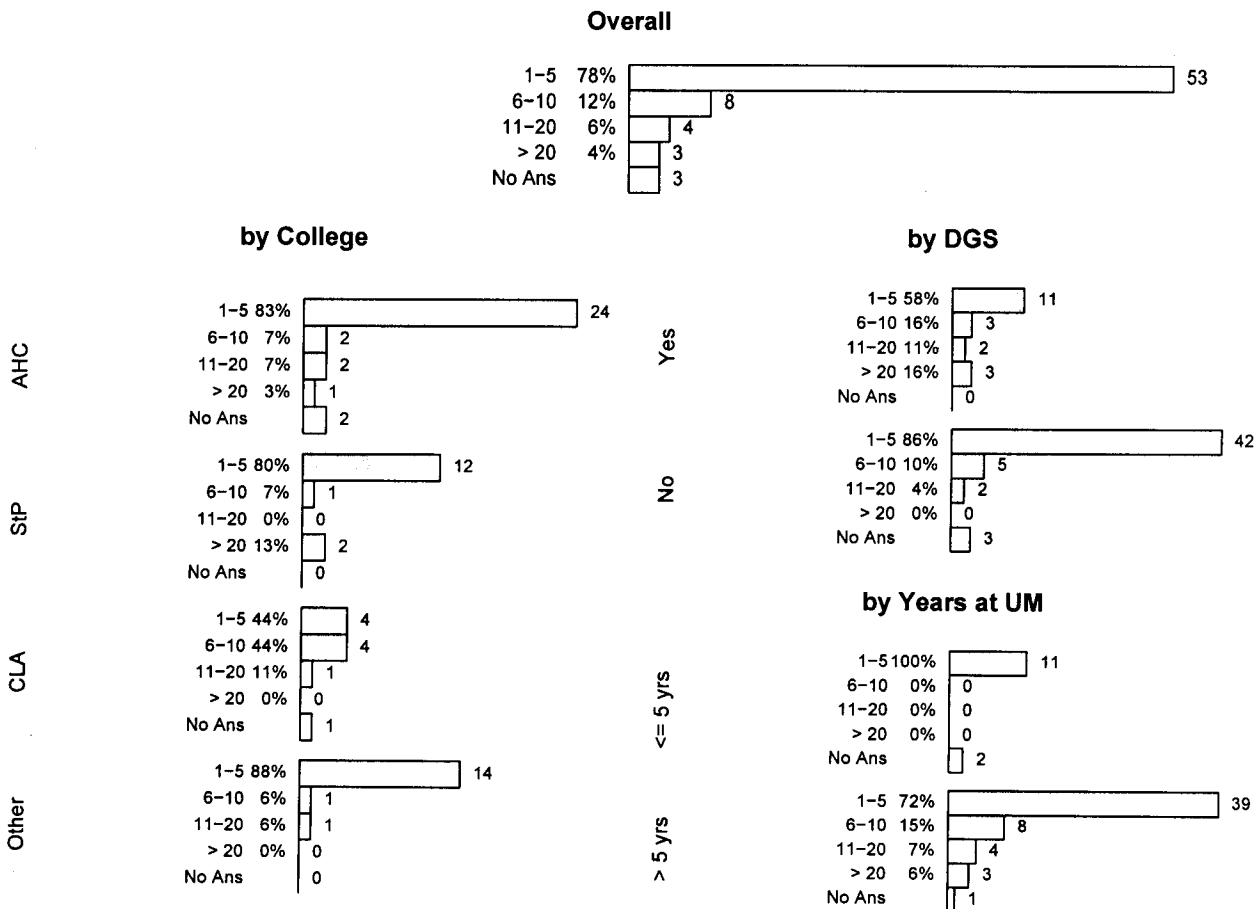
Other

- collaboration (no charge) and grants (*CEHD, Child Development, > 20 yrs at UM*)
- grant funds for biostats faculty (*IT, CSCI and BICB, > 20 yrs at UM*)
- No charge since it's just helping each other out (*IT, Biomedical Engineering (DGS), 6-10 yrs at UM*)

In the last five years, have students, staff, or faculty in your research group (or department, if a DGS) needed someone else to provide survey research services?

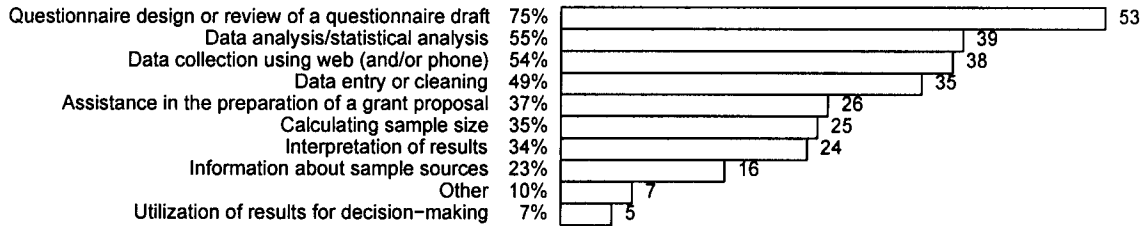


For approximately how many research projects per year were survey research services needed?

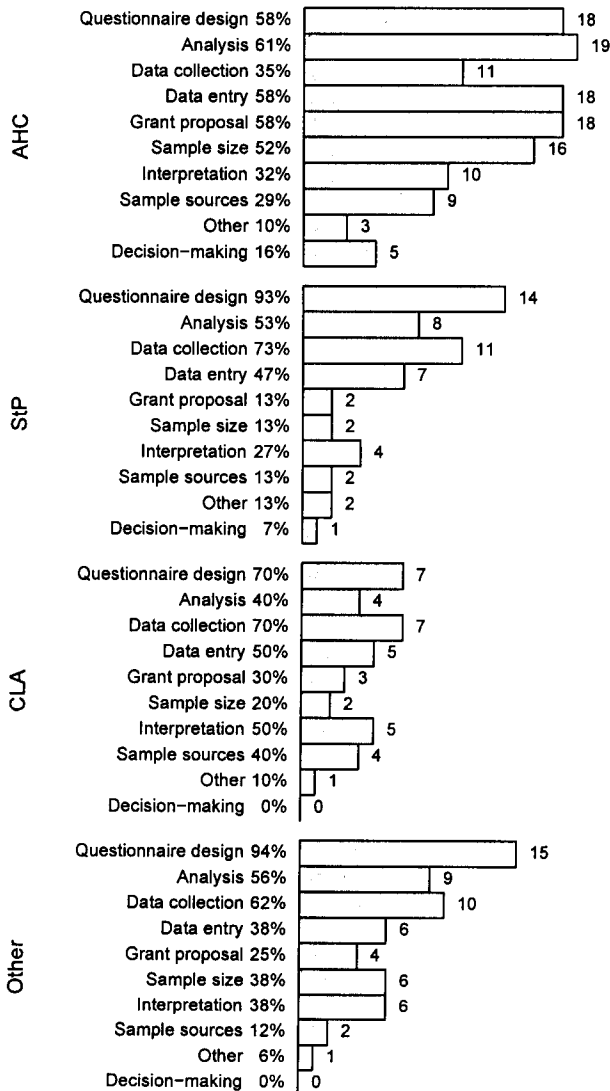


What survey research services were needed?

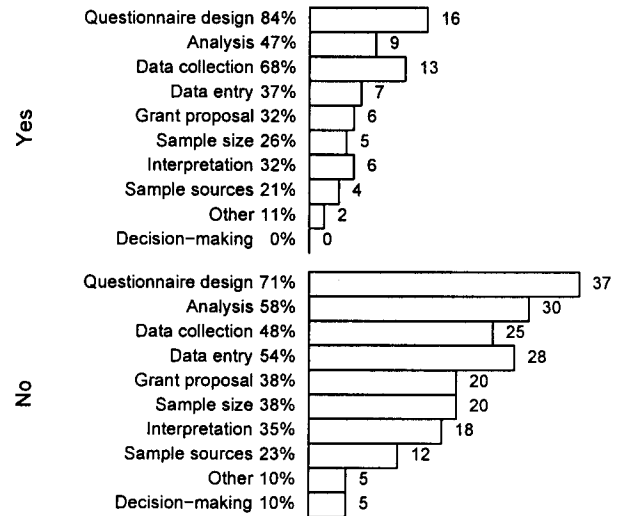
Overall



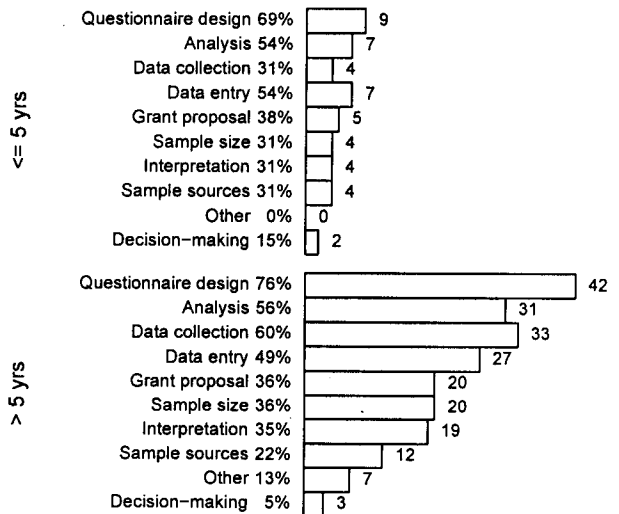
by College



by DGS



by Years at UM



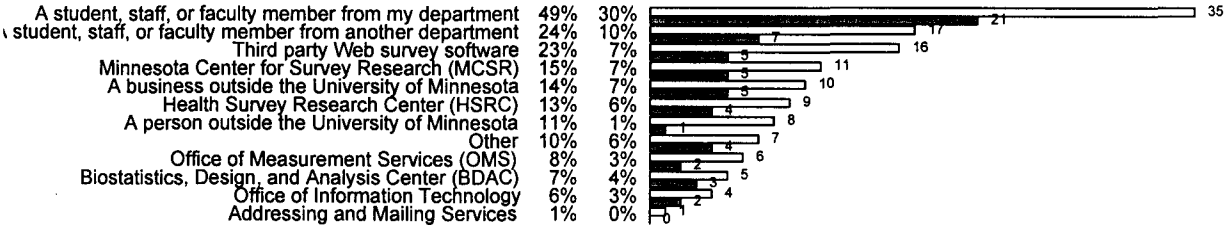
Who provided these survey research services?

(first percentage and upper bar in plot)

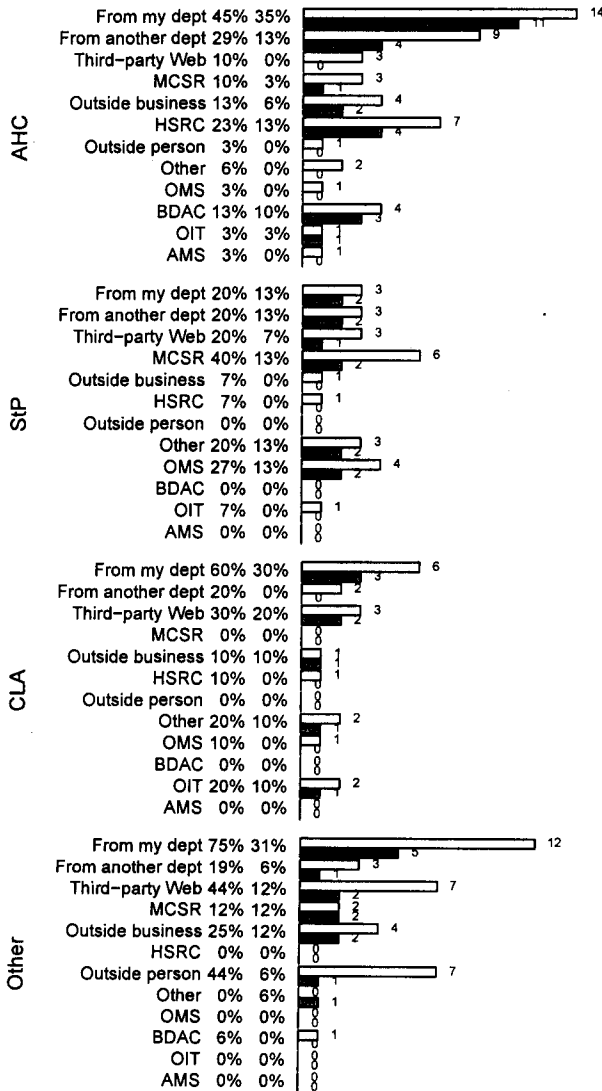
Which ONE of these USUALLY provided these survey research services?

(second percentage and lower bar in plot)

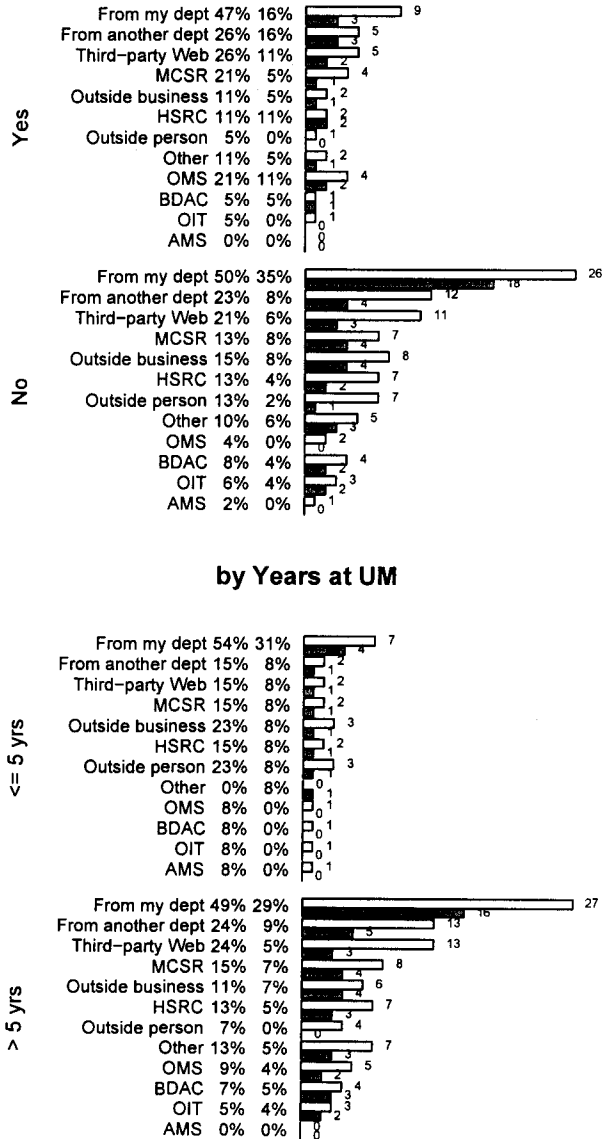
Overall



by College



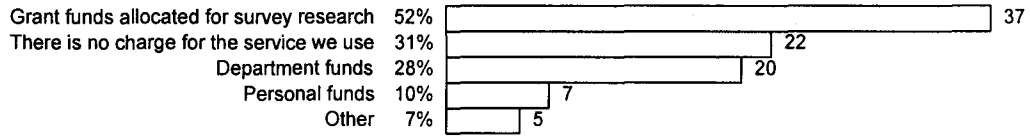
by DGS



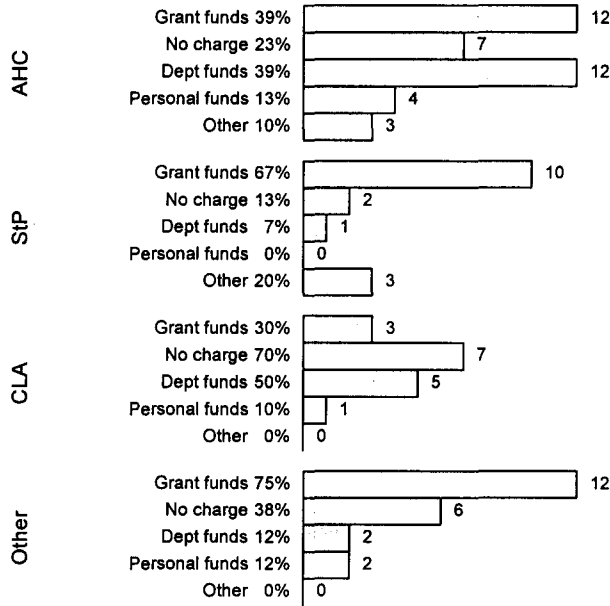
by Years at UM

How are these survey research services paid for?

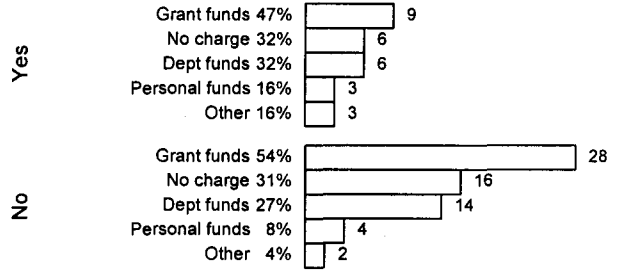
Overall



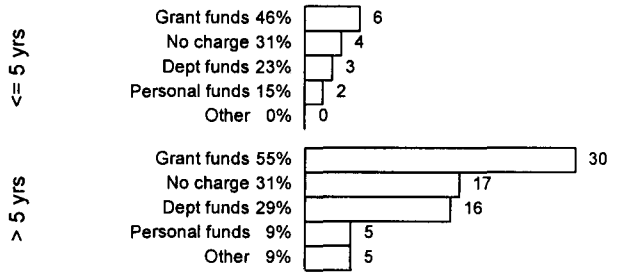
by College



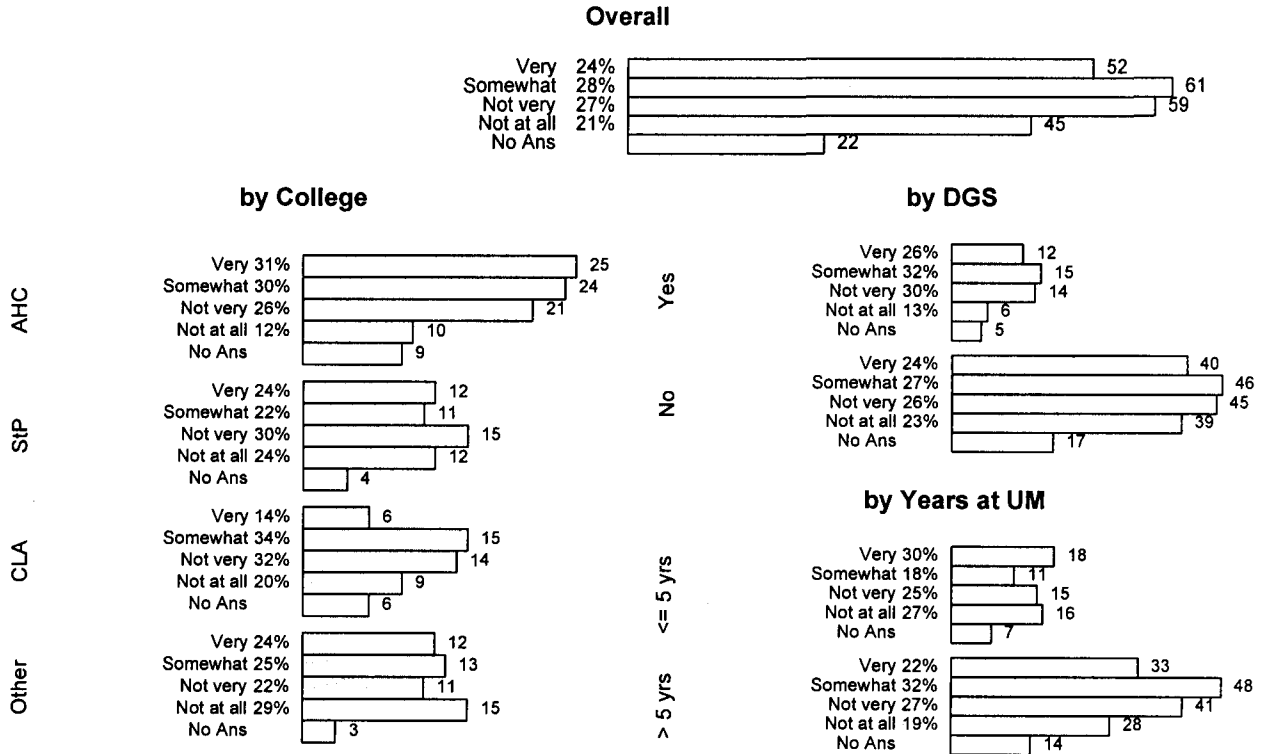
by DGS



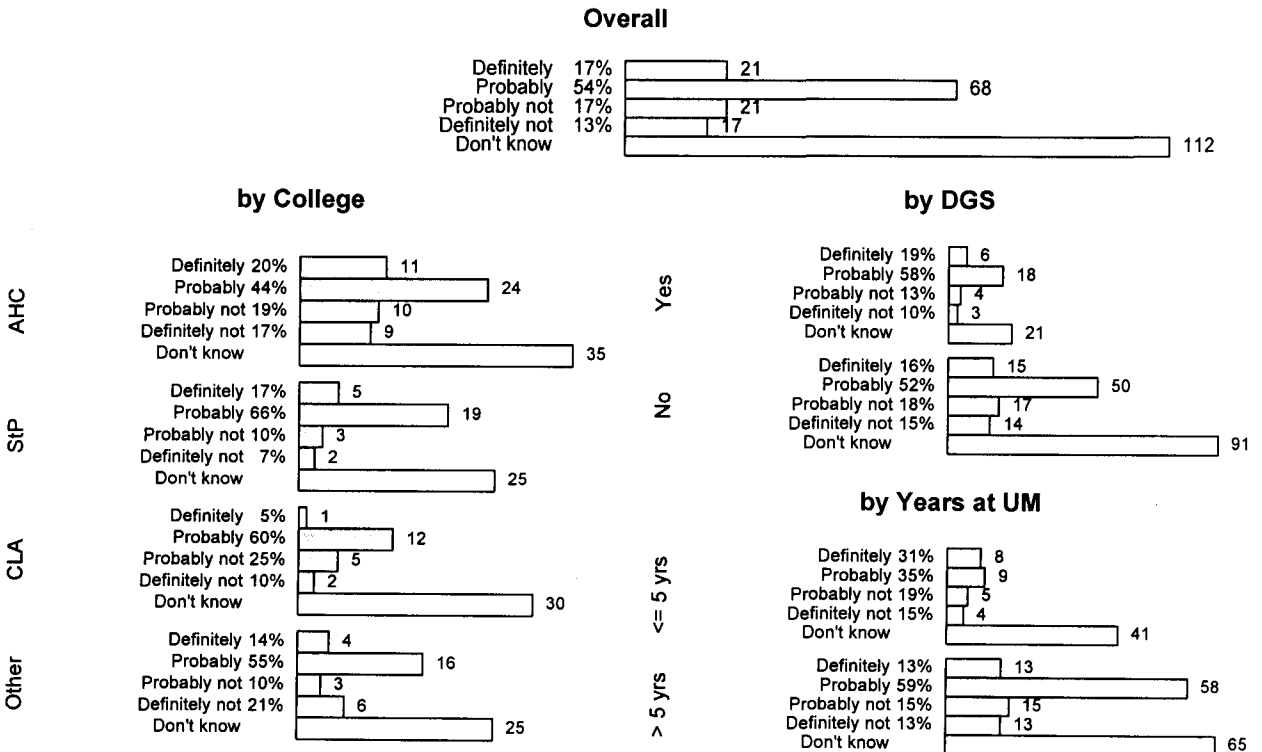
by Years at UM



How important is the availability of on-campus services of the following types for you and the students, staff, and faculty in your research group (or department, if a DGS)? *Survey Research*

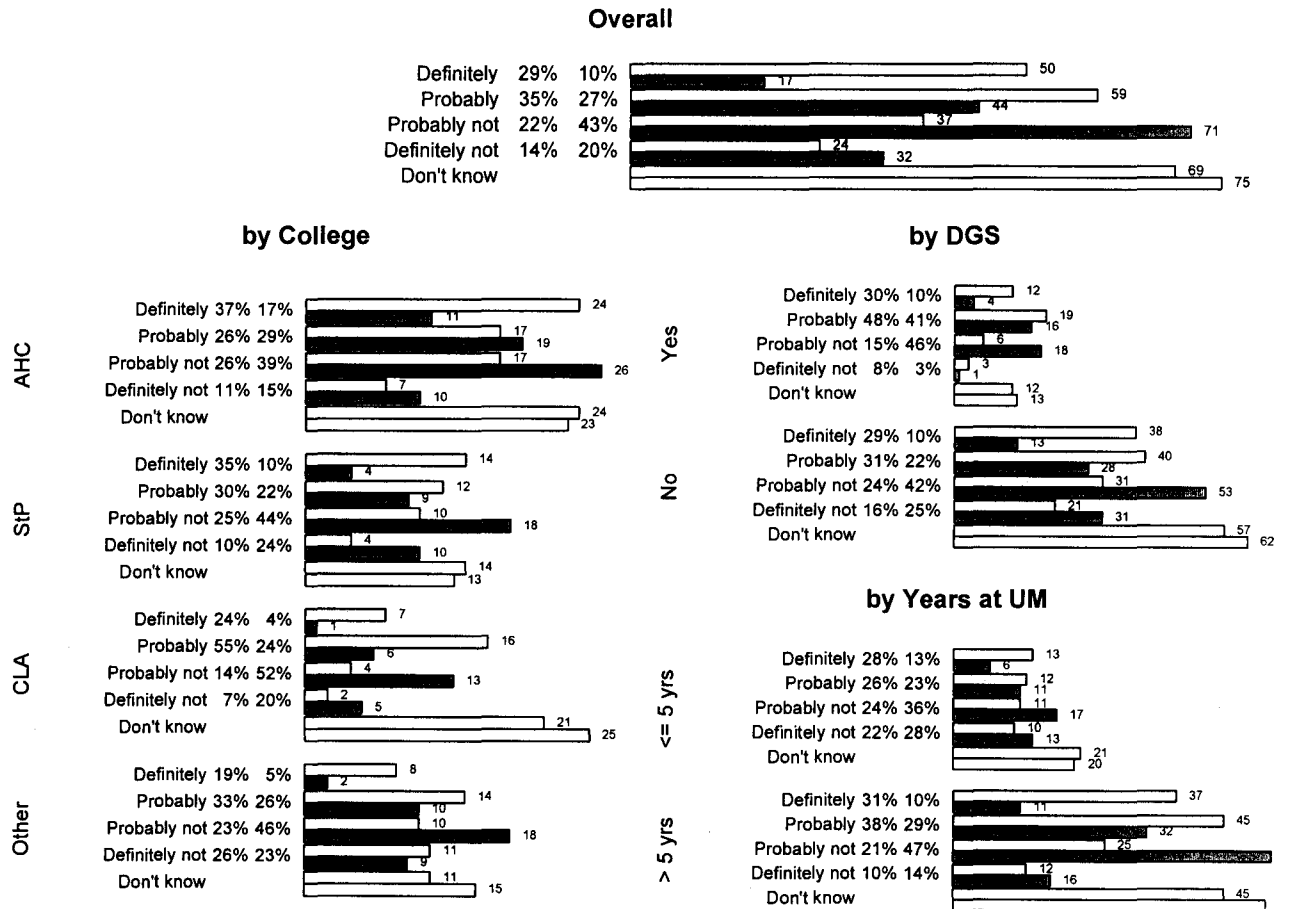


Are the services of the following types that are available for the students, staff, and faculty of your research group (or department, if a DGS) adequate for their needs? *Survey Research*



Would the students, staff, and faculty in your research group (or department, if a DGS) use centrally funded units that provide the following services? *Survey Research*
 (first percentage and upper bar in plot)

Would the students, staff, and faculty in your research group (or department, if a DGS) use units that provides the following services at an hourly or per project rate? *Survey Research*
 (second percentage and lower bar in plot)



Other Responses:**What survey research services were needed?***Academic Health Center*

- Data Collection via telephone survey (*SPH, Health Policy and Management, 6-10 yrs at UM*)
- Mailing (*SPH, Environmental Health Sciences, > 20 yrs at UM*)
- Survey distribution (mailing) (*Other AHC, Institute for Health Informatics (DGS), 11-20 yrs at UM*)

St. Paul

- Data Collecting services - private company, TNS/NFO (*CFANS, ApEc, > 20 yrs at UM*)
- Training grant assessment interviews (*CBS, Academic Affairs (DGS), 11-20 yrs at UM*)

College of Liberal Arts

- Scaling (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)

Other

- data collection using phone surveys and CADI (*CEHD, EPsy, > 20 yrs at UM*)

Who provided these survey research services?*Academic Health Center*

- CAREI (*Medical, Neuroscience, 11-20 yrs at UM*)
- HPM Survey Center before disbanded (*SPH, Health Policy and Management, 6-10 yrs at UM*)

St. Paul

- Center for Teaching and Learning (*CFANS, Horticultural Science (but Cons Bio DGS) (DGS), 11-20 yrs at UM*)
- I am not sure (*CFANS, Applied Plant Sciences (DGS), 6-10 yrs at UM*)
- Private company TNS/NFO (*CFANS, ApEc, > 20 yrs at UM*)

College of Liberal Arts

- SJMC Research Division; Some SJMC faculty (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)
- Social and Behavioral Science Lab in CLA (*CLA, Psychology, 11-20 yrs at UM*)

Which ONE of these USUALLY provided these survey research services?*St. Paul*

- Not sure (*CFANS, Applied Plant Sciences (DGS), 6-10 yrs at UM*)
- Private company (*CFANS, ApEc, > 20 yrs at UM*)

College of Liberal Arts

- SJMC Research Division (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)

Other

- none (*Law, NA, 1-5 yrs at UM*)

How are these survey research services paid for?*Academic Health Center*

- I lack funds to pay someone: so I do it myself if I have time, or pay someone outside the U (*SPH, NA, 11-20 yrs at UM*)
- out of pocket students and faculty (*Other AHC, Program in Occupational Therapy (DGS), 11-20 yrs at UM*)

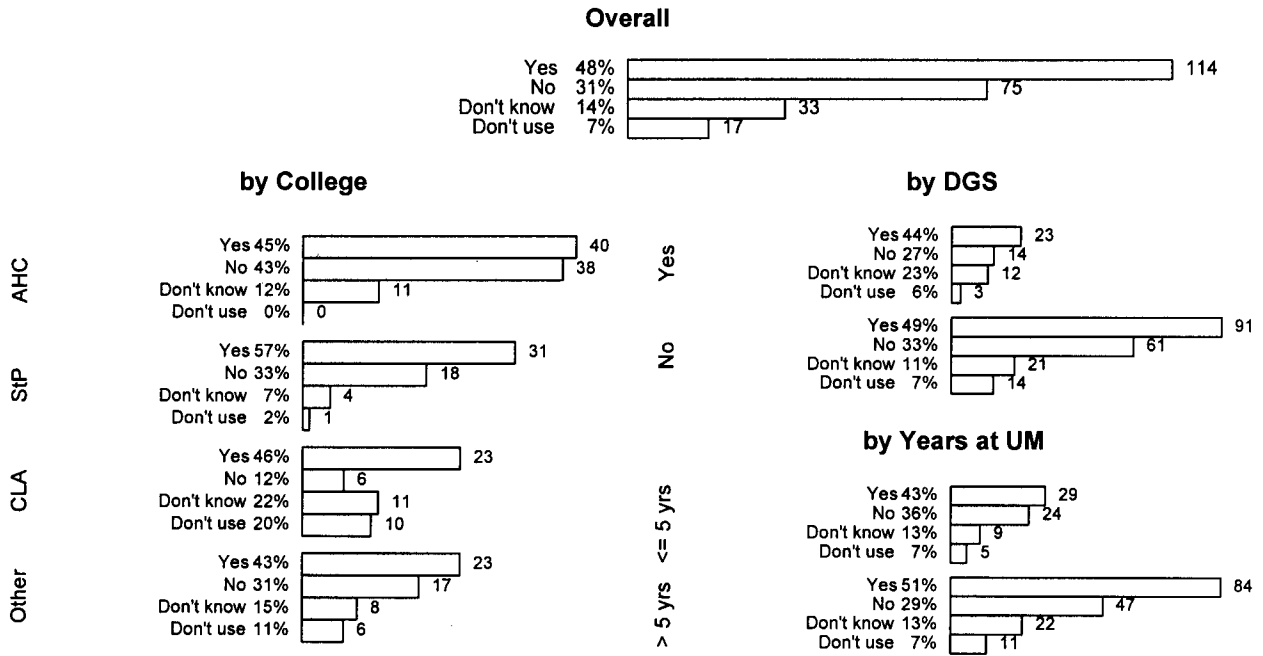
Veterinary Medicine

- none (*CVM, VCS, 11-20 yrs at UM*)

St. Paul

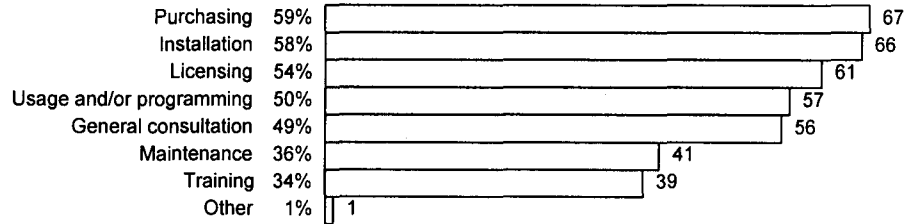
- Depends on project (*CFANS, Fisheries, Wildlife, and Conservation Bology (DGS), 6-10 yrs at UM*)
- I imagine grant funds (*CFANS, Applied Plant Sciences (DGS), 6-10 yrs at UM*)

In the last five years, have students, staff, or faculty in your research group (or department, if a DGS) needed someone else to provide help with statistical software, including purchasing, licensing, installation, maintenance, usage, and training?



What kinds of help were needed?

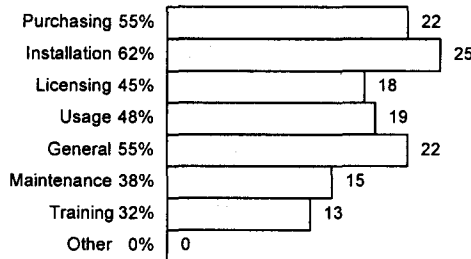
Overall



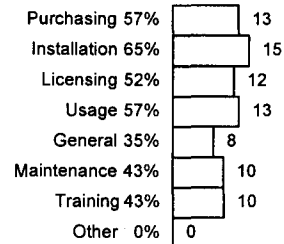
by College

by DGS

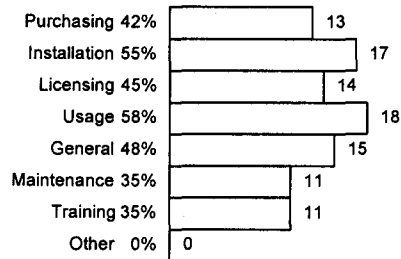
AHC



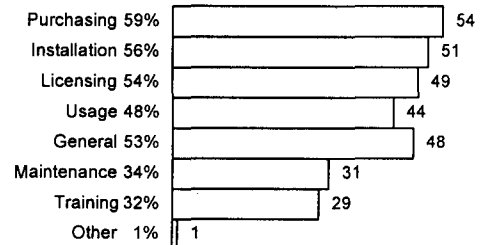
Yes



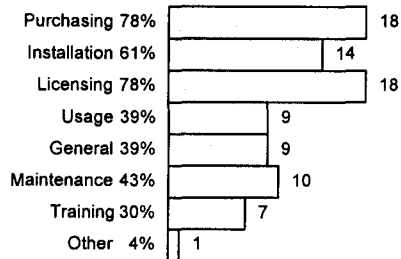
SIP



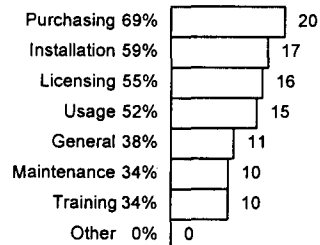
No



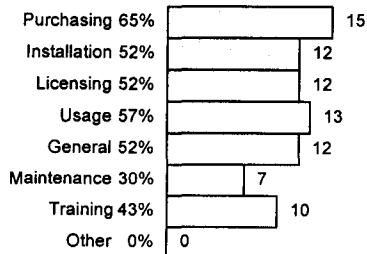
CLA



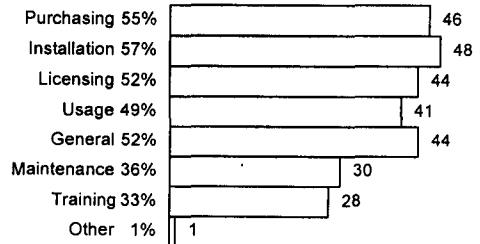
<= 5 yrs



Other



> 5 yrs



by Years at UM

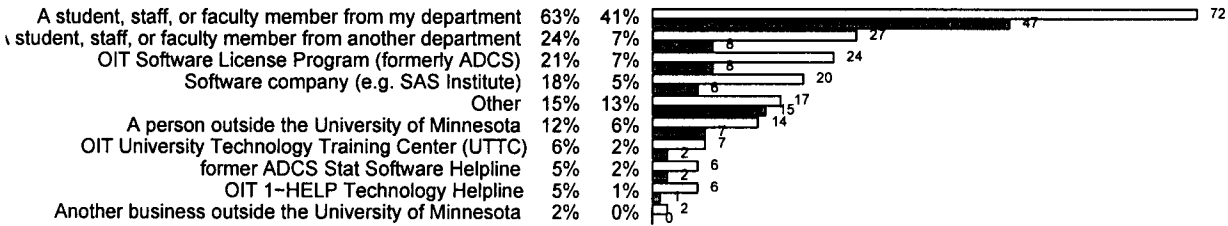
Who provided this help?

(first percentage and upper bar in plot)

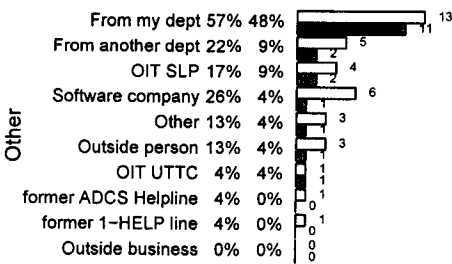
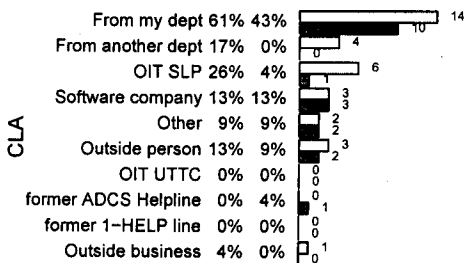
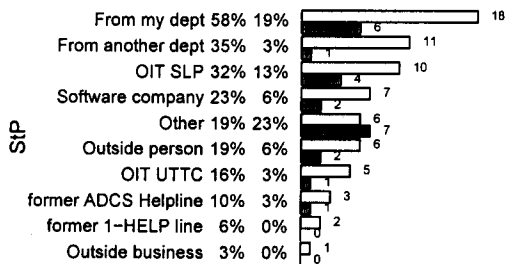
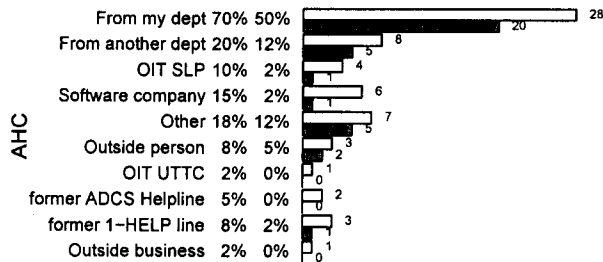
Which ONE of these USUALLY provided this statistical software help?

(second percentage and lower bar in plot)

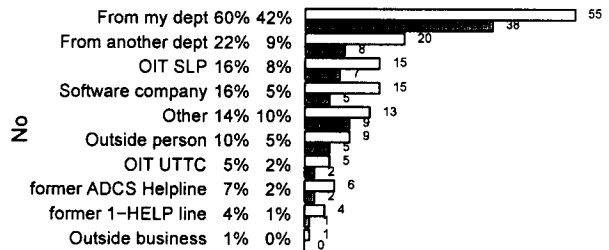
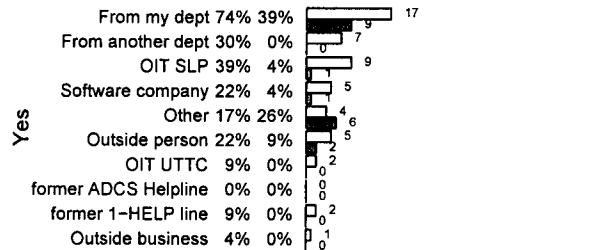
Overall



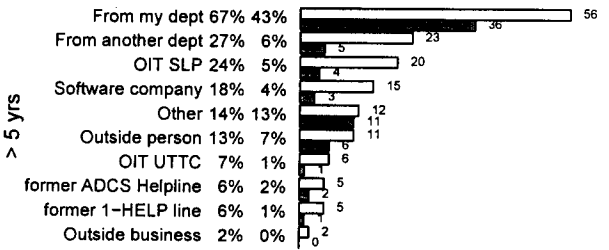
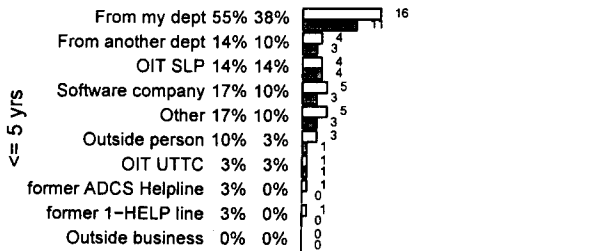
by College



by DGS

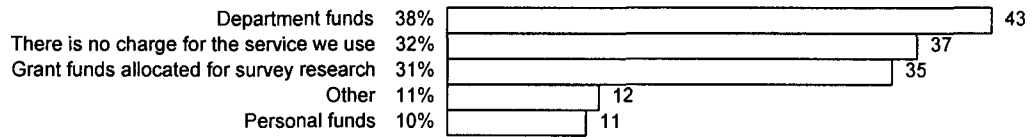


by Years at UM

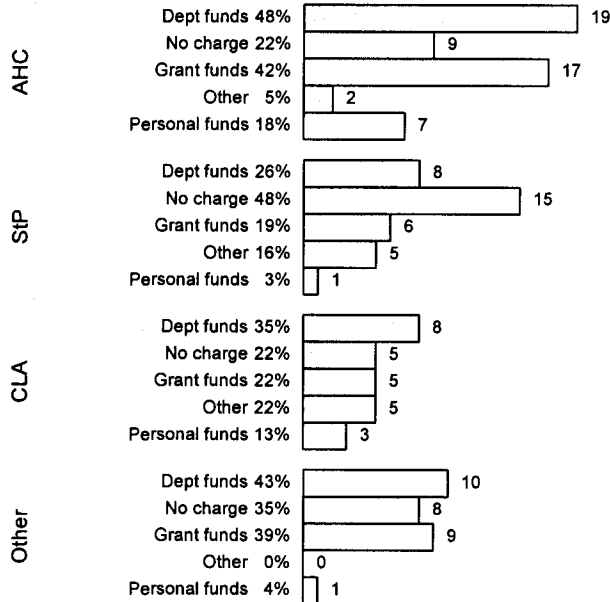


How is this statistical software help paid for?

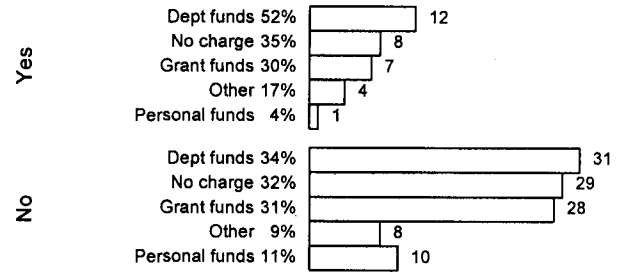
Overall



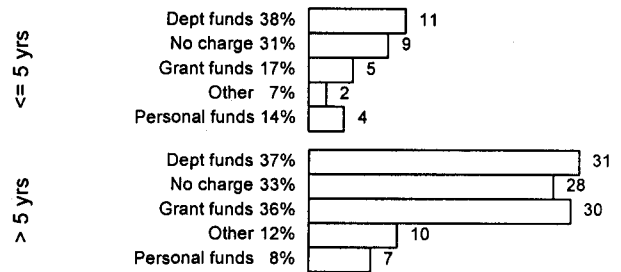
by College



by DGS



by Years at UM



Other Responses:**What kinds of help were needed?***College of Liberal Arts*

- Cautions and underlying assumptions (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)

Who provided this help?*Academic Health Center*

- myself (*Medical, Microbiology, 1-5 yrs at UM*)
- AHC Support Services (*Medical, Family Medicine and Community Health, 11-20 yrs at UM*)
- dont remember (*Medical, pediatrics, 11-20 yrs at UM*)
- AHC-IS (*Nursing, NA, 11-20 yrs at UM*)
- AHC-IS (*Nursing, Adult and Gerontological Health, 1-5 yrs at UM*)
- Minnesota Supercomputing Institute (*SPH, Health Policy and Management, 1-5 yrs at UM*)

Veterinary Medicine

- none (*CVM, VCS, 11-20 yrs at UM*)

St. Paul

- Minnesota Supercomputing Institute (*CFANS, Agronomy and Plant Genetics, 1-5 yrs at UM*)
- CFANS computing (*CFANS, Soil, Water, and Climate, 1-5 yrs at UM*)
- CFANS OIT staff (*CFANS, FWCB (WRS DGS (DGS), > 20 yrs at UM*)
- College IT (*CFANS, FSCN (DGS), > 20 yrs at UM*)
- Statistical Consulting Service (*Multiple, N/A (DGS), 6-10 yrs at UM*)

College of Liberal Arts

- CLA OIT (*CLA, History, > 20 yrs at UM*)
- CLA OIT (*CLA, Geography, 6-10 yrs at UM*)

Other

- statistical consulting clinic (*IT, Computer Science and Engineering, 11-20 yrs at UM*)
- Carlson School OIT (*Management, Strategic Management, 6-10 yrs at UM*)
- Carlson school OIT (*Management, Human Resources and Industrial Relations (DGS), 6-10 yrs at UM*)

Which ONE of these USUALLY provided this statistical software help?*Academic Health Center*

- no one available (*Medical, Medicine, 1-5 yrs at UM*)
- at other universities I would have sent the students for statistical consultation (*Medical, Microbiology, 1-5 yrs at UM*)
- AHC IT Support (*Medical, Family Medicine and Community Health, 11-20 yrs at UM*)
- 1 time only, for me (*Medical, pediatrics, 11-20 yrs at UM*)
- AHC-IS (*Nursing, NA, 11-20 yrs at UM*)

St. Paul

- stats clinic (*CFANS, FWCB (DGS for EEB) (DGS), 6-10 yrs at UM*)
- Depends on need. (*CFANS, Fisheries, Wildlife, and Conservation Bology (DGS), 6-10 yrs at UM*)
- MSI (*CFANS, Agronomy and Plant Genetics, 1-5 yrs at UM*)
- OIT in my college (*CFANS, Fisheries, Wildlife & Cons Bio, No Ans yrs at UM*)
- CFANS OIT staff (*CFANS, FWCB (WRS DGS (DGS), > 20 yrs at UM*)
- College IT (*CFANS, FSCN (DGS), > 20 yrs at UM*)
- Statistical Consulting Service (*Multiple, N/A (DGS), 6-10 yrs at UM*)

College of Liberal Arts

- Same (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)
- our department's OIT staff person (*CLA, NA (DGS), 6-10 yrs at UM*)

Other

- statistical consulting clinic (*IT, Computer Science and Engineering, 11-20 yrs at UM*)

How is this statistical software help paid for?*Academic Health Center*

- General Laboratory funds (*Medical, Microbiology, 1-5 yrs at UM*)
- indirect costs from grants (*SPH, Epidemiology and Community Health, > 20 yrs at UM*)

St. Paul

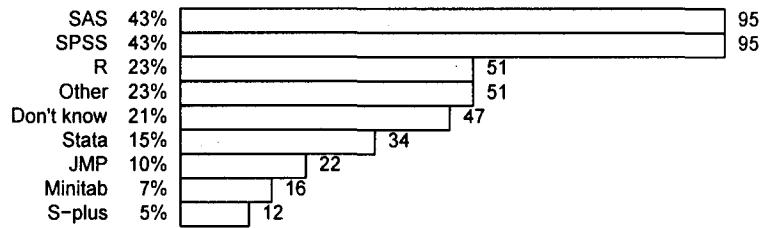
- Research Center funds (*CFANS, Southern Research and Outreach Center, > 20 yrs at UM*)
- Depends on project (*CFANS, Fisheries, Wildlife, and Conservation Bology (DGS), 6-10 yrs at UM*)
- College tech fee (*CFANS, FSCN (DGS), > 20 yrs at UM*)
- CBS computing help (*CBS, EEB, > 20 yrs at UM*)
- Grant funds not for survey research (*Multiple, N/A (DGS), 6-10 yrs at UM*)

College of Liberal Arts

- Dept hires RA, tekkie, who offers free services. (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)
- Don't know (*CLA, English as a Second Language (DGS), 6-10 yrs at UM*)
- Note—we don't do much survey research—most grant funds are for census research. (*CLA, History, > 20 yrs at UM*)
- CLA OIT (*CLA, Geography, 6-10 yrs at UM*)
- Software company (*CLA, Geography, 1-5 yrs at UM*)

Which statistical software programs do the students, staff, and faculty members in your research group (or department, if a DGS) currently use?

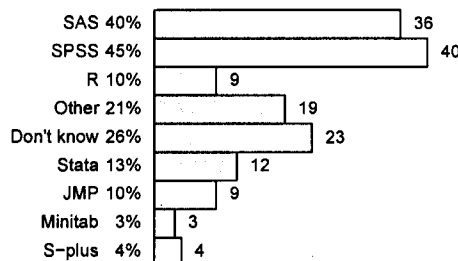
Overall



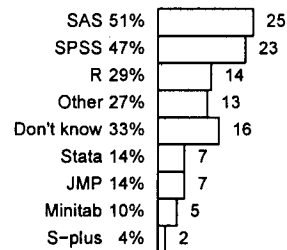
by College

by DGS

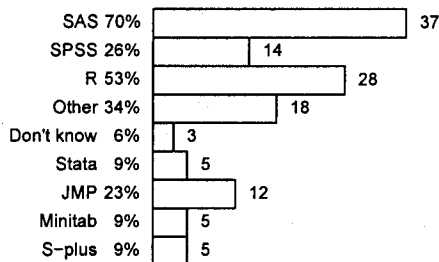
AHC



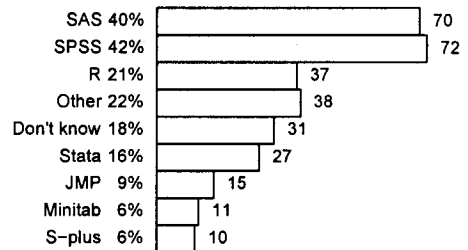
Yes



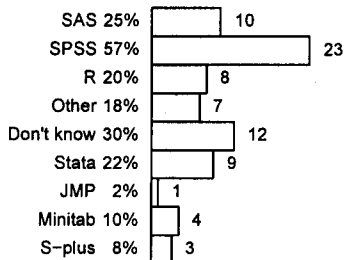
SIP



No

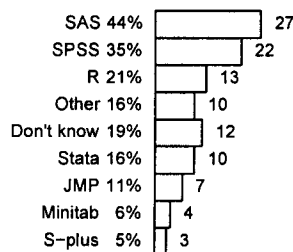


CLA

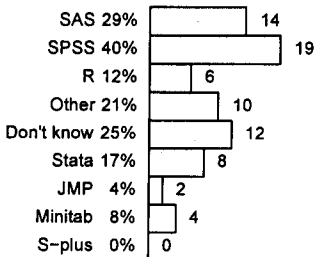


<= 5 yrs

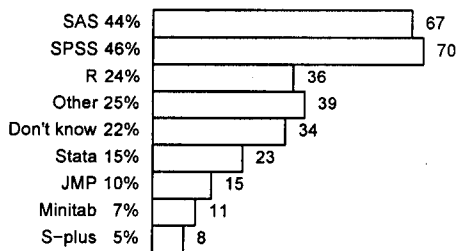
by Years at UM



Other



> 5 yrs



Other Responses:*Academic Health Center*

- Excel (*Medical, Clinical Lab Science (DGS), 11-20 yrs at UM*)
- Excel, Octave, Cambridge Data Base software (*Medical, Lab Med & Pathology, > 20 yrs at UM*)
- Graphpad Prism (*Medical, Neuroscience, 11-20 yrs at UM*)
- SigmaPlot, Analyze-It (*Medical, Microbiology, 1-5 yrs at UM*)
- Systat, Excell (*Medical, Pediatrics, 1-5 yrs at UM*)
- NVIVO, Power & Precision, LISREL (*Medical, Family Medicine and Community Health, 11-20 yrs at UM*)
- Statmate by GraphPad (*Medical, Integrative Biology and Physiology, 11-20 yrs at UM*)
- graphpad prism (*Medical, Neuroscience, > 20 yrs at UM*)
- In Stat (*Medical, Anesthesiology, > 20 yrs at UM*)
- LISREL, M-Plus (*Nursing, Adult and Gerontological Health, 1-5 yrs at UM*)
- LISREL, M-Plus (*Nursing, Adult and Gerontological Health, 1-5 yrs at UM*)
- Origin (*Dentistry, Restorative Sciences, No Ans yrs at UM*)
- Simstat (Provalis) and StatPlus (*Dentistry, Primary Care Dentistry, > 20 yrs at UM*)
- StatView (*Pharmacy, Pharmaceuticals (DGS), > 20 yrs at UM*)
- Sudaan (*SPH, Health Policy and Management, 6-10 yrs at UM*)
- Fortran (*SPH, Environmental Health Sciences, > 20 yrs at UM*)

Veterinary Medicine

- Bionumerics (*CVM, VBS, 1-5 yrs at UM*)
- Statistix and EpiInfo (*CVM, Vet Population Medicine, 11-20 yrs at UM*)
- GraphPad Prism (*CVM, Veterinary & Biomedical Sciences, > 20 yrs at UM*)

St. Paul

- MetaWin (*CFANS, bioproducts and biosystems engineering, 6-10 yrs at UM*)
- WinBugs (*CFANS, Applied Economics, 6-10 yrs at UM*)
- Excel for primitive tasks (*CFANS, Entomology, > 20 yrs at UM*)
- NCAR Command Language (*CFANS, Soil, Water, and Climate, 1-5 yrs at UM*)
- @Risk, ArcGIS (*CFANS, Horticultural Science (but Cons Bio DGS) (DGS), 11-20 yrs at UM*)
- winbugs (*CFANS, Fisheries, Wildlife & Cons Bio, No Ans yrs at UM*)
- IDL (*CFANS, Soil, Water & Climate, 1-5 yrs at UM*)
- Probably others I am not aware of (*CFANS, Applied Plant Sciences (DGS), 6-10 yrs at UM*)
- GeneSpring (*CFANS, NA, 11-20 yrs at UM*)
- statistix (I believe this is the program name) (*CFANS, Entomology (DGS), > 20 yrs at UM*)
- Gauss, LimDEP, E-VIEWS and others (*CFANS, Applied Economics (DGS), 6-10 yrs at UM*)
- ArcView analysis packages (*CFANS, FWCB, 6-10 yrs at UM*)
- ARCGIS (*CBS, EEB, > 20 yrs at UM*)
- Can't remember but there are others for CCA, DCA, etc. (*CBS, NA (DGS), > 20 yrs at UM*)
- Matlab (*CBS, Academic Affairs (DGS), 11-20 yrs at UM*)

College of Liberal Arts

- EQS (*CLA, Political Science, 1-5 yrs at UM*)
- structural equation modeling packages (*CLA, Comm. Studies, 11-20 yrs at UM*)
- M-Plus (*CLA, Psychology, 11-20 yrs at UM*)
- LERTAP (*CLA, English as a Second Language (DGS), 6-10 yrs at UM*)
- Researchware (*CLA, Geography, 1-5 yrs at UM*)

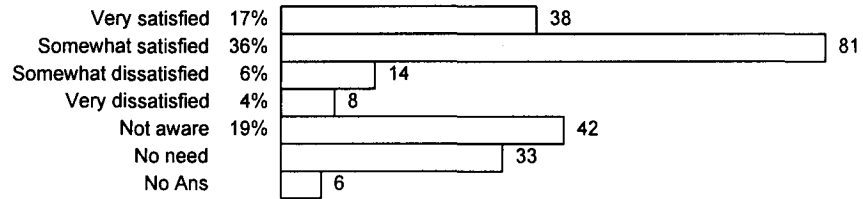
- those are the ones I know about – there may be others (*CLA, School of Journalism and Mass Communication, > 20 yrs at UM*)
- MATLAB (*CLA, Geography (DGS), 11-20 yrs at UM*)

Other

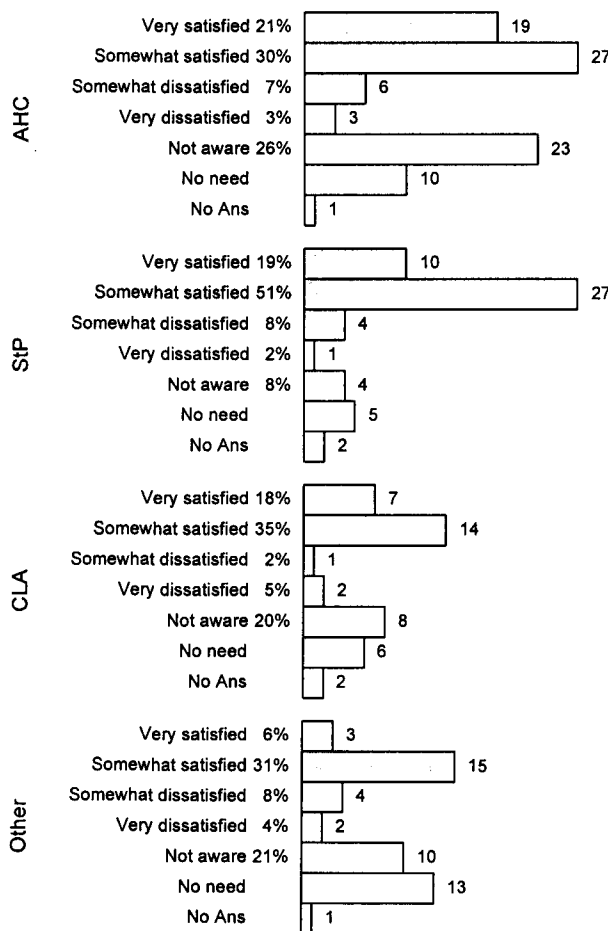
- HLM (*CEHD, EPsy, > 20 yrs at UM*)
- M-Plus (*CEHD, Child Development, > 20 yrs at UM*)
- ROOT/RooFIT (*IT, Physics, 1-5 yrs at UM*)
- none (*IT, AEM, > 20 yrs at UM*)
- MATLAB (*IT, Electrical and Computer Eng. (DGS), > 20 yrs at UM*)
- We don't use one in my group (*IT, Biomedical Engineering (DGS), 6-10 yrs at UM*)
- Excel based methods (*IT, Chemistry, > 20 yrs at UM*)
- Macanova (*IT, Computer Science and Engineering, 11-20 yrs at UM*)
- HLM, STATA, LISREL, AMOS (*Management, Human Resources and Industrial Relations (DGS), 6-10 yrs at UM*)
- LISREL (*Management, HRIR, 11-20 yrs at UM*)

The University's software licensing program allows University staff and faculty to buy software at reduced rates. Available statistical software includes SAS, JMP, SPSS, S-plus, Stata, and Minitab. How satisfied are you with the University's software licensing program for statistical software?

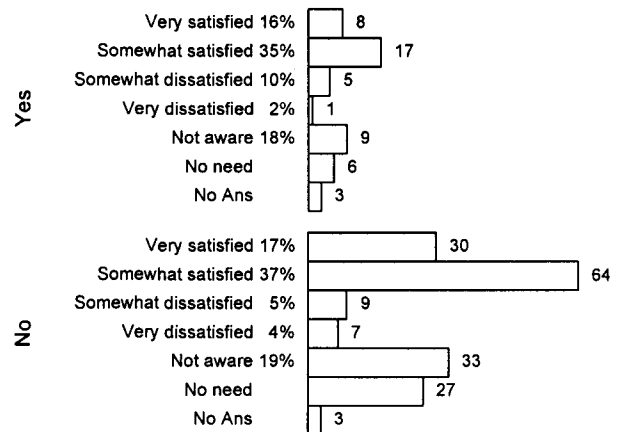
Overall



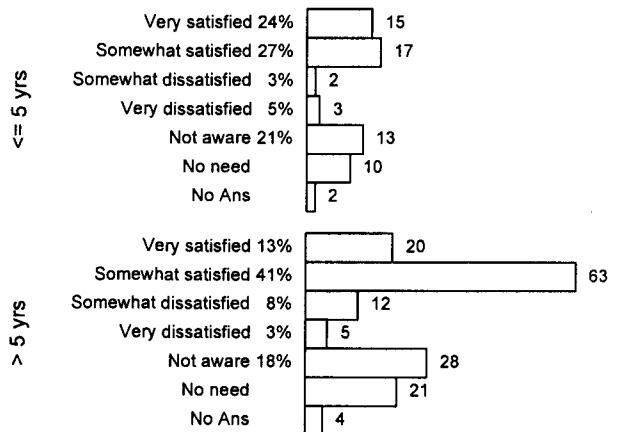
by College



by DGS



by Years at UM



What other statistical software programs you would like to see added?

Academic Health Center

- Prism (*Medical, Micro, 1-5 yrs at UM*)
- Software for Cox multivariate analysis, ANOVA, Wilcoxon, generation of box plots, data distributions. (*Medical, Medicine, 1-5 yrs at UM*)
- Graphpad Prism (*Medical, Neuroscience, 11-20 yrs at UM*)
- SigmaPlot (*Medical, Microbiology, 1-5 yrs at UM*)
- Statistica (*Medical, Pediatrics, No Ans yrs at UM*)
- Price still seems a bit HIGH! (*Medical, Family Medicine and Community Health (DGS), 1-5 yrs at UM*)
- easy to use programs (for non-statisticians) for the Macintosh computer (*Medical, NA (DGS), 6-10 yrs at UM*)
- Don't know enough about this to make any suggestions. (*Medical, Integrative Biology and Physiology, 11-20 yrs at UM*)
- Systat and Graphpad (*Medical, Graduate Program in Neuroscience (DGS), > 20 yrs at UM*)
- GraphPad Prism. It's the only thing worth using. (*Medical, Neuroscience, > 20 yrs at UM*)
- LISREL and M-Plus (*Nursing, Adult and Gerontological Health, 1-5 yrs at UM*)
- LISREL, M-PLUS (*Nursing, Adult and Gerontological Health, 1-5 yrs at UM*)
- Qualitative software: Atlas.ti, Quant: MPLUS (*Nursing, Nursing, 1-5 yrs at UM*)
- Origin (*Dentistry, Restorative Science - Division of Biomaterials / MDRCBB, 1-5 yrs at UM*)
- Origin (*Dentistry, Restorative Sciences, No Ans yrs at UM*)
- I would like there to be a genetic analysis core—there are many different procedures that need to be run during the course of a genetic epidemiologic study—from calculation of HWE to various association tests, permutation tests, QQ plots, allele frequencies, haplotype probabilities etc etc, and as a new faculty member just getting going, I have no idea where to turn for assistance, other than to <name withheld>. He is wonderful, but assistance he provides is essentially pro bono, and I feel uncomfortable asking for help beyond a quick email. But I need more assistance than that. (*SPH, Epidemiology and Community Health, 1-5 yrs at UM*)
- PASS (sample size software) (*SPH, Epidemiology and Community Health (DGS), 11-20 yrs at UM*)

Veterinary Medicine

- Graphing software, like GraphPad Prism; something compatible with Mac (*CVM, Veterinary & Biomedical Sciences, > 20 yrs at UM*)

St. Paul

- Statistix (*CFANS, Southern Research and Outreach Center, > 20 yrs at UM*)
- PC-Ord (*CFANS, Fisheries, Wildlife, and Conservation Biology (DGS), 6-10 yrs at UM*)
- Choices are fine, it is the expense of the recurring site licenses that is annoying (*CFANS, Entomology, > 20 yrs at UM*)
- Sigmaplot (*CFANS, Forest Resources, 1-5 yrs at UM*)
- Not sure (*CFANS, Forest Resources, > 20 yrs at UM*)
- I can't answer this on behalf of my entire program - but I know there are some. (*CFANS, Horticultural Science (but Cons Bio DGS) (DGS), 11-20 yrs at UM*)
- None (*CFANS, Entomology, > 20 yrs at UM*)
- Please add IDL!!! S-plus is nice, but R does the same job and is free. (*CFANS, Soil, Water & Climate, 1-5 yrs at UM*)
- SYSTAT (*CFANS, FWCB (WRS DGS (DGS), > 20 yrs at UM*)
- I'd like to see a bit more built into Excel. (*CFANS, Forest Resources, > 20 yrs at UM*)

- NT-SYS or some other population/ quantitative genetics analysis software (*CFANS, Applied Plant Sciences (DGS), 6-10 yrs at UM*)
- It seems that at the U of MN we are charged or pay more for stats software than colleagues at other Big 10 Universities. This may reflect more central resources going to subsidize this cost, but the cost seems out of line with what my colleagues pay. (*CFANS, Entomology (DGS), > 20 yrs at UM*)
- Flexible systems modeling software (*CFANS, WCROC, > 20 yrs at UM*)
- I will have to survey the faculty in Quaternary Paleoecology, but some of the applications that we use may have a very small market. They are used for analysis of fossil pollen assemblage, fossil diatom assemblage, fossil chironomid and fossil ostracode assemblages contained in lake sediments, usually shorter than 1 million years in duration. Some are used to derive calibration or training sets based on modern assemblages collected from 50+ sites. (*CBS, NA (DGS), > 20 yrs at UM*)
- Matlab (*CBS, Academic Affairs (DGS), 11-20 yrs at UM*)

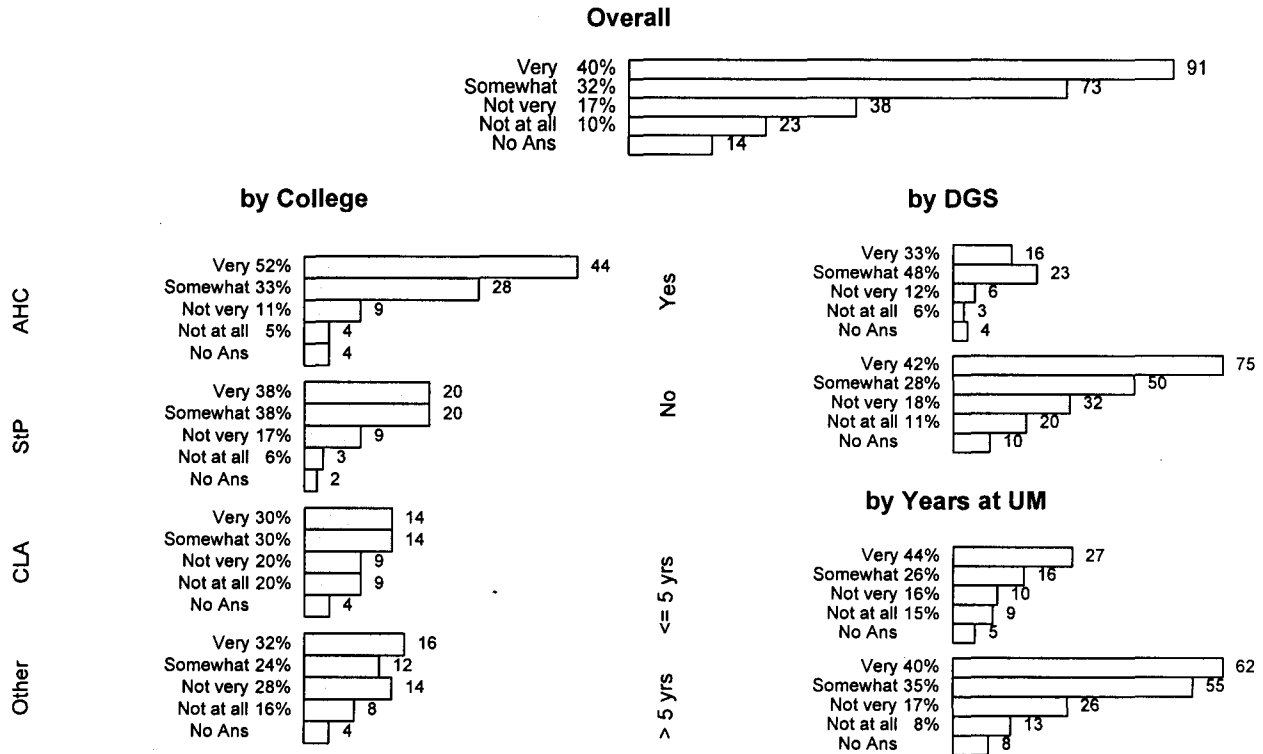
College of Liberal Arts

- StatView is useful, though I think is no longer being supported by its parent company. Would be nice to have statistical software for free! (*CLA, Anthropology, 6-10 yrs at UM*)
- I wanted to buy Elements a few years ago but couldn't get it through this program. Bought it separately. I can't help but notice that your survey is exclusively about traditional number-crunching software and services. We're interested as well in "new media" research, which includes visual research and more. We also do a lot of graphics work and like to encourage same. (*CLA, Journalism and Mass Communication, > 20 yrs at UM*)
- mathematical modeling packages. (*CLA, Comm. Studies, 11-20 yrs at UM*)
- M-Plus (*CLA, Psychology, 11-20 yrs at UM*)
- high end data mining software that works for content analysis (*CLA, SJMC, 6-10 yrs at UM*)
- Mathematica
Scientific Workplace (*CLA, Psychology, 6-10 yrs at UM*)
- Researchware or similar qualitative software program (*CLA, Geography, 1-5 yrs at UM*)
- Don't know (*CLA, Chicano Studies, 6-10 yrs at UM*)
- I am not fully informed of the different softwares and the rates for faculty/lab use. (*CLA, SLHS, 1-5 yrs at UM*)
- R (*CLA, NA (DGS), 6-10 yrs at UM*)
- MATLAB (*CLA, Geography (DGS), 11-20 yrs at UM*)

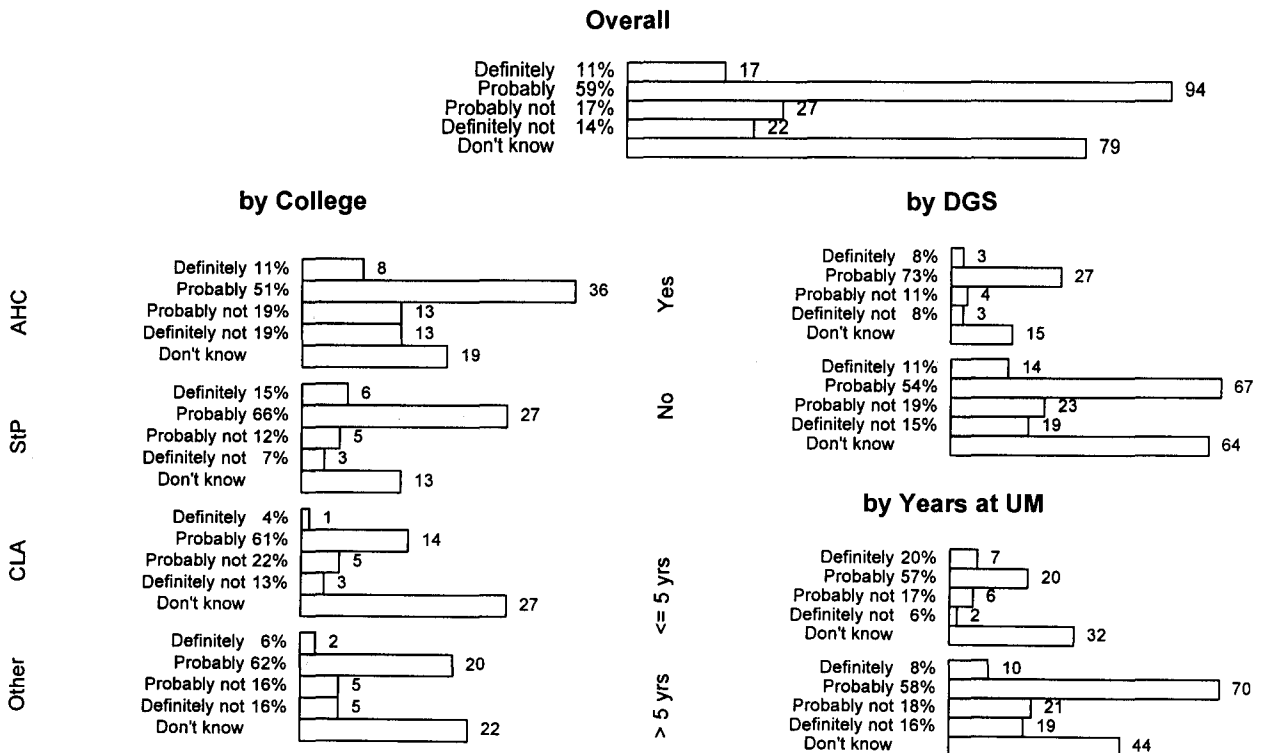
Other

- M-Plus (*CEHD, Child Development, > 20 yrs at UM*)
- with whatever software we use my prime concern is the availability of a bioinformatics module. (*IT, CSCI and BICB, > 20 yrs at UM*)
- statistical software for hierarchical linear models and structural equation modeling (*Management, Information and Decision Sciences, 1-5 yrs at UM*)
- STATA HLM LISREL OR AMOS (*Management, Human Resources and Industrial Relations (DGS), 6-10 yrs at UM*)
- limdep (*HHH, NA, No Ans yrs at UM*)

How important is the availability of on-campus services of the following types for you and the students, staff, and faculty in your research group (or department, if a DGS)? *Statistical Software Help*

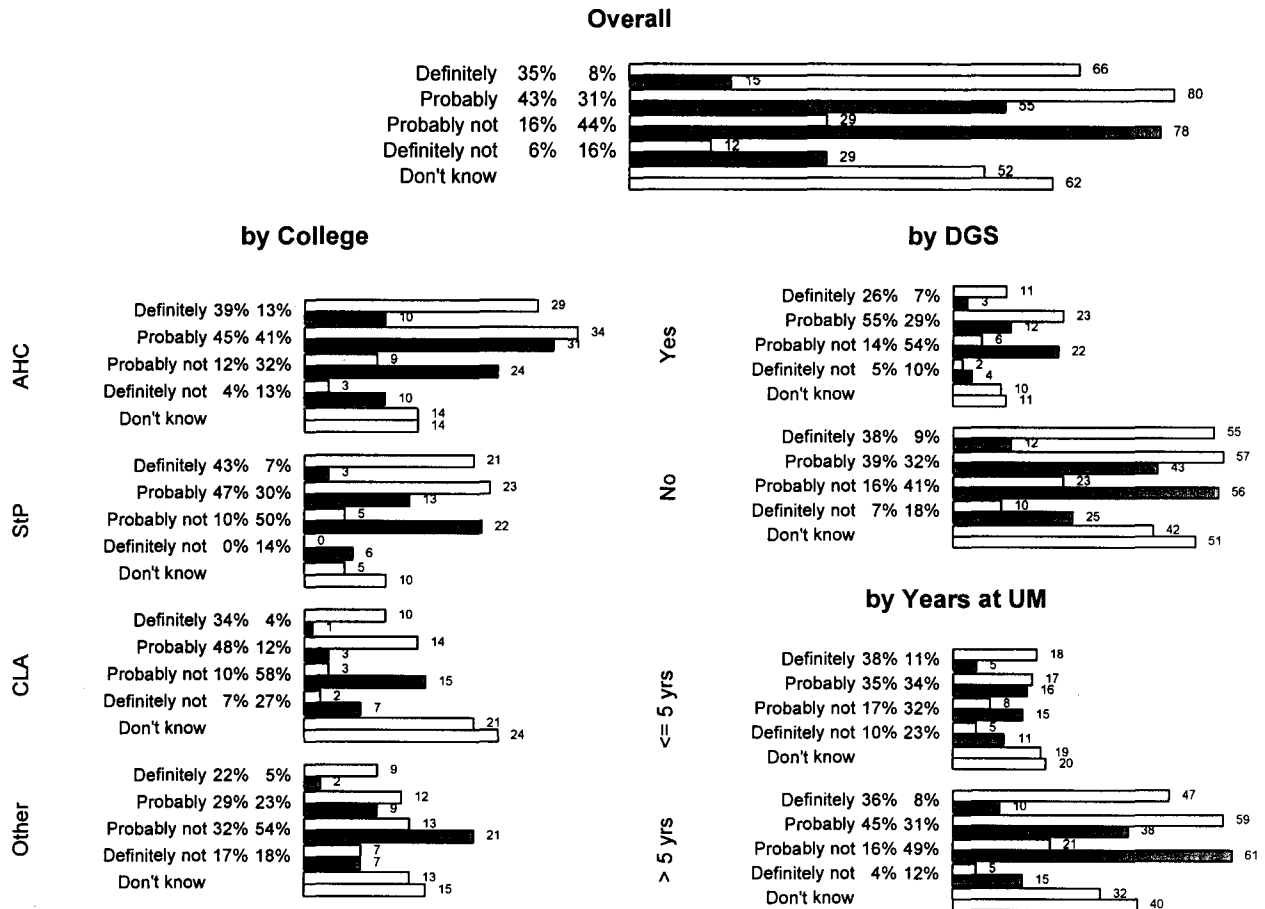


Are the services of the following types that are available for the students, staff, and faculty of your research group (or department, if a DGS) adequate for their needs? *Statistical Software Help*



Would the students, staff, and faculty in your research group (or department, if a DGS) use centrally funded units that provide the following services? *Statistical Software Help*
 (first percentage and upper bar in plot)

Would the students, staff, and faculty in your research group (or department, if a DGS) use units that provides the following services at an hourly or per project rate? *Statistical Software Help*
 (second percentage and lower bar in plot)



What else would you like to tell us about the needs of your research group (or department, if a DGS) for statistical consulting, survey research, and statistical software services?

Academic Health Center

- We have colleagues with statistical expertise as part of our research group. (*Medical, Integrative Biology and Physiology, > 20 yrs at UM*)
- We need more central information about how to access these services. Particularly for clinical research projects. (*Medical, Pediatrics, 1-5 yrs at UM*)
- You can't get funded without statistical support. (*Medical, Medicine, 1-5 yrs at UM*)
- Multivariate statistical services are definitely needed. (*Medical, Neuroscience, 11-20 yrs at UM*)
- Statistical support has been a big problem for me. The first statistician, <name withheld>, dropped out of my research because of other time commitments even though there was funding available for him. The second statistician, <name withheld>, has no real interest in collaborating and was very difficult to work with. The third statistician, <name withheld>, just joined the faculty and seems interested in collaboration. This statistical need of mine which is unmet by the University of Minnesota prompted me to find a statistician and the Mayo Clinic who has expertise that is helpful to me, however, she is out for three months on maternity leave, thus delaying submission of at least one grant proposal. <name and phone withheld> (*Medical, Pediatrics, No Ans yrs at UM*)
- Much of our statistical consultation is either informal or provided my faculty in our unit. I have tended to be the statistical and methodological consultant on most of the Federally funded project in the Program in Human Sexuality (*Medical, Family Medicine and Community Health, 11-20 yrs at UM*)
- Essential expertise that is needed for research projects but it is difficult to put salary for a statistician on a grant because most projects do not require that much time from a statistician, but the expertise is still needed. A per hour charging system would be extremely useful, as long as statistical input into experimental design was also required. (*Medical, Medical School Duluth, > 20 yrs at UM*)
- <name withheld> at the Statistical Consulting Service of the University of Minnesota School of Statistics was great. He helped us determine how many samples needed to be analyzed in a complicated experiment. He answered our questions in a timely manner and in a way we could comprehend. We really appreciated his assistance and the surprise was that he did this for free. (*Medical, NA (DGS), 6-10 yrs at UM*)
- I have a PhD in addition to my medical training and am fairly comfortable doing my own statistical analysis if things don't get too complicated. I've answered these questions with that in mind. The research group I was referencing consists of myself, a research assistant, occasional trainees and one or two colleagues. We get along ok, but could use expert help at times. Most of my departmental colleagues are not statistically sophisticated and definitely need such services. Some are able to pay through grants, or have some collaborations within or outside the U. However, overall there is a perceived need for some central resources. (*Medical, Psychiatry, 6-10 yrs at UM*)
- Courses on the use of statistical software (appropriate applications; pitfalls) for graduate students. (*Medical, Graduate Program in Neuroscience (DGS), > 20 yrs at UM*)
- Use is determined by cost. \$20/hr is fine. \$100/hr is not. (*Medical, Neuroscience, > 20 yrs at UM*)
- Would like to know more about it, how we could make the system work for us. (*Medical, Orthopaedic Surgery, 1-5 yrs at UM*)

- Having a university wide resource to turn to would be tremendously helpful in planning and executing our research projects. (*Medical, Psychiatry, 6-10 yrs at UM*)
- they are important. (*Medical, Physiology and Pharmacology (DGS), > 20 yrs at UM*)
- We have some internal people who have been hired to provide these services as part of our research office. We also have some faculty who are well trained in stats, etc who consult for others. Some faculty use BDAC already. Our colleagues in Public Health also help out when consulted. (*Nursing, NA, 11-20 yrs at UM*)
- If anything is central it needs to be EASY to access, pay for, etc! If not, we won't use it! (*Nursing, Nursing, 1-5 yrs at UM*)
- I moved a grant here (NIH/RO1) from the Univ of California, San Francisco 2 years ago..into the dept of medicine... I was appalled at the dearth of statistical consultation available - i.e. minimal to NONE. I am now on faculty in the school of nursing, which is a bit better, although one of their biostats persons is a master's prepared person who has misinformed several people on their analyses. It is not helpful to go to a group and have a different person to work with each time. On a research grant that goes over several years, it is critical that the person providing statistical consultation knows the study, design, methods, variables, so time is not wasted each time (especially at hourly rates) going over all that before getting to the statistical consultation. If there was a group that we could 'buy' a part of one person's time for working on our grant..that is what is needed...that provides continuity and consistent input into the research program. truly this is an amazing limitation to research here at this campus. <name withheld> (*Nursing, NA, 1-5 yrs at UM*)
- Unfortunately, there is not much communication on where to go for statistical services and who pays for them (*Dentistry, developmental and surgical sciences (DGS), 6-10 yrs at UM*)
- I generally do my own statistical work. Can't speak too extensively for others. (*Dentistry, Primary Care Dentistry, > 20 yrs at UM*)
- School of Dentistry used to have a statistician faculty within school and faculty members and graduate students were getting help from him based on his time availability. I liked that a lot. Paying statistician for a consultation might discourage not-funded faculty or graduate students to seek a consultation when they needed. (*Dentistry, restorative sciences, 11-20 yrs at UM*)
- We frequently need some help for small projects for which there is no budget for statistical help. I think this should be available from central funding when possible. (*Dentistry, diagnostic and biological sciences, 6-10 yrs at UM*)
- Expertise related to Biostats and genetics are severely lacking. The lack or limitations of expertise within this university is disappointing given the number of researchers working in this area. A lot of money is being sent to other Universities to accomplish this need that would otherwise be spent here and more efficiently used. (*Pharmacy, ECP, > 20 yrs at UM*)
- It has been terribly difficult finding a master's level biostatistician to hire for my research projects, and the faculty level statisticians in my department have no percent effort to spare. Asking them for help is impinging on them. There is no core stat analysis group here at EpiCH, although we are trying to build it. The issue is that funds for such core groups must come out of grants, and these are by nature piecemeal (25% here, 50% there) and last a limited amount of time. I am trying out using biostats RA students, but here, the experience level is not as great as I really need and they have no background in the kind of research I do. I believe a better plan would be to organize existing stats

faculty/p and a staff across the University into a variety of content-area statistical cores with some central funding that focus on the statistical methods/applications of interest to that group of faculty. This would build revenue for those cores (via fee for service from people like me with grants that need help), and if publicized appropriately, would be identifiable “go to” groups for individual studies. However, what I and others need is not usually a quick “how do I do a ttest” interaction, which takes all of 30 minutes, but rather much more in-depth and longer term (years) relationships that can build projects from the pilot stage through the R01 and P01 stage over time. *(SPH, Epidemiology and Community Health, 1-5 yrs at UM)*

- I wouldn't use centrally funded units if the price were reasonable and the services high quality: a lot depends on the price and the expertise of the individuals involved. *(SPH, NA, 11-20 yrs at UM)*
- I am a non-tenured faculty member, recently arrived. Mainly I teach. I have no research group. I write papers occasionally, and sometimes this involves me working with a statistician, who is also an author on the papers. I know very little about the statistical needs or activities of the other people in my department. I suspect that you should delete my answers from your tallies because my answers do not reflect anything beyond my own personal experience here at the U. *(SPH, Health Policy & Management, 1-5 yrs at UM)*
- It is difficult to hire people for fractions of effort, and grant funding is currently quite reduced. We don't have the funds to pay for outside help, and creating a position internally requires consistent funding. A University-supported position would get usage from our students in particular. *(SPH, Epidemiology and Community Health (DGS), 11-20 yrs at UM)*
- we have good internal expertise in survey research including sampling, weighting, imputation etc....We used to have an affiliated survey center that was very helpful in doing our RDD telephone surveys. We now contract with NORC or Westatt to those - we conduct the state of MN health access survey every other year and it would be good to have on-site support for the survey operations. Our current capacity is limited. *(SPH, Health Policy and Management, 6-10 yrs at UM)*
- It would be great if there was a core facility/service for these. *(SPH, NA, > 20 yrs at UM)*
- We have our own statisticians and programmers. Most of the help we need with software besides licensing is obtained through the companies providing the software and informal networks. However, most research units are smaller and don't have such resources. *(SPH, Environmental Health Sciences, > 20 yrs at UM)*
- Since all our work in epidemiology and public health research depends on these services they must be built into our faculty, staff, and facility. An outside or even on-campus unit could not provide us the extent and intimacy and constancy of this involvement *(SPH, Epidemiology and Community Health, > 20 yrs at UM)*
- Statistical analysis of projects is the black hole of costs since often there is the time needed to inform the statistician of the work's design and questions, there are preliminary analyses and followup analyses. I wonder if there is anyway to get some basic help as part of the infrastructure of the university? *(Other AHC, Program in Occupational Therapy (DGS), 11-20 yrs at UM)*

Veterinary Medicine

- Currently the University's research mission should be allowing for statistical help for no charge. Many of us clinical faculty have no option for research because of the current lack of support by the University. I have used the Biostatistics school on the St. Paul campus and all they want to do is consult. I am not interested in consultation. The needs of my service are to have the statistics done so that we can continue to work on the clinical floor and publish/write a paper on our off time. I have no interest in going back to school to learn how to do statistics. *(CVM, VCS, 11-20 yrs at UM)*

- We would need to know what fees, charges would be applicable in order to write them into the budgets of grant proposals. Of course, there is some “lag time” with this process. Also, I think that we need better communication with statistical consultants as we may not always be applying the “right” statistical analyses of our results (*CVM, Veterinary & Biomedical Sciences, > 20 yrs at UM*)

St. Paul

- I am retiring in early 2009 - these response represent our past experience (*CFANS, Entomology, > 20 yrs at UM*)
- Most of our students use the stats clinic on the st. paul campus. They are very happy with the service they provide and are very concerned that the stats clinic may close. Many of our students write grants to support their research and I do not think they would be able to afford to pay a consulting service, on or off campus. (*CFANS, FWCB (DGS for EEB) (DGS), 6-10 yrs at UM*)
- Since the loss of the AES support for statistical consulting, I am not sure how my needs for stat consulting will be met. There is no infrastructure that defines who to call and what they will charge. I have been somewhat frustrated with the variability in stat consulting that we receive. I have encountered considerable conflicting opinions from one day to the next (depending on the available consultant). This issue has not just been isolated to one student. I usually end up telling my students to seek <name withheld> for a final say. Regarding the last question, I would be more willing to pay if I knew the answers provided were not subject to such variable opinion. (*CFANS, Entomology, 1-5 yrs at UM*)
- I think the need definitely exists in all areas. How to fund and how much one would pay for services would probably indicate the extent of use. (*CFANS, Animal Science, > 20 yrs at UM*)
- Needs are being met (*CFANS, Entomology, > 20 yrs at UM*)
- Our research group is just starting. It is difficult at this time to predict what needs we will have. (*CFANS, Agronomy and Plant Genetics, 1-5 yrs at UM*)
- Noone in the stats consulting group knows anything about SEM or that sort of modelling-a real hindrance. Similarly, the U doesn't offer a specific class on it. Same deal with HLM (*CFANS, Forest Resources, 6-10 yrs at UM*)
- I'm not sure the results of this survey are going to be very accurate - I am a DGS for a large non-departmental program (about one-half of the students in my college are not in department programs). My 90 students are scattered across 17 departments in 7 colleges. It is difficult for me to generalize about their needs or know what they actually use. I did do a survey of stats clinic usage recently, so know my program's use is very high. Your survey questions are worded to be answered as a single investigator for a group (it seems you needed more access to survey research assistance). I worry that this will underestimate needs. We are desperate to keep the St. Paul Stat Clinic open. (*CFANS, Horticultural Science (but Cons Bio DGS) (DGS), 11-20 yrs at UM*)
- I would take on the burden of teaching my graduate students advanced statistics. (*CFANS, Entomology, > 20 yrs at UM*)
- Note answer above about stats consulting applies from 80s to present (St Paul AES stats clinic) but this has been cut increasingly in recent years and is projected to go away. (*CFANS, FWCB (WRS DGS) (DGS), > 20 yrs at UM*)
- Being on the St. Paul Campus, a centrally located service in MPLS is pretty useless. It needs to be local. (*CFANS, Forest Resources, > 20 yrs at UM*)

- I did not have enough time to gather information from my faculty to make a more informed response. I think statistical consulting is an absolute necessity if we are to maintain credibility as a top research university. Requesting funds to do statistical consulting on a grant proposal will provide an easy rationale for rejecting an otherwise competitive proposal in the highly competitive grant funding battle. (*CFANS, Applied Plant Sciences (DGS), 6-10 yrs at UM*)
- In the past, when I've consulted statisticians, I have received advice that was valid from a THEORETICAL statistical viewpoint, but not from a biological one. Hence, I stopped going to the Statistical Clinic (when it existed) for consultations on experimental design. I also doubt that anyone in the Statistics Department is familiar with two-color microarray analysis, as I had a difficult time finding someone who performs Bioinformatics regularly with this experience (Affy chips, yes; two-color cDNA chips, no). A staff member from the Minnesota Supercomputer Institute helped me analyze my microarray data, but he was not expert using R for two-color array analyses, so I relied on GeneSpring software and a textbook on using R for these analyses. Currently, there is a graduate student in my department who used to work as a statistician for the Forest Service. He is very familiar with R, so when I need help with R syntax, I turn to him, but when he receives his Ph.D. and moves on, I will be stuck. I wouldn't want to bother people at a Statistical Clinic about relatively minor (albeit frustrating) R syntax problems. I'll have to look for a "Complete Idiot's Guide to R" book. (*CFANS, NA, 11-20 yrs at UM*)
- The need for this type of infrastructure will increase as the need for inter disciplinary work and the collection or original data increases. (*CFANS, ApEc, > 20 yrs at UM*)
- It is apparent to me that there is a fundamental lack of course work or consulting available to faculty and students with respect to statistical approaches that are not classical hypothesis testing (i.e., likelihood estimation and Bayesian approaches to analysis). These paradigms are becoming the norm in natural resources but there are no easy pathways to these approaches for graduate students. Whereas students need to learn the fundamentals of basic statistics, you simply cannot get papers published using the classic statistical inference approaches in our fields any longer. Yet, no one seems to be willing to provide either entry level graduate coursework or consulting for faculty within any unit that presumably has such expertise on their faculty. Moreover, many of the graduate level statistics courses are taught by graduate students, which in my understanding cannot be done according to the graduate school. These graduate students are often poor teachers, have limited insight and analytical skill, and sometimes cannot even communicate effectively in English. I have had several students in our program drop classes because they were a waste of time and money - THAT COSTS ME GRANT MONEY! (*CFANS, FWCB, 6-10 yrs at UM*)
- For everyday statistical needs we collaborate with <name withheld>, a faculty member in our department. However, <name withheld> relies heavily on statistical consulting with <name withheld>. So, we benefit a lot from statistical consulting, although this benefit is indirect. Proper statistical analysis is very important for publication of high-quality research papers. If the U of M is going to achieve its goal of improving its standing among research universities, it is essential that good statistical consulting is available. It should not be charged on an hourly basis, as that will discourage many labs from using it. This will in turn reduce the quality of U of M research and publications. My colleagues at other universities have good statistical consulting support. (*CBS, Plant Biology, 6-10 yrs at UM*)
- I met with <name withheld> several times and his advice was invaluable. I think that if we are to take the goal of becoming one of the top three research universities seriously, having an affordable (gratis) statistical consulting service available for faculty and students is essential. We can't do science without it. (*CBS, EEB and Plant Biology, 1-5 yrs at UM*)

- It has been wonderful to have help from colleagues in the departments of statistics and biostatistics and from the statistics clinic. My colleagues in other universities are very envious of the expertise that is readily available to us. Given the difficulty of finding funds in my field, it will severely detract from our work if we have to pay for help with statistics in future. *(CBS, EEB, > 20 yrs at UM)*
- For clarification: My answers reflect my experiences as DGS in EEB (2002-2005), IGERT PI (2005-2008), department head in EEB (2003-2008), and Vice Chancellor (2008-current).
Having university infrastructure available for training grant surveys is important for renewals and continual improvement and there are funds in grants to pay for them—a OneStop approach for these services would be good so that faculty who want to apply for training grants would not have to search for them or reinvent them. *(CBS, Academic Affairs (DGS), 11-20 yrs at UM)*
- As my own program progresses into new areas of advanced analysis, the need for non-routine stat help increases and this has become a major factor in our competitiveness for NSF grant funding in the areas of proteomics and metabolomics. These needs were not predicted only a few years ago and we now find that without the help and input we have been getting (which has been outstanding) that our projects would simply not be possible. We need access to these colleagues and services to remain at the cutting edge of science. *(Multiple, N/A (DGS), 6-10 yrs at UM)*

College of Liberal Arts

- In my dept, we have many people who possess expertise in statistical analysis and survey research methods. My sense is that we don't need any help in these areas. Instead, the best type of outside help we need is for software acquisition, installation, and maintenance. I didn't even realize we had statistical consulting services available before I received the email for this survey. *(CLA, Political Science, 1-5 yrs at UM)*
- So far we have worked with specific people to collaborate on projects, if advanced statistical methods are needed. They don't charge for their services but are then co-authors of papers. This arrangement has worked well for us and, I think, all involved. *(CLA, Anthropology, 6-10 yrs at UM)*
- We're fine on our own for most things but need help occasionally on very advanced topics. The single biggest problem, I think, is that statistical consulting is too often so... so... "statistical." That is, the royalty don't connect with commoners. It's quite an art, to be both a qualified statistician and a good communicator. (We hunger for the likes of Don MacEachern!) A related problem is that only people with big grants can afford fee-based services. That leaves grad students out in the cold, and lots of faculty. *(CLA, Journalism and Mass Communication, > 20 yrs at UM)*
- As art historians we tend not to use statistical data in our research. It may be that the department staff would need help in looking at things like tracking alumni, rating our program relative to others, etc. *(CLA, Art History (DGS), 6-10 yrs at UM)*
- Stat consulting services are a bit hidden from faculty view.
It's not clear what the role of the student walk in clinic in St Paul is, and how that choice compares to the Stat faculty in Ford.
The people I've used have been helpful. *(CLA, communication studies, > 20 yrs at UM)*
- As far as I know, faculty and students in our program do not use statistical consulting or survey research. *(CLA, CNES (DGS), > 20 yrs at UM)*
- I know that the stat consulting lab was underutilized by CLA researchers. However, when I told grad students about it, they used it heavily. It has been a great service. As a qualitative researcher moving into quantitative territory, I can say for certain that more researchers should avail themselves of it,

especially the Social Science researchers who think they are doing sound stats. Even just moving back into the field, I see major problems in the lit that a lot of Social Scientists think are sound stat work. There needs to be some advertising with the launch of a new centralized program, if one is created. *(CLA, SJMC, 6-10 yrs at UM)*

- again, we would be interested in programs such as Researchware and/or NVIVO *(CLA, Geography, 1-5 yrs at UM)*
- Other than one colleague in my department, I don't think anyone does statistical work. What I might use for my current book project is some explanation of statistical data I encounter in my research—for example, how reliable is a particular study of racial disparities in higher education, how might the study have been better nuanced to capture the disparities, etc. In other words, I don't DO stats, I just want verbal explanations of how they have been or might better be done. *(CLA, English, > 20 yrs at UM)*
- Many of our students learn how to use statistical software as part of their courses. Faculty and staff are reasonably qualified, even for advanced statistical questions. *(CLA, MGIS (DGS), 6-10 yrs at UM)*
- The University's Survey Research service (MCSR) is way too expensive and not flexible enough for the needs of faculty and students in my department (i.e., they rarely do national surveys, and are therefore not set up to do them cost-effectively). As a result, faculty in my department use other survey research centers around the country to do their phone surveys.

CLA OIT's Survey Service is FANTASTIC! I strongly encourage the University to continue this program, as it is invaluable to students and faculty who want to do web-based surveys. *(CLA, NA (DGS), 6-10 yrs at UM)*

Other

- One of the statistical techniques that my graduate students find difficult to get help with is structural equation modeling...research in my field is using this technique increasingly and students find it difficult to get courses or advice on this campus. *(CDes, DHA, 11-20 yrs at UM)*
- free/reduced fee consulting would be extremely helpful for student/pilot/unfunded projects *(CEHD, Kinesiology, 1-5 yrs at UM)*
- I have been Director of the School from 1986 to 2005 I am now DGS for the third time in 22 years! I believe we are increasingly in need of stat services especially assistance with generating power statistics for grant proposals. *(CEHD, Kinesiology (DGS), > 20 yrs at UM)*
- It is unacceptable that we must pay a yearly fee that is so large for software. Every other peer institution with whom I have collaborations provide this for a nominal one time fee or free! I don't have \$375 per year to spend on 3 software packages (SPSS, NVIVO, and MATLAB) that should be provided for me by my employer! If the university expects me to do research as a part of my job, then the university should pay for the basic tools to do research. This is why I am "very dissatisfied" with the software available. *(CEHD, C&I, 1-5 yrs at UM)*
- General consulting and support (e.g., centrally funded and operated) often is not specialized enough for advanced needs. In other words, developmental scientists often need expert advice and consultation (stats, design, software) related to specific issues in longitudinal research designs with humans at multiple levels of analysis. In other words, the consultant often needs to have a good grasp on the kinds of questions, methods, and contexts involved in the analysis or design. Generic consultation has limited utility except for basic questions. Thus, some of the general consulting services on campus

are not very useful because the consultants do not understand the nature of the science. Adding consultants with expertise relevant to a cluster of departments or scientists might work.

In terms of software help - For the most widely used software, I think the programs and support should be available and FREE - as part of the basic research infrastructure of this university. (*CEHD, Child Development, > 20 yrs at UM*)

- 1) The University should not be spending money on this. 2) Our internal office that already does statistical surveys does a terrible job in my opinion. The questions are often poorly worded, often clearly phrased to solicit a particular response. 3) In my opinion the use of statistical surveys is not a good method of gathering information. (*IT, AEM, > 20 yrs at UM*)
- These services are very helpful—a great resource to have. (*IT, Civil Engineering, 1-5 yrs at UM*)
- Obviously, the answer to the last question would depend on cost, difficulty, and urgency. (*IT, Biomedical Engineering (DGS), 6-10 yrs at UM*)
- Chemists don't use this very much at all (*IT, Chemistry, > 20 yrs at UM*)
- At present, I do not feel that the U is well equipped to deal with the most complex statistical issues we face in our research. Most of us are fairly skilled in statistical techniques—it is the really tricky ones that we need help on and those are the ones that do not seem to be able to be met through any statistical consulting services. I wonder whether there are other resources (outside the U) that might be able to be used when our challenges go beyond the skill of the services provided. Perhaps they could also identify external statistical consulting support that we can access for complex issues.
On a personal note, my attempts to attain statistical consulting help were not helpful to me whatsoever. Perhaps I was seeking help in the wrong places, but beyond providing software, I don't see much support. (*Management, Human Resources and Industrial Relations (DGS), 6-10 yrs at UM*)
- Statistical needs seem very discipline-specific (e.g., accepted practice in econometrics v. psychometrics) and researchers in my areas usually turn to disciplinary colleagues in and out of the U for help. (*Management, HRIR, 11-20 yrs at UM*)
- Would there be a survey research and data analysis team available to work with qualitative researchers doing mixed methods research? Who would that be? Where are they? What are the costs? (*HHH, NA, 1-5 yrs at UM*)