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Invited Sessions at JSM 2007: Seeking Proposals

Phillip Chapman, Colorado State University *

We are now seeking proposals for invited sessions in the section on statistical consulting for the 2007 JSM in Salt Lake City. Our section has two dedicated invited sessions, and there is the possibility of more available by competition. The deadline for online submission is July 26, 2006. If you have interest in organizing an invited session or have an idea for a session that you would like to suggest, please contact me. There is information about the invited session format and submission procedures on the ASA web site.

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Clients' Perceptions of the Science/Field of Statistics

H. Dean Johnson, Washington State University *

In providing statistical consulting, it is important to understand how clients perceive the science/field of statistics. Having this knowledge can help to facilitate the interactions that take place in statistical consulting sessions. In this paper, I examine clients' perceptions of statistics, using client responses to the question, "How do you perceive the science or field of statistics?" In all, twenty-six clients, from University of Idaho and Washington State University, were interviewed. The twenty-six clients that were selected constitute a convenience sample as the clients that were selected to be interviewed were persons who could be interviewed during the specified times that I had available for interviewing. Nonetheless, the information collected during these interviews is valuable in that it can be used to shed some light on the perspectives of statistical consulting clients.

The interviews with the clients were tape recorded and transcribed verbatim. Having this detailed data in hand, I conducted two or three thorough readings of the transcribed interviews. During this process, several themes emerged regarding how clients perceive the science/field of statistics, and these are described below. Throughout this manuscript, quotations, extracted from the interview data collected, are used to vividly illustrate the perspectives of the clients in this study. To the clients in this study, the science/field of statistics is:

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A tool to help us draw valid conclusions from data

I like statistics and that it makes it possible to really draw concrete solutions and to know exactly what your data is telling you.

I view statistics as a way of really verifying that data is the same or not the same compared to the control.

I think working in science, you realize that data doesn't mean anything unless it's analyzed and interpreted correctly. So, I think it's important that, I mean it's very important... you really can't conduct a study without statistics.

It's a good way to actually get some true numbers.

I can see the difference from the graphs but I couldn't tell if there's any significant difference from the results and I needed some help from the statistics.

A tool for evaluating the data in our lives

To me statistics is a tool, to help us evaluate the data in our lives, to understand the information that we collect about our surroundings.

I just think everybody needs to have a good understanding of statistics because it's used all of the time. I mean even in just local newspapers. I mean everybody's different polls and just the way that they derived their sample population.

We all benefit when statisticians do work into ways of modeling to help us understand the world around us and seek to investigate ways of assessing and accounting for error in models.

Complex and Difficult

Complicated, difficult, confusing at best.

I think anybody that understands statistics is a genius.

Confusing is the main thing.

For anyone who has provided statistical consulting or taught statistics, the themes that were found in the data should not be too surprising. Although, the results do provide an important reminder to statistical consultants that statistics is vital for researchers from other fields but is a subject which is very difficult for them. This difficulty researchers from other fields have with statistics is true even for clients who have taken a number of statistics courses. Because of this difficulty, it is important for the consultant to remember to demonstrate patience in providing explanations of statistical analyses.

What struck me the most from my analysis was not so much what appeared in the responses but what did not appear. Paramount to researchers in other fields, who are interested in using statistics to analyze their data, is inferential statistics. As such, in the discussions provided by the clients, I expected to see some mention of the terms sample and population and that the science

or field of statistics provides a way of inferring or drawing conclusions about a large population based on information collected from a sample (preferably random) selected from the population, especially since this point is reiterated by teachers of statistics and authors of statistics textbooks. Yet, I did not see such a discussion.

Of the persons interviewed, only a couple of persons mentioned either sample or population in their responses. And, in these cases, it was unclear how the terms were being used. For example, it was unclear how the terms sample and population were being used when one person stated that,

I just think everybody needs to have a good understanding of statistics because it's used all of the time. I mean even in just local newspapers. I mean everybody's different polls and just the way that they derived their sample population.

Unfortunately, this is not the only time I have run across the expression 'sample population'.

It is imperative for clients to have a good understanding of the basic principles of statistics. Without a good foundation in the basic principles, it becomes very difficult for the client to effectively report his or her statistical results. It is essential, for example, for clients to know that statistical inferential techniques are used to draw conclusions about a population based on sample information. Statistical inferential techniques are not applied to data from a census, as I have seen some clients try to do. If an understanding of the basic principles is lacking, the consultant needs to reinforce such principles during the consulting sessions.

In this study, interviews conducted with statistical consulting are used to shed some light on how statistical consulting clients perceive the science of statistics, which can be used to enhance statistical consulting practices.

Pros and Cons of Free Statistical Consulting in an Academic Setting

Brady West, Center for Statistical Consultation and Research, University of Michigan *

I have the extremely good fortune to work as a statistical consultant at the Center for Statistical Consultation and Research (CSCAR) on the University of Michigan - Ann Arbor (UM) campus. Under the skillful and experienced guidance of Dr. Edward Rothman (Director) and Dr. Brenda Gillespie (Associate Director), CSCAR provides faculty, staff, and graduate students on the University of Michigan campus with a free statistical consulting service that is extremely popular and well-utilized. Clients of CSCAR who are UM affiliates can set up at most one one-hour appointment per week with one of CSCAR's consultants, and this consulting service is always free. Administratively located in the Office of the Vice President for Research (OVPR) at UM, CSCAR is able to provide this free service via general funds provided by UM, small sub-contracts with clients, grants that partially cover the salaries of CSCAR statisticians, and statistical workshops that it offers to both on-campus and off-campus clients for nominal fees. UM clients can also phone, e-mail, or walk-in at any point during the week with "quick" questions, and receive free consulting assistance from graduate students in the Statistics or Biostatistics departments working under the supervision of CSCAR staff. While this service is very popular, occasional difficulties arise as clients either

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directly or indirectly “abuse” the system, and this article discusses some of the pros and cons of providing this level of statistical consulting service in an academic setting.

I want to first emphasize the pros of being able to provide this type of service. As a current employee and a former graduate student research assistant at CSCAR, this arrangement has provided me with daily intellectual stimulation and a never-ending stream of difficult statistical problems from an extremely wide variety of fields and has introduced me to prominent researchers from all over campus. Graduate students are at the CSCAR front desk 40 hours a week (in shifts), so they have constant exposure to these problems via telephone and walk-in contacts and are constantly learning and enhancing their communication skills outside of their standard classes, which is essential development for a successful career as a statistician. Nearly all CSCAR appointments are filled every week, providing employees with constant exposure to challenging statistical problems, and allowing the employees to learn about a variety of fields. This results in extremely high levels of job satisfaction, and a very positive and supportive work environment. The relationships established between CSCAR consultants and clients from the repeated free consulting sessions extend far beyond CSCAR, frequently leading to successful research collaborations and friendships.

Recipients of the free consulting truly appreciate the service for several reasons. Faculty and staff at UM find the free statistical consulting quite helpful, because research funds can be better-utilized for other aspects of funded projects aside from statistical consulting. The repeated free consulting sessions are particularly beneficial for graduate students working on the quantitative analysis portions of their dissertations, either at the design stage or at the formal analysis stage. Graduate students generally have a difficult time financially, and the ability to set up ongoing appointments with statistical consultants for free allows the students to receive advice at the very beginning of their dissertation work and establish a relationship with a consultant that continues throughout the course of the dissertation preparation. Graduate students find this to be a tremendous service, because they can repeatedly seek consultation (sometimes from multiple consultants to get several opinions), and they can rely on CSCAR consultants as constants who are familiar with their work. CSCAR consultants become intimately familiar with dissertation projects as a result, and are often asked to be on dissertation committees in return, which ensures that the quantitative aspects of many dissertations completed at UM on a yearly basis are of high quality. Relationships with CSCAR consultants often extend to post-doc positions at other universities, where newly minted PhDs are surprised to find that CSCAR does not exist on other campuses.

Despite the pros, there are several cons associated with providing this free service that warrant mention. The graduate student consultants working at CSCAR are required to maintain a fairly complex appointment schedule that includes nearly 50 appointments per week. The graduate students need to be aware of the skill sets of all consultants at CSCAR, so that clients are correctly matched up with consultants that will be able to successfully assist them; mismatches occasionally will occur, which can lead to unhappy clients (especially when clients need to wait several weeks for appointments). In addition, some clients will try to “gobble up” appointments, taking advantage of the free service to occasionally schedule multiple appointments with a consultant in the same week without the graduate students knowing, or scheduling multiple appointments with different consultants in the same week. This can lead to certain clients receiving more support than others, when CSCAR aims to provide equal high-quality support to all of its clients.

Many clients utilizing the service for the first time are unaware that CSCAR, at its essence, is primarily responsible for consulting, training, and education. These clients expect CSCAR consultants to serve the role of the dreaded statistical “black box,” accepting a data set as input and spitting out p-values and valid research conclusions five minutes later. This is a problem that arises quite often as a result of providing free e-mail support, because clients will e-mail CSCAR

data sets and research questions, and expect to receive reports and analyses in response free of charge. Some clients are dismayed when they find out that this level of work would require a charge (for faculty and staff), and that only statistical consultation is provided free of charge. We emphasize that our goal is to train and educate clients to the point where they are able to successfully analyze data using a software package on their own (with additional consultation if necessary). We happily do the work along with the clients as long as the clients are present for a one-hour meeting, and willing to take notes and understand what is being demonstrated. CSCAR constantly strives to emphasize that the consulting is free in its marketing efforts, and this can be a challenge when the word-of-mouth is something akin to “CSCAR was able to help me with all of my data analysis!”

Providing free e-mail support throughout the work week can also tend to have its drawbacks. Some clients take the time to write multiple-page emails containing study summaries and paragraph-long questions that would require many hours of consulting support, and the best that we can do is to reply and say that this volume of material would best be handled by setting up a consulting appointment. No guidelines or policies exist as to how long (or how short) an e-mail should be to warrant a detailed response, and this is left to the discretion of the consultants responsible for answering the e-mails. Many clients will try to handle their problems strictly via e-mail, which could require 5-10 e-mail responses from a CSCAR consultant, and some clients become upset when responses are not provided within 24 hours if the consultant is busy with other work. Rules and regulations for what types of e-mail will be responded to by CSCAR consultants would be fairly difficult to implement, and we feel that they would hinder CSCAR’s mission. However, this comes with the price of maintaining consistent responses to e-mail inquiries, and determining what can and cannot be handled via e-mail.

In general, providing this level of free statistical consulting service requires substantial resources, primarily in terms of funding and space. Funds are necessary to cover portions or all of the salaries of the consultants working at CSCAR (both Masters- and PhD-level staff), in addition to 50% appointments for the four graduate students. These funds come from general UM funds, which are supplemented by grant support provided by CSCAR statisticians, sub-contracts with clients (where CSCAR actually performs data management / analysis and drafts reports), and workshop offerings. In recent years, CSCAR has extended its variety of workshop offerings, and been very active in having its statisticians written into grants and sub-contracts. This proactive approach to procuring funds has enabled the hiring of new staff to enhance the level of service provided. However, the hiring of new staff has required more office space, and CSCAR’s current office space is insufficient for effective statistical consulting, given the amount of consulting that CSCAR performs. Appointments often overlap with each other, and not all consultants have their own offices. This occasionally results in a less-than-desirable (read: noisy) consulting environment, which is one of the biggest issues that CSCAR is currently attempting to address.

In summary, making a free statistical consulting service available in an academic setting has several pros and cons associated with it. I personally feel that the pros far outweigh the cons, and could not be happier with my current job. Providing this level of service definitely requires resources in an academic setting, but the free consulting model at CSCAR has proven to be an extremely successful one, both for the statisticians providing the consulting and the clients utilizing the service.

JSM Introductory Overview Lectures - The Human and Business Aspects of Statistical Consulting

JSM Introductory Overview Lectures - 8:30-10:20 a.m., August 7, 2006

Organized by Todd Nick, Section on Statistical Consulting

Through school, training, books, and journals, a statistician acquires many valuable tools to effectively address the technical aspects of professional practice. However, little training and few publications are available that tackle the business and human sides of running a successful consulting practice. The following two presentations will offer food for thought in these areas.

The Business Side of Consulting: Susan Devlin will discuss the key components of building and managing a successful consulting practice, focusing on the issues involved in finding a niche, building and maintaining a client base, successfully managing cash flow, negotiating contracts, and time management. She will share a wealth of experiences from both working within a large corporation and founding a small consulting group. Though targeted at statistical consultants in private practice, her lecture will also be relevant to statisticians in any environment who wish to take their consulting to the next level.

Creating Effective Encounters: Doug Zahn views statistical practice as a complex system involving teaching, research, consulting, and administration. At the heart of all statistical practice is encounter - a purposeful meeting of a statistician with another person: client, colleague, student, supervisor, or member of staff. Breakdowns naturally occur in encounters. He will demonstrate a videotape-based process using statistical thinking for recognizing and recovering from breakdowns, focusing on the intrapersonal and interpersonal components of statistical consulting.

Statistical Consulting Sections at JSM 2006

Sunday, August 6th

4:00 p.m. - 5:50 p.m. *Topic Contributed Panel*

The Nontechnical Side of Statistical Consulting: Reflections on Careers as Working Statisticians and Suggestions and Guidance for those on the Way

Organizer: John Bartko, Retired

Chair: Edward D. Rothman, University of Michigan

Panelists: John Bartko, Retired

Thomas Boardman, Colorado State University

Ross Prentice, Fred Hutchinson Cancer Research Center

Gerald van Belle, University of Washington

Monday, August 7th

8:30 a.m. - 10:20 a.m.

Introductory Overview Lectures: Statistical Consulting (*see previous article for further details*)

Organizer, Chair: Todd Nick, Cincinnati Children's Hospital Medical Center

The Business Side of Consulting - Susan J. Devlin, The Artemis Group LLC

Creating Effective Encounters: the Heart of Meeting Global Challenges - Douglas Zahn, 5x3 Associates

10:30 a.m. - 12:20 p.m. *Invited Panel*

Having an Impact in a Multidisciplinary Setting (*see previous article for further details*)

Organizers: Janice Derr, U.S. Food and Drug Administration and Lillian Lin, Centers for Disease Control and Prevention

Chair: Christina M. Gullion, Kaiser Permanente Center for Health Research

Panelists: Janice Derr, U.S. Food and Drug Administration
Janet Powell, University of Washington
Lillian Lin, Centers for Disease Control and Prevention
Kevin Cain, University of Washington
W. Scott Clark, Eli Lilly and Company

2:00 p.m. - 3:50 p.m. *Topic Contributed Panel*

Hiring a Consulting Statistician: What We Look for

Organizer: Christina M. Gullion, Kaiser Permanente Center for Health Research

Chair: Brenda Gaydos, Eli Lilly and Company

Panelists: Christina M. Gullion, Kaiser Permanente Center for Health Research
K. B. Boomer, The Pennsylvania State University
Fred Hulting, General Mills, Inc.
Don Harder, Eli Lilly and Company

Tuesday, August 8th

8:30 a.m. - 10:20 a.m. *Invited Papers*

Alternative Approaches for Sample Size Planning

Organizer: Peter Bacchetti, University of California, San Francisco

Chair: Stuart A. Gansky, University of California, San Francisco

Estimating the Minimally Significant Difference for a Clinical Study - Robert A. Parker, Harvard School of Public Health

A Completely Different Approach to Sample Size Planning - Peter Bacchetti, Charles E. McCulloch, and Mark R. Segal, University of California, San Francisco

Sample Size and the Value of Information - Kimberly M. Thompson, Harvard School of Public Health
Discussion: Stephen Senn, University of Glasgow

2:00 p.m. - 3:50 p.m. *Topic Contributed Papers*

Proper Compensation for Statistical Consulting Services Provided in a University Setting

Organizer, Chair: H. Dean Johnson, Washington State University

Successes (and Challenges) in Funding Campus Consulting Facilities - Murray Clayton, University of Wisconsin-Madison

An Overview of The Ohio State University Statistical Consulting Service - Christopher Holloman, The Ohio State University

Multiple Solutions to Funding Statistical Consulting within a University - Linda Young, University of Florida

Compensation Is More Than Money: Life as an Internal Statistical Consultant in a Medical School - Sarah Boslaugh, Washington University at St. Louis

Discussion: Barbara Mann, Wright State University

5:30 p.m. - 7:00 p.m.

Section on Statistical Consulting Business Meeting

Chair: Philip Dixon, Iowa State University

Wednesday, August 9th

10:30 a.m. - 12:20 p.m. *Invited Panel*

Statistical Consulting for Clinical Research

Organizer: Jeff Sloan, Mayo Clinic College of Medicine

Chair: Joseph Cappelleri, Pfizer Inc.

Panelists: Jeff Sloan, Mayo Clinic College of Medicine
Todd Nick, Cincinnati Children's Hospital Medical Center
Felicity B. Enders, Mayo Clinic College of Medicine
Michael Griswold, Johns Hopkins Bloomberg School of Public Health

2:00 p.m. - 3:50 p.m. *Contributed Papers*

The Practice of Statistical Consulting: Study Design and Sample Size

Chair: Harold Dyck, California State University

The Joys (and Perils) of Professional Statistical Consulting - Nestor Rohowsky, IDCS Inc.

Impact of Effect Size, Sample Size, and Crossover Percent on Intention-to-Treat (ITT) Analysis: Do Subjects Need To Stay in the Group They Were Assigned? - Thomas Wasser, Lehigh Valley Hospital, Christopher S. Hollenbeak, The Pennsylvania State University, and Stephen Matchett, Lehigh Valley Hospital

Comparison of Effect Size, Power, and Type I Error Rate in Simulated Efficacy and Effectiveness Trials - Mary Z. Mays, Arizona State University, and Jan Jirsak, University of Arizona

Reporting Significant Results for a Large Sample Study - Gloria Caldito, LSU Health Sciences Center

Uncontrolled Variation in Multistage Experiments - T. B. Bailey, Iowa State University

Dose Ranging Studies in Acupuncture, Manipulative Therapy, and Mind Body Research - Laura L. Johnson, Catherine Stoney, and Partap Khalsa, National Center for Complementary and Alternative Medicine

A General Serial Gatekeeping Procedure To Control Studywise Error Rate - Fang Xie, Chung-Kuei Chang, and Guoyong Jiang, Cephalon, Inc.

Roundtables with Coffee and Roundtables with Lunch

(fee event) Roundtables are a wonderful way to learn more about a topic in a small group with similar interests, and have now been expanded to include morning sessions. Roundtables will be held at the following dates and times:

Monday August 7th

7:00 a.m. - 8:15 a.m. Roundtable with Coffee

Organizer: Wendy Tseng, Procter & Gamble

Effective Collaboration via Concise Statistical Graphics - Thomas G. Filloon, Procter & Gamble

Tuesday August 8th

7:00 a.m. - 8:15 a.m. Roundtable with Coffee

Organizer: Phillip Chapman, Colorado State University

Bioinformatics Consulting: Keeping up to Date - Ann Hess, Colorado State University

12:30 p.m. - 1:50 p.m. Roundtable with Lunch

Organizer: Todd Nick, Cincinnati Children's Hospital Medical Center

Extreme Consulting: a Novel Method of Improving Efficiency of Biostatistical Analysis - Daniel Byrne, Vanderbilt University

Wednesday August 9th

12:30 p.m. - 1:50 p.m. Roundtable with Lunch

Organizer: Phillip Chapman, Colorado State University

Statistical Consulting in (and around) the Bayesian Paradigm - Alix Gitelman, Oregon State University

Consulting Tales for “Having an impact in a multi-disciplinary setting”

Janice Derr, U.S. Food and Drug Administration *

Lillian S. Lin, Center for Disease Control and Prevention †

Disclaimer: This article does not represent policy or views of the U.S. Food and Drug Administration or the Center for Disease Control and Prevention

Session 131 for JSM 2006, Seattle, WA

August 7, 2006, 10:30 a.m.

We would like to thank the Section members who responded to our request in January for “tales” that illustrated typical roadblocks to a statistician’s effectiveness. We received many interesting tales, some with happy endings and others that left us wishing that things had turned out better. From your responses, we developed a set of ten tales. They are included at the end of this article. We will discuss the lessons to be learned from these tales, along with the experiences of our panelists and members of the audience, at the invited panel session “Having an impact in a multi-disciplinary setting.”

Chris Gullion, Ph.D., from the Kaiser Permanente Center for Health Research, will chair the panel. Panelists include Kevin Cain, Ph.D., a statistician with the Office of Nursing Research and Department of Biostatistics at the University of Washington; W. Scott Clark, Ph.D., the director of Global Statistical Sciences at Eli Lilly and Company; and Janet Powell, Ph.D., a research investigator with the Division of Occupational Therapy at the University of Washington. We are especially glad to have Dr. Powell represent the non-statistician perspective on the panel, and are grateful to ASA for waiving the registration fees so that she could participate in the discussion. We have also invited ourselves to serve as panelists.

We plan to spend the first part of the session with brief presentations from each panel member. After a discussion among the panel members, we’ll open the discussion to the audience.

We provided four questions for the panelists to consider:

1. What factors contribute to a statistician’s effectiveness in a multi-disciplinary setting?
2. What underlying issues cause frustration and reduce a statistician’s effectiveness?
3. What additional training or experiences would you recommend for statisticians who would like to improve their effectiveness in this setting?
4. What additional outreach or training would you recommend for investigators who work with statisticians?

Here are the consulting tales that we developed from your contributions. In addition to the good lessons they teach about statistical consulting, we think they reflect the enjoyment and humor that statisticians bring to their work. We’d like to thank you again for providing them. A big thank you also goes to Todd Nick, the section program chair, for helping us through the process of developing this invited session.

We hope to see you in Seattle! But, if you’re not able to attend the session, you can read a summary of the discussion in a future issue of *The Statistical Consultant*.

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Statistical Consulting Tales:

1. I was working as a Biostatistician for a large grant. In year three after we collected the data and completed all the data management steps, everyone on the grant became anxious and wanted to know the analysis results. I first did the primary analyses specified in our grant and the results came out mostly negative (the intervention effects were not significant in the models that were pre-specified as primary analyses). The Principal Investigator, who is one of leading scientists in her field, was shocked and very upset. Then I performed the exploratory analyses according to our Grant's specification. The intervention effects became significant in these analyses. When I showed her the exploratory analysis results, she applauded and asked me to help her in drafting a manuscript based on these results. I explained to her the differences between hypothesis generating studies and confirmative studies. She acknowledged the difference but insisted that the exploratory models are better and we should base on exploratory analysis results. After a long series of discussions, I finally persuaded her and we agreed to report both of the primary analysis results and the exploratory analysis results. The Grant received very good review and was awarded further funding. The PI joked with me then, "You biostatisticians won." I replied, "The Grant? You did!"
2. A student who worked at the campus newspaper called and explained that the newspaper would like to do a survey to assess student dissatisfaction with some new campus parking regulations. I explained a bit about carefully wording questions and spent a fair amount of time discussing different sampling frames that they might consider. We also discussed the key role of randomization and difficulties in contacting students. The next day there was a front-page article on the new parking regulations with comments from three students who did not like the changes.
3. Although I was made aware that a new study was being planned, and I was assured (by the team leader) that I would be involved in the planning of that study, I was not included in any planning meetings until six months later, by which time the general outline of the study had already been more or less set. Perhaps the discussions up to that point had been at too high a level for me to be involved in - I have no way of knowing. I cannot say this resulted in any problems but it did seem that statistical advice was not sought until later in the game than it should have been. To the best of my knowledge no other statisticians were in on any of these early discussions either.
4. An industrial engineer asked me to accompany him on a consulting trip to discuss the analysis of a study that he designed for them. In a meeting with the person in charge, I explained that we would give him not only an estimate but also a quantified measure of the uncertainty associated with the estimate. I then gave some basic ideas about confidence intervals and the role of the confidence coefficient. Finally, I asked him to choose a confidence level that would meet his needs and preferences. After a long pause, he looked me in the eye and said, "Around here, I expect 110% from everyone and George, that goes for you, too." This was a long time ago. Today I tell people to use 95% unless they have a compelling reason to do otherwise.
5. I think my most commonly-encountered problems happen when I help faculty from other disciplines with the data analysis section of a grant proposal (which is, of course, always due next week). Frequently, their research questions and hypotheses are still in flux when they contact me and ask for help. In some ways, that flexibility is good, because I can help

contribute to considerations of measurement and sample size. In other ways, the flexibility is horrible, because their hypotheses often change at the last minute. I have often written up a data analysis proposal based on their ideas, and submitted it for their review, only for them to say, “you know, I really think we should revise the hypothesis to take X into account.” They have no idea that the change will incur not just a small revision to the current analysis, but a different analysis entirely. If I were more knowledgeable about their fields, I could probably anticipate the ways in which they might need to extend or alter their hypotheses, and talk about those possibilities *before* I start writing anything down. But since I’m unfamiliar with their theoretical frameworks, I can’t do that as well as I would like. As a result, I often end up writing the whole thing over a day or two before it’s due.

6. An investigator came to my office asking for sample size requirements for a specific method commonly used in her area but with which she was not statistically familiar. I could never get a clear picture of the overall situation. How many facilities were involved and why? How many specimens in all? What was the purpose? She always put these questions aside as if they were inconsequential to my answering her question about the method - I was to respond in a vacuum. All she wanted from me was “the number” - in this case the number of specimens that would need to be tested to obtain a specified level of confidence that the proportion of “adverse events” was less than 5%. She never gave me the information I needed to put the question into context. After I finally coughed up a number for her she never got back to me and I admit I did not try very hard to follow up with her either. My impression is that the number was too large and she was going to ditch the idea of using the method if the number I came up with was too large.
7. I had worked with Dr. X on one very successful project. He fully understood and even appreciated the contribution of statistics to research success. He put my name on the paper. So I was used to accommodating his busy schedule - even meeting with him at lunchtime while he munched on sandwiches and guzzled soda (alas, he never brought any for me!). He also took calls during our meetings and I tried unsuccessfully to shield my ears while he asked questions like “How many centimeters now?” and “Has the father made an appearance?” As alarming as all this was, I took it all in stride in the name of successful research collaboration - until that fateful day. I got a call early in the morning. He said he had the numbers from the pilot study so I could perform sample size calculations for our next big project. I opened a database window and poised to enter data, my phone cradled on my shoulder. I had entered a few numbers when there was a pause on the other end. Then I heard a loud horn blast and some colorful language. Then the numbers resumed. “Just a minute,” I cried, as the horrible truth dawned on me. “Are you driving along as you read me this data?” “Oh, sure,” he answered, as if this were SOP. “I will not participate in this,” I said. I hung up - the only time I have hung up on a researcher. I am convinced that I did the right thing. Sometimes the best thing you can do for a researcher is hang up.
8. A clinical trial that I had helped to plan and analyze was to be published, and I was one of the co-authors. The manuscript went through many revisions as it was sent from author to author. When finally signing the copyright form, I asked the corresponding author if there were any changes since I last had a look. Yes, she replied, but just in style. I was lucky to have a look at the proofs in time, because otherwise we would have stated “We set all P-values to < 0.05 .”
9. My tale comes from an experience I had with a Ph.D. candidate I was helping as she was

putting together and analyzing her statistics. When she took the carefully worked out and reviewed statistics to her dissertation committee, one of the people on the committee (the self-appointed “Stats Expert”), declared that the statistics were reported incorrectly. When I was told about this, I asked what was the perceived problem. Apparently, the committee member insisted that proper statistics required that all of the statistics be reported as $p < 1.00$. When the candidate tried to correct the committee member, she was shot down fairly quickly. The published dissertation has that as the p value for each of the tests run. I did tell the student to NEVER try to publish it in that form and to revert back to the tests we had worked on.

10. I consult with graduate students from across campus, and the most challenging part of working with students from other disciplines is the very different standard for statistical sophistication across the various departments. Some departments want their students to strive for the best “gold standard” analyses. Other departments are suspicious of “newfangled” and “strange” techniques, and want their students to stick with what the faculty know (i.e., regression and simple ANOVAs), even if those are not really appropriate to the question at hand. To try to avoid guiding the student toward an analysis that their committee will find problematic, I generally provide the student with an array of low-, mid-, and high-end analysis options. For example, a student in linguistics was doing a study of infants, looking at how component X of their speech affected component Y of their speech, using about 100 words for each infant. Initially, she intended to treat all observations from all infants as independent, and just run a correlation. I explained to her why that was not appropriate, but then we are left with a quandary, because her committee will be likely to balk at a strange and unknown multilevel analysis. So I presented her with two options: (1) The low-level analysis: run a correlation separately for each infant, and present descriptive information on the resulting set of correlations (e.g., the minimum, maximum, and average correlation). This is not ideal, but at least it doesn’t egregiously violate the independence assumption, and it gives some nice food for thought in terms of the degree to which infants differ in the effect. (2) The high-level analysis: run a multilevel model that takes the clustered nature of the data into account. I told her to go back and discuss the two options with her advisor and see which one the advisor prefers. She decided to go with the multilevel analysis in the end. Many choose the lower-level model instead. Perhaps if I were on their committee, I wouldn’t allow anything less than the best; but I am not on their committee, so I need to be realistic about what their own department wants from them.

Comments from the Chair

Philip Dixon, Iowa State University*

Its early July as I write this and the Joint Statistical Meetings are a few weeks away. Todd Nick, the section program chair this year, has assembled a wonderful program of interest to consulting statisticians. The section is sponsoring or co-sponsoring over 30 activities, ranging from

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introductory overview lectures by Susan Devlin and Doug Zahn, to invited and contributed paper sessions, panel discussions, and roundtable lunches. There is something for everyone, whether you're interested in statistical methods or more interested in the business and communication aspects of statistical consulting.

The Section Business Meeting and Mixer is Tuesday evening, August 8, from 5:30 to 7:30 p.m. The Consulting Section is large and can seem impersonal. The business meeting is an opportunity to meet you face-to-face. I hope you can attend.

At the business meeting, I will introduce the recently elected officers. Brenda Gaydos, from Eli Lilly, will be the chair-elect in 2007. She will then be chair in 2008 and past-chair in 2009. Paul Stewart, from UNC Chapel Hill, is the incoming Publications Officer; Karen Pieper, from Duke, is the new member-at-large on the executive committee; and Susan McGorray, from Univ. of Florida, is the junior (the section has two) section representative on the ASA Council of Sections. Congratulations to everyone, and my thanks for your willingness to serve the section.

We are making progress on two initiatives to benefit section members. We have tested a prototype of the consulting-expertise data base and hope to have the final version available for section members sometime after the JSM. Once up and running, the data base can be searched by anyone looking for a statistical consultant. I will use it to answer the phone calls I regularly get from individuals and companies looking for help.

The section is co-sponsoring a series of web-cast presentations on statistical consulting and statistical applications. The first was given last month by Professor Don Berry on "Statistical Consulting Tips, with a Bayesian Bent". We are planning three more. Each web cast is open to 100 people. Twenty-five of those slots are reserved for consulting section members. I hope you can participate. Announcements will be made by e-mail to the section membership list and on the ASA webpage (amstat.org).

If you have any questions about section activities, please feel free to contact me. The best ways are to e-mail pdixon@iastate.edu or call 515-294-2142.

Notes from the Editor

Karen Copeland, Boulder Statistics[†]

I want to thank Dean, Brady, Janice, and Lillian for their contributions to the current newsletter. My job as editor is easy when submissions find their way to my inbox! Hopefully the articles and JSM information in this issue (thanks Todd!) will encourage many of you to go ahead and make those travel plans for Seattle. For those of you who can't make it to Seattle, stay tuned for JSM summaries in the next issue. And remember, submissions are always welcome - the rejection rate is low and the editorial changes are minor - so go ahead and send me an article!

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