
***Practical Significance* | Episode 14: The Committee on Statistics & Disability Working to Improve Accessibility**

**Ron Wasserstein**: This month's episode of *Practical Significance* is brought to you by ***Longitudinal Data***. Are you measuring something or several things on the same people or things over a period of time? Are the things you are measuring likely to be more closely related within a single individual than they are across two or more individuals? And are you interested in these differences? If so, then you should see a statistician, but you probably have a case of ***Longitudinal Data***.

This is not an uncommon condition, but it is a condition that needs to be recognized and treated early in order to prevent lasting difficulties. Failure to recognize the presence of ***Longitudinal Data*** will result in incorrect analyses and conclusions and waste—precious experimental resources. Treating your data as longitudinal when it is not—can have embarrassing consequences and unfortunate side effects, especially when submitting your analysis for peer review. Whenever you are collecting data to find answers to important questions, be sure to first engage a qualified statistician. Waiting to do so until after data collection may lead to but is not limited to the following conditions: data that is in critical or even terminal condition, low power, and incorrect coverage probabilities.

And certainly, if you suspect or have been told by others that you have a case of ***Longitudinal Data***, make sure to call to your statistician immediately. The *Practical Significance* podcast wants you to know that if you have experienced experimental disasters due to lack of timely contact with a statistical professional, you are not alone. Call 1-777-764-2727. That's 1-777-7 OH CRAP.

**Donna LaLonde:** Welcome friends. We are delighted to invite you to join us for the February edition of *Practical Significance*, where once again, Ron and I get to talk with two exceptional colleagues. This month, we have **Erin** and **Ryan** representing the Committee on Statistics & Disability. And we're going to talk about what the Committee is up to. But before we get started with Committee conversation, I'd like to ask Erin and Ryan to introduce themselves and share a little bit about their stories. And so, Erin, I'll start with you.

**Erin Chapman:** My name is Erin. I was the kid who in second grade, very politely informed my parents I was going to be a mathematician when I grew up and it's time to start looking at colleges. They told me maybe I could wait a few more years before we started doing that kind of activity. Turned out, they made me wait until high school. I joined the Committee on Statistics & Disability because I am actually disabled myself. I am partnered with a wonderful service dog named, Valor and the two of us spend all our time working together.

**Donna LaLonde:** Erin, can you tell us what your day job is?

**Erin Chapman:** I work at a company called Tektronix. I am on their team that maintains all the test and measurement equipment. So, I work on a variety of algorithms, uh, to analyze data, as well as the base software for the system.

**Donna LaLonde:** Great. Thanks! Welcome. And Ryan?

**Ryan Machtmes**: Thank you so much. I'm Ryan Machtmes. I earned my master's in applied statistics degree at the Louisiana State University in 2008. And thereafter began a stint in the federal statistical arena, working for the US Social Security Administration; and have since worked at Pennington Biomedical Research Center in Baton Rouge, Louisiana, as a biostatistician. And currently am applying for law school. I am studying blindness skills at Blindness: Learning in New Dimensions (BLIND INC), a training facility in Minneapolis, Minnesota. I have been a member of the Committee on Statistics & Disability since 2014. I am formerly a chair of the committee and very happy to be here today to share the work that we have engaged with in the past and to recharge and reactivate the committee.

**Ron Wasserstein** Thank you both so much. We're delighted to have you on the podcast. So, Ryan, let's start with where you just ended—that the committee recently revised its charge. Can you tell us a bit about why that was done and why it's important?

**Ryan Machtmes:** Sure. Fundamentally, it was identified that the prior charge for the committee was written in what would be considered the medical model for disability, which is that disability is an ailment of the human condition that needs to be cured or treated versus the social model for disability, that holds the disability as a function of a diverse and healthy human population and should be celebrated and respected, not as an issue to be remedied, but as a function of difference in uniqueness, that is to be respected and regarded. We decided as we were recharging the committee that we wanted to reframe the charge to be more towards the social model for disability.

**Donna LaLonde:** Thanks, Ryan. That's great. Erin, do you have anything you'd like to add?

**Erin Chapman:** Yeah. As part of that charge, one of the things that we're looking at is how can we support statisticians with disabilities within the ASA and external to the ASA as well as college students and other aspiring individuals in the field.

**Donna LaLonde:** So, Ryan and Erin. I know from the conversations that the committee has had that outreach to the community is super important. And one of the concepts that you've been talking a lot about is "universal design." So, I wondered if you would share a little bit with our audience about that concept of "universal design," and also feel free to give a shout-out to your invited session at JSM 2022. And Ryan, I'll ask you to start

**Ryan Machtmes:** Well, thank you so much. Yes, we do have a session for JSM 2022. We actually have two sessions for JSM 2022. One is titled, "Delivering Data Differently," which is a panel presentation on how data itself can be made more accessible. And the second is entitled, "Making Data and Statistics Impactful Through Inclusivity, Powerful Collaboration, and Effective Innovation." And is co-sponsored by the Committee on Statistics & Disability; the Justice, Equity, Diversity, and Inclusion (JEDI) Outreach Group, and statistical partnerships among academia, industry, and government.

These are very exciting presentations, and a panel presentation will be provided as part of the JSM program. And we're very excited to be able to sponsor our first sessions at JSM about five years, I believe. So, the committee is happy to return and welcome all members of the school community who have disabilities. We are very interested in supporting each of you and we are interested also in learning more about how we as a committee and more broadly, the American Statistical Association can support our members with disabilities related to "universal design."

That is one element of our new charge and of course, “universal design.” It's a paradigm of thought that relates to how we can better design our living and working environments to be supportive of all individuals regardless of their abilities and disabilities, so that we can provide access across all functions of life, to all individuals. And “universal design” is by definition, a radical approach to providing access to individuals with disabilities. Of course, it does not obviate all accommodations or additional provisions that might be needed on a case-by-case basis, but it is intended to alleviate some of those inherent differences that do exist. One concern or issue that we have seen is with JSM itself and having conferences in general in person, not that we don't want to be in person, but there are a number of issues that might prevent or limit access to the conference space for individuals with different abilities. And so through both better supporting our members and embracing more elements of “universal design,” it is hoped that we might alleviate any of those issues and provide a conference experience that is much more accessible to all prospective attendees.

**Donna LaLonde:** And Erin I'll follow up with you because I know this is something that you've been thinking a lot about both as a member of the committee and as a member of the JEDI outreach group. But what are some of the things that you would like to see at meetings to make them more welcoming and also feel free to comment on “universal design,” if you would like share?

**Erin Chapman**: So, first I'd actually like to say that one of our invited speakers, Brianna Blaser, is actually from a computer science community, but she's been running an NSF-funded program for almost a decade now to assist students in computer science with disabilities, while they're in college and while they're finding internships and the jobs afterwards. So, I think she's going to be an amazing speaker that we'll have a ton to learn from. I've actually heard her speak at a number of computer science conferences and she's brought up a number of interesting points about “universal design” as she's gone through those and “universal design” isn't just for people with disabilities. So, the ramps to go off of sidewalks were originally for wheelchair users, but they're great for all the parents out there who have strollers or if you're pushing a shopping cart or something like that.

So, the original intention was to help the disabled community, but it turns out it helps everybody. And that's one of the great things about “universal design” is that it doesn't just target one particular group. And with JSM, we've been talking about having an accessibility, chair or coordinator to help coordinate some of those of things that will make it easier for people to attend. And that might reach beyond just, disabilities in and of themselves. So spaces for nursing mothers, so that they can have a quiet, private place to pump during the conference. Quiet spaces for people who just need to unwind from being around so many people; that's really important to the autistic community—but others just sometimes need a little bit of a break in a quiet space for those with difficulty hearing, making sure that there's kind of little breakout spaces to have hallway conversations where there's not as much background noise, so that it's easier for you to follow.

I have a good friend of mine who is a deaf and with hearing aids—you actually hear 360 degrees around you. So, there's a lot more background noise in your hearing, which is why those kinds of spaces are really important for people with hearing problems so that they can cut out a lot of the extraneous noise and just focus on the conversation they're having. We've also talked about things like having chairs spaced at regular intervals down hallways at conferences so that people with fatigued-based disorders, can have somewhere to sit and rest if they need to. Another consideration is how many elevators are at

the conference. I've been at a conference before that was spread across three different hotels and the worst case was you had to go up and down six elevators.

If you were in a wheelchair to get from one talk to another, and you probably weren't going to make it in time with that many elevators. So, there's a lot of different things to think about in terms of accessibility, just beyond the basic, getting into the room for our conversation and listening to a talk at a conference; but allowing them to have the full-conference experience on top of that. And in ways that benefits a lot of other people too, like I'm normal hearing. And I know I could definitely benefit from a quiet corner sometimes to have a conversation with somebody because there's too much background noise going on. I don't know about you at other conferences you've attended. And so those are some of the concepts of “universal design” that are being pulled from the needs of the disability community but are also useful for everybody else.

If JSM does happen to be in person this year, we should have Brianna show her business card because her business card is actually designed differently so that it is universally accessible. It has the material printed on it, like you would normally expect to see on a business card, but then the same information is also stamped in braille on her business card. So, she's handing it to a blind colleague. They can still have her email address. They can still have her phone number and get in contact with her or follow up with her after a talk or a presentation. And that's not the type of thing that most companies or businesses would think of, but there's actually a fairly high number of blind mathematicians and computer scientists out there. And, how do you share your contact information with them when you're at a conference,

**Ron Wasserstein** Erin and Ryan, thank you for the work that you're doing, the thinking that you're putting into making our community and our meetings more inclusive. And it's important for all of us to remember that at any point in time, in just a moment, we might need some of those aspects of “universal design” that you mentioned for our own participation. So, it's great that you have been doing all this serious thinking and planning with regards to meetings, and yes, we definitely hope that JSM 2022 is an in-person meeting. But I know that you are looking at successful programs that other groups use and thinking about how they might be brought into the ASA community. So, I wondered if you would share some of those. So, I'll start with Erin and then go to Ryan.

**Erin Chapman:** Yeah. So ,a lot of the conference things that I just talked about actually came from, the ACM SIGACCESS group that I'm also a member of. They recently spent a lot of time looking into this and then put together a training on how to make conferences accessible, not just to people with disabilities, but everybody, which is how the nursing mothers are considered and people with maybe with poor eyesight, set a minimum font size that is larger. So, we're pulling from SIGACCESS, which they highly encouraged. They really want people to pull from their information, access computing, and the “DO IT” program, Dr. Blaser runs out of the University of Washington. The National Science Foundation has a number of excellent guidance on setting up business spaces and student spaces to be universally accessible.

They’re currently researching how to make spaces more accessible for faculty members and staff and just guides on different pain points. One of the things that we've talked about is putting up a series of just very short white papers of some of the common topics that these other groups have identified up on our website. So for a couple that I'm planning on writing, for example, would be how you interact with a service dog, like for a faculty member who as a student with a service dog. I have a service dog in

my class. What can I do to help that student? Because that student is probably going to draw extra attention from the other students. Depending on what grade they're in, how far into college, how comfortable they are with their disability. They may or may not want to be defending their service dogs in the classroom or may need assistance explaining what the ADA laws are and that this is something that's protected. So, we're kind of trying to target this from as many angles as possible and pulling from other groups. What angles they found are important, where they found people have questions, and where there tends to be misunderstanding, and then use that to influence what direction we're taking on the committee. Thanks so much, Erin. Ryan, what would you like to add?

**Ryan Machtmes:** Well, I think that Erin did a wonderful job responding to that question. There's not a whole lot that I would necessarily add to that response. It was so good. I would say that I have been able to bring to the committee, to the work of the committee, my own experiences, as an advocate at the University of Minnesota, Twin Cities. I started my own student organization in the past recent years and served . multiple terms at the University of Minnesota and have been an advocate at the university for about five years. And what I've learned in that time is that there needs to be a lot more understanding and advocacy for and about disability issues in the broader context. Take an as an example the time that we're living in….

Now, a lot of people in the disability community justifiably perhaps believe that their very lives are being undervalued during this terrible time that we're all in. And when you look at some of the issues that are going on, and some of the discussions that are being had both in the broader context and in government, you immediately begin to get a sense that perception may not be that far removed from accuracy. And so, we need, and what I'm working towards is bringing more of an equity lens, not only to statistics, but also to other fields, including the law. So, I believe that approaching issues, these issues from a social justice perspective, is truly critical for progress for all individuals.

**Donna LaLonde:** Thanks, Ryan, and Erin for all your good work and all the work that I know that you will engage in with your colleagues on the committee. I guess I wanted to ask about how folks who are interested in – speaking of advocacy, Ryan, how folks who are interested in supporting the work of the committee, how they might get involved. And also, if folks have questions or concerns that they would like to share with the committee, what's the best way to reach out. Maybe Ryan, I'll start with you since you spoke about advocacy and then Erin can chime in

**Ryan Machtmes:** Sure. The best way to get in touch with the committee I'm very happy to say and that one of the accomplishments that we've had over the past year or two of recharging and reactivating a committee, is that we have implemented our own committee micro-site.

We have been happily able to recharge, the committee and also build the micro-site that provides avenues for interested individuals to reach out to the committee. And we certainly encourage members of the ASA community to please do so, particularly those who have disabilities of any and all types. And we hope that through this work we're able to make the American Statistical Association much more welcoming for all of its members. In addition to the micro-site, we are also working towards having a routine webinar or podcast, and also through the micro-site creating or establishing some routine videos that would highlight issues for advocacy within the broader ASA community for our members with disabilities.

**Donna LaLonde:** Thanks, Ryan. Erin, I know you talked about the white papers, but what else will you share with folks?

**Erin Chapman**: We also have a Slack channel going that has a "Friends of the Committee Group" on it for people who want to talk with us directly or stay up to date. And we actually have a couple faculty who are not ASA members on there right now because they wanted to know what they can do better, to support students at their school. So that's the other way to stay up to date, but also just directly communicate with us with you questions

**Donna LaLonde:** Thanks so much. I will put a shout-out for the Slack group. I think that it is a wonderful way to both share resources and collaborate. Well, Erin and Ryan, this has just been fantastic. I've always learned a lot when I have a chance to talk with you. And so, we really appreciate you joining us today and look forward to ongoing updates from the committee. And with that, I will thank our listeners, but keeping with tradition, turn it over to Ron for his Top 10.

**Ron Wasserstein** Thank you, Donna. Most of our *Practical Significance* listeners are statisticians and we love you. However, some of you listening to this podcast might be trying to figure out if you are a statistician or if you have what it takes to become one and as always, we're here to help. Here with the appropriate nod to Jeff Foxworthy are the" Top 10 Signs You Might Be a Statistician."

#10 When asked, "how are you?" You say, "Compared to what?"

#9: You've watched every episode of *Numbers* and made notes about the errors.

#8: When you have "seconds" at a meal, you say you did. So just to measure variability.

#7: You prefer to express your feelings in terms of a seven-day moving average.

#6: You refer to your children as a cohort.

#5: Your child's first words were, "correlation does not imply causation."

#4: You use the phrase "degrees of freedom" as if everyone knows what that means.

#3: You don't buy Powerball tickets unless the expected value is greater than the price of the ticket.

#2: You don't think of Python as being a snake; R as being letter after Q, Minitab is something you order at a bar, and C++ as an odd exam grade.

And the #1 sign you might be a statistician: You refer to dating as a phase three trial.

Well, that's it for this episode of *Practical Significance*, thanks as always for joining us on the podcast. And we look forward very much to continuing the conversation next month!