



***Practical Significance* – Episode 1: Making Meaningful Statistics | An Interview with ASA President, Rob Santos**

Introduction:

*Hello, and welcome to Practical Significance, a podcast to inspire listeners with compelling stories from statistics and data science and to propel data-driven careers forward. Here are your hosts. The ASA's director of strategic initiatives, **Donna Lalonde**, and executive director, **Ron Wasserstein**.*

Donna Lalonde: Welcome everyone. This is Donna Lalonde and I'm the director of strategic initiatives and outreach at the ASA. And I am super excited to welcome you to the first-ever episode of *Practical Significance*, our new podcast. I'm excited because I get to talk with wonderful colleagues, and I get to have a conversation with Ron Wasserstein. And so, I will turn it over to my good friend, Ron, to introduce our guest.

Ron Wasserstein: Thank you, Donna. I also am super excited about *Practical Significance*. I'm the executive director of the American Statistical Association. And in that role, I get to meet with and interact with a lot of really interesting and fun people. And there's no one higher on that list than our guest today, which is why we're so delighted to have Rob Santos as our first guest on our initial podcast. Rob is the 2021 ASA president, and he is vice president and chief methodologist at the Urban Institute. And Rob, we know about the rich variety of things that the Urban Institute does and that you are involved in a lot of different projects and have been throughout your career. What are some of the projects that have really stood out to you that are particularly memorable?

Rob Santos: Well, thank you for that softball question, Ron, and welcome everyone. Hello, Donna. It's just a delight to be here. Thank you for the opportunity. So, I'm a public policy researcher and a statistician at the Urban Institute and, over the course of a 40-year career that spans beyond the Urban Institute, I've been involved in several projects that transcend my involvement in my training in survey research, as a sampling statistician and a survey methodologist.

I'm going to talk about a couple of them that really go a little bit beyond simply drawing samples and getting observations of populations. The first one is the Housing Discrimination Study. I've been co-principal investigator on a couple of these for HUD, the Housing and Urban Development Department. Every 10 years or so, they need to do an assessment of the Fair Housing Act and how things are coming along.

And so, we attempt a random sample of the housing market, both sales and rental, and we do it to get national estimates and we typically stick to urban areas. So, we draw a national sample of metropolitan areas, and then within them: we've done it two ways now, sort of the old school way and the more modern one. We draw samples of listings of advertisements for rental and sales properties. And then we send two individuals who are trained to go inquire about those housing opportunities.

The particular study I'm going to talk about is housing discrimination against people of color. And, we've also done these for housing discrimination against the disabled, for transgender populations, and others who have housing vouchers. So, but I'm going to talk about people of color. We send two testers, so to speak, to inquire first. They call the landlord or the sales representative and they inquire about the property.

Then they make an appointment, go visit, and then they review the available property – whether it's rental or sales, and then record the things that happened during that instance. They never get to the point of signing a lease or engaging us in a sales contract or anything of that sort. And typically, there would be two individuals, one would be a white person and the other would be a person of color.

The three types we have done are individuals who are African American, individuals who are Latinx, and individuals who are Asian. And we do it in enough quantities so that we can build separate estimates of differential treatment between whites and specific people of color, whether they're African Americans, Latinx, or Asians.

And we train them to talk about having equivalent financial resources, assets, things of that sort available to them, so that the only difference would be racial and ethnic status. We call these paired tests because we go through, and we draw the sample of ads – we send these pairs out, we randomize what order people get tested in, whether it's the white person going up first or the person of color going up first or vice versa.

And then they record their experience in terms of really basic stuff. First, whether they can even get an appointment. Secondly, if they get an appointment – whether the landlord or sales rep even shows up. Next, if they do show up and there is an encounter, so to speak, where they go through and see a property, what was the type of property that was shown?

Was it the one that was in the ad or was it something else? Were they steered towards another neighborhood, if it was sales – what were the characteristics of that neighborhood? Or were they shown other properties or rental units? And what were the characteristics of those? What types of questions were asked and were any enticements provided? Like if you sign now, we'll give you the first month's rent off – things of that sort.

It's really interesting. We found over the years since (we've done it in two different cycles, 2000 and 2012, I believe) that housing discrimination still exists, but it's in different forms. So, because of the Fair Housing Act, landlords and real estate agents are being trained. And so, they know what to say. However, you still have instances where on the whole, people of color are not being shown as many units, as folks who are white, but those instances are more subtle. It could even be an unconscious bias that is occurring more contemporaneously.

What's interesting is that back in the old days, in terms of survey sampling, we drew a sample of urban areas or metropolitan areas. Back in 2000, we purchased the weekend papers, which had the real estate sections and then had them flown into Washington, DC, from all over the US. Then we'd send somebody out to pick them up and bring them back to the office. We'd pull out all the real estate sheets, whether rental or sales, and then put little sampling grids that were made from cardboard sheets with little, random squares cut out of them. We'd lay it on top to draw a random probability sample of units – basically a cluster of two, three to four units. And then process those, sub-sample them and take out ineligibles – and then fax them back out to the local housing groups that were doing the pair testing so that by the evening they could send the testers out.

Well, by 2010, we got a little bit more sophisticated and we were able to harvest with permission from places like Zillow, from the standard realty websites, and then draw samples accordingly. This time with

the twist that we would draw them in proportion to both the sales or the rental (if we were doing rental) that existed in the current area, be it a local census tract or a block.

So, it was rather sophisticated. The basic data collection was the same sending pair testers and looking for differences. But it was a really fascinating application of policy research where you mix a survey sampling and maybe experimental design with the pair testers, and then do the equivalence testing to see, to check for differential treatment. So that was one. Any questions Ron?

Ron Wasserstein: Rob, that's really fascinating, and yeah. About a million questions, but I'm going to boil it down to much fewer than that. Just, two maybe. Do the housing representatives who are involved in this, I assume they never find out that they were part of a study. Is that correct?

Rob Santos: That is correct. And in fact, there were some IRB issues associated with that. This notion that you're burdening landlords and real estate agents with folks who have no intention of a real transaction and is that an appropriate burden without their consent?

So, it is the case that they never knew. We intentionally would not provide any findings of individual landlords or salespeople back to HUD for investigation, because this was supposed to be a statistical assessment of the conditions, to the extent to which people are following the Fair Housing Act. So, we weren't in enforcement. This is not an enforcement methodology.

And so, we simply went about our way of doing that. The IRB approved of our methodology, because in any types of transactions, there are instances where people will just go and view a house, like go to an open house and talk to the realtor, even though they live two houses down, they just wanted to see what was going on in the house. So, we felt that that was a good resolution.

Ron Wasserstein: Thank you, Rob. One more follow-up. And, then I know Donna has her own set of questions too. But were there flagrant instances? Did you ever hear from any of the people out in the field of particularly egregious examples of discrimination?

Rob Santos: Yes. There were most prevalent in our studies of discrimination of housing against transgender individuals, where at presentation, folks would simply tell them to go away. They were also present in the study of discrimination against housing vouchers, where the testers were instructed to reveal that they had a section eight certificate that they could use for rent.

And landlords would simply say, "No, we don't take those," and slam the phone down, even though in that jurisdiction and that city, there was a law from the city council saying that you could not discriminate against those types of things. So, it does happen. But, in terms of regular, racial, ethnic testing, we saw very few instances of flagrant discrimination because of the good training that's been given to realtors, landlords, and such.

There's been enough history of the Fair Housing Act that now, unfortunately, things are much more subtle. We knew of entire communities that were segregated even though there were homes for sale and rentals for rent, but they knew those communities knew not to advertise in certain ways. More subtle, unfortunately.

Donna Lalonde: So, Rob, my thought went to COVID-19, I'm sorry to say. But you were describing a situation where there was a face-to-face interaction and I wondered if you wanted to take just a little

detour to talk about how the work of the Urban Institute has been disrupted by COVID-19 and in terms of the kinds of interactions that you have been able to have over the last year.

Rob Santos Yes. Thank you for that question. At Urban, we, along with pretty much every other research organization have come face-to-face with the impact of the pandemic on our everyday research for all intents and purposes since March. All human interaction between researchers or research staff and the public has been suspended. And so, we've had to move from those in-person interactions to virtual interactions. The process has been a little slow. There have been instances where we simply couldn't do the research.

For example, I've done prison studies. Typically, you go in and they assemble a group of inmates where you can pass out questionnaires and have them complete them self-administered and then you bring them back. That can't be done even virtually. Focus groups and in-depth interviews, telephone interviews, and web self-interviews for surveys can be done.

Some of the more vital in-person interactions for site visits for a program evaluation are much more difficult because sometimes you want to observe the program being implemented – by going into the room and observing the interaction between the trainers, people providing the service to the trainees. And you can't do that very effectively. So, it has had an impact.

We and others are learning our workarounds for the time being, and whenever it is appropriate, allowing in-person interaction. I will conclude by saying that I'm an IRB member of the Urban Institute and the institutional review board has put in place guidelines for human subjects protections that not only encompass the usual, "make sure that there's consent and that people understand what's going on," the benefits, the risks, but we've also included explicit instructions and requirements during the time that, in-person interactions recommence. And those protocols need to state clearly how the researcher will provide protections to the human subjects that they are personally interacting with against contracting COVID if they happen to be asymptomatic. So that's important. And I believe most IRB are catching on to that. That's an issue that they must take care of.

Donna Lalonde: Thanks. It's an incredibly interesting and challenging world that we're living in. So, I kind of want to switch gears, Rob, but I also don't want to shortchange the second project that you mentioned that you might want to share.

Rob Santos: The second one is the World Trade Center collapse. A project I had when I was living in Austin to identify, to find the survivors of the World Trade Center collapsed and interview them on their egress on how they were able to exit the building. And this was done for NIST, the National Institutes for Sanderson Technologies and they wanted to know how well the protections that are created in buildings, how they performed.

So, they wanted to know, things like were the stairs wide enough to allow both individuals coming down, as well as firefighters going up. What happened to folks who were disabled and needed to be carried downstairs. Did the sprinklers perform as intended, and things of that sort. And so, the measurements were fascinating. We did have to track down individuals who survived the World Trade Center by simply having their name and their city that they lived in at the time of the tragedy.

And then we found them, we drew a random sample of them, found them, and then interviewed them. And what we wanted to know was what did they see, hear, smell at each instance, leading up to them

deciding to do something to exit. So, it was important because, for example, you might ask, why smell? Well, it turns out that if the sprinklers work properly, then, you should have that “thunderstorm” smell. Like sometimes you can smell the sort of the saturation of the water right before storms. And that is a certain molecule, it's a heavy water molecule.

And if they could smell that during the course of egress, that would tell the firefighters that yes, in fact, the sprinklers were on. And there was the smoke issue and the fire issue. So, it was a fascinating, really important study. We took it very seriously. It absolutely broke our hearts. And many of us would come home crying every day after talking to some of the survivors. We even had to interview individuals, family members of non-survivors who were able to speak to somebody on the phone before they passed away to find out what was going on during that time. So, we took this very seriously. We did our work and to this day, it still has a very, real emotional impact.

Ron Wasserstein: Oh, I can imagine. And as you think, Rob, that we're coming up in 9 months, on the 20th anniversary of that event, it's still very fresh for many people. Thanks for sharing that. And for the extremely interesting work that you're doing. We wanted to switch up on you a little bit here from your work at Urban to the work that you hope to do during this coming year as president of the ASA. So, if you want to chat a little bit about your goals, hopes, and dreams for your presidential year at ASA, that'd be great.

Rob Santos: Sure. Thank you, for that question. I am delighted to be able to serve, to serve the members and the American Statistical Association, the statistical community through being a president. And what I've committed to is something that I think we really need in these dire times of COVID and the impact that it's had on society. Not only in the US but worldwide. I think we need to really reach out and build community with each other as statisticians. Reach out and help our communities locally and help our communities in the larger society, both in our nation and globally. And the types of initiatives that I would like to do would be those that draw from our association members and our infrastructure. Like our sections or chapters, our committees – all these individuals have at some level volunteered to make, for a better association, to make for a better statistical community, and a society.

And what I want to do in terms of building community is to reach out and do three things. One is to build and engender our membership to value each other, and to value being part of the American Statistical Association. And we do that through helping each other.

We have such a wonderfully diverse, big tent that includes data science, theoretical statistics, mathematical statistics, applied statistics, the pharma industry, biostatisticians, survey researchers, economists, et cetera, et cetera. It's such a great diverse tent that we have room not only to work and help each other within our specific specialty area but also reach across and help each other with just basic stuff. Like how do we do better Zoom calls? How are we more effective in hiring? How can we better network with each other and build our careers in a COVID world where we can't go to conferences and interact in person?

How can we help our students both in school, graduate and undergraduate, but also our international students who are having a really tough time staying in the US with, you know, really weird policies that come and go, and challenges of financial duress and things of that sort. I know some of our students are hungry. They need help, and we need to be able to reach out to them and find ways to channel resources and information so that they can have a better chance of being successful as a student, and then welcome them in and mentor them and work with them towards a valuable statistical career.

There's also society. We need to help society with our statistical acumen. We have a lot of knowledge that society needs right now, in terms of trying to deal with understanding the numbers that are coming out of the pandemic. The numbers that are coming out in terms of the vaccine and its efficacy, and whether people should take it or not.

There are so many ways that we can help, not only in those circles but in other circles, as well. We just came off a very contentious election and folks are wondering about those types of numbers. We should be able to speak to those as well. And of course, there's a topic near and dear to me, which is, the decennial census. And there's so much that we can do. It's a cornerstone of democracy, and there are issues that will need to be addressed with that.

So, building community in terms of its own members, of building community in terms of reaching out to our student bodies, and then community in terms of reaching out to society better. I'd like to focus specific sub-initiatives on those areas. And then the next one would be in terms of building an even more diverse statistics community through building pipelines with HBCUs and Hispanic colleges and universities, as well.

And we have programs like StatFest that are incredibly popular, have proven track records for building and creating interest in statistics with minority students, students of color – and not only building interests, but then resulting in PhDs and masters and statisticians of color emerging and becoming part of ASA. And then continuing to help each other out.

I want to build a pipeline that features a “pay it forward” component, so that we know that we can give to others. And have those folks benefit from our assistance to become better statisticians, to get into the statistics world, and then have them understand the value of reaching back and helping the next generation come forward. So those are the types of things I would like to do. I pretty much touched on everything else. So, I think I'll stop there and see if you have any questions.

Donna Lalonde: I am super excited to work on all the projects. I think I'm going to focus on one and that's the opportunities to contribute to the public policy arena. And, I wonder, based on your experience at Urban and some of your volunteer work – and obviously, your upcoming presidency in the ASA – what advice would you give to members of the community who would like to contribute to public policy? How, how does somebody get started?

Rob Santos Well, you get started by reaching out to a community in need. So, for example, I've been working with Feeding America for over a decade and a half on their technical advisory group. And I didn't necessarily reach out to them. They reached out to me, but as part of that, I came to know and work with local food banks. So, here in Austin, there's the central Texas food bank. And I've reached out to them because of my awareness of the big needs of hunger in Texas and all over the US to see if they could use some, expertise in statistical analysis, thinking through the usage of available data and resources to do things like community needs assessments. And so, it's just a matter of reaching out. So, if I were a statistician and I was a young statistician, I would think about the local food banks.

There are places that say, we want to get out and sign people up for votes. And so, you need analysis of data for that. There are economic development local groups – reach out to those. It's the nonprofit world that can get you into public policy research. And offer your services to them and see if they have a need.

Sometimes they have a project that's right, and they have the data and all they need is somebody just to step in and help them organize the data and frame the research question appropriately. Other avenues include ASA. We have a Committee on Human Rights. You could reach out to that committee. There's the Social Statistics Section. One could reach out to those groups. And then apart from that, if you are a student, there are internships – pretty much most of the research centers in the country have some form of an internship.

I know Urban has internships as well in our health policy and in our justice policy groups. Reaching out to those and finding out what the cycle is. Typically, they accept around now in fact, applications for internships in the summer. And then they decide sometime in February. So, doing that kind of outreach would be really useful to get involved in public policy research. And they can also just contact me and get on LinkedIn. And I'm happy, to provide as much assistance as I can.

Donna Lalonde: And Rob, of course, they can feel free to contact me as well and I'll help make connections. I'm super excited about working with you on this in the upcoming year, but I'm going to conclude with a question about one of your creative outlets. Although I know that you are an excellent photographer and you have even been an official photographer at South by Southwest, but I don't know how you got started with this. How did it happen?

Rob Santos: It's a kind of funny story. If you're familiar with the Austin City Limits festival, which is different than South by Southwest, there is a three-day outdoor ginormous music festival every fall that typically 75,000 people or so attend. In a COVID world, it's not happening, but it will someday get reinstated. But I had been attending that since its inception back in the early 2000s. And it so happened back in 2009, I was listening to music at a stage and I was up at the front and I noticed that there were a bunch of photographers going into the pit in front of me. It was like this gap between where the audience was and the stage. And they waltzed in and started taking all these pictures – these great pictures of the musicians going at it.

And then they waltzed out after three songs, and I said to myself, man, that looks really, really interesting. I'd really like to do that. Well, the problem was I knew nothing about photography. I didn't even own a camera. And so, I decided on that day that I was going to try to get myself into a pit to take pictures – live music pictures. So, I got myself a little DSLR – it was a decent one and I started snapping pictures and just trying to figure out on my own what I was doing. And at the same time, I knew having a camera is one thing, but getting it into the pit at a music festival is quite another. So how do I do that? And I recalled that I had a friend of a friend who was in New York City who had started her own music magazine.

And so, I went to my friend who was basically one of the guys I go fishing with in Rockport, Texas. And he'd met this woman from New York who was independently wealthy and started her own music magazine. And I said, "Hey, can you contact your friend and see if she'll get me media credentials for the Austin City Limits. And I'll give her all the pictures that I take – for free."

And he did. And she said, "Okay."

And so, the next thing I know the very next year, I had credentials to go into the Austin City Limits festival to take pictures. By that time, I had a couple of cameras. I knew absolutely nothing about what I was doing, but I was waltzing in there with all the other photographers who are looking at me really

strangely because obviously, I didn't know what the heck I was doing. But I was taking pictures, crazy pictures.

I took a bunch of pictures – like 3000 or something. Sent them all over to the magazine and never heard back. And then the next year came up and I said, let's do it again. And I got my media credentials and went in, took a bunch of pictures, sent them out, and wanted to do it the next year. And Austin City Limits said, “No, you need proof that you're actually using the pictures before we'll give you credentials.” And that's when the magazine that I'd been working for basically took a look and said, “Sorry guy, you have no idea what you're doing.” And they declined to offer credentials for me.

And so, I was kicked out. But by then I had learned enough that I was able to put a pretty decent portfolio together of live music. And it's interesting. You take 20,000 pictures and maybe 50 by chance are going to be really good.

So, I submitted that to South by Southwest because I found out that they were looking for photographers and they accepted. And it was interesting. My first year was 2012. I've been working with them ever since as one of their nearly one hundred photographers. And it's interesting, the first three years, it's like a boot camp. You learn everything. Everyone helps you out. It's like a big family.

And while it was clear that I was out of my league still, I learned a lot about live music photography to the point that I'd been published and such. And I also learned that it's better to be in the front office. So, I ended up becoming a photo crew chief. So, I got to evaluate the photographer's pictures and select photographers and help train them a little bit. But I just give my hats off to photographers. They're such creative, passionate artists. I could never do what they do. I will only aspire to do it. And that's my story.

Ron Wasserstein: That's great. And we thank you for being our very first guest on our very first podcast. We want to share with our listeners that this information, these stories that Rob has shared clearly show the practical significance of the work that he does at the Urban Institute and the plans that he has for the American Statistical Association.

But it's also worth mentioning that we struggled a little bit to come up with the name for this podcast. We didn't jump right into the name, *Practical Significance*. So, I thought I would share with you as we go out – all the names that we thought of and didn't use. In the spirit of David Letterman, I thought I'd share with you the “Top 10 Rejected Names” for this podcast – the least of the least, let's just say.

So, coming in at #10: *The Well Below Average* podcast

#9: *Absolute Error*

#8: *Regressing to the Mean, the Podcast That Puts You Back in Your Place*

#7: *Skewed to the Left*

#6: *Biased Estimators*

#5: *Definitely Unstructured Data – The Dud Podcast*

#4: *Living in the Rejection Region*

#3: *The False Discovery Podcast*

#2: *The Dull Hypothesis*

And the #1 rejected name for this podcast: *The Control Group, Starring Donna and a Placebo*,

Ultimately, *Practical Significance* was our final cut. Donna, over to you.

Donna Lalonde: Well, I just want to say thanks to Rob and Ron and I promise our listeners that if you come back next month, we'll have another great conversation and yes, another Top 10 list, as well. So, thanks, everyone. We look forward to connecting. Feel free to reach out to us via social media and Rob, thanks so much for sharing some time with us.



Thank you for listening to this edition of Practical Significance. The podcast of the American Statistical Association. A new episode will be coming your way next month from Amstat News, the ASA's monthly membership magazine.