



Opinion Science Podcast

Hosted by Andy Luttrell

Your Language Shapes Your Views with Efrén Pérez

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Andy Luttrell:

These days, my daughter is starting to get a grasp on colors. “Lello” is her go-to, but she’s getting red and blue and green. It’s a weird thing for me because color just seems so abstract, I feel almost like a fraud trying to teach her to impose strict categories on something so rich and varied as color. Like I’ll ask “what color is this,” and I know technically the right answer is “green,” but in my head I’m like, but are we really using the same word for this green as for another green? They’re different. Does it even make sense to her that these colors actually belong together? That they should belong together?

In English, there are 11 basic color terms: black, white, gray, red, green, blue, yellow, pink, orange, purple and brown. How do we test something like that, though? Well one approach is to use standardized color chips—little 1-inch square cards that are a precise combination of hue and lightness and other parameters. Imagine like the color swatches you get when you’re thinking of painting your house.

So get a couple hundred of these swatches—all technically different colors—and just ask people “what color is this?” Then you get the modal response for each chip, plot out the full color space, and you see these neat little borders on the map—a cluster of chips reliably called “pink,” another cluster reliably called “green,” and so on.”

So maybe all you have to do is translate these 11 terms into another language, play the same game again, and throughout the world, people are carving the color space up in the same way. Or maybe not. Professor Debi Roberson at the University of Essex and her colleagues have done this in different parts of the world. For example, in the early 2000s, they set out to see how culture shapes color perception by studying the Himba, are a semi-nomadic population in Northern Namibia.

They brought the same color chips and played the same game, but the color map that resulted was different. Here there were 5 color terms at the root of people’s responses. One word covered a variety of dark colors, including black, dark green, and blue. Another word covers colors that overlap with what English speakers would call green, blue, and purple. All of this is to say that you can’t just translate the English word “blue” into Himba and call it a day. The color naming system has different borders entirely.

But okay, potato-potahto, right? This is color we're talking about—it's everywhere and the wavelengths of light don't care what language you speak. We're perceiving the same world, right? Well, what if it's not that simple? Here's where I think these studies get super interesting.

Roberson's team also played memory games with English and Himba speakers. They used 40 different color chips, and for each turn in the game, they'd hold up just one color for a few seconds, take it away, and then 30 seconds later, show all 40 colors. The game is to pick out which color you saw 30 seconds ago. It's a tough game. People make mistakes. But what kinds of mistakes? If color is color is color, then I'll make mistakes randomly along the true spectrum of color. But if my words for colors are wrapped up in how I'm thinking about color, then if I saw a chip I'd call "blue" I'm more likely to misremember having seen a different color that I also would call "blue." I'm not going to mistake it for one that I'd call "green." That's in a whole separate category. But remember—one of the Himba's basic color terms includes colors that English speakers call blue and colors that English speakers call green. So for Himba participants, it might be only natural to mistake blue for green because for them, they live in the same category. And that's essentially what they find—people's guesses in the memory game follow patterns that align more closely with how their language draws borders throughout the color space, compared to how another language names colors.

They've tested this idea in a bunch of other clever ways, too, but the real point here is that the words we get from our language can play a central role in how we mentally process the world around us, which can make for some fundamental differences in how people who speak different languages think.

You're listening to Opinion Science, the show about our opinions, where they come from, and how they change. And just as our language sets us up to experience color differently, it can also set us up to form different opinions about important issues. To understand how, I'm excited to share my conversation with Efrén Pérez. He's a professor of political science and psychology at UCLA where he studies the political attitudes and behaviors of racial and ethnic groups in the U.S. And in a new book with Dr. Margit Tavits, Efrén summarizes the work they've done testing the unique effects of language on public opinion. Would a Spanish-speaker, Russian-speaker, and Swedish-speaker come to the same opinion on an issue if they had all the same knowledge and experience? Maybe not. The book is called *Voicing Politics: How Language Shapes Public Opinion*, and I really enjoyed reading it. It does a nice job of summarizing some basic theoretical premises in political psychology and layering in these really intriguing effects of language, which they test with both careful experiments and big analyses of public opinion around the world. Definitely check it out if this is up your alley. But today, let's get a taste by seeing how the language you speak might be quietly influencing the way you think about political questions.

Andy Luttrell:

I don't know if I told you where I saw the book, how I knew about it originally. I think on Twitter I saw someone had posted a photo they took of the Princeton University Press booth, I think at like American Political Science. That was recently, I think.

Efrén Pérez:

Oh, okay. Okay.

Andy Luttrell:

And I saw there in the corner this book with a title that I was like, “That sounds incredible. That sounds like right up my alley.” And so, I looked into it, and I looked into you, and I sort of... I think it’s interesting, because as far as I can tell, this work on language fits into your broader research program, but it isn’t central. It isn’t like the thing that you study. So, I’m curious just to kind of get your take to get started, where is this interest in language coming from and how does it fit into the bigger picture of the stuff that you do?

Efrén Pérez:

Yeah. So, the reality is that I started off doing research on language from a largely methodological perspective, right? So, are we capturing comparable constructs across different languages? And I think I published like maybe two or three pieces in methodology journals. And the long and short of it was we need more effective translations, sort of a bit more thoughtful and careful sort of pilot work in a sense, right? And that was it, but I was left with the sense that okay, so we can make or design survey questions that perform better, so if language is still affecting them, what is it? What does it boil down to?

Andy Luttrell:

So, you were doing some work on translation to begin with, right? So, was that because it was just like, “Oh, I’m interested in methods and survey design and so I want to do that,” or was this an actual challenge that you were facing to ask the kinds of questions that you wanted to ask?

Efrén Pérez:

A little bit of both. One of my substantive areas as a political scientist is Latino politics and in particular Latino public opinion, and so one of the things that as polling took off for this particular population especially, you had sort of a collective effort to really put our best foot forward as far as data quality, et cetera, and there were all these sort of benchmarks that were being hit. Probability-based sampling, making sure that the samples were as widely reflective of the major national origin groups, et cetera, et cetera. But the one thing that was sort of like not as heavily invested in was the piloting and the pre-testing. It wasn’t that it was zero. It was that it rested on a very I think common assumption among a lot of survey researchers, which is look, we all have PhDs. We know how to measure attitudes. If we have a handful of individuals, maybe two or three, look at both versions, and it passes muster, we’re good to go.

And that didn’t make sense to me. And it’s really weird because the reason it didn’t make sense to me had to do with my own experience being in a primary... Spanish is my first language and I could tell people, I remember using the story, that the Efrén that you get in family settings, which are largely Spanish dominant, you’re gonna get a guy with a slightly different set of thoughts. Not so much in kind, but in intensity. And you can contrast that with the academic me, where I would say 90 to 80% of my world is in English. And so, you know, I think I started off with a very sort of narrow thought, which is how effective were the translations? And what can we do when they don’t meet certain assumptions?

And so, that’s how I started off, and it was primarily as a way to do research in one of the areas that at least people were telling me I had gotten the job for, right? Which was the study of Latino public opinion. But then it just sort of expanded in large part because of my collaboration with

Margit, and the funny thing is it ended up forcing me to draw on a lot of my training as a political psychologist. So, a lot of the stuff on Latino politics is sort of like in much lower relief, and a lot of the training as a political psychologist, models of survey response, automatic control processes, et cetera, came to the fore. And that was sort of cool because starting off as a trainee in political psychology, I had my doubts about whether I was gonna finish, whether I was going to get a job primarily, and so it felt like a project that could help me earn my keep, so to speak.

I think the main lesson is it takes a while. We didn't start off with everything on the table, especially in terms of domains, especially in terms of mechanisms. It was sort of like, "Let's try and let's see if there's something interesting." And it has sort of worked for us in the long haul, but that trajectory has a lot of zigs and a lot of zags, and you're catching me sort of on one of the peak ends.

Andy Luttrell:

You're speaking to sort of like the annoying thing about language, is that it's not just like a recipe card that you can just convert from grams to ounces, right? That would be so nice if I could just go like, "Oh, we'll just translate it and everything, the meaning stays the same, and I just use the right words, and then that's what we do." My new sort of favorite paper that I came across recently... I do a lot of stuff in moral psychology. And there's this cross-cultural work trying to figure out what is the content of morality in the U.S. and what is the content of morality in China, in Western and Eastern worlds, whatever. But you cannot ask that question without the assumption that I'm asking the same question to both groups. And if I'm not and I get different answers, I don't really know why. Did I just say what's a pie and you told me what a pie was, but I meant to ask you what's a cake and I went, "Look at how they think about cake over there," or whatever.

And so, that sort of brings us into the work on language, right? It's not so simple but it could have a really deep impact on the way people think. I've never known how to say it. Sapir-Whorf?

Efrén Pérez:

Oh, Sapir-Whorf. Yeah.

Andy Luttrell:

Sapir-Whorf. That was like in college, that was like my brain explode moment. I was like, "That's so cool." And I was so bummed in grad school to come across references to like, "Oh, nobody thinks that way anymore."

Efrén Pérez:

Yeah. Nobody. Yeah.

Andy Luttrell:

Can you trace the historical legacy of what we're about to talk about?

Efrén Pérez:

Yeah, so at first, when I encountered that, I think I had the same reaction as you, which was man, this is so intuitively on point. I think one of the things that training in graduate school does for you is help you to be not just skeptical, but to maybe ask for stronger evidence than what might qualify

as strong evidence for the average Joe, right? And so, reading all of the damage control in light of people trying to either disconfirm or show how weak or not this claim that language determines how you think, the main thing that jumped out at me is that if you really look at it closely, it's a very ham-fisted sort of proposition, right? It's not only hard to falsify in many ways if you read sort of closely their work, but there's very little sense about underlying process, mechanisms, conditions under which, and so that's where a lot of your training as a political psychologist, probably as a cognitive scientist comes in, and I think one of the things that we have to wrestle with in beginning the work is how not to be misinterpreted as language basically structures everything you do.

And this is why the angle of the book is precisely on survey response. No one that studies public opinion in your discipline, my discipline, would say that what we have to offer in terms of how people generate attitudes, how strong they are, et cetera, et cetera, that we have very little to say or that it's very deterministic, and in fact, the lesson is basically look at how malleable these things are because we're adaptive creatures. And so, I think one of the reasons that we also like the angle of looking at this from a cognitive and effective sort of perspective is that I think it sort of benchmarks your expectations about what you should expect, and this sort of comes out in the book as far as these aren't eye opening sort of effects that you're seeing. And the effects are on opinion reports, right? Not on how people behave. Not on other things that people might expect sort of larger effects.

And for us, that was a bit reassuring, right? When we're trying to diagnose did we do something wrong? Is this a little bit too much? You know, regardless of domain, where... and again, these are average effects. The average effects are in the world of like 8 to around 12 percentage points. So, meaningful, sizeable, also in line with I think the accumulated record on a lot of opinion research given some variability. And so that, you know, I think I would like people to read our book kind of as an attempt to start rehabilitating some of the research that you mentioned by Sapir and Whorf. You know, if you really view this as a collective enterprise the way I do, then I remember an instructor in graduate school teaching us. Look, the way to view it is like everyone's building a mouse trap, right? And relative to others, you might have a little bit more spring in your mouse trap. But it's sort of like it's very incremental, and so the way to view it is less that... I mean, the book is not about how language determines. It's more how can language affect a very broad and butter aspect of the social sciences, which is opinion formation and expression.

And that's sort of the contribution in many ways. The way we have a variety of either variables that we manipulate, moderators or mediators... That literature on survey response is just rich in that. And I think the contribution here is another situational feature that shows you how humans are adaptive in their responses. In this case, to politics, right? Because it's not even all domains. It's a very sort of relatively narrow domain. Yes, we're looking at opinions in different realms, but overall, we're talking about politics. I think that's sort of the contribution.

So, I think it's like yeah, we owe some of our lineage to some of the work that first came, and also to some of the critics that brought down some of those claims, but I think what often gets lost when you're not part of those debates is that look, we have a tendency to talk past each other for a variety of perfectly sensible reasons, which is you're very invested in your work, you're very invested in your ideas, but guess what? You guys can actually both be right, and we can still say some new

things without necessarily having to throw shade at the original hypothesis generators or the ones that might have some other way of showing or providing evidence against the influence of language.

So, that was it. I will say I think you'll understand this given your training as a social psychologist, but a lot of the work on linguistics is not sort of directly translatable to the kinds of things that you and I sort of barter in. How people think about very abstract realities that they have very little contact with, right? And so, that's also a contribution, right? And so, one way to view it is well, if we found evidence that language can affect your generation and expression of opinions, that's really only because we look sort of like in the right place, at the right time, relative to what has been done before.

It doesn't mean it matters all the time. It doesn't mean it will always matter in politics. The virtue of the book, I think, is here are some of the conditions under which you might find these kinds of relationships. But for me and someone that does work in surveys and creating instrumentation, I think sort of the bigger deal is language is not just an administrative variable that you record about did they interview in English, did they interview in Spanish, et cetera. And so, that to me is like that's cool, right? You have sort of a variable that's taken for granted and you inject it a little bit with some substantive theory about it, and I hope that that's sort of what people take away from our book.

Andy Luttrell:

Yeah. I like the idea that you're finding not that language determines these sorts of things, like it is the critical thing, but that it is nudging, right? It's shaping, sort of pushing.

Efrén Pérez:

Yeah.

Andy Luttrell:

And the other thing is it's not just this nuisance interview factor. It's not just this like, "Oh, annoying thing that I have to keep in mind when I go out and do my interviews." It may actually have a psychologically important impact on the way people think, which all of this has been very abstract up until this point, so I think maybe to give people a clearer sense of what is it that you mean that language can shape opinion, I think the gender example is a very easy one to latch onto. So, what is the idea here that language that we speak would have anything to do with the way we think about gender?

Efrén Pérez:

Sure. I mean, the way to view it is the first thing is it's not that language is leading people to express different attitudes, because then that would defeat the whole purpose of the scientific enterprise. You have to compare apples to apples, right? They are expressing attitudes toward the same object or phenomenon to varying degrees, and that variance is related to very specific features of the language that you may speak. You mentioned the example of gender. Languages vary on a continuum as far as how much of its grammar obliges you to make distinctions, to notice the genderedness of objects. So, in Spanish, if I want to say the moon, I actually have to say la luna

with the definite article *la*, it is denoting that it's a female moon. Now, I take it for granted it's just the moon, but the reality is it's a female moon.

In English, we have pronouns, but the moon is the moon. It's not male or female. So, the idea here is the more gendered a language is, the more it sensitizes you to things that other language speakers, it's sort of like part of the background. It's not that these people don't see gender, they don't see man or woman. Their language just simply highlights it a little bit more or a little bit less. And because of that, the sample of considerations that you bring to bear to form an opinion is likely to have gender be relatively more salient, but it has this downstream influence on what you report.

And so, that's the general idea, right? If your language is, as you said, nudging you to pay attention to some features, then it's not really a random draw of content from memory that you're sampling. It's sort of it's the random draw plus whatever nudge your language may give you. Now, of course, there's all these other features that are extensively documented that can affect survey response. You know, if you're talking to a computer versus a person, et cetera, et cetera. The point here is with the experiments, you're able to show that the languages interviewed in might be one of them. Not that it's the only one.

And so, that's generally the idea. Where I think previous work got hung up on, and probably still is a little bit hung up on, notwithstanding the efforts of some new generations of cognitive scientists, is this idea that basically if you speak a different language you see a different reality. And it's like look, then how are you gonna compare them if they're seeing different things? That's kind of odd. I think it makes better sense to put people "on the same scale" and then seeing whether their ideas, or in this case their preferences or attitudes toward a political object vary because of the soft touch that their language sort of gives them or does not give.

Andy Luttrell:

As I was reading about this work, it reminded me of this story. I was in a café in Madrid years ago and I needed to log into the Wi-Fi, and so I asked in Spanish for the Wi-Fi password, and then I paused because I was like, "Wait. Is it *el* Wi-Fi or *la* Wi-Fi?" And the woman in the café was like, "I don't know," and then asked, and it was like this thing where it was never a formal consideration. And yet I learned later that like generally, new technologies are masculine when they sort of enter a language. But it's one of those things that like the gendered nature of this language is just so persistent that it's invisible, right? To direct observation, it's invisible. And yet if you're living a life where your language masculinizes new technology, that's gonna at some point shape the way you think about technology, and gender, and things that are happening.

And so, I think it's really interesting that essentially, I think if I understand right, that what you're finding is just that like if the language that I'm 24/7 living and breathing orients my attention to the gender of things, then when I'm thinking about gender issues in my society or just things in general in my society, like gender becomes just one of those things that I quite easily bring to bear on that question. In a way, and this is the thing that freaked me out, is that there are languages out there that don't do this, right? That if I'm not constantly attending to the gender of things, then when I am asked that same question, gender doesn't even really seem like a relevant consideration, right?

And so, here's where I want to get nuts and bolts, because as you say, the problem is I could just go to a Spanish-speaking country, ask a bunch of questions, go to an English-speaking, or a country that speaks a language that does not use gender as frequently, ask the questions, but here I'm confounding a whole bunch of things at the same time. Like sure, these people are speaking different languages, but they also have different upbringings, they have different this, and different that, so to get around that could you speak a little bit to what the experiments you do did to actually show like, "No, no, no. The language itself, that's all you need to know to know how people are gonna respond to these kinds of questions."

Efrén Pérez:

Yeah, so where we had to start with this was we needed to start in a place that not only had a bilingual population, that is in principle they speak both let's say in this case a gendered language and a genderless language, and also is not a sort of narrow boutique population, right? That you can't sort of generalize from. And so, we could have started in the U.S. and sort of sampled bilinguals within my own ethnic community, but Margit is actually Estonian. My co-author is Estonian, and actually I think the way she started getting into this project was precisely her experience being an Estonian-Russian bilingual. Turns out Estonian is a very genderless language. He or she is referred to with the same sort of word. There is no distinction. Russian is a highly gendered language sort of akin to Spanish.

And then their bilingual population is by no means boutique. It's sort of about almost like 40% of the Estonia nation, so yes, Estonia is a small country, but the people that we were sampling are sort of workaday in many ways, right? This isn't some sort of really special boutique. So, that's where we started.

And you know, we went back and forth on exactly how should we try to get at language, right? Because you could say in some ways that really language is an indicator of culture, and culture means, according to some individuals, the ethnic groups that you sort of belong to. So, that is possible, but then you're starting off with a story that needs an additional sort of crutch, an additional sort of assumption, right? That there has to be sort of some intergroup sort of dynamic in a way.

It's like, "Well, is that our story?" No, not if we're doing sort of the belief sampling stuff, right? It's a little bit more fundamental. It's a little bit one step before that. So, we finally agreed that the way we were gonna do this was random assignment of the language of interview. In a typical survey, the way this happens is in a typical survey an individual gets called on the phone, gets an invitation online, much rarer these days has a person show up to their front door, and you basically get to choose the language that you interview in. You self-select.

Now, we could actually take one of these massive surveys that we do have about Latinos, and actually we do I think in a paper, and you could say, "Well, I can compare the individuals that decided to interview in English to those that decided to interview in Spanish, and I have some hypotheses about what kinds of opinions it should affect." And then people say, "Well, yeah, but you know, English speakers and Spanish speakers are so different, right? For one, an English speaker is more likely to have been U.S.-born or later and a Spanish speaker is more likely to be

foreign born, so it's not really language, so you're comparing the immigrants to their children or grandchildren." So, those surveys have the ability, we have a bunch of additional data that we collect on them, and we can control for these individual differences.

The challenge always in these analyses is that you could potentially over control, right? You're including stuff in there that you're just trying to assuage your critic, but it probably doesn't belong in the actual regression, right? Predicting an opinion on the basis of language of interview, holding constant all these other differences. The other part is we can't measure everything in a survey, especially as surveys start getting shorter, and so it's quite possible that we fail to control for the right things. This is a very sort of tough nut to crack. So, this is where the experiments sort of come in. This is where sort of the social psych, political psych side of things come in.

You know, you can exact strong control over the stimulus of interest, right? And so, what is it? In this case, it's we want the language of interview, so if we can randomly assign people, in this case Estonian bilinguals, to interview in either one of their languages, then they are gonna be comparable in all respects, chance variations aside, and we can attribute with some confidence that any observed opinions that they report are attributed to the fact that they interviewed in either Estonian or in Russian. And that's been sort of the main takeaway, to try to find populations that in most cases that are bilingual, but that are not necessarily boutique, right? Because people will have debates about, "Well, bilinguals are just a rare population," or I sort of take umbrage at that. It's like are you trying to say that I'm weird? I mean, most people know me through English, but I would say my personal life is 100% in Spanish.

And so, I would say I don't know, man. There's a lot of us just in Los Angeles that are Spanish preference and probably interview in a certain language and appear to be monolingual on these surveys, but they're by no means boutique. And so, that's sort of been sort of the angle that we've taken. We've also sort of... After we did a couple of studies with bilingual we sort of thought long and hard about, "Well, can we find some of these language effects in monolingual settings?"

Andy Luttrell:

Can I pause you there for a second and just go back to the bilingual stuff? So, just to put a pin on it, the idea is like I flip a coin and that determines whether I ask you this question in Estonian or Russian, and so what do you find? You ask a question, and you'd go, "Rationally, this shouldn't matter. I'm just translating it," right? Like recipe cards. I'm just going ounces to grams. You should give me the same answer. But what's actually happening? What do you see people saying that's different?

Efrén Pérez:

Yeah, so what you see in general is that relative to the person that interviews in the highly gendered language, which is Russian, the individuals who interview in Estonian, the genderless language, are consistently more supportive of efforts to combat or remedy gender imbalances. More likely to support a female defense minister nominee. More likely to support increasing the number of women to elected office. Less likely to have the stereotypical view of women of being more emotional than men, et cetera, et cetera. So, that particular outcome is important because even before you get to the political stuff, it's happening on strictly what you could say is much more strictly just cognitive stuff, right?

You don't have to have an opinion. You just have to tell us about your ability to overgeneralize these two groups. And so, this is sort of what we're finding, and again, we can say with confidence that it's due to the manipulation or the assigned interview. Now, one thing actually that I did want to mention, because that might give people the impression that it's sort of really straightforward, hunky dory, no problem, but one of the big things that you have to do is okay, finding the bilingual populations that are not boutique is one thing, but you always run the risk of basically assigning an interview to people that don't speak the language as well as they do, right? So, in the case of Estonia, we had to have a strategy to figure out whether people, once they were assigned to a language, were actually reporting to us actual attitudes or just gossamer, right?

And so, the thinking behind that was one, we're gonna ask them to self-report and we're gonna pick the individuals that tell us that they are fluent to highly fluent in both languages. The second thing is we have to have sort of a monitoring mechanism to see whether people are basically dropping off at the stage of the assigned interview, right? You'd say, "Well, yeah. I'm bilingual. I'm a four and a five." I'd say, "You gotta interview in Estonian." Oh-

Andy Luttrell:

Bye.

Efrén Pérez:

I forgot I left something on the stove. See you. And so, that didn't happen. But then you're with the challenge, well, how do I know these are opinions rather than just debris? And so, there's two ways to view it. One is if you set aside statistical significance for a moment, pattern is everything. You know, I mean are you seeing the same directional shift, right? If you look at these items and you look at the inter-item correlations, do they hold together more so because likely people have sort of bounded opinions on these things anyways? They do, right? And so, when we used to present this separately for different audiences, it was always important to give people a very firm sense of how do we falsify this thing? Well, it's easy. You're not gonna find an effect, or you're gonna find scattered sort of directions to the coefficients. When you try to scale some of these items, they're not gonna hold. You know, there's sort of diagnostics to figure out how much there is there?

And so, that's been sort of a very standard sort of approach mostly when we're dealing with bilingual populations. It's a lot less hectic when you're dealing with monolinguals. Sort of raises other challenges, but yeah, the experiments are parsimonious is what I'm gonna say, but there's a lot of heavy lifting on the front end and thinking through possible pitfalls that are things that you learn about in terms of survey design, but then things you learn about in terms of the populations that you study, right?

And so, maybe that's part of why it took us as many years as it did to do the stuff that we were doing. There was always sort of the fear that we can really mess this one up in part because there's not a lot of standard guidance. If you look at the work in cognitive science, really clever experiments, I find them convincing. My political science colleagues, unlikely to be convinced by convenient samples of less than 100 people, right? So, it's just like if our audience is sort of more

in this direction, we have to give them evidence that is legible to them. I think it's pretty cool stuff, pretty clever stuff. If I ask my colleagues, they're like, "Get out of here."

Andy Luttrell:

I want to go back to the thing you said about are we capturing opinions or just debris, which I think is such a lovely way to frame that dilemma, and you know, when you say debris in that context, I think you kind of mean, or is it just random error and people are just sort of confused in another language and they spew nonsense? But another way to think about it that I was wondering when I was reading about the work was how much of this is a response bias, a consistent and reliable response bias? And how much of it really is like no, these are the stable attitudes that people draw upon? And part of me thought that a lot of these findings probably come from folks who haven't already considered the issues very deeply, and as we know about ideology, plenty of people don't really think about their ideology. But among those who do, they have quite stable senses of their political preferences.

In the same way a ardent gender rights activist probably is insensitive to the language, right? They just go like, "I know exactly what I think is wrong and what I think is right." But I didn't get a sense, like in the data do you have any way to parse that out? Does that strike you as relevant? Or do you go no, even those with the most solidified attitudes would be subject to a bias in the language they interview in?

Efrén Pérez:

All of this is like... It's actually, you're a great host, because you're hitting me right where I like it, man. So, here is the thing. This is where a nice marriage between psychology and political science. I think one of the things that political science sensitizes social scientists in general is that politics might be exciting to people like you and I, because we do this for a living, but it's a side circus for most people, right? And the extensive literature on belief sampling at least in the political science side of things is that on most things political, people don't have their mind made up, which is why these situational features of the interview, context can matter so much.

So, that being said, the psychology research and the psychology side of me also knows that there are a number of moderators to your stimulus of interest, and I wouldn't think that interview language is no different. So, because of how the project started out, we were in a position to basically try to say this can matter for public opinion. If you did read closely and if you follow the research design, they're all designed to test for average effects. The direct effects with the exception of one experiment or set of experiments that we did in Sweden. And so, we could look for moderating influences *ex post*, but a lot of those studies are gonna be severely underpowered once we sort of start tinkering with that.

Now, I have a better answer for you. It's not in the book. But it's part of... We're still doing research on language and political cognition in the lab. And actually, I recruited a graduate student two years ago who has been working since he started in the psychology program a paper on the role of cognitive sophistication, right? Or need for cognition. And what we found is we did design a study where it was Latino bilingual adults, it was a straightforward, very close to the Estonian experiment that we talked about except the treatment is basically a metaphor is embedded in the language, right? So, do you get a metaphor in English or Spanish? And if you look at the main

effects, you find the same evidence that we've been discussing in these other settings. The more gendered your language relative to a person that interviews in a genderless tongue, the more conservative your opinions about gender relations. So, we find that.

But what we also find is that the effect is much more pronounced among people with lower need for cognition. That is individuals who are essentially I would say generally on autopilot when they're in a survey response setting, right? They're not gonna invest too hard. It doesn't mean they're dumb, just means they don't have that tendency or that need to really investigate the information that they're getting. And the good thing about need for cognition, it's not political, but it gives you a really I think clean sense about where most of the mass public in the U.S. and in other places really is when it comes to politics, which is I might pay attention come election time. I'll try to pay some attention when you poll me. But please don't ask me to report who the prime minister is, who the member of congress is, et cetera. And so, that's in some ways... It's affirming of the book that we did. What else am I gonna say? But it's affirming in another way. It shows you how different research strains, in this case the work on need for cognition and persuasion, also has implications for how this situational feature of the survey response might matter, right? And matter in perfectly predictable, extensively documented ways.

And so, that paper is out there in cyberspace somewhere right now, but you know, it's sort of been things that we didn't get to do by design in the studies themselves, so it's less sort of theoretical preference and more look, we're trying to get this at a book press where some eyeballs will see it, and right now the big sort of skepticism is I don't know that language can matter. That's sort of how we started off in the project.

But yeah, the decision making just if we confined ourself to politics is so heterogeneous that I think it would be bizarre for both of us to say like, "No. No moderators. No mitigating circumstances."

Andy Luttrell:

Everybody is the same.

Efrén Pérez:

Yeah. No. No way. No way. I mean, we tried in the book to basically show, like not only to say, "Look, it's not determining." That's one. But the second one is these are essentially on average, and averages hide or can hide some heterogeneity, right? In this case, the heterogeneity that I just finished describing, the effects get relatively stronger among the people that are less likely to pay attention to politics consistently, right? So, in some ways you could view that as language helping some people make decisions that some folks might consider normatively appealing, right?

Andy Luttrell:

I love that, as you can imagine. So, part of the book and the work that you've done in this area is looking at these sort of like structural features of language, but there's a whole other part of the importance of language that seems really compelling, as well, which is like it's sort of the way I organize where my information comes from and lives, right? So, you have this cool stuff about politics may be the kind of thing that lives in the majority language of whatever country you're in. And so, when you're interviewing in that language, you're sort of a little more checked in to your

political views, whereas when you're the same person but interviewing in a language that's a minority language in that country, you just have slower access to sort of your political sense of things.

Could you sort of unpack that a little bit and just sort of basically say did I get that right or wrong? And what is the idea there?

Efrén Pérez:

Yeah, so the idea here is an extension of the same sort of belief sampling mechanism that is threaded throughout the book. Belief sampling is essentially, for people that don't know, is again, you don't have ready made opinions on most things political, but what you do have are the raw ingredients. And essentially, lots of features of the survey context, including the questions that you get, direct your attention to what goes together so that you can express an opinion.

So, one of the things that cognitive scientists teach us is that essentially people are really good at learning about objects and their surroundings on the basis of language and sort of they tag these memories of these objects with language. And so, you can think of it as it's sort of like a very blunt way to organize long-term memory. You have sort of a stuff I learned in English, stuff I learned in Spanish. And when you integrate that new information to memory, well, guess what? It gets lumped in with all of the other stuff that was also tagged in English initially.

The way this matters in many settings, but since we're talking... We did these studies in the U.S. You, as a person who may speak another language besides English, so let's say Spanish, you are likely to learn about the political world in very concrete and formalized terms in English. You know, the pledge of allegiance, basic civic facts. Spanish, not so. And you know, lots of great literary greats sort of talk about English being the public language for Mexican Americans like myself and Spanish being sort of the private language, the language of home. But that has implications for what gets put in the bin. So, one of the things that some of my earlier work had done was to show that for Latinos who interview in English relative to those who interview in Spanish, they are likely to know more facts correctly about U.S. politics. How much of a majority does it take to overturn a presidential veto? Things like that.

And you know, the argument is, well, you learn that stuff most likely in English, right? You get taught about it in civics courses. Less likely in Spanish. And so yes, it's a very coarse distinction, but one that is fairly extensively documented outside of the U.S. context and by people that are not political scientists. So, we ran these studies, these experiments, where we were trying to see if we would get the same effect, but the one thing that the survey analyses that we had done before could not show is, well, can we also account for the fact that people learn about stuff in these different languages? Then it's sort of hard to tease, like how much do we attribute to their reporting?

So, what we did is we took large samples of Latino individuals in the U.S., and we randomly assigned them to a study where they were gonna learn about a person running for congress. Now, they learn later that this person was hypothetical, but that's not how the study was framed. The study was framed was essentially we're running this study for you to give us feedback on the individual that you're gonna read about. The background on the individual, the name of the individual was identical except for the language that was used. So, in English the person is named

David Marin. In Spanish, the person is David Marín, right? This person is someone who was born and raised in Texas, had a decorated military career, came back and was thinking about running for congress, et cetera. That was it. We didn't tell you he's ideologically right of center, he's a Republican, none of that.

So, there's an opportunity for people to learn and sort of do some patchwork, and so what we found when we asked them their attitudes, some of them were actually factual, right? They were in the actual vignette that they read. We found that for example, relative to those who were assigned to interview in Spanish, Latinos who were assigned to interview in English reported not only more facts that were U.S.-based about the person they read about, but also facts that are about the U.S. but that were not in the vignette. They also rated more positively institutions like the military, which was in the vignette, but other institutions that are also considered to be the purview of the right of center of politics that were not in the vignette, right? And this was independent of the language in which they interviewed in, right?

So, part of the story here is the more general language context that you're in can affect what you bring from memory. Again, in these standard belief sampling models, it's often assumed that it's sort of like a random draw, right? There's a stimulus and then I go search long-term memory, and if the question piques or activates one thing, is gonna activate related things. But what we're showing with these studies, and this one in particular, is that it's a fairly uneven process. A language can give you relatively more privileged access to some of the content and memory. And so, that to me is pretty cool because there the focus of the study was not, "Give us your opinions." It was, "Give us your evaluation of someone that's thinking about running for office."

And you not only find evidence that suggests language plays a role, but you're also finding that language helps people sort of fill in the gaps where they don't have something readymade. And so, that was like... That was one of the cool things. The study itself, I had gotten grant money to do this, and then I thought, "You know, this actually could be part of the book, because it's still consistent with everything that we're saying," so we basically decided to use it as a test of a slightly different aspect of survey response and how belief sampling can sort of affect that.

Andy Luttrell:

And just to go back and make sure that I'm remembering and getting you right, so part of this design is like you present information that as long as I have some familiarity with American politics, I'm likely to infer this person is more conservative, right?

Efrén Pérez:

Exactly.

Andy Luttrell:

But you never say it, right? You don't say, "This is a conservative."

Efrén Pérez:

No.

Andy Luttrell:

But you go like, “If I understand American politics, I will have a good guess that this person’s conservative.” And you’re finding that if I just happen to interview in English I make that connection quite easily. But if I happen to get all the same information but I’m interviewed in Spanish, if you’re someone that sort of has come to politics through English, even though you speak Spanish just as well, this is a situation for which you’re just slower to draw the connection between this person’s identifiers and the politics they’re likely to have. Yeah, which is just... And it’s so indirect, right? That’s just what’s so clean about it, right? Is you go, “There’s no other reason why it would be a difference in the inference unless you just had this roadblock in between that stuff I had, it’s in my head. I have the key. The key’s just written in English and that’s the one I have to put in the lock.”

Efrén Pérez:

Yeah. I mean, like I can’t run an experiment on myself, but if you ask me to think about statistics, or t-tests, or regressions in Spanish, you’re like, “It’s gonna take me a couple of hours. I’ll get back to you.”

Andy Luttrell:

I mean, to that point, do you have a sense that... Let’s imagine exactly the same sample, something that you would say interviewing in Spanish would provide privileged access to on an opinion survey? Just to sort of like flesh out basic theory wise, it’s not just about politics, but it’s just about memory and access.

Efrén Pérez:

Sure. So, I think... We don’t have an example of it in the book, but the way to view it is to rerun the same study in Mexico, or in a Latin American country, right?

Andy Luttrell:

Yes.

Efrén Pérez:

It would have to be the case that if we are able to adapt the manipulation, which was the description of the candidate, and you can, as you mentioned, if you have more familiarity with Mexican Spanish, you’re more likely to know that people with this profile are right of center, left of center, centrist, right? Yeah. That’s sort of the thing that would need to be done.

Andy Luttrell:

That would be very cool. So, on that line, the last thing that I wanted to talk to you about is as I was reading, especially you have some very cool data about gender neutral pronouns in parts of the world that have sort of adopted this as more of a regular feature of their language, and it did... It raised for me the question of the term Latinx, which kind of vaguely comes up at the end of the book, and then later I was looking at your work and I was like, “Oh, you’ve done this.”

Efrén Pérez:

Yeah.

Andy Luttrell:

And so, as a guy who just is kind of trying to figure out what's right, what are the right terminologies that have evolved over time, I know that there have been conversations about like whether this is doing what it's meant to be doing, whether it's almost appropriating to sort of mishmash these words around, and so what do we know about... If we think about language not as the structure of my grammar, not as the language I've learned things in, but as language we're creating as a way that shape public opinion, what is this term doing for us or what isn't it doing for us?

Efrén Pérez:

Yeah. So, I'll talk about both of those research projects because they are actually connected. One actually led to the other. The study that we did on gender pronouns was an attempt, and it's actually a first attempt. There's more work needed on this. But to really drill down on what it is about language more specifically that can kick in sort of this process where you see these differences by language. So, in the case of Sweden, what you have is the very common experience where politically individuals have organized to essentially say, "Look, we want to be a more gender inclusive sort of polity and we think that if we use instead of he and she, we'll use the Swedish version of they." Very innocuous, but it might be inviting. It might be welcoming. That's sort of what the proponents say. The detractors initially said the exact same thing you were describing, which is first of all, this is like pretend science, which doesn't work. And second, quit policing people's language.

Well, that controversy basically was settled when Swedish language authorities made the they version of their pronoun system an official entry, right? So, we thought, "Look, we have an ability to show that in part, some of the language effect has to do with the words themselves." And then we also have this opportunity to figure out something that you had raised before, which is how much of this is I'm just providing you the answers that I think you want to hear versus this is a relatively seamless automatic process. It's happening relatively quickly. People aren't giving it too much thought because they take for granted some of the strictures of their tongue, right?

And then lastly, to let us do a little bit more to at least cast some doubt on this is culture versus language. Now, I'm not a very big fan of that sort of debate and that distinction, because I think it's much more complicated than the sort of the teams that are on it, but we thought, "Look, let's enter the conversation by showing one way that culture could matter here and to show that above and beyond culture, language can matter." So, what we did is we went to Sweden, and we have two studies, same exact design, and we had a third one that had come up during peer review, so we wanted to address it rather than wave our hands at it.

For the first two studies, we took Swedish adults, and we randomly assigned them to evaluate in their own words a figure, an androgynous figure that I myself spent about four weeks working on in the summer, and this figure looks like the character in Big Hero 6. Very lumpy, round, but you don't get a sense of whether actually they're a man or woman, and in fact we assess that at the end of one of the studies and people rated the figure right at the middle of the scale. Neither man nor woman. Okay.

And so, they had a text box where they had to write a few words. What's the figure doing? And the cover story was, "Look, we want to be able to standardize the data," and on a random basis you use masculine pronouns to describe, feminine pronouns, or the genderless pronoun. And what we found, or actually what we did after that is we asked people a series of questions that would give us an indirect gauge that their sort of notion of gender, instead of man and woman, was a little bit more mixed where they had sort of non-male or non-male objects at the top of their head. So, this was things like I remember the question that we asked was, "I met someone the other day who was thinking of running for office. That person's name is?" It was sort of under the guise that they were completing another part of the task, so we coded names for whether they were male or non-male. Turns out that the non-male category is predominantly women, but there's a couple of unisex names that are thought of as being more akin to females, and so they're included in that setup.

And then after those two tasks, we asked a variety of questions about their preferences for gender equality and also their feelings and their stance toward LGBTQ individuals. So, the long and short of these studies is that relative to those who used a masculine pronoun to characterize this androgynous figure, those that used the genderless pronoun not only had more non-male categories at the top of their head. Having more non-male categories at the top of your head had a downstream reliable impact on how supportive you were for more gender equality and how inclusive you were not only in your feelings, but also your attitudes towards LGBTQ individuals.

This was across two studies. We started off with a relatively smaller sample. We didn't know if it was gonna work. Second sample was like four times the size. We find the same thing. We sent this out actually originally as an article. It got rejected. Not rejected. Sorry. It got invited to revise and resubmit. But one of the criticisms was, "Well, it seems plausible, and you have two studies, so it's not a replication issue, but I still get the suspicion that people are basically... It's a Hawthorne effect, right? You're asking them about gender equality and so they're alert to your hypothesis."

So, then we looked at the data and it was like, "Well, we can use some auxiliary data within the study," I said, "But you know what, Margit? The real way to do this is if people are being very intentional about this, it involved relatively more control. So, if we speed them up, especially on the front end when they're completing that rating task, they shouldn't affect their responses. Whether you're speeded up or not, you're just doing what you're automatically doing." So, we ran a third study where we randomly assigned people to use one of the pronoun conditions and to rate the same androgynous figure, and so the analysis there was to show in this large sample, it needed to be highly powered to detect this interaction, but we wanted to see whether relative to those who used the masculine pronoun, whether those who used a genderless pronoun rated the figure in the same way irrespective of whether they were given only 15 seconds or less or just go as they normally do, right?

And so, we took that as evidence that it was inconsistent with this idea that the responses we were getting were systematically produced by people who knew what we were up to and were just telling us what we wanted to hear. And so, you know, the other thing that I haven't said much about is this is all happening in one country where they speak the same language, they have the same culture in a global sense. The only thing that's moving here is did you have to rate Big Hero 6 using masculine, feminine, or a gender neutral pronoun? And that is it. And so, that just shows you one, it's nice to get evidence when critics that you disagree with, you can say like, "I'm not gonna say

you're wrong, but the argument is not carrying water." Right? And you know, I gotta say I was sort of impressed not at the significance and the size, because it's right in line with what we were finding before, but more that the actual words could affect how you were rating, what comes to memory, and how it affects your opinion, right?

So, how does this relate to Latinx? Okay, Latinx, there's different ways to tackle it. One is sort of just like sociopolitical. What's happening here is something that we've seen before among ethnic groups all over the globe, but in particular this specific pan-ethnic group, which is Latinos, Hispanics. When this term was first used or actually officially promulgated in the late '70s by the U.S. Census, there was a lot of back and forth about how much sense does this category mean? I mean, Mexicans are not the same thing as Cubans, as Puerto Ricans. They don't even speak the same language. Some only speak English. Blah, blah, blah.

30 years later, 40 years later, we take it for granted that this ethnic label is not only meaningful but that it actually shapes people's politics. So, look, the community has grown a lot since then, and there is something called sort of generational trends, generational shifts, and one of the things that's happened which we can think of as meaning making for an in group is some elements within the larger Latino community have sort of decided and organized and mobilized themselves to say that part of what should define us as an ethnic group is greater gender inclusivity. That diversity exists within the group. We should just acknowledge it as part of the labels that we use to identify ourselves. And so, the X in Latinx is supposed to mean we acknowledge, recognize, and respect gender diversity, right?

Okay. So, there's a very similar controversy as in Sweden. Who the hell cares? Don't use it. Don't make me use it. And actually, I don't even think it works. So, what we did in the... This is pretty straightforward. We ran three studies all with Latino adults and the only thing that varied is one sample was individuals 25 years and older, because we thought maybe that's not where it's at or maybe that's where it's at and we just haven't looked. Another sample was 25 years and younger, because we thought maybe it's actually relatively younger people. And then we had a sample through the subject pool for my lab which was Latino UCLA students, right? Because we thought like, "Well, maybe it's actually just a higher ed thing." This is where you're learning about all this stuff. Okay.

In each study, if you take it in isolation, you find that the makeup of the study was as follows. You were assigned to write what makes a person Latino, Hispanic, or Latinx. And after that open-ended task, you had people provide a variety of opinions including how they feel about gender equality through really sticky policy proposals, like gender neutral bathrooms, and also their feelings about LGBTQ individuals. So, in each study in isolation we find small meaningful but borderline effect. And so, the takeaway figure in that study on Latinx is you see a positive effect that just barely misses statistical significance, and in the meta-analysis, as you would expect, the effect is still positive, similar size, but confidence in it or the uncertainty around it basically shrinks, right?

And so, it's a shift comparable to what we saw in sort of the Estonian studies, the Swedish studies, but in this case relative to the other two categories, describing attributes that makes one Latinx actually leads people to report more liberalized gender attitudes and more positive attitudes and feelings toward LGBTQ [inaudible]. So, again, it's like the discussion or the implication section

to that article, I remember writing because I thought like, “This isn’t really about Latinx. This is about let people police their own group,” right? Essentially, it’s okay if you don’t want to use it. What these individuals are sort of engaged in is what is the content of who we are. And in fact, actually, I don’t use the term for myself. I still use Latino or if I need to be more specific, I say I’m Mexican American. But you know, this is sort of the other side of me, like the work on intergroup relations, it’s such an important part of inter and intragroup life, and I just feel like why do the loud mouths have to have sort of the end all, be all?

I could tell you, I’m not gonna use it for myself, but if someone assigns it to me, yeah, I’m gonna embrace it. The funny thing is we actually asked in that study whether people were familiar with the term, and there were individuals who said that they were unfamiliar or had never heard of it, and even among those individuals the same sort of pattern stands, right? So, the label is in circulation. We sort of like... We like to think that we’re resisting it by voicing opposition, but the reality is you have fragments in your head. You sort of know what it means. And if we’re able to prime it in a systematic way, yeah, it’s gonna matter. At the end of the day, it’s just another entry in people’s identity portfolio. They could be Latinx, Latino, Hispanic. They can be so many other things. It’s just like all this is evidence for is that it’s a meaningful category consistent with its alleged nature. It’s not even telling you that it’s normatively pleasing in all aspects. It’s just this one particular thing seems to be very important for individuals who choose this label.

Andy Luttrell:

We are running short on time, but I could talk to you forever, because all of this stuff is so interesting to me. So, just as a wrap up, I just want to say thank you so much for taking the time to talk about this. And the book is so great. I wanted to tell you too that for as academic as it is, I just really enjoyed... The writing was just very engaging, and fun, and-

Efrén Pérez:

That means a lot because there’s... If you like books like that, there’s two individuals that I’ve always looked up to that are able to convey really thorny stuff in ways that you don’t want to put the book down. That’s Don Kinder, who’s actually... He’s actually a social psychologist who made his career in political science. And the other one is actually one of his known nemesis, which is Paul Sniderman at Stanford. Those guys, holding constant whatever you may think of the claim, they write in very, very entertaining ways. And it’s not like annoying. It’s just like, “Wow, this is good stuff.”

So, yeah, that’s the fun part about writing a book, like my favorite part in the research process is always this communication part. It’s just like once you have the evidence or the data, there’s nowhere to go, right? You just kind of have to figure out what is the most coherent story here. And that’s always been the favorite part for me, actually, in the enterprise. Maybe the design, definitely not the data analysis, but when there’s two people it’s like, “Well, you can’t both be screwing it up,” right? There seems to be some convergence of analysts. But yeah, this was fun. You don’t get very many opportunities to talk about stuff like this.

Andy Luttrell:

Alrighty, that’ll do it for this one. Thank you so much to Dr. Perez for taking the time to talk about his work. The book is *Voicing Politics: How Language Shapes Public Opinion*, by Efrén Pérez

and Margit Tavits. You can find links on the episode page to the book, to Efrén’s website, and to some papers they’ve published in places like PNAS and Journal of Politics, which are some of the foundation for the line of work.

Now here’s where I ask you to make sure you’re subscribed to Opinion Science to make sure you keep getting new episodes like this one. You can do that probably wherever you’re listening to this now—Apple Podcasts, Spotify, Amazon, whatever. Rate the show on Apple Podcasts, tell the world you listen to and like the show, and head to OpinionSciencePodcast.com for back episodes, transcripts—all that stuff.

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