ANDREA ROBLES: Well, thanks so much for joining us for our research evidence webinar. My name is Andrea Robles, and I work for the Office of Research and Evaluation. Our office objectives are to build knowledge on civic engagement, volunteering, and national service by funding research and supporting our programs and their grantees as they build evidence through evaluations. We strive to share and use our research findings and do so in several ways, including posting studies and reports on our webpage, circulating a quarterly newsletter, and offering a So What series, essentially a type of workshop where we translate research for CNCS staff.

And for the last two years, we have held a research summit in December that is attended by academics, researchers, CNCS staff, and other federal agency staff, foundations, and practitioners. We are hoping to have the research summit in February or March of 2018. This webinar series is another way for - to share our cutting-edge research that we are conducting both internally and externally. We want our research to spark ideas and assist in developing

and improving programs that can ultimately improve lives and communities.

We understand that research needs to be understood, and — in order for it to be used. In these webinars, we hope to be able to appeal to various users, including scholars and practitioners. Although for us, it's exciting to have a variety of audiences interested in this research, we understand that there is a — different styles of communication between the two groups. So we are asking our speaker to present somewhere in the middle, which is a difficult task. But we have both a paper that is accompanying this webinar, if you'd like some more details, and you could also just reach out to us if there's other questions that you may have.

So today, we are pleased to welcome Professor Pamela Paxton and Kristopher Velasco from University of Texas Austin Population Research Center. Pamela Paxton is a professor of sociology and public affairs and the Christine and Stanley E. Adams Jr. Centennial Professor in the Liberal Arts at the University of

Texas at Austin. She is the author of articles and books on social capital, women in politics, and quantitative methodology. Her research has appeared in a variety of academic journals, and most recently, she is co-author of the 2016 book Women, Politics, and Power: The Global Perspective. She has also consulted for the US Agency for International Development and the National Academies.

Kristopher Velasco is a graduate student who has just completed his masters at the University of Texas. It considers how international, non-governmental organization influenced the adoption of LGBT policies around the world, so I will now turn it to Pamela and Kristopher. Thanks for doing this.

PAMELA PAXTON: And thank you for giving us the opportunity to reach a wider audience with this research. So I'm Pam Paxton at the University of Texas at Austin, and I want to speak today about our research investigating whether national service programs improve community well-being. Next slide. So we are interested in trying to understand whether national service programs, like AmeriCorps, have an

impact, and the issue is that we know some things
about the impact of national service programs but not
everything.

So at present, we have evidence that AmeriCorps members help nonprofits at an organizational level, and they do this through service provision, so we have lots of evidence, for example, that AmeriCorps members are serving children through food programs. They are operating reading camps for children, so nonprofits are recording the service that AmeriCorps members are doing and demonstrating how these members help nonprofits themselves, right, at the organizational level. We also have evidence that AmeriCorps members benefit themselves over their life course as a result of their service.

So there are studies showing, for example, that AmeriCorps members show increased levels of civic engagement later in life, such as their rates of voting or volunteering. So we currently know that nonprofits help - I'm sorry, that AmeriCorps members help the nonprofits in which they're located, and

that AmeriCorps members help themselves through their participation in AmeriCorps. Next slide.

What we don't know at present is whether national service programs have an impact beyond the individual or beyond the organization and also affect the community, and this is important because one of the purposes of the 1993 legislation was to have AmeriCorps influence communities. So here, on this slide, we produce some of the legislation. It says, "It is the purpose of this act to renew the ethic of civic responsibility and the spirit of community to provide structured service opportunities with visible benefits to the participants and community and to provide tangible benefits to the communities in which national service is performed."

So this was one of the goals of the legislation and of AmeriCorps, but we don't, at present — or we didn't before this research have evidence that AmeriCorps does have an impact on the community. So our research question was do national service

programs improve community well-being? That's what we're trying to address in this paper. Next slide.

So we are interested, again, in understanding whether national service programs influence community wellbeing, so what I'm gonna do now is walk through our research design to give you a sense of how can we answer this question. So there's a number of things we need to do to answer the question. First, we need to define community, so in this research we define community as county, and specifically we're looking at 1,347 counties. Why do we consider county? Well, we felt, theoretically, that the effective of national service program may not be limited to a specific neighborhood or zip code. You can imagine individuals may travel across a zip code or a city, right? To receive services from an organization.

So to go down to a lower level than the county, I think, would not really capture what we mean by community in this context. We also wanted a level that is comparable, level of analysis that is comparable across diverse communities, including

those in both rural and urban areas, so we felt county best exemplified that. And, of course, data availability played a role as well in that we have better data available to us at the county level. So for us, community is county going forward. Next slide.

So the next thing we need to consider when we're trying to answer this question, how do - or donational service programs impact the community, is how to measure national service, so we're looking at AmeriCorps programs, and we are looking at the presence of AmeriCorps programs. We have other measures, such as the number of programs in a community or the number of members in a community, and our results are similar, but the simplest measure here would be just the presence of AmeriCorps programs in a community over time, and we split, also, AmeriCorps into some sub-programs. So we consider, overall, AmeriCorps programming, and we also consider sub-programs, AmeriCorps State, AmeriCorps National, AmeriCorps VISTA, and some other AmeriCorps programs that are - tend to be small with

unique goals, so we don't - we split them out, but we don't talk about them much. So before going on, I just wanna note State and National are somewhat similar programs in how they use - how non-profits use members.

VISTA is a little different in that it focuses specifically on capacity-building and community empowerment in high-poverty areas. So VISTA has a unique mission, and it is definitely worth splitting that out from State and National so we can understand whether these sub-programs have different effects on communities compared to, say, overall AmeriCorps programming. Like I said, we have these auxiliary analysis as well that consider the number of programs and the number of members. Next slide.

The next thing we need to do when we're asking how can - you know, when we're doing our research design, how can we answer this question, is to define community well-being, right? So we need some measure of community well-being. So we use the concept of subjective well-being. There's increasing interest in

the concept of subjective well-being. For example, it's highlighted in some OACD documents, in the Healthy People Initiative from the CDC, and you may have heard of the idea of gross domestic happiness, which some are promoting as an analog to gross domestic product to think about how individual citizens in nations, how much subject well-being they have.

So subjective well-being is typically measured via surveys where people are asked questions about their happiness, their life satisfaction, a range of questions, and to get something about a community or nation's subjective well-being, those survey questions are then aggregated to that level. Next slide.

So we do something different. Our data source for subjective well-being is Twitter, so this actually makes this a novel measure, and so what's good about this - there's several nice things about Twitter. First, we can capture multiple dimensions of subjective well-being. So by looking at tweeted words

in a community, we can assess that community's engagement, disengagement, positive relations, negative relations, positive emotions, and negative emotions.

So what we do is there are existing dictionaries, psychological dictionaries of words that are associated with these dimensions of subjective wellbeing, so words, for example, that indicate engagement, words that indicate disengagement. So we can take disengagement words, for example, that are being tweeted in a community and divide that by the total words tweeted in a county to get a proportion of disengagement words over the total words tweeted. So that is how we're measuring, for example, disengagement. The Twitter and other social media outlets are increasingly used in a range of fields to give information about what's called ambient geospatial information, so it gives a sense of what's happening in communities.

Subjective well-beings in prior research have been related to self-reported life satisfaction from

surveys. Remember, that's the traditional way that subjective well-being is measured, so research has shown that that traditional measure is related to the subjective well-being tweets in communities. Twitter data has predicted election outcomes. It predicts the path of fires and tornados, so there's a lot of information we can get about communities and this idea of ambient geospatial information from Twitter. So we're using our measure, like I said, of one of these dictionaries, for example, disengagement over total words tweeted. Next slide.

So to give you a sense of what we mean by this, this slide shows the most common words within two of the subjective well-being dictionaries. So for the rest of this talk, the paper encompasses positive and negative relations and positive and negative emotions, but for the rest of this talk we're going to focus just on engagement and disengagement because those are of particular interest to civic engagement outcomes and communities. So this slide gives you the most common words within two of the subjective well-

being dictionaries, engagement and disengagement, and you can see that it has face validity, right?

So the words that are often tweeted that are used to indicate — or that indicate disengagement are coded as — ah, sorry, coded as engagement are learning and interesting and alert and creative and involved, right? So these really indicate engagement. There's good face validity there. Disengagement, also, nice face validity. Tired, bored, blah, and meh, right? These are wonderful — I love that we can use meh, right? So disengagement, again, has this kind of nice face validity that the words people are tweeting that are being coded as disengagement makes sense. All right? So this gives you some sense of our measure of subjective well-being then in communities. Next slide.

So let's go back, right? We're trying to connect AmeriCorps programming to subjective well-being. We are trying to think about whether national service programming affects community well-being, so for us, that's AmeriCorps programming and subjective well-

being and communities. So this slide shows that basic association that we're trying to assess, so the arrow indicates direction of influence. So - and I should say that AmeriCorps programming, we're looking at this over time to start, from 2005 to 2010, so a community can have zero years of AmeriCorps or six years, up to six years.

So what we first do is a series of linear regressions. What linear regressions allow us to do is just show association between AmeriCorps and subjective well-being in communities, so just association. It allows for a very broad overview of these many types of AmeriCorps programming, and remember, we're going to be thinking about AmeriCorps and State and National and VISTA separately, as well as the several dependent variables that we're looking at for subjective well-being, all these different types of subjective well-being, like engagement, disengagement, and positive emotions, so we're – we can do a lot of linear regressions to look for these associations.

So when - I'm going to get into these results a little bit later, but we did find significant effects. We did significant effects suggesting that AmeriCorps is associated with subjective well-being. So what we need to do next, however, is defend the idea that there's an association here against arguments that might undermine our conclusion. Next slide.

So a way of thinking about this, okay, in terms of research design is asking the question, "What could be wrong about this result?" Right? So we found a significant association between AmeriCorps programming and community subjective well-being. Well, what could be wrong with those results? So there's a couple things to think about. The first is, well, what if counties with AmeriCorps programs are different than those that do not receive such programs? In that case, the - what we're finding here, what we see in terms of association could be due to differences in - across the counties that are receiving or not receiving AmeriCorps programming rather than actually an association. The second issue that we need to think about, or the challenge with the results, is what if it's the opposite? What if counties that have greater levels of subjective well-being are better able to attract and sustain AmeriCorps programming? And this is absolutely a reasonable question. If you think especially about what we're gonna be focusing on here between — where we're looking at an engagement and disengagement, it may be that more engaged communities are just better able to attract AmeriCorps and sustain AmeriCorps, as I said, or disengaged communities have difficulty attracting AmeriCorps.

So if that were true then that association that we see from the regression analysis may not be that AmeriCorps is affecting its objective well-being, but in fact the opposite. So we need to address both of these threats to our results. Next slide.

So how do we address these concerns? Well, the first thing that we do is to consider a range of control

variables, so looking at other features of counties that might make a difference both to their ability to get AmeriCorps programming and to their subjective well-being. So here that we show that we're including income and measures of racial and ethnic diversity, education level, rurality, age, and also state-fixed effects, which allow us to consider any unmeasured features of states that would affect the counties and AmeriCorps programming in those states.

The next thing that we do to address these problems is to be - to move to longitudinal models, meaning we add in a second wave of data. So we have two waves of data, one where we're thinking - where we look 20 sorry, 2006 to 2009, and a second wave that's 2010 to 2013, and this allows us to do - having that second wave of data is really important. It allows us to do several things. The first thing that we do is consider AmeriCorps as an intervention or a treatment, if you will, into a county. So in 2009, there were 250 counties that did not have any AmeriCorps programming, and over time 72 counties received at least 1 AmeriCorps program.

So we can look at - we can estimate the change in subjective well-being in counties that got an AmeriCorps program over the time period, and those that don't get - that did not get an AmeriCorps program over the time period, and that allows us to think about AmeriCorps as, like, a treatment, as I said, or an intervention into that county and see if they have an effect, it has an effect on subjective well-being. The second thing that the second wave of data allows us to do is to consider these reverse effects that I mentioned, these reciprocal effects. So the picture here on the slide indicates what I'm talking about, so what we have here now are two waves, so we have AmeriCorps and time one, so we subscript it with one, and we have AmeriCorps and time two, subscript it with two.

Similarly, we have our measure of subjective wellbeing in time one and time two. So the arrows indicating direction of influence, we see the center there, the middle two, are what we call cross-lagged paths. So AmeriCorps and time one is affecting

subjective well-being in time two, but subjective well-being in time one is also affecting AmeriCorps in time two, so we're acknowledging that reciprocal effect that I talked about a minute ago that disengaged communities, for example, may just not have the personal - the personnel or financial capacity to obtain and sustain AmeriCorps programming.

So we're gonna estimate that reverse effect. There are also what we call stability effects in here as well. We acknowledge that community subject wellbeing at time one is likely related to their subjective well-being at time two, similarly with AmeriCorps. We would expect some stability effects there. So that's how we can use longitudinal modeling, modeling over time, to try to get at these threats that I spoke about earlier to a conclusion that AmeriCorps affects subjective well-being. Next slide.

All right, let's turn to the results now. So these are our results from the linear regression, so each

one of these cells indicates a result from a linear regression. So the first thing to notice here are those red negative signs indicating that AmeriCorps generally seems to operate by buffering negative aspects of subjective well-being, and here are - like I said, we're only looking at disengagement, but what this is saying - just think about overall programming. So more AmeriCorps programs in a community reduces disengagement, right? It's reducing disengagement. So we see that as buffering, like I said, buffering or mitigating the negative aspects of subjective well-being, all right?

And we see that effect across all the categories, sub-categories of AmeriCorps, National, State, VISTA, and these other kind of small and specialized programs. We do see two positive coefficients, positive for engagement, so we do see overall programs effecting engagement positively and looking at the subtypes we see that that's largely due to the effect of AmeriCorps VISTA, so VISTA is having a positive effect on engagement. However, we do need to acknowledge something about this finding, so if VISTA

members coming into a nonprofit - remember, they're doing capacity building for nonprofits. Well, what if capacity building involves, as one aspect, increasing a social media presence for the nonprofit?

And what if increasing that social media presence includes starting more tweets? So it is not possible for us to tell whether this positive effect of VISTA on engagement is due to an effect of VISTA on engagement or is due to some - just that the VISTA members are actually starting to tweet, and if they were tweeting it would be kind of engagement words, right? Like involve or interesting. Now let me point out that this issue does not occur - is not a threat to the disengagement negative effects, right? Because that's a buffering. It's a decrease in words tweeted rather than an increase in words tweeted. Next slide.

So now turning to the models where we look at things over time, I wanna point out just - the first thing to say is that the intervention, thinking about AmeriCorps as an intervention is significant. So remember, we're thinking about counties that received

AmeriCorps programming that had not had AmeriCorps programming before, right? And so counties that received AmeriCorps programs as a treatment on average had 105 fewer disengagement words tweeted. Okay? And 61 more engagement words tweeted compared to counties that continue to have no presence of AmeriCorps. So let me say that again about the disengagement, so if compared to counties that continue to have no AmeriCorps programming, those that did receive AmeriCorps on average had 105 fewer disengagement words tweeted.

Is that a large or small effect? Well, I can tell you that the median number of disengagement words tweeted across counties is 247. Also when we consider the cross-lagged panel model that is pictured here, we've bolded those cross-lagged arrows to indicate that we do see both these effects, right? So when we account for the possibility of a reciprocal effect from subjective well-being to AmeriCorps programming, the effect we're looking for, this AmeriCorps affecting subjecting well-being, is still significant, but we do see the reserve effect as well, so we do see a

significant effect of a county's pre-existing levels of disengagement influencing the level of AmeriCorps programming it will receive.

So what we see in these cross-lagged panels, to reiterate, is both effects, AmeriCorps affecting subjective well-being and the reverse, subjective well-being affecting AmeriCorps. Next slide.

So what are the takeaways from this research? I want to remind you that one of the purposes of the act Initiating AmeriCorps, was to provide visible benefits to communities, tangible benefits to communities. So this research, one takeaway is that AmeriCorps programs do help improve community subjective well-being. They do so largely through buffering against negative aspects of subjective well-being. So one conclusion to take away from this research is that as AmeriCorps is fulfilling its stated goals, it should be funded into the future. Next slide.

A couple of other takeaways, we did find some differential effects across AmeriCorps programming, slightly stronger effects for National programs, for example, compared to State programs, and this interesting VISTA positive effect that we cannot, at this time, attribute entirely to VISTA programming. We find that the results that we see hold up to various threats against the inference. So moving to those longitudinal models allowed us to attempt to address threats to our conclusion. So what we find is - the final takeaway is that the reverse effect that we find.

That subjective well-being of communities, specifically disengagement, can influence whether communities are getting, acquiring, and sustaining AmeriCorps programming, suggests that when considering applications, CNCS should pay particular attention to quiet or atypical communities, right? And we see this in a few places. The Texas One Star Foundation had a program to try to help communities that had not had AmeriCorps programming obtain AmeriCorps programming, so there's ways that CNCS can

pay more attention to quiet or atypical communities knowing that these are first effects take place.

Well, let me just end by thanking the Corporation for National and Community Service, NIH, and the Center for Open Science, which allowed us to find and work with the University of Pennsylvania, which developed the Twitter data in the first place.

ANDREA ROBLES: So Pam and Kris, thank you so much. This is fascinating work, and as you know, there's a lot of interest in this, and you are putting out a paper with this – these findings. Can you tell us where we might be able to find that, or other information that might be in the paper?

PAMELA PAXTON: Well, so we have the paper. It's currently under review, so if people are interested in the paper, they are welcome to contact myself at the University of Texas or Kris Velasco at the University of Texas and we can send them the paper. I've also given the paper to research and evaluation at CNCS, so that's another way to get it, and of

course we are pursuing publication at this time, so it will hopefully become publicly available through publication outlets soon.

ANDREA ROBLES: Okay. Well, thank you so much for your time and for all your work. It's great.

PAMELA PAXTON: Thank you, my pleasure.

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