

# Attitudes Improve for Sex and Race. Disability and Age? Not So Much

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How did attitudes about race, sexuality, age, or disability change in the last decade or so? In the United States, it appears that bias decreased across all explicit attitudes, but implicit biases decreased only for certain attitudes, including sexuality and race. Moreover, biases have remained stable for variables such as age or disability. What can these patterns of change tell us about our society and the different nature of certain attitudes?

Researchers examined more than 7 million implicit and explicit tests for an article published recently in [Psychological Science](#). In this conversation, APS's Ludmila Nunes speaks with APS member Tessa Charlesworth, the article's lead author, an experimental psychologist, and currently a postdoctoral researcher at Harvard University.

To find your implicit attitudes about race, gender, sexual orientation, and other topics, check out the Project Implicit website at <https://implicit.harvard.edu/implicit/>.

## Unedited transcript:

[00:00:12.750] – Ludmila Nunes

How did attitudes about race, sexuality, age, or disability change in the last decade or so in the United

States? It appears that bias decreased across all explicit attitudes. But implicit biases only decreased for certain attitudes, including sexuality and race, remaining stable for variables such as age or disability. What can these patterns of change tell us about our society and the different nature of certain attitudes? This is under the cortex. I am Ludmila Nunes with the Association for Psychological Science. Today, I have with me APS member, experimental psychologist, and currently a postdoctoral researcher at Harvard University, Tessa Charlesworth. Dr. Charlesworth works with APS fellow Mahzarin Bananaji, a researcher recognized for her groundbreaking work on implicit bias. Together, they authored an article published in Psychological Science that examined more than 7 million implicit and explicit attitude tests taken between 2007 and 2020. Tessa, thank you for joining me today. Welcome to Under the Cortex.

**[00:01:32.250] – Tessa Charlesworth**

Thank you so much for having me.

**[00:01:34.650] – Ludmila Nunes**

So please explain as we start what you set out to study and why.

**[00:01:41.430] – Tessa Charlesworth**

Many people today will have probably heard of this buzzword implicit bias. So these are the more subtle, automatic, and less controllable associations that just jump to mind. So associations like young people equals good and old people equals bad, for instance. And intuitively, you can probably imagine these implicit biases that are more automatic were also thought for a long time to be really difficult to change. If you think about them as kind of like habits that just jump to mind, like brushing your teeth or drinking coffee or something like that, it's really hard to change those kinds of habits of mind. So in my research, both in this paper that we're talking about today, but also in my broader research program, I really set out to test that intuition. Is it true that implicit biases are impossible or just even difficult to change over the long term? Or could it be that if we look over long enough time scales and with the right kinds of methods, that we might actually start to uncover some of these sort of durable shifts in our cultural implicit biases? So that was the question for me and my collaborator, Mazarin Binaji and I set up to study this question actually back in about 2017.

**[00:03:00.730] – Tessa Charlesworth**

So it's the start of my graduate career. And at the time, we had data from all of these implicit biases, from this big database of implicit biases. So it's called Project Implicit, and it's this big online website that has millions and millions of tests, and we had data from about 2007 to 2016. So we tracked change in all of those biases, both implicit and explicit. We looked at implicit sexuality bias, age bias, disability bias, race, skin tone, and body weight. And even in that first paper, which was published back in 2019, there were some really fascinating findings. So as you mentioned in your introduction, we found changes in implicit sexuality bias. So it had dropped over just ten years by about 33%, and race and skin tone biases had also dropped by about 15% to 17%. So to us, that was already fascinating, because we were like, oh my goodness, implicit biases could change over this durable longterm scale. But when we started to present that work after publication, so around 2019, of course, the first question on everyone's minds was, you stopped in 2016. You're telling us that change happened up to 2016. What has

happened since?

**[00:04:14.670] – Tessa Charlesworth**

And so really, that's the impetus for this newspaper is now we have data from 2016 to 2020, a period of time in US. Recent histories. It was just absolutely tumultuous with elections, social protests, even the beginning of the kova 19 pandemic. And we were really interested in whether those attitude trends that we had tracked for about ten years have persisted even through those more recent tumultuous time periods, or perhaps whether they had altered in some way. Attitudes that might have previously been decreasing, like race and skin tone, for instance, might have stopped. They might have even flipped because of all of the rhetoric surrounding trump and all of this sort of new rhetoric that we weren't expecting in society. So that was the start, that was the inspiration, was what has happened since that first year.

**[00:05:08.200] – Ludmila Nunes**

So before we get to those data, you found, I think our listeners would like to know a little bit more about the difference between implicit and explicit bias. You've already explained what implicit biases are. So what do we know about explicit bias and explicit attitudes? Because we've known for a while that those are quite malleable, right?

**[00:05:33.690] – Tessa Charlesworth**

Yes, exactly. Yeah. The distinction between the simple distinction between implicit and explicit biases, of course it's a lot more nuanced in the psychological literature. There's tons of debates around it. But the simple distinction would be that explicit biases are typically those biases that we would measure through self reports and through things that you can control. So if I ask you, for instance, how much do you like old people? How much do you like young people? And you're telling me, oh, I like young people a seven out of ten, and I like old people a five out of ten, that's your explicit bias. In contrast, implicit biases are measured through relatively more indirect measures. So typically, we would measure them through something called the IAT or the implicit association test, where instead of asking you directly, how much do you like group a? How much do you like group b, we would have you pair group a and group b with positive and negative words, and then we see whether you're faster at pairing it when, say, young people and good things and old people and bad things have to be paired together, or whether you're faster into reverse.

**[00:06:38.490] – Tessa Charlesworth**

So maybe young people and bad is much harder for you than young people and good. And so we take that as a kind of index of the automatic associations that are coming to mind. So that's one simple difference between the explicit and implicit biases, which is just in how we might measure them.

**[00:06:55.070] – Ludmila Nunes**

And it was measured from these type of tests. So surveys, direct reports, and the implicit association test that you collected in these large websites that people just went to and were able to do the tests, get their implicit biases score, and contribute data to this research, right?

**[00:07:15.660] – Tessa Charlesworth**

That's exactly right. Yeah. So we have this massive website called project Implicit that anyone can go and it's all volunteers. So to date, we probably have about 20 million people who have been to these websites, and we pulled just 7 million of those data points. So those are the 7 million cleanest data points of people who completed all the measures all the way through that we can use. So it's the largest behavioral science database. It's been collecting data since 2007, literally minute by minute. So we have such high temporal granularity that becomes really exciting to look at the kind of questions we're interested in.

**[00:07:51.150] – Ludmila Nunes**

And it's international, right?

**[00:07:53.330] – Tessa Charlesworth**

Yes, actually, as international participants, you can either go to the main site, which is the kind of US hosted website, or we also have country specific websites that are done in country specific languages. So, for instance, I'm Canadian and we have websites from Canada that are both in French and in English. And the cool thing about that is we literally just earlier this year introduced a new paper that made all of that data public as well. So we now have something called the project implicit international website data sets. And that was a paper that I did with Maya Navan and Benedict Kurdi, where we introduced these data from 34 different countries done in those countries native languages. So instead of having to rely on everyone coming to the US website and taking the test in English, we can get a better index of maybe these cultural differences by having people actually complete the measures in their native language, in their cultural context.

**[00:08:47.680] – Ludmila Nunes**

So if someone just searches project implicit, they should be able to get to this website and complete these measures if they want to. Okay, so for this specific article, you analyzed only US respondents, about 7 million as you referred, and I think we can finally get to the pattern of results. What did you find?

**[00:09:10.890] – Tessa Charlesworth**

What did we find? Yes. Well, there are sort of two main takeaways in the results. So the first is that those paths that attitudes had been carving before the 2007 to 2016, paths that they had been carving for the most part persisted. And that to us is already a pretty shocking finding because it's basically saying that even amongst all of this tumultuous change in society, these attitudes have a kind of homeostasis or a persistence in the past trends that they've been carving before. So to put some numbers for that, I mentioned the change for sexuality attitudes now over all 14 years. So 2007 to 2020, implicit sexuality attitudes changed by about 68%, which is a truly remarkable amount of change in just 14 years. Implicit race and skin tone attitudes also change by about 25% to 26% as well. So again, those attitudes that have been changing before have continued to change, and now it's a truly remarkable percent of change. Unfortunately, those attitudes that haven't been changing before, so implicit age, disability, and body weight biases still were persistent over the past four years. So implicit age attitudes still aren't changing,

disability attitudes still aren't changing, and body weight attitudes still aren't changing.

**[00:10:31.420] – Tessa Charlesworth**

So again, this is telling us about these kinds of persistent tracks these implicit attitudes are carving. And again, that's the same for explicit attitudes as well. So explicit attitudes were all changing in the past, they've all continued to change even over the past four years as well. So this kind of homeostasis, if you will. But there's a second key finding that I find is equally interesting. Which is that even in the face of this kind of long run persistence of trends. That everything is kind of changing in the same direction or remaining stable. We also see the surprising short term increases in bias. These kind of short term bumps. As we call them. And those bumps occur just for implicit attitudes and just for a few implicit attitudes. So we see in implicit race, skin tone disability, and weight biases that there is about a year long increase around 2016 to 2017 where we get a bump and then it goes back to decreasing or goes back to remaining stable. And that result is fascinating to me because it's telling us that, again, even in the face of this long run persistence, we can see that these implicit attitudes are responding to these shocks in the environment.

**[00:11:39.110] – Tessa Charlesworth**

Around 2016, 2017, we obviously had a profound change in the political rhetoric of the United States. Trump really had a political rhetoric unlike anyone else, especially when it came to race and disability. And so we see a coinciding of that change in rhetoric with a temporary increase in implicit biases. And that's telling us about something of this physical system is responding to those kinds of changes in cultural media or cultural conversations. So just to kind of like, drive those two points home, I have an analogy I really like to use. So this may be you can take it or leave it, but I think of implicit attitude changes like a river. So in general, a river will flow in one direction and in one speed for a really long time, for generations and hundreds and hundreds of years, it will just keep flowing. But if you throw a rock in or a boulder, you can disrupt the flow of that river, right? It has to respond to that perturbation in its environment. But as more and more time passes, the river flow, if it was strong enough to begin with, starts to chip away and sort of carve out that boulder again so that it continue in its past tracks.

**[00:12:51.520] – Tessa Charlesworth**

So I like to think of it in the same way with attitudes. If we had this powerful flow of a river, this powerful change or powerful stability, we threw a boulder in 2016. There was a temporary disruption, but quickly, within about a year, the river already carved out that rock again and continued to flow with how it had been flowing before.

**[00:13:11.010] – Ludmila Nunes**

Yeah, I like that analogy. It explains a lot of how attitudes in the collective function because we are talking about these collective measures, right? So they can tell us a lot about our society. Speaking of that, so this was a USbased study and now I know that you have some data from other countries. Looking at those data, do you think the same pattern of change and stability would be replicable in other countries?

**[00:13:41.550] – Tessa Charlesworth**

It's a great question. We don't yet have an answer to it. But I can tell you that both patterns would be really interesting and both patterns are possible. Right? So pattern number one being that we see this kind of consistency across every country. That every country sexuality bias has been decreasing, rape bias has been decreasing, but age bias has been stable, for instance. That would be really fascinating and certainly that might be my prediction going in because when we look within the US. We see really high consistency in the patterns of change. So for instance, for sexuality biases, every single US state has decreased in sexuality bias. Every single kind of demographic intersection that we look at, whether that's religious or nonreligious, grandmothers, grandfathers, men, women, liberals, conservatives, everyone's changing. Sometimes it's slightly different rates, but everyone's changing in the same direction. And so that kind of within country consistency might be a hint that we would see this broader international consistency as well. However, of course, the other pattern would also be super interesting. Implicit attitudes. I think our data are certainly pointing to this theory that implicit attitudes are much more cultural and much more attuned to a particular cultural moment.

**[00:14:56.620] – Tessa Charlesworth**

The kind of like, again, to extend the river analogy, tuned to the kinds of environments or rocks and boulders that seem to be in their environments. And so if an attitude is in a different environment, a different culture or a different country, then we might expect that to show a very different pattern of change, especially implicit attitudes. So I think both predictions will be really interesting to test. And as you said, we now have the data to test them. So stay tuned.

**[00:15:25.170] – Ludmila Nunes**

We'll know more about this in the future. Thinking about the practical implications of these results because it really seems that implicit attitudes are reflecting society and what's happening around all of us. How do you think we can leverage these results to maybe create change and create a more equitable society, maybe try to eliminate or reduce these biases?

**[00:15:58.090] – Tessa Charlesworth**

Yes, I think it speaks maybe more so than some of my previous papers have spoken to this question. Because for the first time we're showing the impact of temporary events on implicit attitudes at a cultural level. And I think, although unfortunately for this paper, we've only ever shown that an event will increase bias, we've only ever seen these kind of bumps in bias. We haven't yet seen these really clear slumps or decreases in bias. But I think the same kind of mechanisms might apply in both directions, right? So if we're seeing something like Trump's rhetoric coincide with these temporary bumps in race bias, for instance, or another example that we use in the paper is this again, Trump's mention and sort of mocking of a disabled reporter coinciding with this big bump in disability bias. I think that's telling us that it really matters what a leader does and it really matters what a single powerful individual does. And so leveraging that by saying, okay, we need to hold leaders, whether that's in an organization or in an entire country, accountable to the kinds of language they use, the kinds of rhetoric they produce, because it will have an impact on these collective implicit measures.

**[00:17:20.170] – Tessa Charlesworth**

And I think if we can do that and maybe hold them accountable in a way that really makes them push the envelope in the other direction, right, then we might start to see these temporary or maybe even durable decreases in bias as well, coinciding with that sort of leadership change as well. So I think that would be for me, the key takeaway from these data is that leaders really matter, single powerful individuals really matter in spurring bumps or changes in bias. But I will also say, I think our data also point to the power of the collective in the continued movement. So if you get a bad leader, if you get someone who is promoting harmful rhetoric, what it tells you is that as a collective, you're going to need to work really hard to maintain any progress that you had already made. So I think things like Black Lives Matter, for instance, is a great example of this, where despite the kind of leadership, there was a collective call that really shifted the needle on explicit attitudes for sure in the US. And so those kinds of collective movements can also have their own effect in shifting these biases as well.

**[00:18:31.070] – Tessa Charlesworth**

So leadership, but also the commitment of the collective to continue to progress, that's.

**[00:18:37.160] – Ludmila Nunes**

A very good message. So finally, this is an ongoing investigation, right? Do you have future plans besides analyzing all the international data?

**[00:18:50.770] – Tessa Charlesworth**

Yes, absolutely. So I think the next major step for some of these results is actually testing some of the empirical hypotheses that have come out of these data. So for the past few papers that we've generated from these data, these are really the first demonstration of this long term societal change in implicit biases. And so we went in just trying to develop an empirical record, trying to understand all the different quirks and patterns of what's going on in implicit versus explicit biases. And I think now we're starting to get a handle on some of those patterns. And so we can start to now test, okay, is it true that implicit biases are always more consistent across demographics than explicit biases? And why? What does that tell us about the nature of those kinds of measures? Or another kind of quirk? Right. The fact that implicit biases are more temporarily responsive to events and explicit biases just kind of persist to that raging river all the way down. What is it about those two biases or those two measures that explain those differences in responsiveness? So all of those are much more theoretical. They're much more sort of hypothesis testing.

**[00:20:01.060] – Tessa Charlesworth**

But I think for me, that's the next really exciting direction is to try and take some of these empirical data and dig into explanations of why. Why is that happening and what does that tell us about society? What does that tell us about these kinds of measures?

**[00:20:16.330] – Ludmila Nunes**

So basically taking these into the lab and really testing and controlling for everything so you can have better answers.

**[00:20:24.380] – Tessa Charlesworth**

Exactly.

**[00:20:27.070] – Ludmila Nunes**

This is Ludmila Nunes with APS, and I've been speaking to Tessa Charlesworth from Harvard University and lead author in an article on attitudinal change and stability from 2007 to 2020. Thank you for joining me today, Tessa.

**[00:20:45.190] – Tessa Charlesworth**

Thank you so much for having me. This has been a great conversation.

**[00:20:49.390] – Ludmila Nunes**

If anyone is interested in reading this study or learning more, please visit our website. [psychologicalscience.org](http://psychologicalscience.org).

***Feedback on this article? Email [apsobserver@psychologicalscience.org](mailto:apsobserver@psychologicalscience.org) or login to comment.***