

Welcome. You are listening to a UC Davis Center for Poverty Research Conference Podcast. I'm the Center's director, Ann Stevens. In March of 2015, the center hosted the conference Increasing College Access and Success for Low - income Students. This conference brought together a unique mix of researchers, policy professionals, and education leaders to discuss new research and opportunities for low-income students.

In this presentation, Jessica Howell and Jonathan Smith discuss how to ensure that low-income students have access to the opportunities they have earned. Jessica Howell is the executive director of policy research, and the co-director of the college board's Advocacy and Policy Center. And Jonathan Smith is an associate policy research scientist at the college Board Advocacy and Policy Center.

>> Hi everyone, I'm Jess Howell and along with my colleague John Smith, I'm gonna talk to you a little bit about what the college board is doing to ensure that low-income students access the opportunities that they have earned. Try to give you a sense of how research has played an increasingly strong role in these efforts.

I'm gonna take a little bit of our time here at the beginning to give you kind of a broader big picture overview, and then hand it off to John to talk about a couple of projects that we have going on, some of the specifics. So, very briefly, I should clarify that the policy research team is in the same department as all of the psychometricians who write the items and make sure that they're good items.

We're in the same group with the folks who do the validity research to make sure that the tests predict what they're suppose to predict. That said, our team doesn't do that stuff. We are much similar to the social science researchers that are presenting today which is, I think, by Colin, Scott, I guess.

And although John and I are both economists, the fact that of the matter is that we are part of a very interdisciplinary team. A few notes about what we do within what is a very large organization. We are tasked with, or maybe we take it upon ourselves to both identify and generate as strong evidence as we possibly can.

We strive for causal, and so we're looking at all of the causal work that so many of you are working on. When research is scaled by the college board, when we can see good research that we've generated internally or that you guys have generated in the field, we are doing our best to make sure that it is designed and implemented in a way that is true to the underlying research, and that it has enough statistical power to address the big questions.

And because we typically have some very large sample sizes, we also try to make sure that we have things in the right places, so that we can look at all kinds of heterogeneous impacts that we all care so much about. I actually can't complain so much about getting them to stop doing our CTs now.

Even though I feel we have a lot of them in our lineup right at the moment. But the fact of the matter is we have entire IT departments and project managers that we just have to kind of like whip into doing things the right way, but it does make a difference to have ten people.

And most of the time, we evaluate those initiatives internally. But we also partner and spread the love and get other people involved. And finally, before I move on, it's important for me to sort of recognize at the beginning here, that the college board is an organization that has its own policies and practices that we know directly impact students.

I am not going to join in any SAT bashing, but we know that we have some things that are perceived as barriers, not just for students but also for teachers, counselors and institutions. And so while we won't talk about it so much today, we are also very much involved with Internal folks, in terms of evaluating some of our own things and, and what we can do to try to make the world a better place.

So mostly people think are very familiar with college work programs like the SAT, PSAT, AP, Acronym Central. But there's a newish or maybe just more formalized program at the college board that has been explicitly charged with addressing the gaps in academic outcomes that exist by income, race, ethnicity, first generation status.

And, as I'm sure everybody understands, those gaps exist for a wide variety of reasons. And if we simply work hard to design interventions to address those gaps maybe we can work to close them. I should say that the initiatives that we're going to talk about today are going to be primarily focused on students who are sort of on track to be successful in college.

So I am not going to focus just on the high achievers, but we are talking about folks who are generally considered college ready or have a good shot of going to college without remediation. And so that's in no way punting on the academic preparation bullet that's there. Cuz I recognize that is a huge piece and I should simply allay your concerns that there are other assessments, programs, initiatives at the college board that are tackling those very current issues.

Okay, so as promised, my goal before passing it off is to give you a little bit of a taste of the initiatives that we have underway. And I'll start with the first one here that you'll mostly be familiar with, because it was research conducted by Caroline Hoxby, Chris Avery and Sarah Turner.

You'll know it from either the research or the press around it as the expanding college opportunities intervention. We have worked very closely with all of those researchers on the original research. But also on the college board's scaled-up version of it. And I should clarify that this research really is about correcting, or the intervention is about correcting informational asymmetries between the high-achieving low-income students, and the high-achieving higher income students.

It provides general application guidance, it provides sort of a nice institution specific shock sheet that has information on the actual net price, actual graduation rates for somebody like them. And importantly and not on this second bullet here, it provides college application fee waivers, right? They get eight college application fee waivers that have their name on them, that says this is gonna help you actually follow the advice, so that they're not financial daunted from following the advice, I guess.

So, and again, punchline is that the goal here is to simply provide low-income high-achieving students with the same opportunity to attend colleges that, sort of, are well matched to their own academic credentials in the hopes that they will complete degrees at the same rate as their high-achieving peers.

We're currently in the second year of this initiative, and the preliminary evidence reveals that some of the intent to treat effects are very similar to the impacts identified by the underlying research. Particularly those parts that were related to National Student Clearinghouse data. Again, because we have information on a wider variety of students, a wider number of students, we are finding some interesting results that there are differences by race ethnicity.

And I should just mention that unlike so many of the other folks who are challenged with randomizing at the school level because this is direct to student information, we are able to randomize at the school level, which gives us a whole lot more statistical power to examine those kinds of things.

But the high achievers, they get an awful lot of love. Many folks have talked about how crowded that space is, and so I'm painfully aware of that. And so while the high-achieving low-income students are a group that we sort of tackle with that realize your college potential intervention.

We know that there are a lot of low-income students Students with more modest academic credentials, and these students also don't appear to apply to a nice balanced portfolio of colleges and so we want to show them some love too. We have some good quasi experimental evidence that students follow the rules of thumb right from Mandy Palace about how many applications they apply to.

John and I and our colleague, Mike Prudence, have another study that shows that students are unduly sensitive to very small costs in the application process, like whether or not there is an essay. Right, which Phil mentioned. And very small change. Ages the application fee, okay? And then finally, John has some other work that if we can simply get students to sort of apply to enough colleges then we'll see an increase in the probability that they enroll.

In part because it generates enough financial aid and admissions offers that they actually we have a nice set of options to choose from. So the more evidence intervention is really tackling those students who are on track but not very high achieving in the academic realm. And it also provides them with college application fee waivers and some very straightforward advice about applying to enough colleges.

And some streamlined information about what that balance of colleges should look like between reach, and match, and safety, and so on. And what else should I tell you about that? The initiative again, very much direct to student. And so if we were allowed to have a control group who would have randomized with the student level.

But also involves some outreach to counselors, who were brought in from the mix for tackling this larger group of students. Like Eric described earlier, we worked with a lot of folks who are very strong. Moral and ethical issues with doing treatment in control groups, so I feel your pain.

And so, in order to evaluate the applied to 4 or more initiative, we had to rely on the discontinuity around the definition of on track. We can talk more about that. But basically we aren't finding anything stunning going on right at that particular boundary and we convinced them to let us do the patrol work.

But for the round, the second year of the program so that hopefully we'll be able to step up our evaluation game. Before moving onto the third and then passing the mic, I should note that going into the third year of both with these two programs or interventions we are making some changes that bring in more behavioral insights.

We're also trying to have more of a time release of the information. Essentially trying to improve salutes for students so that they. Get the information they need at a particular point in time with a very specific ask to keep them on track, okay? So Phil's intervention again speaks to having these things timed out and spaced appropriately.

So for example we're gonna be providing high school juniors in just a month or so with a customized college starter list that is generated based on lots and lots of historical data about where students like them went to college and actually successfully completed a degree, so we can see, right, their expectations about the types of institutions.

Things that they will look at and give them some information about how net price and college completion rates vary tremendously across those institutions. But later we're gonna provide them with the college application fee waivers in the fall, right? When they're seniors and so when they're applying, they get an influx of application fee waivers.

And then maybe in the Spring, using some technology where they can take a picture of their financial award letters, we can engage with them to make sense of the offers that they're given, and try to choose there. So as I mentioned, I'm supposed to just provide the overview and turn it over.

Not all of our interventions are around this transition to college, the college application process. We do have some interventions that are more targeted around high school course taking, in particular AP. So one thing that folks might not know is that based on a PSAT score and performance on different sub-sections of the PSAT.

All students are told some information about which AP subjects they're likely to have some potential for success. Right, a high probability of getting a three, four, or five, and so that information goes out to everyone. Again, based on some evidence that we have that AP is generally good in a causal way, and the all-in initiative is really taking that and targeting specific populations, that even conditional in the same AP potential and the same courses that students in various minority groups are just less likely to take advantages of these opportunities and take AP.

In some cases, it's because the AP courses don't exist in their schools and so a variety of the interventions are around very targeted expansion of AP to populations where there are kids with potential. But All In is really focused on the areas where there are students who have AP potential and those courses exist.

And for a variety of reasons about the student understanding whether they're AP material or whether it's a bad tracking. And in high schools, that that match isn't happening, encouraging, equipping everyone with the latest information. Okay, so in my attempt to be brief, I've mashed through things, and I just wanna mention that there are

other projects we're working on that touch so many of the same things that other folks have mentioned.

So Tom, your comment this morning about lots of players in this field and getting everybody together. We're also involved in text messaging, so we're working very closely with the IES supported. Work from folks at Harvard Center for Education Policy Research and we also have some of our own texting interventions.

So we should talk. We are supporting and doing some virtual advising. Eric is really the lead researcher along with Ben Castledon. But really interesting partnerships there. So organizations that many people have researched like College Possible, Strive for College, The Advising Core, and so on. Worlds are sort of coming together and colliding in really nice ways.

I think there's an opportunity there. For the folks who have academic preparation challenges, one of the big things that the College Board is embarking on has to do with online learning and test preparation. We've got a huge partnership with the Conn Academy to provide free very high quality, very customized guidance to students about what they need to do and in what order.

And finally we have been working on ways to harness social media and that's what John's gonna talk to you about. Tag.

>> So actually, so we're going to switch gears a little bit. We're actually gonna come to some nuts and bolts one of our dimensions. In fact, we're actually trying to do something on social media, Facebook, in particular.

I put this in the category of this is a way to provide small pieces of information to students who may benefit from these small touches, these nudges, these small things in a very nudgey way and hopefully an inexpensive way. And I think numerous people have already said why this is potentially a good idea including Phil Spader, some of the hypothesis Bruce laid out earlier.

So I am going to say, all right so we have some sort of pilot experiments, and I call them pilot because they're relatively small scale, but what we're still really hoping to see what's the best asset we could have the most impact on, where does it work, for whom does it work.

Those sorts of things so We are primarily using Facebook. The asset we've tried so far are things like registering for the SAT, re-registering, sending your college applications and SAT scores, general college planning, or even enrolling in college and sort of persisting in college. We've attacked, not attacked, we've tried to help certain different types of students.

In particular, low-income students, high school students as they transition into college. We've done a little bit with middle-income students and actually even some community college students as well, and we've been doing most of this work with, partnering with some community colleges. We've been doing this with. So we've been doing this with Harvard Business School and some the college board.

So now, sort of getting into the details of why would we want to use Facebook. And there's, I think, some obvious reasons some less obvious reasons. First of all, Facebook has great reach. As we all know. And I don't know if you know how advertising works on Facebook but there is a detail that we call custom audiences where you can actually send email addresses to Facebook and they will find those students or people by email address and then you can send the advertisements directly to those students.

So, that's really cool and then we can have very targeted advertisements. You don't have to just send out this broad advertisement to mail 16 to 18 in a certain state. This can be particularly targeted at the students, and you have in your data to try and change your actions.

So that's really cool. But in addition, we know that Facebook has worked to change people. Peoples' behavior in other contexts, so hopefully education is no exception. There's been a little bit of backlash to some of the experiments. When Facebook played with people's emotions, and they got people to go out and vote.

I like to think no one will have any issues with us trying to get students to consider their option to transition into college. And so another great feature faced with those. It's relatively inexpensive and I'll actually put some numbers on this. But there's really not the question is to, is this, is this actually the most cost effective thing to do and there's some evidence that online advertising isn't always that cost effective.

But now one thing that is definitely true with Facebook is that there are notoriously low click through rates. And this actually basically convinced the college born marketers to give up on Facebook. Until we came in and said, maybe you shouldn't just be concentrating on clicks. Maybe just the exposure to the ads actually has an effect as well.

And so for that, though, you're gonna need an experimental design. And so this is where we sort of stepped in to try and do some things. So, let me just describe the general the experimental design, and then talk about one or two very specific examples of results. So the process unfolds pretty, it's pretty straightforward.

So we have the students in the College Board Data who took the PSAT, SAT or AP and typically we often have their email addresses for when they actually register for these exams, so we select the students with the valid email addresses. We determine whether they've opted into receiving information from the chicken pox to receive information.

That's approximately 50% of the students. That's not the entire population we would like to serve but it's people who tend to have flag some interests in the information. And then we randomize it make control. And then we upload email addresses and the recruit to Facebook. And it turns out we have about a 50% match rate.

Which is not bad in my opinion. And so I think what's interesting about this is other organizations can do this, provided that they have email addresses. This is certainly not unique to the college board. But you're going to want to have to have, you're going to want to use an email address that they would use to register for Facebook, so a university email address may not be the thing.

I think actually a lot of Universities probably have their initial email addresses when they apply to the college as well. There may be some help there. But this also means the unfortunate problem with Facebook is you upload the email addresses but you don't know which of the 50% were a match.

So you just say, they tell you how many students what percent actually match. So all our estimates are gonna be intend to treat which is a little bit unfortunate but you know we deal with it. So then we send out some ads to students whatever our ask happens to be, like register for the SAT and then Facebook sends back a nice report that says this is how many ads went out, here's how many clicks there were, here's a very basic demographics of the people who got the ads.

And then we can also look at our data, the College Board data to see if they took the action that we wanted to them, such as register for the SAT, how they performed on the SAT. And eventually we'll be able to see things like how much matriculation and graduation as we merge our data with clearing house.

And the cool part about that last one is that's where the experimental design comes in handy. No need to worry about clicks, we'll actually be able to answer the question does exposure to these ads actually have an effect. So our first experiment we ran was asking can we get low income students who are academically on track for college who took the SAT once.

Can we get them to take it again? Sort of retake the SAT. And part of the reason was people who take the SAT a second time typically improve in economic opportunities to better schools, potentially. So we targeted two types of students. One type of student has used an SAT the first time they took the SAT which means they can take the SAT for free the second time by the same process they did the first time, so it's cost less for them to retake.

The second group of students were also low income but they had to use a fee waiver although they are arguably eligible for it. So hopefully they could get access to that fee waiver if they put their mind to it. And so what ended up happening is we had 13,000 in each of those two treatment groups, the fee waived students and the non-fee waived

students, the control group.

And we sent the ads out online and in mobile. Basically we bid as high as we could on Facebook, which turns out not to be that high to give maximum exposure, we did over about the course of a week. Facebook limits how many ads you can show to a person in one day.

This is the actual an example of one of the ads and we had this on a stupid scale although we wanted to put up something like cats cuz we know cats are sort of gets more clicks and more attention. But, you know, he's good enough.

>> So this example said students should take the SAT, a second time off, and improve their scores.

Register by October 9th. This is the example you would see if you logged on on your computer. This is in the news feed. So the big thing that people pay attention to, the top right. There's sort of a right panel on Facebook. When you're online on your computer.

So this you can only see once a day, the tough panel you can see multiple times a day that's sort of always there. If you logged in on your phone, which a lot of students tended to do, this is what you would see. So it's an example of that.

We had different texts. We tried to use some sort of our behavioral insights that we learned to sort of be, to try and message as best as we could. And we also obtained some pictures of, we randomize those. So, here's what we found, or didn't find, in some contexts.

So approximately 80,000 impressions, as Facebook calls it, went out. That's about 80,000 ads going out to these 26,000 people, but of course, there weren't actually 26,000 people getting it. We had only 50% match rate, so at most 13,000 people could have gotten in these ads because a lot of people didn't actually log on to Facebook in order to receive these ads, so something closer to 10,000 people saw these ads.

So on average, about students saw about six to eight ads over the course of this week, which is, in my mind, a fair amount of exposure. We only got about 200 ad clicks, which is about the 0.24% click through rate. Really low. So this is where, literally I got a call from a Facebook marketer, and said I guess you didn't find what you were looking for.

>> And they said, well, hold on, hold on. Let's look at what the cost of data actually says to see if exposure has any effect. So the whole thing is, this only cost \$400. We tried to reach 26,000 students, it only cost \$400 to run ads for a week, which is pretty, pretty cheap.

Now, did it actually work? Well, no not really. On average, it didn't work. But we didn't spend any money so it doesn't matter. So on average it didn't work. But we sorta looked for heterogeneous effects to see if there was some similar impact, and found that there was one group in particular where there were results.

So students who had registered with a fee waiver the first time, so it makes a lot of sense that it would work for them, cuz they already know the process and can re-register for free a second time. And females, it turns out that females are more likely to be on Facebook and active on Facebook.

So it's possible that they had more exposure to these ads. That's just a guess, but it's consistent with this result. And the impact was actually really large. It was two percentage points off of a base about eight percentage points re-registering. So 25% effect, which is large, very large.

And so one thing I wouldn't bet my life on it, that this is, the actual effect was 25%. There's a certain confidence interval associated with it. So what we're doing now for this coming spring term is we're sort of rewriting a similar campaign to see if we get consistent results, and the only difference is that there's a few differences.

One is, we're gonna be asking students to take the SAT in the spring, so taking it early so they can have more time to

prepare. Essentially be in the system so colleges can provide them with their names, provide them with information. So that's one difference. We're also gonna be, I think these ads are gonna be more impactful cuz we have been authorized by the College Board to use fee waiver language, saying specifically, you can take the SAT for free.

Save your \$52, no need to pay it, we've identified you as low income. We're not going to say that in the ads, but you may be eligible to take this for free. Talk to your school counselor and see if you're eligible. So we're very hopeful that this comes out in the spring, so stay tuned to see if we get consistent results with what we got the first time.

Now just to give you a sense of what else we're trying to do with Facebook. We sort of moved on to a second experiment which was quite different. We actually partnered with two community colleges and they gave us their data, their email list of students who had not taken all the necessary steps to enroll for the coming semester.

So that basically means, broadly speaking, two types of students. One, first time enrollees. So they had already entered the system in one way or another so they express interest. But they haven't quite done everything they need to do. So some are melt some types of students. And then the second type of students who have already finished a semester or a year, and they wanted to re-enroll to persists.

So that's a second type. So we got all those students, and then we created ads for them at treatment control obviously. And we cycled through ads, and these ads were very focused on actionable specific tasks. Not just general statements of things like don't forget to come back to college.

More like, apply for financial aid, here's the website to which you should do that. And provide them a link and things like that. And we cycled to these ads over the course of a few weeks and we actually don't quite have results yet. So it's not that there are no effects.

We just don't have the data yet to analyze results. But we're pretty excited about this and the community colleges are particularly excited because I think this is a great way for them to think about ways to retain and recruit graduation rates at a relatively low cost and also very targeted way.

So the third experiment, I'm not gonna actually go through, because it was from middle income students and this conference is not about middle income students. We're only about low income students. But one thing of note was that this was about more general college planning and sending an application in deploying a professor, things like that.

But we also use Twitter a lot over and above Facebook. So Twitter has a very similar feature to the custom audience or you could upload specific email addresses. It turned out we only have another 25% match rate on twitter instead of 50% match rate on Facebook so that was that.

We still also haven't got the results back for that one but there are opportunities and there are probably all sorts of other social media elements that I don't even know about, where these types of custom audiences are perfectly viable sources. And so just to wrap it all up, I think, and put this into context, though particularly into the things that Jeff said, one thing that organizations, particularly the College Board is always thinking about is, what is the best way to reach students and what is the most cost effective way to do it.

And it's totally unclear to us what it is from an organizational standpoint. Everything we did was over and above business as usual. So there are emails going to out to students, and we're trying to sort of wrestle with people to see if we can actually sort of figure out, is it more cost effective to emails versus Facebook, a combination of the two, and they were doing text messages in the near future with some other folks.

And so this is just one more thing in their portfolio of potential ways to reach students. And from what we've seen so far, we're hopeful that there's some good effects. At the very least, it's gonna be very cost effective. And so if things continue to look this way and I don't believe you can put it at scale.

And those are our concluding thoughts. I am Ann Stevens the Director of the Center for Poverty Research at UC Davis and I want to thank you for listening. The center is one of three federally designated poverty research centers in the

United States. Our mission is to facilitate non-partisan academic research on domestic poverty.

To disseminate this research and to train the next generation of poverty scholars. Core funding comes from the US Department of Health and Human Services. For more information about the center visit us online at [poverty.ucdavis.edu](http://poverty.ucdavis.edu).