

Welcome. You are listening to the U.C. Davis center for poverty research seminar series. I'm the center's deputy director, Mary Ann Paige. This series brings scholars and poverty experts from around the country to discuss their work on United States poverty and poverty research. In April 2014. We hosted David Otter, a professor of economics at the Massachusetts Institute of Technology and a research affiliate of the school's Abdul Latif Jameel Poverty Action Lab.

Otter studies, the labor market impacts of technological change in globalization, earnings and equality, disability insurance and labor supply and temporary help and other intermediated work arrangements. Here is Auto presenting his seminar. Way word sons the emerging gender gap in labor markets and education.

>> I'm talking about the emerging gender gap in labor markets and education and this actually so, when Anne invited me to speak, she asked me to speak about this paper but this paper actually is which I wrote with Gretchen student Melanie Washman last year.

>> Here is really a kind of an overview paper, an overview of the literature, and trying to connect some things and develop some ideas but, in fact, we did it as a kind of kind of a training exercise for ourselves to immerse ourselves in the topic.

>> So, since then we've been working on trying to extend the literature rather than just sort of digest it and so, I'm gonna present some results towards the end that are brand new they've only been seen by human eyes once, last night in the hotel room.

>> So this will be, will be almost as new to me as they are to you.

>> Okay, so the, so here, here's the outline.

>> So.

>> You know it, it's as you know self evident males have traditionally occupied the the kind of commanding height of the economy.

>> That no one needs to be convinced of that.

>> And but women are making rapid strides on many margins, on education, on occupational stature, on earnings, on labor force participation and median males moving the opposite direction hopefully.

>> And, and I think that's well known.

>> And we're gonna, I'm just gonna document that.

>> I'm not gonna, say too much more about that.

>> Except that, the real focus of this work is the consequences this has for household environments and also only children.

>> And in particular.

>> Can argue that change in the labor market, which I think of, which we think of as the cause of force here are contributing to declines not only in earnings and labor force participation but also declines in marriage rates very, strike, strikingly so, and this is changing household structures, creating a lot more inequality of household structure, and particularly rise of single.

>> Yes.

>> And there's a long literature about the consequences of single-headedness for outcomes and we're going to focus on one aspect about the thoracic study, which is the gender differential in how single-headedness affects boys and girls.

>> And argue, our conjecture, is that, in fact that single-headedness amplifies the gender gap, proportionally disadvantages, males.

- >> And the new evidence I'm gonna present is on that question.
- >> Okay, so here's the outline.
- >> All right.
- >> So first, I'm just gonna document this emergence, emerging gender gap and that's quick.
- >> I'm gonna review things you, you're probably all glancingly familiar with.
- >> Then I'm gonna talk about the link between wages, household structure, and investment in kids and I'm just gonna pull together work by others and show you a few patterns.
  
- >> Then I'm gonna talk, finally the third part of the paper is kind of the new stuff as of last night, so the relationship between household structure and the, first I'll just discuss a little bit from literature, then I'll present preliminary from the work I'm doing with Data Filgeo, Chris Carbownic, and Nelly Washerman are, this is our, our collaboration and this is, this stuff is.
  
- >> Really, really, really brand new.
- >> Okay.
- >> So, let me just sort of start with the overview facts.
- >> So, the 4 dimensions I'm going to talk about are skills acquisition, occupational stature, wage growth and employment rates and this is, I think many of these things are well known too.
  
- >> This shows you high school graduation rates at age 35 by birth cohort up to 1975 so these people were 35 in 2010.
- >> And what you would see is, you know, interestingly for, and for reasons really unknown, this, you know, plateaued, for cohorts born in the early 1950s.
  
- >> And then there hasn't been a lot of progress until actually, more recently there has been some uptick in high school graduation.
- >> But when this, we hit this plateau, female high school graduations rose relative to male high school graduation rates and that's true in every demographic group except, I think Asian Americans.
  
- >> Asian Americans are the only demographic group that there is no gender gap in educational attainment.
- >> This shows you, percent of adults with a four year college degree by age 35.
- >> Again, among these cohorts and, as many of you know this has a much more uneven pattern, right?
  
- >> There is this, big surge and particularly associated with the Vietnam War era and you know males believe to some extent correctly that you were likely be able to do the first service while you stayed in college.
- >> When the war ended college going rates fell, fell for males regardless of race they plateaued for females.
  
- >> Now it also corresponded with the decline in the college wage premium, right and Richard Freeman famously wrote a book, the Over-Educated American, people read that book.
- >> They said I shouldn't go to college.
- >> So Richard, the Richard effect is about this much, I think, right there.
  
- >> And, and, it's interesting.
- >> Let's, you might say well why did women respond to the Vietnam War since they weren't liable of draft?
- >> And of course maybe there were other reasons to go to college.
- >> So the, what happens then is there's a, a period of hiatus for about 10 years where the college going rate is, is, has fallen and by the way these cohorts when they enter the labor markets like in the early 1980s, you have a very rapid

deceleration in the growth rate of new college entrants.

>> And this is an incredibly important contributor to the rise in wage in cohorts in the United States.

>> Right, this is first documented by Kathleen Murphy in the 1990 paper.

>> The biggest contributor to growing educational differentials in the 1980s and 1990s was not an acceleration technological progress or demand shift, it was a deceleration in supply of skilled labor.

>> The, then, things change again, and college going rates start to rise but they rise much more rapidly for females, so.

>> In, for example, in 1980, looking at males and females 25 to 34, men were 7 percentage points more likely to have completed a four-year college degree.

>> By 2008, among people 25 to 34, women were 8 percentage points more likely to have completed a college degree.

>> So, as you know.

>> Women will be are, are already and will increasingly be the better educated sex.

>> This is true, in fact, in almost all advanced economies, that women are more likely to go on for tertiary education.

>> What's unusual in the U.S., two things, one is the card of the incredible rapidity of reversal, and two, the low rate of college going over males.

>> So the gap between the males and females isn't actually extraordinarily high here what's remarkable is how low the denominator is, but I will say more recent evidence and you can sort of start to see here over the last 10 years there has been a pick up in college going again, both among males and females and high school graduation.

>> Okay.

>> So, so skills acquisition is one dimension of which women have rapidly overtaken men.

>> Another interesting one is occupational stature, so as many of you know there's been a decline in employment in kind of middle-skill occupations.

>> So, on the one hand those occupations would be.

>> Clerical, administrative support, sales, a lot of office production jobs-

>> so to speak.

>> And the other would be production craft and labor jobs.

>> And these are blue collar production jobs.

>> And what has move in in their stead, of course is on the one hand, highly skilled, credentialed professional, technical and managerial jobs, jobs that require a college degree or above and also in person service occupations.

>> What's interesting to notice first of all if you look, contrast so just to be clear the blue is ages 25 to 39 the ages are 40 to 60 the blue, the red 40 to 64 this is a change between 80 and 2009.

>> You can see for both groups there's been a decline in th share of employment in the middle.

>> For males it's almost all in blue color occupations, for women, women's occupational distribution is less segregated than males.

>> Right you have women in there's a fair number of women in manufacturing and men and women of course in administrative sales so they both polarize in fact women have polarized more, there's more of a decline in the share of activities.

>> But the interesting difference is almost all of the decline for women has been absorbed by growth of women to managerial professional technical occupations, right?

>> So, if you look at this, it's 13% points here, 16% points here for women, whereas for males.

>> Among older workers you see this movement into the professions.

>> But among younger workers about three quarters of it is movement into lower paid, typically lower paid service occupations.

>> So same set of labor market changes arguably much more dramatic for women, right?

>> Because this has really been a function of automation.

>> But seemingly women have responded to this more successfully both through higher education and perhaps other things having to do with with, training, with experience, and ability, adaptability.

>> In the same time period there's also been a dramatic growth of wage inequality, as you know, among skilled groups but it looks different among men and women.

>> So if you look percentage change in real hourly wage levels, right, you can see for both groups there's relative rise in education, in waves of high versus low educated workers.

>> But for women you barely cross the x-axis most of those are positive at least weekly positive so among women with post college education real hourly earnings have increased by about 35 percentage points in this period, if you look among men the differential between highschool and college has increased as much or more than among women.

>> But a lot of that is because of the fall of the bottom people with high school or lower education.

>> And even it's more pronounced among the young than the old.

>> Excuse me about the same, actually, I should take it back.

>> So but the main point being that, that, although education differentials have risen for both sexes, for males a lot of the rise in differential comes from the fall of the reference group.

>> But if you were to plot these for males and females over time is that you'd see they look similar but the female trends are all upward sloping.

>> And the male trends are all, you know, just fan out, from relatively positive to very strongly negative.

>> Okay.

>> Interestingly by the way, I was surprised when I looked at this.

>> So, the, if we look at the, the gender gap in hernias you can see it's fallen enormously at all education levels.

>> Right so the blue is 1979 the red is 2010 so you can see it's fallen by more than half.

>> In this, in this 30 year period and this is among younger workers, this is among older workers, it's really remarkable now that I that's not a, that's a descriptive statement.

>> I'm not trying to say that adjust for all relevant factors but it is an incredible compression.

>> Nevertheless, I was still surprised.

>> Well, maybe be this is, this didn't apply by the other.

>> It's still the case that there is a significant gender gap at every education level, right?

>> In fact, proportionally.

>> The male advantage in earnings is highest at lowest education levels proportionally.

>> That's but so, one should not exactly so although I'm pointing out that women are more educated than men and many ways appear to be doing better they are certainly gaining they are not on average the highest earners in the economy and that's not just a function of education composition even across age or cohort.

>> Okay, the employment rates the next thing I want to talk about.

>> So this just shows you the employment population rates among black and white males and females ages 20 plus from 1973 to 2012.

>> You can see there's a been a long downward trend in male employment population rates.

>> What's interesting, actually is the 1990s were a very good period and people talked a lot about the U.S. employment miracle and solo and Krueger edit the volume called the roaring 90's, can full employment be sustained?

>> We got the answer to that just very shortly thereafter.

>> No.

>> And but remarkably if you look after 2000, after that first recession, this type of market never bounced back in fact.

>> Even if there had not been a great recession starting in 2007, we still would have viewed the 2000's as a lost decade.

>> Right, so all the sort of crowing about the success of the U.S. labor market.

>> All the gains relative to the European labor markets, gave up all those gains in the ensuing seven years.

>> And so this sort of downward trend of male employment has been, has continued and then of course fell off the cliff starting the recession.

>> Women's employment, Which is has been rising.

>> It's been rising steadily, not steadily.

>> It's been rising considerably since, the turn of the century.

>> Turn of the 20th century not the turn of 21st century.

>> But then, actually, it hits a kind of plateau in the 90s from which it, it doesn't really change much.

>> So that, it's an interesting fact.

>> There's been a lot of advancement of women's education a lot of advancement of women's earnings but women's labor force participation has not been rising but nevertheless it fell great deal less during the period essentially.

>> Okay so that kind of sets the-

>> Yeah I should mention that changes in employment population you'll see more of this in a minute are-

>> You know the declines are much greater among less educated men, right, that's your not surprised by that.

>> Okay, so here's that, so this kind of puts that together.

>> So this shows you the changes, percentage change in real hourly wages of males who were working between 1979 and 2009, 2008.

>> And each of these dots corresponds to these are males 25 to 39 corresponds to a race by education.

>> So for example black high school drop out, black high school grad, blacks on college that black college grad, black greater than college.

>> On the y-axis is the percentage change in employment to population rates among those groups, right? And so what you can see is that groups that have had falling earnings among those who are working, have very steep falls in employment rates, right. Now there's lots and lots of adjustments you could make for selection and so on but it's hard to tell a story where that isn't reflecting adverse labor conditions, right?

In general, for example, these declines are biased in the positive direction, right? Because presumably, the lowest earners are selecting out, right? So the latent fall in wages of high school dropouts and high school graduates is probably greater than the observed falls, right? Nevertheless, even accounting for the fact that these are biased in a positive direction, we still see these very strong correlations between decline in employment rates and decline in earnings.

So this is suggesting, this is kinda the first meta point of this talk, is labor market changes I think are a very big part of changes in employment and changes in the opportunity sector, right. So things are, the labor market's changing in a way that is reducing the attractiveness or the availability of employment for less educated males.

If I did this picture for women, it would not be nearly as steep.

>> Sorry, by labor market changes, do you mean labor demand changes?

>> I do mean labor demand changes. Okay, good. So now, all right, so that's really the first bullet point. Now I wanna talk about the household side of this.

Okay so, basically, the idea, the main argument of the Wayward Sons paper, which really just an overview synthesis paper, says the starting point for us is adverse demand shifts against low education males, leading to falling wages and unemployment. The next point is, which I'll document is reduced marriage worthiness.

Low education women are choosing not to marry low educated men. However, there's not been a concomitant drop in fertility. Women and men are still having children but it means that the home environment that those children are growing up in is different. In particular, being a single parent household means you know, several things.

One almost, surely, it means lower financial resources, right. So a majority of the poor households in America are mother-headed. The poverty rates among mother-headed households relative to father-headed households are four times as greater, I'll document this, and so one, it means a deficit of resources. Two, it means, in general, also growing up in a less safe neighborhood, less good school system, just as a function of income.

Two, it means a deficit of parental attention. You just are less likely to have you know, as much, you know, high quality attention focused on you when there's only one parent in the household. It also, we could talk about this, it may change in many ways the dynamics of households, right.

So there's evidence for example, documenting that particularly, boys have particularly strained relationships with stepdads or secondary parental figures. We'll talk about that. So this reduced quality of home environment, we're gonna argue, lowers human capital acquisition but then particularly, or at least differentially, for boys and I'll talk about that.

Okay. So let me just start off. Well, you say, those men aren't working, what are they doing? Well, one thing their doing is they're being incarcerated. So this shows you the incarceration rate of males and females ages 25 to 39 between 1970 and 2010, this is using census data and that unlike the current population survey, the census population records people who are in institutional living arrangements and you can see just how remarkably high this is.

So for instance, that if you look at black men, ages 25 to 39, who have less than a high school degree, almost 30% of them were incarcerated as of 2010 and that, of course, dramatically understates the fraction that are in contact with the criminal justice system, right? It's an affect, right, because when people are you know, when employment opportunities aren't good, it's plausible that people find other things to do.

It's an affect, obviously, because incarceration likely affects people's future labor force participation and their employability, as well. There's really good work or really interesting work on the effect of incarceration. I'll just point you to a paper by Kerwin Charles and I forget the name, the first name is, the author, Luoh is the last name and they

look at across states, at incarceration.

They try to use variation in incarceration policies you know, moderately successfully, but basically they find that male incarceration, higher fractions of male being incarcerated, lowers likelihood that women marry, reduces the quality of their spouses as measured by education. Shifts the gains from marriage away from women towards men, right.

So although these men are kind of less good partners, they have more bargaining power, there are fewer of them and so women do more of the work and women appear to respond to this partly, by increasing their schooling and labor supply and that in fact, that's one of the dynamics that's going on here, right?

As men become less marriageable, women naturally respond by investing more in education and labor market activities because they're going to be the sole provider in many circumstances. Okay, this is the same x-axis of changes in male earnings among workers, this y-axis is the change in the fraction, currently, married among women ages 25 to 39 of the same education and race groups.

So what you can see is women are not getting, so an assumption here is that there's a good degree of homophily, I've introduced for the sociologists in the room. Thank you. Women of the same, I'm assuming women of the same education and race are likely to marry men of that education race, disproportionately, not one for one, of course, and women are not tending to marry these males that have falling earnings.

Now, interestingly, and this is really meant to be descriptive. This is not a causal statement but if you were to, for example, regress the change in female marriage rates, as a fraction married, this is not ever married or will marry but currently married among 25-39 on both the change first regressive on the change of male earnings, that's this, right.

Regress on the change of female earnings, you would also find a negative relationship. If you're regressive on both, you would find that the male variable is statistically significant and positive i.e. higher male earnings, higher marriage rates, falling male earnings, falling marriage rates and the female, the own earnings variable, is not significantly predictive.

In fact, I think it's positive, weakly positive. Now, that's hardly a definitive test but it does it you know, it suggests quite plausibly that women are you know, choosing rationally, I would say, not to marry these males. There maybe other explanations. Some would say well, these males are choosing not to marry women but my, at least, reading in the literature it is the overarching phenomenon is women are concluding the men are not marriageable, they're sort of another mouth to feed.

So here's another way of seeing this that shows you the fraction currently married by race and gender and a couple of interesting things stand out here. One is if you go back to the 70s, the marriage rates were much higher and they were also, didn't really differ by education level and then, if you only take forward, for example, if you look at black men, right, the marriage, the fraction currently married among people with more than a high school education is maybe 45 percentage points and among high school or less than high school, it's 20 percentage points.

Right, you see a similar fanning out for white men. No similar phenomenon for Hispanics, by the way. So marriage rates have fallen but they've much more for low education males and females, which is consistent with the chart I showed you a moment ago but what hasn't changed, oh sorry, here are those two figures just alongside one another.

Okay, but what hasn't changed that much is fertility. So, it's fallen somewhat but here, the best way is to start at the bottom here, this is the fraction of males and females, ages 25 to 39, reporting at least one child in the home. So if we look at women, by education, right, we can see, it's gone down, maybe 10 percentage points.

It's gone down but not a huge amount and it's somewhat lower for more educated women, right, not surprisingly, but it hasn't changed very much. Now if we look at men, right, we can see like, for example, among white men, this has fallen on the order of 25 percentage points.

Among black men, it's fallen the order of 35 percentage points, right? And among Hispanic men, it's also fallen on the

order of the 25 percentage points. Okay? Now remember that these are the dads of those kids, right? So in other words, this you know, are presumably these guys in the upper panel were involved.

What was going on in the lower panel? And so what this says is, there's a lot of you know, child bearing going on but the changes that men are not living in households with children and this is with any children, by the way. It'd be even less, lower, if we were talking about their own children.

So as of 2009, 40% of U.S. births were to unmarried women and that is rising among every group, right? So here's Caucasians, blacks, Hispanics, our data don't allow us to distinguish Asians and you can see, it's actually the rate of growth is higher among Hispanics and whites and by the way, there's no Hispanics identified in that census, then it is among blacks, although the levels are much, much higher.

So among you know, over 70% of all births to African Americans in the U.S. are out of wedlock and I wanna say that the and this is important, the, well, I'll show you this actually, this is not just a question of they didn't happen to get married before the baby was born.

I'm sure there's some of that but really you should think of that as a marker of the likely household structure that those kids will experience. Kids that are born into non-married households are much more likely to be in non-married households and those households are more unstable. Lets see, so this is a fraction of children under the age of 18 living with mother only, by mom's race and education, what you can see for example is again, this is, except among Hispanics, right?

It's more concentrated among less educated moms. So among blacks, for example, 80% of kids of high school dropout moms, are living with the mom only, right.

>> Among whites, it's around 50% and again, these differentials are sort of masked by the figure but this among people with more than a high school education, this is under 20% and this is about 35%.

>> So I'm gonna speed up since I wanna get to the new stuff but let me just say okay, so I mention by the way, if you look at family poverty rates by household type, right, here are female householders no husband present. Here are male householders, no wife present, right.

So there's an enormous gulf between them so, in general, single headed households are relatively poor, single mom headed households are relatively poor. Most single households are mom headed. Okay, there's also important disparities in how those households function. So this is a paper, this is from work by Meredith Phillips that just looks like, looks at disparities and weekly time spent.

Now here, I'm being a little fast and loose I'm sort of conflating income with household structure, right. Cuz that's the way those data are available. Now, these obviously, are going to be closely related as we move into lower quintiles, we're moving into more single parent households but I'm not be able to isolate those affects here.

Anyway, this is just time spend in literacy activities by age and household income quintile, relative to the fifth quintile. So what you can see, for example, this differential of you know, one and a half hours a week, right, sorry, one half hours per week amounts to a couple of thousand hours, right?

Between the ages zero and eight or so, right? Is actually not at all a small difference in what's going on and it's perfectly natural to think, of course, some of this comes from education, some of this comes from income but some of it obviously, comes directly from time available.

Second piece of evidence just relating these things, this is from the Duncan Murnane volume the Wither Opportunity Volume, it just shows you per capita enrichment expenditures on children at the top versus bottom quartile of households between 1973 and 2005, 2006 and this is just remarkable, right? If you look at this, how much more a high education house or high income households are spending on their kids and this is, there's not been a fourfold increase, actually, in income differentials between the top quintile and the bottom quintile, right.

>> This is a deliberate change of you know, how people want to invest resources. This shows you, and I'm going to stop with this sort of descriptive part of the talk, this is the gap in years of completed schooling in top versus bottom quintiles, for cohorts born 1968-1996.

I believe this is from the PSID and you can sort of see, right, this kind of pulling apart, which is surprising, I think or maybe, not surprising. Related to that, this is also from the same book, for this is the paper by word Bailey and Bednarski, you see this differential, this steepening of the slope of the relationship between household income and college going and similarly, college completion.

And you might've thought in a time when college going rates were rising, that you could've seen that slope flatten, right, that basically, you know, as access becomes more equitable, more people are going you know, and the limit if everyone was going, there would be no household income differential.

We've not seen that. In fact, as you can see, the graduation rate rises from 5% to 9%. Right, so you can say that's an 80% increase but it's from epsilon to epsilon among the lowest quartile, to 36% to 54% among the highest. The this is not as evident in other countries, right.

The U.S. unique system of higher education finance probably contributes a good deal to this. Okay. Oh, last, last point on this and then I'm going to move on fast, okay. So so this just shows you, this is from the paper by Chetty, Hendrin, and Kline. And Hendrin, we, you know, where's the land of opportunity?

And I just, I thought, found this a really striking figure, or this, well this is the data, I mean, the figure. The this shows you the inter-generational income correlation between parents and kids. Okay? So, the higher that correlation, the lower its mobility. Right?

>> That's the y-axis, on the x-axis is the share of families in the commuting zone, who are, who have, kids with a single mom.

Right? In other words, so, this is looking across community zones, clusters of counties. Counties in which more mo, more kids grow up in single-headed households have lower inter-generational mobility. Right, the, the gap between what parents have achieved and what their kids achieve is substantially smaller. Right? And so that's a, that's a striking descriptive fact.

So if you look in that paper there's a zillion correlation. Between the different, the variables explained is always centrogenational correlation. And at the lower that is, the more, the less kids outcomes are predicted by their parents' incomes. And of all the variables they look at you know, they talk about sprawl, they talk about inequality, this actually turns out to be the most predictive.

In fact is the fraction of single headed households. okay. All right good so now now I'm gonna try actually present some, some novel evidence on this set of questions. So, the so the hypothesis that we were particularly focused on was really specifically about not the effective singleheadness and so on.

But the differential effect. Well, reason for that is it's actually hard It's hard to identify the direct effect of singleheadness. There's so many things that go into that. On the other hand, the gender gap is much more manageable. And I'll show you what I mean by that. So I'll just say that there is evidence that's suggestive of this gender gap relationship.

So, for example, here is, this is an example, again, from the same, oh, I'm sorry, this is not the same This is a paper by Jacob and Wilder, and they look at the, fraction of 12th graders expected to obtain a BA by sex and parents education. And an interesting fact that comes out here is, it's sorta rising for everybody.

But there's a much greater gap among kids of gender gap among kids of low education versus high education parents. Right? And that's the common phenomenon were zeroing in here is looking household disadvantage, or household

differentials. That they seem to be not just differing levels, but also differing in the way they they boys and girls things we're responding to them.

I realize that's that's indirect. Okay. So, I'll say that there's a bunch of papers on this. I mentioned the evidence by Phillips, I mentioned the article by Bailey and Dynarski. I mentioned Jacob Wilder. There's also a paper by Jessica Pan and Marianne Bertrand in the AEJ recently that looks at it's called The Trouble With Boys.

And it looks at gender differences in disruptive behavior in latent household structures so that's actually what we're closer related to. So I mentioned all these things, so now let me tell you what we're going to do. 'Kay so we're gonna, we're gonna to do two things. So this is, and this is drawing on the work with David Figlio, Chris Karbownik, and Melanie Washington.

So the first thing we're going to do is a very simple cross state analysis. Just to look at changes in household structure and how they relate to outcomes of kids in particular by covort, in terms of test scores. And the next thing we're gonna do is we're actually gonna look at, a, a very, detailed essay set.

Linking, birth records to school records from the state of Florida. This is the, what we call the Figlio file. And and that, will be more let me just describe, this is just by way of motivation. So, what this is, is, the outcome that will either be test scores or educational came in of kids, born, in, state J, in cohort C, by race.

And then the explanatory variable here will be the fraction of moms who were married in that birth state by race cohort. Right? Calculated from the vital statistics data. so, likelihood that you were born into a married household. Right? And then, and then we have a male, a for gender differential.

And then an interaction between gender and marital status. Okay. So very simple across state regression and not very powerful. So just to show you this is, this is the NAPE, National Assessment of Educational Progress fourth grade reading scores. Right? And these are standardized. This says on average, males are about 0.2 standard deviations below females in the fourth grade.

And that, in a state with you know, a 10% increase in the marriage rate in the state. Is predictive of a 6% points, 6 10ths of a standard deviation gain in no I'm sorry, 6, 6 10ths 0.6, not 6 10ths. 6, 6 100ths standard deviation gain of the of this test okay.

In the next column we put an interaction between male and mother married. And this says basically the male main effect is actually now substantially larger it's 0.3. So that says that's the effect for unmarried for, for males from unmarried households. And then, from married households, that closes the gap about half way.

Descriptively, I want to be clear, we are not linking males to the household structure, right? This is a state aggregate. In the third column, we put the state fixed sex and race by state effects, effects sex and race by time trend and it doesn't survive it. I mean, it's it's descriptively still there, but it's not it's not robust.

And we do it separately for whites and blacks. You find something similar for blacks, we continue to find this effect. Okay. The we do the same thing for math scores. Math scores are, we find something roughly similar, this survives in this column, does, but doesn't survive when you disintegrate by race.

I can, let me, I can show you the same thing by education, but let me not. So, here, here's what we wanna do. So here's, imagine the following. Image we could estimate the gender gap within by marital status. Okay. So, here's a unmarried household. Person I, a child I, born to mom J.

And mom J is unmarried. And so we, we have a mom fixed effect. And then, we have a, a coefficient for males. Right. So we can have, so if you could imagine for example, you couldn't estimate if you only had one kid. Right. So you have have to need two kids, in fact, to identify this, one of them has to be a boy and one has to be a girl.

Right? So you could do the same thing for the married household. Right? And you could estimate this beta. Right? So

this is the unmarried beta, and our hypothesis is that this, this is the outcome of something positive, like education. Right? That this effect will be that in general, the male effect will be negative in both households, mainly, males will do worse.

But the effect will be smaller in the married household, than in the unmarried household. So, the gender gap differential would then just be beta married minus beta unmarried. You can do that as a pool regression, right? And you put an exhaustive set of mom fixed effects. And you're just contrasting within siblings, right?

In terms of, these outcomes. And asking.

>> You have a male up, you have a, a mom fixed effect, a male effect. And then a male times married effect, right? And identification could come from, it comes from within the cross family contrast. I can look within family over time.

There's no random assignment of kids to families, right? So the only thing we're thinking of here is that sex is randomly assigned within the household. So, the data source is the Figlio file. So, this is all Florida birth records between 1992 and 2002. And they can take race, marital status, mom's education, neonatal health measures.

There are matched to school records, if the kid remains in Florida and attends a public school. And this includes test scores, absences, disciplinary incidents and suspensions. And so, to implement the thing I just described we can use multiple sorts of variation. One thing we can look at is gender discordant twins, right?

Brothers and sisters who were born at the same time with the same mom. That's an odd-ball sample, right? Twins are different in a variety of ways, but we can do that. You have to look at gender discordant sequential births with concordant marital status, i.e, moms who are married or unmarried at the time of both births.

Same mom, right? Same marital status, different gendered kid. Or we can also use, moms who change marital status over time, right, between kids. So those are the ways we can get at this. So, again, let me be clear. We're not attempting to identify the direct effect of moms structure on kid outcome.

We're trying to ask a differential effect by gender, right? Because we don't think of household structure being randomly assigned. We think of gender of being randomly assigned and so we can identify the interaction between gender household structure. So two million births the match rate is about 80%. Almost all the attrition is due to out of state moves and non public school attendees.

Right? And there some of this is documented in Figlio, Guryan, Karbownik, Roth AR for that. Okay so just to give you a sense of these data really amazing resource. And David deserves you know tremendous credit for having spent years developing these data. So just to give you a sense of for example the full port, population of Florida Bircher 22% Black, 23% Hispanic.

If you look at the match ones they're 25 26% Black and 18% Hispanic. What's going on? Well Blacks are generally less mobile and Hispanics are more mobile in the state of Florida. If you look at education high school drop outs. Oh sorry that was twins, I apologize. So, if you look at high school drop-outs, as you restrict the sample, their fraction grows, right, because they're less mobile.

College graduates, their fraction shrinks. If you look at people who are married at the time of birth, right? Their fraction also shrinks as we restrict the sample y. Well, one, they are more, probably more, slightly more likely to send their kids to private school. Are and two were more educated and therefore likely to be more mobile.

Okay? All right good so now just to show you I think this is this is very striking me. I should say like I'm looking at these results for the second time and you're looking at them for the first time. So we may all be surprised The this just shows you the the transition, transition matrix of marital status of mothers and first and second birth.

These are the two oldest kids in the family, okay? So, first the, the marginals. This is, this is all births, this is births linked to test scores. These are, these, these panels are almost the same, so you can just focus on one. So 15% are born with dad absent, 23% unmarried dad present 16% married.

So this space it says 40% of births in Florida are to unmarried households. Now if you look at dad on the first kid there's a 16% chance that dad will be absent on the second kid too. Right? And probably a large number of cases that's a different dad.

For unmarried dad present again a 61% that they'll be unmarried data present on the second birth, right? And then for married, 85% probability they'll be married on the next round as well. So, I guess what I'm, I guess the point that I want to make here is that.

Mar, marital status really does convey, ya know, some of the, the sta, now it doesn't prove instability. I mean, it could be the same data and the But I, suggest that these states are not, people aren't moving between these states at a very high frequency. All right, so now I'm gonna first just show you some contrasting in mom-kid demographics at birth.

This is really just to show you how different these different populations are. This is not the inferential part of the talk, I just wanna show you that if you stratify kids by household structure. You see that there's enormous amount of covariant that moves along with it, which is why it's so hard to learn anything about household structure.

Okay? Then I'll get to the inferential part which is the sibling contrast and outcomes. Okay, so, now, okay, so here we go. So, if we look at, these are siblings, gender discordant siblings, these are twins. Okay. So among those that are married 11% are Black, 41% of Black men are dad present, but not married, 64% Black among dad absence.

Okay? If we look at mom's education below 12, 50% of those are dad absent, 7% of those who are married have less than a high school degree. If we look at age below 22, 70% of those who dad absent and 58% dad present, 12% married, right? Something similar with twins as well, although, interestingly, twins are much less likely to be born to young moms, does anybody know why?

>> Fertility, exactly. Fertility, IVF, right? So, yeah, okay, so twins are born to higher educated households, by and large. So, anyway, as you move these things. It this variable data, absent dad present, not married. It's really telling you a lot about all the other things that go along with that, right?

So it's a very powerful predictor. That doesn't mean that it's a, but you should be very leery of drawing any causal inference from that, because the demographics are so different. Okay. This is also interesting. So if you look at the fraction, the gend, there's actually some slight gender differences.

Those are actually significant of a sample of these size between these household structures. the, if you look at birth rate, right? Strongly declining in marital status. Right, or, you know, married, married parents have heavier kids. If you look at the Apgar score, which is a measure of the health, right?

So the one minute Apgar score is lowest among that dad absent, same here, okay. So clearly, lots and lots and lots of differences between these households.

>> Okay.

>> This is just a, physic, the, the fo, four academic, five academic outcomes I'm going to focus on. Kindergarten readiness, that's just an indicator variable.

Pooled test scores. Actually I'm going to have reading and math separate. Those are the ou, combined test scores from 3rd through 10th grade of these kids. Number of disciplinary incidents, number of days suspended, and rate of absents. This is just a fraction of days that they miss. So, for example, kindergarten readiness strongly declining as we move rightward, number of incidents 55.52 on average among kids born to non dead and house holds.

So half, half an incident, number of days suspended 1.2, and then even these rays thousands I should add another didget here, six percent versus four percent, that's actually quite a big difference. So in many, many ways you could say, this is very predictive of lots and lots of other things that have happened.

Okay, so now, we're going to look at sibling outcomes, contrast. The first thing to do, is I am going to contrast neonatal outcomes, and ask whether household structure is predictive of boy girl differences. In neonatal, ya know, at different zippers, so here we go. So I mean, just explain what these are.

So, this is infant birth weight, okay. Males, weigh more than females. Something you learned today, you take that home. Okay. two, two kids of married, ha, kids born in America weigh another 20 grams. And then there's no contrast here. So that there's no, the, there's no differential between Meldner.

Okay if you look at the twins column, there's a slight differential, it's very, very small. If we look at other things, gestational weeks, that's obviously is constant within twins. Birth complications, congenital disorders, one minute Apgar, five minute Apgar. So what this says is we don't see, if we look at sibling differences, right?

We don't see that mom's marital status, predicts sibling differences at birth. It's not like married mom's have better boys, right, relative to the girls that they have, because we can measure by health at birth. Okay, so this is important. I'm focusing on this because this is pretty critical to what we're doing.

If we fail this, then we would be dead in the water. Yeah?

>> So that pressures the rebuttal I was reading earlier.

>> Okay, perfect. I mean, I think your point definitely does go through about these interactions. Okay, so now, now we look at academic and disciplinary outcomes.

Okay, so I'm gonna do this for three types of families. All siblings, okay regardless, and here the marital status can change over time. This is siblings born to the same marital status, right, so either the mom was married both occasions or not married. And here I'm going to look at twins.

And of course for twins there's no married man affect right because either their their married or unmarried right. So it's absorbed by the household fix, right? Okay, so we look at kindergarten readiness there's some evidence, so for us again males are less ready for kindergarten, right? All of you have boys, right?

No surprise. But parents are more ready to send them to kindergarten.

>> and, And then, there's a positive male married interaction. In other words, about a third of that differential seems to, close for boys relative to their sisters in married households. If we look at the pool of math scores, this is significantly positive, same with reading.

It's not true in the twins. So, you know, I, that, you know, there are multiple ways to interpret that. One is that the twins are better controlled. Right, so we should take that a little more seriously. The other is that they're, somehow, a more exotic sample. If we look, now, here's where some of the really big differences start to show up.

And this is from some of the work by Bertran and Pam, is in disciplinary outcomes, right? So, if we look at number of incidents, right, boys have about 0.4 more incidents through the tenth grade, 15% lower among married households. This is enough to close the gap. So males tend to, there's essentially no, this has no, no differential, right?

So this says boys in married households have no more disciplinary incidents than their sisters, right? If we look at days suspended, something very similar. Huge difference, right? Smaller married households, much smaller among the boys of those households. Or pool rate of absences again higher absence rate lower for married lower again for the boys in those households.

So here we go so I'm going to do this separately for blacks and white. Okay and, here we start to lose some power. So no difference on, no effect on kindergarten readiness--no effect on these test scores. However, on incidents, right? Again we see this. So this is black males, much higher rates of incidents than whites.

So this goes, perhaps, to the point you were making, about blacks vs whites being treated differently. And then, but the married effect is negative, and then the married times male effect is also quite negative, right? So proportionally, it's about the same for whites and blacks, but it's twice as large for blacks as it is for whites.

Same thing if we look at the suspended. Same thing if you look at absences, right? So again, we see, in all these cases, on these sort of disciplinary indicators, kids in black households do, have more disciplinary incidents than kids in white households. Males have more relative to their sisters, and then, but if the household is married, that differential is closed on the order of about 50%.

As we can, as far as we can measure it. If we look at twins something similar. This, now the sampling is getting really small, but actually it's surprisingly consistent. Let me do one more breakdown. Break it down by mom's education, okay? So, this is education at the child's birth.

So we have lesson 12. 12 to 15 and above 15. So, again, on kindergarten readiness, nothing. On test scores, nothing. But then on, disciplinary incidence. And this again suggestive of a pattern I showed for white and black. The, the differences are lower for males, the gap is lower for males, in higher educated households, right?

Or with, right, but, the, the effect, the contrast between boys and girls in married households, is that half the underlying difference, the boy-girl difference, in unmarried households of this same of the same education. So again I'm, I'm contrasting brothers and sisters within a household, right? And I've seen that the contrast is greater you know so boys are doing worse but the married households the differentials not so much.

So I think that's a valid contrast, however it doesn't tell you per se that it's marriage, like is not the direct effect of, blah you're married, and that's good for kids. it, it could be, it could work through a variety of channels, right? So one channel could be the one you most concretely met, there's the dad saying don't act out in school or, I will discipline.

Another possibility is, it's the neighborhoods and schools that they live in, right? So even holding mom's education constant, married moms are gonna live in better neighborhoods, and that could differentially effect boys and girls, right? Boys, you know, when, when moms, single moms worry about neighborhood effects, they worry a lot about boys, right?

They worry about boys getting into trouble, boys getting involved in, you know, violent, sort of, dangerous activities. So those channels we can explore and are exploring in our data right, so we can put in zip code effects and interact them with gender. We can put in some other, zip code is the best one we have, we have some information about school systems, so we can ask whether.

You know is, at least to me, and maybe it's because I haven't thought about this long or hard enough. This seems very compelling that there is, that these differences in gender, these gender differences and outcomes are real, they're not an artifact of who's in what household. The, the household structure is strongly predictive, but we don't know through what channels.

>> I'm 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.

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