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#241: Raising emperors: The social cost of China's one-child policy

VOICEOVER

Welcome to Up Close, the research talk show from the University of Melbourne, Australia.

JENNIFER MARTIN

I'm Jennifer Martin, thanks for joining us. What happens when you apply economics to the most intimate of dynamics, that of the family? This is, of course, what China did when it implemented the one-child policy in urban areas back in 1979. More than 30 years later, behavioural economists in Melbourne have examined the effect this policy has had on the generation known as the Little Emperors. Their findings give us a fascinating insight into the effect being an only child has on qualities such as trustworthiness and empathy. Professor Lisa Cameron, Director of the Centre of Development Economics at Monash University and Associate Professor Nisvan Erkal from the Department of Economics, University of Melbourne interviewed 421 people born just before and just after the one-child policy's introduction. They join us here in the studio today to discuss their findings. Lisa, Nisvan, welcome to Up Close.

LISA CAMERON

Thank you.

NISVAN ERKAL

Thank you.

JENNIFER MARTIN

Lisa, can I ask you to begin by describing for us why China with its one-child policy is such a rich and exciting natural experiment for researchers such as yourself and Nisvan?

LISA CAMERON

Well who isn't interested in China these days. I mean there's just so much going on there and we were drawn to work on China primarily because of the one-child policy which is a very unusual policy in the sense that it restricts urban couples to have only one child. So you've seen a lot of different population control policies across lots of different developing countries and elsewhere, but nothing that's as strict as this and is essentially compulsory.

JENNIFER MARTIN

Nisvan, can I ask for you to put this research within a wider framework for us? I mean what do earlier studies on the one-child policy tell us, and what in your eyes are their limitations?

NISVAN ERKAL

There are studies done in Western cultures on the impact of growing up as a single child and those studies do not point to any differences between children who grow up in families without siblings and children who grow up with siblings. However, it's hard to apply those studies to the context of China because in the West being a single child is the choice of the parents whereas in China it was imposed on the people by a policy. And if you look at the studies done in China their findings were in the same direction as the Western studies. So you know our study was quite noteworthy in the way it differs from these previous studies.

JENNIFER MARTIN

And, Lisa, could you just add to that and talk us through why you both think economics can offer this unique insight into what it's like to be an only child?

LISA CAMERON

Well I guess our study differs from previous studies in two ways. One is it uses the one-child policy as a natural experiment to allow us to identify the impact of growing up as a single child. Because all the previous studies have just compared only children with people who have siblings. And while that may be interesting if you're interested in the differences between those groups, in fact parents who choose to have only one child are likely to differ in a number of ways from parents who choose to have more than one child. And to the extent that personality traits and behaviour is passed down from parents to children, either genetically or through learning through their parents. Then any differences you observe between only children and others could just be due to differences in family background and not actually due to being an only child as such. So this is the first study that actually allows us to identify the impact of growing up as an only child. The second contribution would be that we use experiments from the economics' literature to measure behaviour. So we run experiments for real money. I guess what experimental economists would say is that because we're playing these games where there's real money involved the behaviour that you identify through this method is a more reliable measure of behaviour than just asking people questions in a survey. Maybe I'll give you an example.

JENNIFER MARTIN

Please.

LISA CAMERON

So we look at a variety of different behaviours and we look at altruism, trust, trustworthiness, risk and competitiveness. And so I might use the trust game as an example. The trust game involves two people. You have player one and player two. Player one is given an endowment of about 100 yuan which at the time was about 20 Australian dollars. This is real money and that player one can actually take that

money and go home. Or player one can choose to give some of that money to player two. Now both of the players know that if player one passes some money that amount of money will be tripled. So we basically triple it. So say player one decided to give 30 yuan to player two, then player two will receive 90 yuan. And then player two has a decision to make and that's whether just to keep the 90 yuan and be very happy with that or to pass some of that money back to player one. And the money passed just goes back to player one - that's not tripled. And so the idea behind the game is that if player one trusts player two to pass the money back, then the best thing that player one can do is to pass the full amount. Because then 100 yuan will be passed, we'll triple it, that'll be 300 yuan and then that money can be shared. However, in order for player one to be willing to do that, they have to trust that player two is going to pass some of that money back. And so we look at player one's behaviour as being a measure of trust. So we look at the amount that's passed as a measure of trust and we look at the amount player two passes back as a measure of how trustworthy player two is. Because player two will have been trusted by player one if some money is passed. And then there's no obligation for player two to pass any of that money back but if they do they're behaving in a trustworthy fashion. So hence we get our measures of trust and trustworthiness from this game. A very important part of the game is that player one and player two don't know each other and they'll never know each other. So we generally had about 40 people at any time in a room and we paired them up anonymously. So they all had codes and we paired the codes randomly and then we did a lot of paper shuffling in the room. So it's not a game where there's any interaction between the players. It's rather just a game between strangers which enables us to just get a measure of how trusting people are of people in general and how trustworthy people behave.

NISVAN ERKAL

And that's very important if you're going to talk about the larger implications. Because in society you interact with people that you don't know all the time and what you're trying to capture is how trusting are you in these one-on-one interactions and how that can help you build a better society basically.

JENNIFER MARTIN

It's exposing your values system, is that right?

NISVAN ERKAL

Yes, that's what we're concerned about. We're trying to find out about the underlying preferences which determine the behaviour that we observe in the lab.

JENNIFER MARTIN

This is Up Close, I'm Jennifer Martin. Our guests today are behavioural economists Lisa Cameron and Nisan Erkal and we're talking about the personality traits of those born under China's one-child policy. So, Lisa, just how valid are these games as measure of traits such empathy which traditionally psychologists have used rating scales and a multi-dimensional approach to individual differences in empathy?

LISA CAMERON

Well we also use some tools from psychology to supplement the experiments. So we certainly see the psychological tools as having a lot of merit. You know the games we play they're very simple. So when you first explain them to people, people are a bit sceptical about what they actually reflect. But there's a whole literature now and it's growing that looks at the correspondence between what people do in these games and what they do in real life. So for example there's some in the context of China so there's one by Elaine Liu at the University of Houston, where she ran games, risk games with Chinese farmers. And these are games similar to the risk game we play in the paper. Where you're basically giving people the opportunity to take a risk and where it may earn them this money but they may end up losing all their money. And she finds that Chinese farmers that are more willing to take a risk in the lab are actually more willing to take a risk in their farming too. So they might be less likely to use pesticides, more likely to adopt new high-yielding variety seeds.

JENNIFER MARTIN

Nisvan, your research is very interesting in that it does use these precise models and tests to study these particularly nuanced behaviours. So could you tease out for us some of these important but subtle distinctions? So things like the effects of having no siblings, versus the effects of having parents' attention focused on one child?

NISVAN ERKAL

So we find that children who grew up under the one-child policy are less trusting, less trustworthy, less competitive, more risk-averse, more pessimistic and less conscientious. So that's our general result. And as you were talking about at the beginning, we have a natural experiment which allows us to isolate the impact of growing up without siblings. And if we were to do these tests just by comparing the behaviour of children who grew up without siblings by their parents' choice and the behaviour of children who grew up with siblings, we may get different results. So we're able to isolate the impact of growing up without siblings. To give an example for how the two results may differ from each other, as I said, we find that under the one-child policy those children who grow up without siblings are less competitive. However, if we just look at our data from before the policy and compare single children with children with siblings we find that there isn't a significant difference between their behaviour. So the family background effect that Lisa was talking about before must be compensating. And the story we can tell for this is that it may be that the case that it's more competitive parents, you know who would like to either invest a lot in the development of their children, or who have their own personal ambitions in life and don't have as much time for their children. Those may be the parents who are having single children. And when they have single children they pass those values on to their children. So they're more competitive preferences may be compensating and giving us a result that there isn't much difference between only children and children with siblings, where the only children are actually decisions of their parents.

JENNIFER MARTIN

Now, Lisa, these are big findings.

LISA CAMERON

Yes.

JENNIFER MARTIN

Less trustworthy, less reliable, more pessimistic, that was the trait as well?

LISA CAMERON

More pessimistic.

JENNIFER MARTIN

More pessimistic, these do seem to confirm the stereotype of the little emperor?

LISA CAMERON

They do, yes, and we went into this thinking it was a really interesting question and there was so much anecdotal evidence and just discussion in the media and in Chinese society. But we weren't really sure what we'd find. We thought it'd be interesting if we found no differences. But in fact we find these really large, stark differences. And it is different from what the existing literature shows. So the existing literature largely shows no difference between only children and others, except that only children do tend to do slightly better academically. I mean that's true in China and in the West when you compare only children to others. But as I said earlier this is the first study that's actually been able to identify an only-child effect free of family background characteristics.

JENNIFER MARTIN

Nisvan, just what is it about growing up without siblings that is giving us these outcomes of being less trustworthy, less reliable?

NISVAN ERKAL

Well luckily we were able to say something about that because that was something we were curious about also. In our survey we had some questions about the values that parents encouraged in their children that we asked the participants. And when you look at this data you can observe that children born under the one-child policy were much more significantly saying their parents did not encourage behaviours like trust as much or, I guess, being risk-adverse that much. And we interpret that in the following way basically not having any siblings plus the parental influence that's interacting. So it's because there are no siblings in the household the parents are less likely to say, you know you should share with your brother and take turns and phrases like that that encourages, you know behaviours like trust or altruism.

LISA CAMERON

Yes and just to add something to that. So we find this influence of parenting basically, and we also looked to see whether interactions with other children played an important role. Because you'd think that there's a term in the psychology literature being sibling-deprived. Well the reason that affects people's behaviour is that they're not interacting frequently with other children. So we looked at how long the participants spent in childcare as children, how many cousins they had and how

frequently they saw their cousins. And we find that none of that has any bearing on the results. So that suggests that it's not interactions with other children that's playing a role, it seems to be more this parenting behaviour.

JENNIFER MARTIN

And, Nisvan, could speak to us about the reaction of people outside of China? I'm thinking about people who are only children themselves to your findings.

NISVAN ERKAL

Yes, so when our study was published, a lot of people, a lot of only children in the West were thinking, well what does this mean for me? Or a lot of parents in the West were thinking this and we got a lot of attention from that aspect also. And I guess we need to stress two things. Every study has, you know, its specifics. We used specific data and we did specific tests and it should be evaluated within that context. And when you take it out of that context you need to be careful about what implications you're going to draw. So there are two things when you take our results and try to apply it in the West. One is a cultural difference. So we're talking about China in this study and the Western culture as a whole is different. And each country in the West has a different culture, so one needs to be very careful about those cultural differences. The second one is as we mentioned before being an only child in the West is usually the choice of the parents. So that's going to have two effects working to determining these behavioural outcomes. So again one needs to be careful about drawing the implications.

JENNIFER MARTIN

I'm Jennifer Martin and on Up Close this episode, we're speaking with behavioural economists, Lisa Cameron and Nisvan Erkal about the personality traits of those born under China's one-child policy. So, Lisa, the behaviour is in responses you've seen in the lab. How do they translate into what we could expect in the real world?

LISA CAMERON

So we know what occupations these people work in and we know what they've done in the risk games. And so we find that people born under the one-child policy are more risk-averse, so they're less willing to take risks. And in the real world we see the same thing. We see that they're less likely to be in risky occupations, which we define to be things like freelancing, self-employed, working in financial markets and things like that. So that's what we can say in terms of evidence. But then we can also hypothesise a little just in the sense that we find that people born under the one-child policy are less trusting and less trustworthy. And trust is a really important element of social capital and is important in building relationships, personal relationships. So there are obvious implications there but also relationships in the workplace. So you might be concerned about the one-child policy generation finding it more difficult to negotiate the workplace and work in teams and also negotiate successfully with people whether within their workplace or you know maybe from one firm to another. And similarly with risk-taking, if they are less willing to take risks, that might have implications for the willingness to engage in entrepreneurial activity, which could have consequences for economic growth.

JENNIFER MARTIN

Now your research has attracted some criticism from those that say that your results may not be down specifically to the one-child policy. That they don't take into account other factors such as social, economic, geographic. Nisvan, what's your response to this?

NISVAN ERKAL

I guess you know when you're doing these studies you're always concerned about being able to isolate the effect that you're looking for. And the main thing that we were concerned about was age effects, because we chose cohorts born just before and just after the policy but still, you know there is some age difference between these groups. So the policy was implemented in 1979 and we chose two cohorts before that born 1975 and 1978 and two cohorts born after that, 1980 and 1983. So especially between the two born '75 and '83 there's eight years of difference. You know one can ask whether it's age that's giving us the difference. So it's because some people are older and that's why they're more risk-averse. Or they are less competitive rather than the one-child policy. I think that was one of the main concerns we had and luckily we are able to eliminate this criticism by looking at our data. So we've done two things to answer this criticism. One is we just took the data from the closer two generations. So '78 and '80 where the gap is much smaller, only two years and our results continue to hold in that case. And we also compared the behaviour of the two cohorts before within themselves and the two cohorts born after the policy within themselves. So '75 and '78 the behaviour of those two pools and '80 and '83 the behaviour of those two pools and we don't find any differences. So again, you know if age was driving things then you would expect to find differences between these two.

LISA CAMERON

Yes and we also did things like we look at marital status because that varies with age, so you do find that more people born prior to the policy are married. And we look at parental age. Parental age is quite interesting, because parental age will reflect whether the parents experienced the Cultural Revolution or not and that kind of trauma could affect parenting. But we actually find it doesn't. And we also look at whether people have children or not and find that that plays no role. So we do a whole range of sensitivity tests.

NISVAN ERKAL

We were also concerned because China has been going through other changes in this time period. So you know becoming more market oriented and maybe it's the changes in the people's ideology that we're capturing with our tests rather than the impact of the one-child policy. And we had a question in our surveys that captures their views on government intervention and market economy and we were able to use this to test for that and we can eliminate that criticism also.

JENNIFER MARTIN

Lisa and Nisvan, you had another couple of colleagues who helped you with this research and author this work?

LISA CAMERON

That's right, Professor Lata Gangadharan from Monash University and Professor Xin Meng from ANU were both very much involved in this project. Meng has done a lot of work on China and so it was great to have her on the team and Lata is an experimental economist, so was very instrumental in designing the experiments and so forth.

JENNIFER MARTIN

Nisvan, Lisa, thank you so much for joining us on this episode of Up Close and talking us through your fascinating and very detailed research.

NISVAN ERKAL

Thank you.

LISA CAMERON

Thanks, Jen.

JENNIFER MARTIN

We've been speaking with Professor Lisa Cameron, Director of the Centre of Development Economics at Monash University, and Associate Professor Nisvan Erkal from the Department of Economics, University of Melbourne. We've been talking about the personality traits of those born under China's one-child policy. Relevant links, a full transcript and more info on this episode can be found at our website at upclose.unimelb.edu.au. Up Close is a production of the University of Melbourne, Australia. This episode was recorded on Monday 25 March 2013 and our producers were Kelvin Param and Eric van Bommel, audio engineering by Gavin Nebauer. Up Close is created by Eric van Bommel and Kelvin Param. I'm Jennifer Martin, until next time, goodbye.

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