

PLOS Science Wednesday: Hi Reddit, we're Lara Aknin, Kiley Hamlin, and Elizabeth Dunn. We published a paper in PLOS ONE that found toddlers experience happiness when sharing with others, which is consi

PLOSScienceWednesday¹ and r/Science AMAs¹

¹Affiliation not available

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Abstract

Hi Reddit, My name is Lara Aknin and I am an Assistant Professor of Social Psychology at Simon Fraser University. My research focuses on the relationship between generosity and happiness. I am Kiley Hamlin, and I'm an Associate Professor of Developmental Psychology at the University of British Columbia (UBC). My research focuses on the development of moral action and judgment in preverbal infants and toddlers. And I am Elizabeth Dunn, a Professor of Social Psychology also at UBC. My research focuses on the factors that shape human happiness. We recently published a paper titled "Giving Leads to Happiness in Young Children" in PLOS ONE. In this paper, we show that toddlers find giving treats to others more rewarding than receiving treats themselves. These findings support the idea that humans may have evolved to find giving rewarding. We will be answering your questions at 1pm ET (10am PT) – Ask Us Anything! NOTE: Lara, Kiley, and Elizabeth are sitting together to answer these questions and coming up with a collaborative response to inquiries.

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PLOSSCIENCEWEDNESDAY [R/SCIENCE](#)

ABSTRACT

Hi Reddit,

My name is [Lara Aknin](#) and I am an Assistant Professor of Social Psychology at [Simon Fraser University](#). My research focuses on the relationship between generosity and happiness. I am [Kiley Hamlin](#), and I'm an Associate Professor of Developmental Psychology at the [University of British Columbia \(UBC\)](#). My research focuses on the development of moral action and judgment in preverbal infants and toddlers. And I am [Elizabeth Dunn](#), a Professor of Social Psychology also at [UBC](#). My research focuses on the factors that shape human happiness.

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Science AMAs are posted early to give readers a chance to ask questions and vote on the questions of others before the AMA starts.

Guests of [/r/science](#) have volunteered to answer questions; please treat them with due respect. Comment rules will be strictly enforced, and uncivil or rude behavior will result in a loss of privileges in [/r/science](#).

If you have scientific expertise, please verify this with our moderators by getting your account flaired with the appropriate title. Instructions for obtaining flair are here: [reddit Science Flair Instructions](#) (Flair is automatically synced with [/r/EverythingScience](#) as well.)

[nallen](#)

Thanks very much for your wonderful questions! We really enjoyed reading and responding to them!

We are about to head off (to do more science!) but if you're interested in learning more about the relationship between giving and happiness, check out "Happy Money" by Elizabeth Dunn and Mike Norton <http://books.simonandschuster.ca/Happy-Money/Elizabeth-Dunn/9781451665079>

To see videos of kids completing our study and other similar studies, see Kiley Hamlin's website

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You can also follow our work on happiness on twitter @DunnHappyLab

Hi Lara, Kiley, and Elizabeth. Thanks for doing this AMA.

I'm the author of "[Experimenting With Babies: 50 Amazing Science Projects You Can Perform on Your Kid](#)," which takes published child-development research and adapts the experiments so parents can perform them on their own babies. The experiment in your study is interesting, and one that parents can probably try on their own toddlers!

When I speak about the research my book is based on, I am occasionally asked how child-development researchers feel about two things: 1) the extremely low sample sizes typically used in their experiments, and 2) the attempted quantification of complex things like emotional states based on proxies.

In this case, only twenty toddlers participated in the main study. And their emotional states were quantified using a proxy (expressions), coded on a seven-point scale of perceived happiness, which certainly has some room for subjectivity, inexactitude, or error.

Would you mind talking about these two specific challenges in child-development research, and how they affect reproducibility and our ability to make broad inferences (e.g. giving makes children happy) from the data?

[jawn317](#)

Hi! Thanks for your questions! Regarding question 1 on small sample size, you are absolutely right. Our samples are low and in an ideal world we'd have much bigger samples. That's why it is extremely important to replicate studies rather than make too much of any one single study. Since this paper was published in 2012, we have replicated this finding here in Canada and with a sample of slightly older children in the South Pacific, subsistence farming island nation of Vanuatu.

<https://www.apa.org/pubs/journals/features/xge-0000082.pdf>

Regarding your second question on quantifying complex things like emotion, we also agree that coding facial expressions can only be a proxy for actual emotional experiences. Of course, any measure would be a proxy, even self report, and each measure has its own limitations. Given that we were working with largely pre-verbal children, we were highly restricted in what measures we could use. Fortunately, people are pretty good at reading emotional expressions, and when we have different people rate the emotional expressions independently, they arrive at pretty similar ratings. In addition, our other research with adults provides converging evidence that giving leads to emotional rewards for adults, as measured both with self report and facial coding.

http://www.hbs.edu/faculty/Publication%20Files/Dunn%20Aknin%20%20Norton%20-2014%20CD_bfccfc43-4139-476a-904b-ebcf855ab7c3.pdf

How did you calibrate the 2 coders who were rating the children's apparent happiness? I understand they didn't know of the hypothesis but was there any additional calibration along the lines of "this looks like a 3, this looks like a 5" etc for consistency's sake.

Was the rating relative the the child's apparent happiness before the interaction or based solely on the interaction? To clarify, if the child was a 5 before the interaction and after was a 5 did that reflect in the results or was the interaction just recorded as a 5?

Is there a chance of cultural bias in this study? I notice all the children were Canadian but no mention of their parental ethnicity.

Did you take into account that the only children that were tested were the ones who were already outgoing and happy? You disqualified any child that wasn't. I noticed you even disqualified a child that gave freely. Why is that? Shouldn't his/her free giving without prompting be applicable as a data point or did I read that part wrong?

[eak125](#)

Lara/Kiley/Liz: Thanks for your question!

Coders were trained at the same time and given clear direction on how to use the 7-point likert scale. For instance, they were told that 4 is a neutral midpoint, 5 is a slight smile, 6 is a large smile and 7 is laughing. Coders made ratings for each child and phase on their own and ratings were not compared until the end.

Coders rated facial expressions during each phase of the study independently, rather than in comparison to previous phases. However, we used within-subjects analyses to compare how toddlers felt during each phase, allowing us to effectively parse out idiosyncratic differences in positivity.

Our original studies were all conducted in Vancouver, Canada, where the ethnic makeup of the city is fairly diverse, with large Caucasian and East Asian populations. Our participant population reflects this diversity. We did not find any differences across ethnicity, however our sample size is really too small to adequately test this. That said, we have since found the same results in Vanuatu (see previous post) suggestive that our effects emerge in children growing up in at least 2 very different cultural settings. We have also found similar effects of giving on happiness in adults around the world, in rich and poor countries alike. <https://www.apa.org/pubs/journals/releases/psp-104-4-635.pdf> We hope to expand our research to children in other cultures in the future, and would love to collaborate with researchers in other countries to more adequately explore the universality of this effect!

As a general rule, most child development research is done on typically developing kids who are in at least an ok mood during testing procedures. We had a few kids who dropped out due to fussiness in this sample, but the rate at which this occurred was low (3 kids), and reflective of some toddlers being uncomfortable in a lab setting. To clarify, the child who gave freely was not excluded from the entire study, it was only one data point that was missing. This was because this child just never chose to give the experimenter's treat, and instead gave her own treat away when asked to give the experimenter's treat. You're correct that this data point is very interesting (she seemed to REALLY enjoy costly giving), but since she did not complete that particular phase we did not have a data point for her for the non-costly giving phase.

What is your opinion on forced sharing ('Now Johnny, share with Lisa.'), vs. independent sharing ('Johnny, it looks like Lisa wants to play with that too.' then you wait to see what they do.)?

To what degree is the happiness found while sharing a reflection of their parents' emotional state ("My parents are happy when I share, so I'm happy when I share too") rather than their own internally derived emotional state? Did you control for this effect?

[tasty-fish-bits](#)

Great question! A large body of research with adults and kids suggests that the best bet is to provide the most subtle, yet effective nudge possible to encourage the desired behaviour. Forcing a child to give may lead them to do so, but not to internalize the value of this behaviour--ideally, children would feel like their decision to give was their own (even if clever parents pushed them gently in that direction).

If toddlers enjoy sharing and it's scientifically proven people enjoy giving more than receiving, how do some people develop to be greedy (and just plain jerks)?

[skaterdog](#)

Humans are the product of many competing motivations. Although we enjoy giving and being generous, we also are sometimes motivated to be more self-serving. Our study suggests that the motivation for prosociality emerges very early, at a time when most people tend to believe that children are entirely selfish. Our other work with adults has documented the contexts in which people are most likely to derive joy from giving. Although this is speculative, we would suggest providing children with little opportunities to give in emotionally-rewarding ways, in order to help them eventually develop into givers.

Do toddlers instinctively find babies cute? If you notice their reactions to babies, they are almost always excited, even babies seem to respond to their own reflection. Does this speak to an instinctive definition of cute within humans?

[nallen](#)

Yes. Babies readily respond to other babies, especially cute ones. A tendency to find infants cute is theorized to be built into all species that care for their young.

Thank you so much for doing this AMA! I find your research to be fascinating. My question is regarding the topic of egocentrism in toddlers, or the inability to take the perspective of others. I'm wondering if your findings dispute this theory, or is it possible that the two are not necessarily mutually exclusive?

[itshandbanana](#)

You're absolutely right that toddlers are not as readily able to take others' perspective as adults are. That said, lots of research over the last 20 years or so has suggested that toddlers do take others' perspective sometimes and in some situations. So, while feeling good about giving to others may require appreciating others' perspective, our study is certainly not the first to suggest toddlers can do this.

Have you found that your data correlates to those with intellectual disabilities as well such as developmental delays and autism and down syndrome?

[speckleeyed](#)

This is a great question, one that we are currently exploring in the lab. Stay tuned!

Hi there!

Im curious as to what sort of socioeconomic statuses these toddlers came from and if you assessed this in finding candidates for this study.

Also I have read that families that are more selfless pass their altruistic genes. So I guess my question is, did you have a screening protocol for not only the toddler, but also for the families? Thank you!

[maggiemoosecakes](#)

As we mentioned above, our original study was conducted with a relatively high SES sample in Vancouver, Canada. We have since found the same result in a rural, collectivist, village in Vanuatu, suggesting that these results are not specific to high SES children.

We did not have a screening protocol for families, but those willing to sign up for science studies shortly after their child's birth are likely somewhat more altruistic than average. We are so grateful to these families, without whom none of this research would exist!!

This is fascinating stuff! I am a brand new parent, so I will be reading all about this. What age do kids start showing this behavior, on average?

[Prodge58](#)

The earliest we have documented differential happiness following costly versus non-costly giving is 23 months. Spontaneous giving (of food, mostly) begins around 12 months, but is not particularly common until later in the second year.

Did some toddlers not find giving rewarding at all? How much variance was there between "child who found giving least rewarding" to "child who found giving most rewarding"? (A graph showing the sample data of reward level per child would be perfect)

Was their reward level consistent for the same child on repeated trials?

[somuchflannel](#)

Given our small sample size, our data were pretty consistent. Of course there was some variation, but almost all children were happier giving than receiving. However, this was a very specific and highly controlled context, so we assume there would be a lot of variation in happiness from giving in other situations.