



Cross-cultural reflections on the mirror self-recognition test



The performance of young children on the 'mirror self-recognition test' varies hugely across cultures, a new study has shown. This is the test that involves surreptitiously putting a mark on a child's forehead and then seeing how they react when presented with their mirror image. Attempts by the child to touch or remove the mark are taken as a sign that he or she recognises themselves in the mirror. Studies in the West suggest that around half of all 18-month-olds pass the test, rising to 70 per cent by 24 months. Chimps, orangutans, dolphins and elephants have also been shown to pass the test, and there's recent [debate](#) over whether monkeys can too.

[Tanya Broesch](#) and her colleagues began by taking a simplified version of the mirror self-recognition test to Kenya, where they administered it to 82 children aged between 18 to 72 months. This version of the test involved a small, yellow post-it note rather than a red splotch, and children weren't given the usual verbal prompts such as 'who's that in the mirror?'. Amazingly, just two of the children 'passed' the test by touching or removing the post-it note. The other eighty children 'froze' when they saw their reflection – that is they stared at themselves but didn't react to the post-it note.

Next, Broesch and her team took their test to Fiji, Saint Lucia, Grenada, Peru, Canada and the USA, where they tested 133 children aged between 36 to 55 months. The performance of the North American children was in line with past research, with 88 per cent of the US kids and 77 per cent of the Canadians 'passing' the test. Rates of passing in Saint Lucia (58 per cent), Peru (52 per cent) and Grenada (51 per cent) were significantly lower. In Fiji, none of the children 'passed' the test.

So, what's going on? Are children in these non-Western nations seriously delayed in their mirror self-recognition. The

researchers don't think so. First of all, they deliberately tested a wide age range – in Kenya up to age six – and they think it's highly unlikely mirror self-recognition could be delayed that far. 'Our impression,' the researchers said, 'was that they [the children] understood that it was themselves in the mirror, that the mark was unexpected, but that they were unsure of an acceptable response and therefore dared not touch or remove it.'

Inspired in part by past [research conducted in Cameroon](#), in which children who failed the mirror test tended to be the most compliant and obedient, Broesch and her colleagues speculated that the performance in the non-Western, more interdependent cultures may have been affected by the fact that children in these societies are often discouraged from asking questions (they're expected to learn by watching). 'This is in sharp contrast with the independence and self-initiative that tends to be encouraged and nurtured in the Industrial West,' the researchers said. Another factor could be the non-Western children's relative lack of familiarity with mirrors.

More research is needed to test the truth of these assertions. Meanwhile, this study provides a compelling example of why we must be cautious when extrapolating from Western psychology research. 'Negative results (whether in monkeys or humans) must be examined more closely and results remind us that transporting culture-specific tests among diverse human populations has the potential to lead to flawed interpretations of cognitive differences and developmental processes,' the researchers said.



Broesch, T., Callaghan, T., Henrich, J., Murphy, C., and Rochat, P. (2010). Cultural Variations in Children's Mirror Self-Recognition. *Journal of Cross-Cultural Psychology* DOI: [10.1177/0022022110381114](https://doi.org/10.1177/0022022110381114)

Post written by Christian Jarrett (@psych_writer) for the BPS Research Digest.

[Link](#) to Carl Zimmer post on mirror self-recognition in monkeys.

[Link](#) to recent journal special issue on psychology's over-dependence on WEIRD (Western, Educated, Industrial, Rich and Democratic) participants.

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21 thoughts on “Cross-cultural reflections on the mirror self-recognition test”



Mary H. says:

October 1, 2010 at 1:16 pm

very cool!!

I would think that the response to a mirror test is highly biased by the participant's past learning history and experiences (or lack there of) with mirrors. As well as how children are taught to behave in novel situations that they do not understand. Small children in the US spend lots of time around mirrors and are quite familiar with them.

I saw an article in Newsweek (or it could have been Time, I don't remember) recently about how many of our psych studies are highly influenced/biased by the fact that many of the subjects are Western (and more specifically university or college students!).

I am looking forward to researchers continuing to investigate other cultures and explore some of the psych concepts and facts that we take as givens. I believe many developmental milestones have less to do with reaching a certain age and more to do with environment and history of learning.

Thank you for posting this!

Mary Hunter

<http://stalecheerios.com/blog>

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Anonymous says:

January 27, 2019 at 9:03 pm

So Africans grow up in a desolate environment and their society / culture lacks a history of learning. Over thousands of years, can't mean that your people are less developed in all areas of cognition, and therefore have a lower IQ.

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j9 says:

October 1, 2010 at 3:11 pm

Mary, my first thought was yours exactly – maybe these kids are just unfamiliar with mirrors. But dolphins, elephants and chimps would have the same lack of exposure to mirrors. Definitely curious to see what comes of further study.

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Anonymous says:

October 1, 2010 at 4:52 pm

Unfamiliarity with mirrors obviously has little to do to with this compared to the children's expectations of appropriate behavior, as the thesis of this article makes clear. Besides being somewhat of a common sense notion to expect many Non-Western families to own mirrors, this conclusion is also specifically denied on page 3 of the cited study. I wonder why the author of this blog felt it necessary to include it as “another factor”.

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Christian Jarrett says:

October 1, 2010 at 5:10 pm

Anonymous at 5.52pm. Page 3 of the cited study describes the general methodological procedure of the research. P.9 (the general discussion) says: 'It may be important to note the general use of mirrors in each of the cultures. ... Although mirrors are present in most non-Western and all Western homes, their use varies

considerably. ... The unfamiliarity with public mirror exposure may be linked to the enhanced “freezing” behaviour by non-Western children, particularly when discovering that their face is marked.'

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Phil B says:

October 1, 2010 at 7:20 pm

Well, hm yeah, westerners are also damn good at making a study fit their views (be it financialy, or politicaly motivated)...

In a way or the other, they often end up being too judgemental but also way too complacent with Africans.

I'd have liked an Asian group too.

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Anonymous says:

October 3, 2010 at 8:46 am

I don't know – I think if someone stranger came up to me, put a post it note on my face, and then positioned me in front of a mirror without saying anything, I would probably be pretty stunned too.

There are some studies that point to consistent cultural differences in self-recognition (as well as one great study contrasting self-recognition with self-regulation, which Western kids tend to fare worse at). Still, I can't help but think that the obvious answer may be the strangeness of research. It's odd enough for kids in the U.S., who are talked to constantly and encouraged to react (not necessarily the case elsewhere), to have to deal with a strange person putting them in awkward situations. It has to be entirely off-putting to have some strange foreigner come up and start doing tests on you.

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Anonymous says:

January 27, 2019 at 9:12 pm

So generations upon generations of African people living in the same oppressive society where exploration is discouraged, learning is discouraged, and socialization with those outside of your family or village is discouraged, can't create a continent of people who don't have the skills to live in Western society? I think that's what you're saying, that Africans should stay in Africa, and maybe African Americans should move back to Africa. Maybe African Americans could bring a few ideas there with them which could help Africans, since getting that information from white researchers is heresy.

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Anonymous says:

October 3, 2010 at 11:08 pm

sounds like an IQ-related thing...

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Anonymous says:

October 4, 2010 at 2:03 pm

What experience do most of the kids have with stuff put on their faces by adults? I can think of many things adults put on kids heads and faces (decorative and religious) that aren't supposed to be wiped off. The kids might have learned that you're not supposed to wipe things off.

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Anonymous says:

January 6, 2014 at 12:26 pm

Underdeveloped neocortex in Africans?

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anon says:

October 12, 2018 at 12:40 am

over developed neocortex in westerners?

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Chaz says:

June 10, 2019 at 3:40 pm

Nah, it's underdeveloped neocortex in Africans

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minae says:

March 20, 2018 at 4:41 pm

It's almost impossible to consider certain reasons for the results in public, but it can't be ignored that the results compare nicely to previous studies about racial differences in intelligence. Undoubtedly there are multiple sociological reasons for the behaviour of the children, but if they want to be honest with their results, this connection shouldn't be ignored as one contributory factor.

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anon says:

October 12, 2018 at 12:37 am

and what studies would that be? if you properly did your research, different groups of people have different social norms and what works for A doesn't necessarily imply it would automatically work for B. And just because it doesn't work for B doesn't imply B is lacking but rather the test is lacking as it is not modified to cater for the lifestyle of B. So next time you make racial comments, first do your research.

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Chaz says:

June 10, 2019 at 3:42 pm

Are you implying group B which are humans are not as smart as dolphins?

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loscuentosdetita says:

March 20, 2018 at 5:05 pm

WAKANDA FOREVAH!!!

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