

# Seeds of economic health disparities found in subsistence society

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No billionaires live among the Tsimane people of Bolivia, although some are a bit better off than others. These subsistence communities on the edge of the Amazon also have fewer chronic health problems linked to

the kind of dramatic economic disparity found in industrialized Western societies.

For a study in the journal *eLife*, a research team led by Aaron Blackwell of Washington State University and Adrian Jaeggi of University of Zurich tracked 13 different health variables across 40 Tsimane communities, analyzing them against each person's wealth and the degree of inequality in each community. While some have theorized that inequality's [health impacts](#) are universal, the researchers found only two robustly associated outcomes: higher blood pressure and respiratory disease.

"The connection between inequality and health is not as straightforward as what you would see in an industrialized population. We had a lot of mixed results," said Blackwell, a WSU associate professor of anthropology. "These findings suggest that at this scale, inequality is not at the level that causes health problems. Instead maybe it's the extreme inequality in a lot of modern environments that causes [health problems](#) since it's unlike any inequality we've ever had in our [evolutionary history](#)."

Anthropologists are particularly interested in studying the Tsimane because their traditional lifestyle better resembles the conditions humans lived under for many centuries before the modern era. The Tsimane eat very little processed food—instead they forage, hunt, fish and grow crops. They also get plenty of exercise through their daily activities and have few health conditions associated with modern societies like obesity, diabetes, and heart disease. They do not have easy access to modern health care so do have to contend with parasites and many respiratory conditions ranging from the common cold to pneumonia.

Starting in 2001, a team of health care workers and researchers have visited these communities annually to provide care and collect data as

part of a larger Tsimane Health and Life History Project. For this study, Blackwell, Jaeggi and their colleagues were able to analyze data from different points in time, extending to 2015.

Tsimane communities are smaller and more egalitarian than most industrialized societies but some of the communities have more inequality than others. The researchers found that for several health variables, including body mass index, gastrointestinal disorders and depression, there was not a clear connection to disparity.

However, in communities where inequality was high, many individuals had higher blood pressure, whether they were at the top or the bottom of the economic pecking order, compared to their peers in communities that were less stratified. The highest blood pressure was found among poor Tsimane men, no matter where they lived.

"Basically, it's bad to be poor, but it's also bad to be poorer," said Jaeggi. "If you feel like you're worse off than other people, that's stressful. In Western industrialized societies, it's associated with many negative health consequences like high blood pressure, cardiovascular problems and infectious disease as COVID-19 has shown. In the Tsimane communities, we did find some negative effects of living in a more unequal community, but it definitely wasn't on all of the outcomes, so it seems like it's less of a universal pattern."

This study was conducted before the pandemic, so COVID-19 impacts weren't included, but the researchers did find some connection with increased risk of respiratory disease like influenza and pneumonia to inequality. The authors said it was unclear what the exact mechanisms for that connection might be, as there wasn't a clear connection with stress, unlike in Western societies.

Blackwell also noted that while increased high blood pressure was found

in more unequal communities, it hadn't developed into worse conditions such as hypertension and cardiovascular disease which are more prevalent in industrialized societies.

"I think this study tells us that there are some of the seeds of why inequality is bad for us, even in relatively egalitarian societies without huge economic differences," he said. "So perhaps if we want to increase [health](#) for everybody, then trying to reduce [inequality](#) is one route to do that."

**More information:** Adrian V Jaeggi et al, Do wealth and inequality associate with health in a small-scale subsistence society?, *eLife* (2021). DOI: [10.7554/eLife.59437](https://doi.org/10.7554/eLife.59437)

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