

Paper in a Nutshell

Subsistence Theory: How people historically made a living shaped their behavior, psychology, and social relationships (defined as culture), with impacts lasting into the modern day.

- *Farming* cultures (East Asia) are collectivistic, with binding social ties that prioritize responsibilities in close relationships.
- *Herding* cultures (the West) are individualistic, encouraging autonomy, freely chosen relationships, and small ingroup loyalty and outgroup avoidance.

Question: How might *fishing* have influenced culture?

- Fishing is also a major subsistence style around the world, yet few studies have considered its effect on culture.

Our Approach to Explore Fishing Cultures:

1. Leverage Japan as a natural experiment.
2. Test the robustness of the findings across 100 nations and 1,265 ethnic groups worldwide.

Findings & Contributions:

1. Fishing has shaped large-scale differences in human behavior, psychology, and culture ⇒ adds to subsistence theory that has largely focused on farming and herding.
2. The cultural patterns of fishing are novel and do not fit neatly into the individualistic-versus-collectivistic dichotomy that was useful in prior subsistence studies ⇒ adds nuance to the prevailing individualism-collectivism dichotomy and helps push forward our understanding of which cultural characteristics tend to go together and why.

Approach

Japan offers a useful initial test case to examine fishing cultures because:

- Fishing has been an important subsistence style in Japanese history.

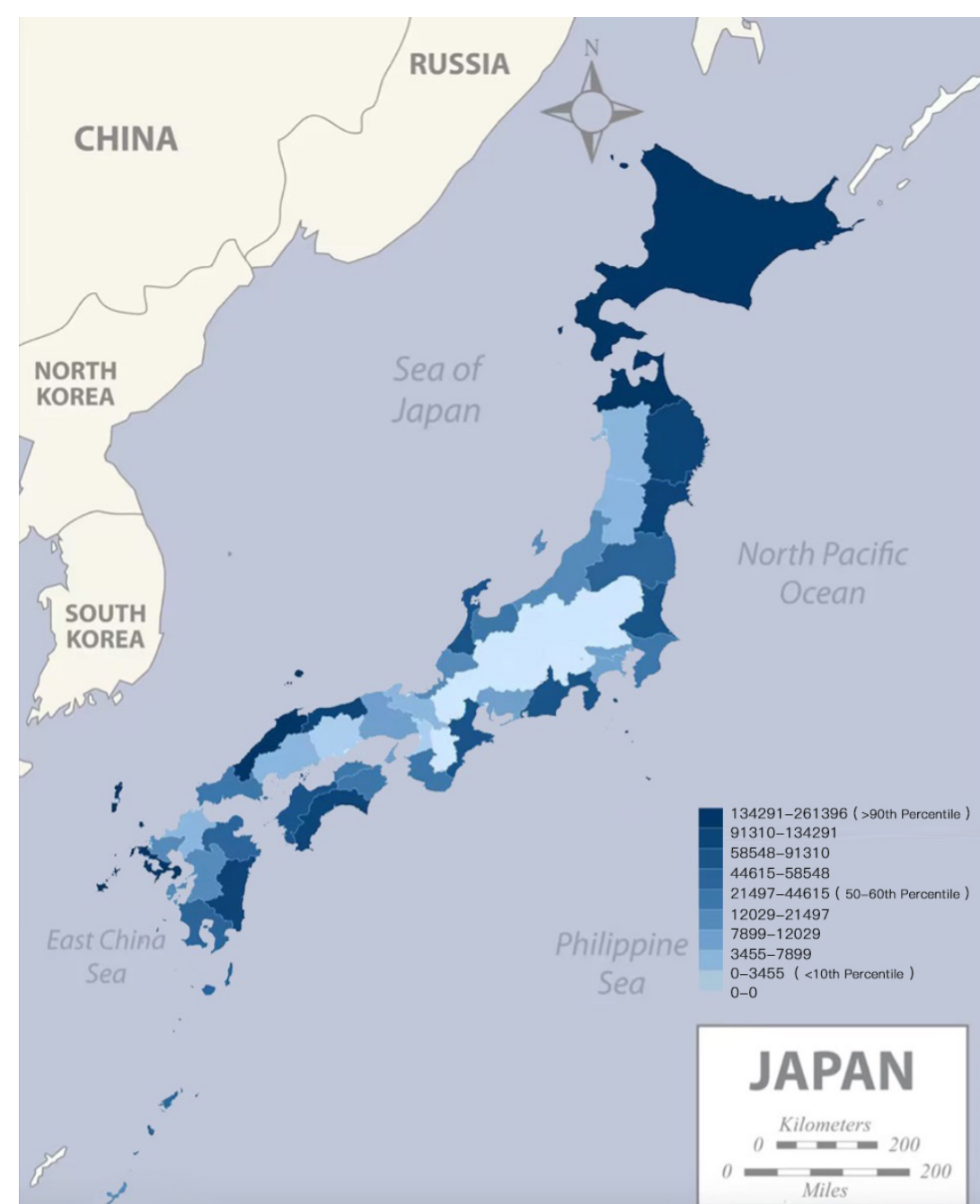


Figure 1. Darker areas indicate higher levels of fishing dependence.

- Regions in Japan vary widely in traditional reliance on fisheries but share the same language, religion, ethnicity, and history over generations → minimizes unobservables.

Test the findings in an analysis of 100 nations and 1,265 historical ethnic groups worldwide:

- Check whether findings reflect specifically on how people fish in Japan or on general features of fishing practices.

Measuring the degree to which people relied on fishing:

- Census data from the Statistics Bureau of Japan;
- Ethnographic records (Murdock 1967);
- Exogenous, ecological determinants of fishing (Dalgaard et al. 2020) → **alleviates concerns of reverse causality.**

Outcomes:

- **Data:** Our own surveys (1,010 participants in Japan and 16,237 worldwide), World Values Survey, Census data, and historical folklore (Michalopoulos and Xue 2021).
- **Measures:** Six cultural traits that are among the most widely studied in both culture and subsistence research:
 - Cultural thought style: Holistic thinking
 - Responsibilities in close relationships: (i) Duties to parents; (ii) Instilling obedience in children
 - Intergroup bias: (i) Trust in ingroups relative to outgroups; (ii) Opposition to having outgroup neighbors; (iii) Treat friends better than strangers for the same behaviors.

Details are in the paper, available on An's personal website. If you're interested, drop us an email please. We'd love to hear what you think!

Two Reasons Why There Is Less Research on Fishing

1. **Fishing is an overly broad category:** Open sea fishing is different from freshwater fishing. Whaling is different from catching trout in a river. With such a broad category, it can be difficult to draw clear conclusions.
 - So here we separate out one specific type of fishing — **Marine Fishing** (catching fish and other aquatic species from oceanic environments).
2. **Cultural Traits Do Not Map Onto Common Categories:**
 - Herding and farming map neatly onto individualism and collectivism. They also largely map onto East-West cultural differences.
 - By contrast, marine fishing cultures take elements of *BOTH* individualism and collectivism. Results that do not fit neatly into pre-existing categories or theories can be difficult for researchers to grapple with or publish.

Results

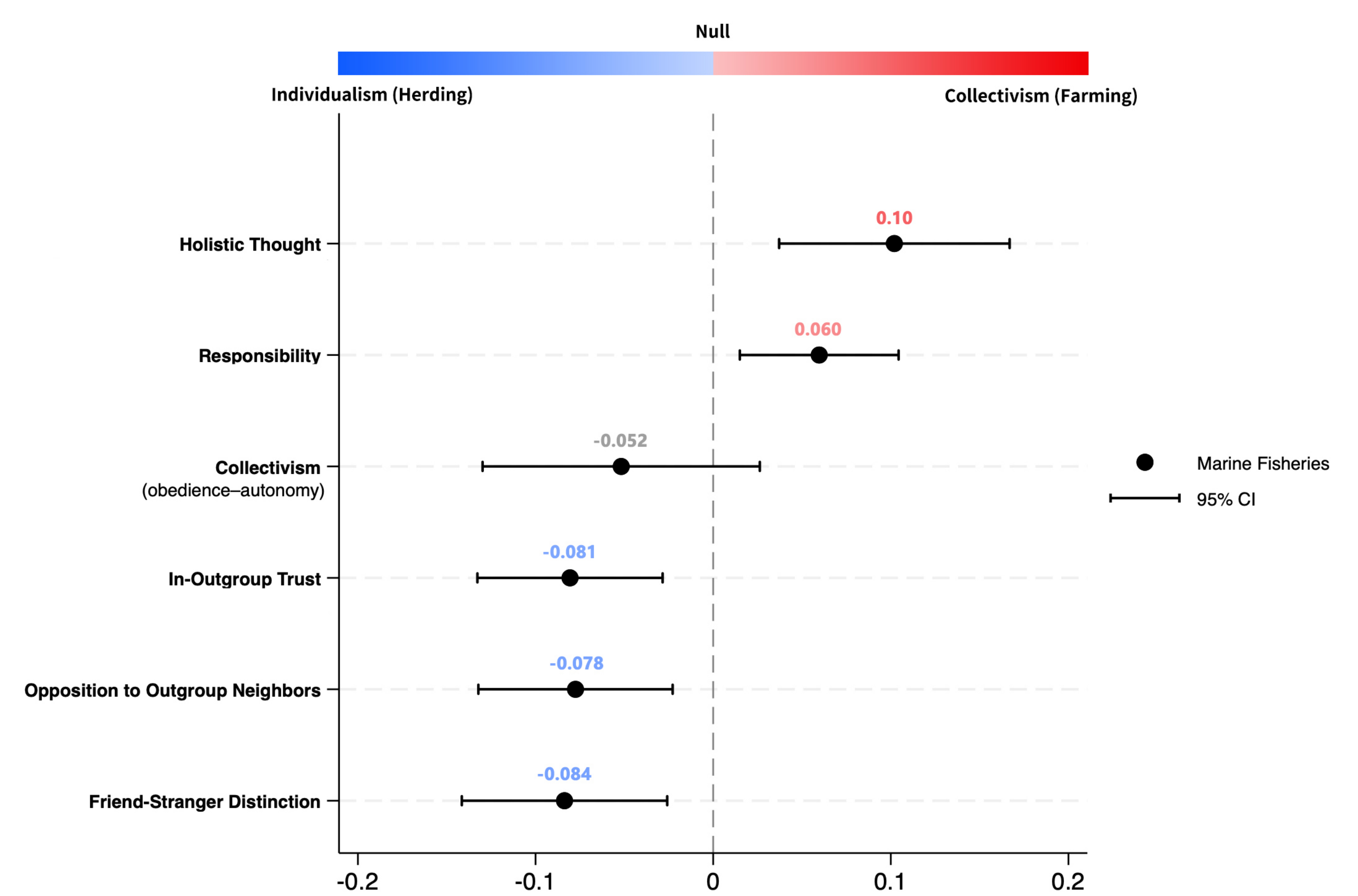


Figure 2. This figure plots standardized estimates of marine fishing on outcomes.

Theoretical Background: The six outcomes we test are “expected” to go in the same direction:

- They all tend to fall on the left-hand side in individualistic cultures and the right-hand side in collectivistic cultures.
- This argument is supported by previous studies (herding versus farming; West versus East) as well as our own data (correlations among outcomes > 0.5).

The cultural patterns of marine fishing are novel. They hybridize characteristics from both the collectivistic and individualistic cultures.

- Collectivistic characteristics: respondents from marine fishing regions prioritize responsibilities in close relationships and exhibit holistic thinking.
- Individualistic orientations: respondents do not score higher on Census markers of collectivism. They also show less ingroup loyalty and outgroup avoidance.

These findings hold true across Japan and worldwide, and are robust across:

- Historical and contemporary measures of the outcomes.
- A wide range of potential confounds, estimates of potentially omitted variables, and an instrumental variable strategy using ecological factors to predict marine fishing dependence.

Mechanisms

Alternative factors that coastlines allow—trade or transportation—cannot explain the results.

- Estimates of marine fishing hold after controlling for various proxies related to trade and transportation (e.g., regions’ distance to the nearest coast, roads, ports, and harbors in the 1800s).

What is special about marine fishing that could explain the cultural differences?

1. **The need for interdependence and coordination** fosters a holistic mode of thought and a sense of responsibility in close relationships.
 - Similar findings are observed in studies of farming and in lab experiments that prime people with interdependence.
 - Marine fishing requires interdependence and shared responsibility for dangerous tasks like navigating large boats and hauling heavy catches.
2. **Contact with broader networks of people** leads to low intergroup bias.
 - Supported by research in herding cultures and more broadly by studies on social identity and mobility.
 - Marine fishers work with people outside their immediate family circles. Boats are a form of transportation and provide access to movement and interactions with unfamiliar others.

Test: Use freshwater fishing (catching fish in rivers, lakes, and ponds) as a placebo.

Justification: It differs from marine fishing mainly in the mechanisms of interest above while being otherwise similar in many ways (e.g., nutrition, diet, or genetic factors).

Result: Freshwater fishing does not predict the cultural differences that marine fishing does.