MAX PLANCK INSTITUTE
FOR EVOLUTIONARY ANTHROPOLOGY

STUDY INFORMATION AND DATA USE AGREEMENT FOR THE RESEARCH PROJECT: "*CROSS CULTURAL COMPARISON OF HUMAN GROWTH TRAJECTORIES*"

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1. Brief Description

In this project, we will apply the growth model recently developed by Bunce, Fernández, and Revilla-Minaya 2022 (see: Causal models of human growth and their estimation using temporally-sparse data) to longitudinal datasets from populations inhabiting a wide range of ecoregions with the aim of distinguishing and describing general patterns and global variation in human growth trajectories. By using this model, we expect to be able to estimate, and hopefully disentangle, the relative contributions of different factors affecting growth in height and weight around the world, as well as to compare specific components of growth among diverse populations.

2. Intended use of the Data

The data provided by the collaborators in this project will be used for the sole purpose of this study on the comparison of growth trajectories. The final product will be one or more scientific articles on this topic. Data will not be used for any commercial purposes. We will not distribute these data to third parties under any circumstance. We will make no attempt to identify or contact research participants, their households or communities. Collaborators will have the option of making the de-identified data they contribute publicly available as an accompaniment to the published article(s) that result from this project (see below).

3. Dataset and population (s)

Please provide the following characteristics of the dataset (s), indicating population, location (s), a brief description of data collection methods and/or a reference for them, and indicate whether data was collected after IRB approval or other ethics review (please, indicate review board and protocol number). If other ethical protocols were followed, please specify.

- **Population name(s) and brief description (e.g., subsistence practices, refugees from another region, access to Western healthcare systems, common health challenges, etc.):**

Ust'-Avam (Contributed by John Ziker; Fieldwork 1994-2007) Ust'-Avam is an indigenous Siberian community of ~550 people on the Taimyr Peninsula, the northernmost extension of the Eurasian landmass. Ust'-Avam, is approximately 50 percent Dolgan, 45 percent Nganasan, and 5 percent other nationalities from the former Soviet Union (Ziker 2002). Until the mid-1970s, Dolgan families traditionally practiced reindeer pastoralism, mostly in combination with terrestrial game hunting, fishing, trapping, and mercantile trading in extended family groups (Popov 1937, 1964), and later in Soviet-era work collectives. A minority of Dolgan families utilized dog teams for travel instead of domestic reindeer. In the 1920s, Soviet census-takers identified a small proportion of Dolgan families who owned domestic reindeer herds running into the thousands of head (Ziker 2011). Most families migrated along with their reindeer herds to the north or into the mountains during summer, then back to the forest in winter. Some of these families had strong reputations in mercantile trade and would travel hundreds of kilometers from Lake Essei to Volochanka and Dudinka. Soviet authorities viewed such families as exploiters, and many were disenfranchised and arrested as nomadic and clan soviets were established. The Nganasan were traditionally known for their wild-reindeer hunting and use of small herds of domestic reindeer for decoys (Popov 1966). They lived to the north of the Dolgan, and would migrate into northern Taimyr during summer and back to the Dudypta River and tree line in winter. Shamanism was a strong tradition among the Nganasan, and a few individuals had reputations for being powerful shamans. The Dolgan language is similar to Sakha (Yakut), the northernmost branch of the Turkic language family. Nganasan is one of six languages in the Samoyedic branch of the Uralic language family. Most younger individuals now speak Russian as their primary language. At the time of the advent of Soviet power, the Nganasan lived in mobile extended family units and had seven exogamous patrilineal clans. Bilateral cross-cousin marriages occurred into the 1940s and 1950s. There have been many mixed marriages between these groups and between members of these groups and non-indigenous individuals in the community in recent decades (Ziker 2002). Descent and postmarital residence norms have shifted significantly since collectivization in the 1930s and development of state farms and permanent settlements in the 1960s and 70s. During the period of data collection (1994-2007), the vast majority of families were living in Ust'-Avam poselok (a compact settlement) on the Avam River, 13 kilometers upriver (south) from the confluence of the Avam and Dudypta Rivers. A small minority of indigenous households (~10) lived in a smaller settlement Kresty Taimyrski at the confluence of the Dudypta and Piasino Rivers, about half the distance by river to the industrial zone of Noril'sk. Another 10-15 households lived in single family, duplex, and quadraplex housing distributed along the Dudypta River at its major tributaries. Each house was associated with a hunting territory assigned during the Soviet Union (Ziker 2003). Another dozen or so households living in the main Ust'-Avam settlement had large (>100,000 hectares) assigned hunting territories north and south of the village and not on major rivers. These territories were located up to 150 km from the community. Most families who had

received assigned territories had some historical affiliation to campsites and trap lines within their territory, although because a number families were moved to Ust'-Avam to make way for the development of Noril'sk in the 1940s, some inheritance was cognatic and some territories were assigned to nonrelatives. Inheritance of these territories was generally patrilineal during the period of data collection, although some cognatic inheritance was also observed. Traditionally, a bride price was required for marriage in both Dolgan and Nganasan groups. Some families still maintain this practice to some extent giving items such as frozen fish and skins from fur-bearing animals to the bride's family. There were many single mothers in the community (ostensibly to take advantage of social welfare payments) and divorce was common. There were a few women who had moved from other villages to marry and there are several men who moved to the community during its construction in the 1970s and 80s and married local women. Census work was done in 1994, 1997, 2001, 2003, and 2007.

The community went through a period of extreme economic distress following the 1993 dismantling of state farms where most adults had been employed during the USSR and early 1990s. This distress significantly affected fertility rates through the early 2000s with only the start of recovery in 2007 (Nolin and Ziker 2016).

Popov, Andrei A. 1937. Okhota i rybolovstvo u Dolgan. In Pamiati V.G. Bogoraza (1865–1936) Sbornik Statei. Moscow: Izdatel'stvo Akademii Nauk SSSR.

Popov, Andrei A. 1964. The Dolgans. In The Peoples of Siberia, ed. M. G. Levin and L. P. Potapov. Chicago: University of Chicago Press.

Popov, Andrei A. 1966. The Nganasan: The Material Culture of the Tavgi Samoyeds. Bloomington: Indiana University Press.

Nolin, D. A., & Ziker, J. P. (2016). Reproductive Responses to Economic Uncertainty: Fertility Decline in Post-Soviet Ust'-Avam, Siberia. Human Nature, 27(4), 351–371. https://doi.org/10.1007/s12110-016-9267-6

Ziker, John P. 2002. Peoples of the Tundra: Northern Siberians in the Post-Communist Transition. Prospect Heights, Ill.: Waveland Press, Inc.

Ziker, John P. 2003. Assigned Territories, Family/Clan/Communal Holdings, and Common-Pool Resources in the Taimyr Autonomous Region, Northern Russia. Human Ecology 31 (3): 33168. doi:10.1023/A:1025024804641.

Ziker, John P. 2011. Microdemographics and Indigenous Identity in the Central Taimyr Lowlands. In Indigenous Peoples and Demography: The Complex Relation between Identity and Statistics, edited by Per Axelsson and Peter Sköld, 219–37. New York; London: Berghahn Books.

- **Location (s) (please be as specific as possible, and include GPS coordinates if available):**

  The community is approximately 250 kilometers ENE by air from the regional capital, Dudinka, and 400 kilometers by water from the industrial city of Noril'sk.

- **Data collection methods (please include reference if available):**

A medical scale with height rod was used to weigh and measure the height of schoolchildren. Children were fully clothed and wearing footwear. The measurements were completed by the assistant director of the school—a member of the indigenous community. My role was to record the results.

- **IRB/ethical review board approval (yes/no, explain):**

No ethics review was required at that time and with my affiliation at MPI Social Anthropology.

4. Full name, affiliation and e-mail of all contributors/collaborators for this dataset (s):

John Peter Ziker
Department of Anthropology
Boise State University

5. Data submission

Please send a **link to a folder** containing a file or several files (in case of more than one dataset) in **CSV format** to catalina_fernandez@eva.mpg.de.

- Please include the **name of the population in the file name**, and an additional dataset identifier in case of multiple datasets.
- If the dataset also contains single (as opposed to longitudinal) measures for some individuals, please do not remove them from the file. We will also use those observations in the analysis.
- If you have data on adult individuals, whether or not they were also measured as children/adolescents, please include these observations as part of your dataset.

Please, do not include any direct identifying information in the dataset relating to the individuals, their relatives or household members, such as names, addresses, telephone numbers, e-mail addresses or social media identifiers, etc.

For each dataset, we request collaborators on this project to share a **deidentified** data file (.csv) containing the following information and columns:

Column 1: Individual identification code or number that is consistent across longitudinal observations of the same individual.
Column 2: Date of birth in **dd/mm/yyyy** format.
Column 3: Date of data collection event in **dd/mm/yyyy** format.

* If date of birth is not available, please provide **age** in days, whenever possible, for each data collection event.
* If known age is uncertain, if possible, please provide a **range** of minimum, estimated, and maximum age, based on your best approximations.

Column 4: Sex; coded as **m** or **f**.
Column 4: Height in cm
Column 5: Weight in kg

*Note that, for longitudinal measures, you will have multiple rows with the same individual identification code, date of birth, and sex, but with different dates of data collection, heights, and weights.

6. Long term archiving and data access

One of the objectives of this project is to make the deidentified datasets and code (s) used in the data cleaning and analyses available in an open-access repository. We encourage all collaborators to commit to share and deposit deidentified data in a public repository created for this project, once they have checked that, by doing so, they are not violating compliance with their ethical review protocols (e.g., IRB) or other agreements with research participants and community members/leaders. Making data open-access is <u>not a requirement</u> to participate in this study, but we believe that by granting public access to the code and data used we will allow other researchers to check our analyses and reproduce our findings.
If you agree that data from your research site can be made publicly available for this purpose, we will create an appropriate repository (e.g., on Github) to curate this dataset and indicate the contact information for the researchers responsible for each field site, in case someone wishes to use the dataset for a purpose other than simply checking the results of our analysis. If for any reason, in the future, you wish to change your decision regarding data access and usage, we can either include or remove the data from this repository.

Use of the data and access on a public repository (choose <u>one</u> option):

___x___ Restricted use. I agree that deidentified data can be made publicly available for the sole purpose of reproducing this specific analysis. Data cannot be used by the scientific community or the public for any other purpose.

_____ Unrestricted. I agree that deidentified data can be made publicly available without barriers to access or use.

_____ I do not consent to making this data available in a public repository. I am sharing this data only for the purpose of this study. I do not agree that this dataset(s) or any portion of it/them can be shared publicly under any circumstances.

7. Data sharing information to the communities involved

We believe that one of our responsibilities as scientists is to communicate research findings with the communities and individuals who provided their time and biometric information in order to make this study possible. We are aware that most, if not all, collaborators on this project have active field sites and engage regularly with the communities they work with for the purpose of

informing and sharing research findings and other initiatives alike. We ask collaborators to this project to share the results of this study with the contributing communities, particularly the parts that concern the specific population that they work with. If a collaborator is no longer in contact with the study population, please let the project leaders know so that together we can potentially brainstorm an alternative solution. Ideally, presenting results to participants will occur prior to publication, so that participating communities have the opportunity to (re)express their permission for us to publish the results. Sharing the results may take the form of a live Power Point presentation, a video, a written information sheet, or any other format that the collaborator believes is most culturally appropriate to present this kind of information to the communities and participants who provided the data. If it is of interest as a model or guide, the project leaders (Catalina Fernández, Caissa Revilla-Minaya and John Bunce) can share with the contributors the materials that they will design for the Matsigenka population that they work with.

8. Manuscript authorship

The project leaders (Catalina Fernández, Caissa Revilla-Minaya and John Bunce) will draft the main manuscript and decide the order of authorship and co-authorship. We will ask all collaborators for feedback once analyses are completed and while we draft the discussion. We are currently considering organizing a workshop at MPI in Leipzig for project collaborators, after analyses are completed, but prior to publication, in order to share the results of the analyses, discuss the main findings and potential causal mechanisms contributing to variation in growth in different populations. This can also be an opportunity for planning further analyses and related projects for the future. More information about this potential meeting/workshop will be shared in the next months.

9. Tentative timeline

- 30 June 2023: All datasets have been submitted to the project leaders.
- 30 September 2023: All datasets have been checked for errors and formatted for analysis.
- 30 March 2024: Data analysis is complete; manuscript is drafted by project leaders.
- Mid-May 2024: Potential workshop for contributors/collaborators at MPI Leipzig.
- 30 July 2024: Results have been presented to participating communities.
- 30 August 2024: Main manuscript is submitted for publication.

***Note that this is a very tentative timeline.**

10. Questions

For questions regarding data submission, data archiving, and other aspects of this study, or additional information, please contact Catalina Fernández by e-mail at catalina_fernandez@eva.mpg.de.

Name of the person in charge of the dataset: John Ziker

Date: June 6, 2023