

README

Replication materials for

Local convergence of behavior across species

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This file summarizes how to replicate the results of the main manuscript and the supplementary material. The main directory contains three folders: (i) *data*, which contains the final datasets used for the analysis, (ii) *dofiles*, which contains the Stata code (do files) to replicate the results, and (iii) *results*, which contains all results generated by the Stata code.

We provide the datasets in both the csv and Stata's dta format. For an overview, we list all variable names and corresponding labels of both datasets below.

The do file *binford_replication* generates all results that are based on the Binford dataset. The do file *jorgensen_replication* generates all results that are based on the Jorgensen dataset. Each do file uses the dataset with the same name. We have run the analysis using Stata version 16.1. Running the analysis requires the user-written Stata packages mhtreg, heatplot, and coefplot (all available from the SSC archive). You can easily install these packages by activating lines 7-9 of the code in the do file *binford_replication*.

The folder *results* contains two subfolders with separate results for Binford and Jorgensen populations. The file names reflect the Figure/Table number in the manuscript.

Variables contained in dataset binford_replication

Variable name	Label
name	Name of human population
gatherer	Gatherer
phyl	Language phylogenetic classification
continent_cat1	Africa
continent_cat2	Asia
continent_cat3	Europe
continent_cat4	North America
continent_cat5	Oceania
continent_cat6	South America
ecosystems_cat1	Tropical & subtropical moist broadleaf forests
ecosystems_cat2	Tropical & subtropical dry broadleaf forests
ecosystems_cat3	Temperate broadleaf & mixed forests
ecosystems_cat4	Temperate conifer forests
ecosystems_cat5	Boreal forests / taiga
ecosystems_cat6	Tropical & subtropical grasslands, savannas & shrublands
ecosystems_cat7	Temperate grasslands, savannas & shrublands
ecosystems_cat8	Flooded grasslands & savannas
ecosystems_cat9	Montane grasslands & shrublands
ecosystems_cat10	Tundra
ecosystems_cat11	Mediterranean forests, woodlands & scrub
ecosystems_cat12	Deserts & xeric shrublands
lat	Absolute latitude
lat55	Above 55 degrees latitude
elv	Elevation, km above sea level
coastal	Binary variable for if the coast passes inside the grid square
meat_hum	HUM % dependence on terrestrial animals
meat_mam_25km	MAM % eat mammals/birds, 25km
meat_mam_100km	MAM % eat mammals/birds, 100km
meat_mam_genus	MAM % eat mammals/birds, genera avg. 25km
meat_mam_geosim	MAM % eat mammals/birds, similar areas
meat_bir_25km	BIR % eat mammals/birds, 25km
meat_bir_100km	BIR % eat mammals/birds, 100km
meat_bir_genus	BIR % eat mammals/birds, genera avg. 25km
meat_bir_geosim	BIR % eat mammals/birds, similar areas
fish_hum	HUM % dependence on aquatic organisms
fish_mam_25km	MAM % eat fish, 25km
fish_mam_100km	MAM % eat fish, 100km
fish_mam_genus	MAM % eat fish, genera avg. 25km
fish_mam_geosim	MAM % eat fish, similar areas
fish_bir_25km	BIR % eat fish, 25km
fish_bir_100km	BIR % eat fish, 100km
fish_bir_genus	BIR % eat fish, genera avg. 25km
fish_bir_geosim	BIR % eat fish, similar areas
store_hum	HUM quantity of food stored (ordinal)

store_mam_25km	MAM % food hoarding, 25km
store_mam_100km	MAM % food hoarding, 100km
store_mam_genus	MAM % food hoarding, genera avg. 25km
store_mam_geosim	MAM % food hoarding, similar areas
store_bir_25km	BIR % food hoarding, 25km
store_bir_100km	BIR % food hoarding, 100km
store_bir_genus	BIR % food hoarding, genera avg. 25km
store_bir_geosim	BIR % food hoarding, similar areas
dayrange_hum	HUM central place forager (binary)
dayrange_mam_25km	MAM day range, 25km
dayrange_mam_100km	MAM day range, 100km
dayrange_mam_genus	MAM day range, genera avg. 25km
dayrange_mam_geosim	MAM day range, similar areas
dayrange_bir_25km	HELP VARIABLE: VALUES ARE ARBITRARY!
dayrange_bir_100km	HELP VARIABLE: VALUES ARE ARBITRARY!
dayrange_bir_genus	HELP VARIABLE: VALUES ARE ARBITRARY!
dayrange_bir_geosim	HELP VARIABLE: VALUES ARE ARBITRARY!
migration_hum	HUM yearly distance moved
migration_mam_25km	HELP VARIABLE: VALUES ARE ARBITRARY!
migration_mam_100km	HELP VARIABLE: VALUES ARE ARBITRARY!
migration_mam_genus	HELP VARIABLE: VALUES ARE ARBITRARY!
migration_mam_geosim	HELP VARIABLE: VALUES ARE ARBITRARY!
migration_bir_25km	BIR migratory distance, 25km
migration_bir_100km	BIR migratory distance, 100km
migration_bir_genus	BIR migratory distance, genera avg. 25km
migration_bir_geosim	BIR migratory distance, similar areas
area_hum	HUM log area occupied
area_mam_25km	MAM log area breeding distribution, 25km
area_mam_100km	MAM log area breeding distribution, 100km
area_mam_genus	MAM log area breeding distribution, genera avg. 25km
area_mam_geosim	MAM log area breeding distribution, similar areas
area_bir_25kmdouble	BIR log area breeding distribution, 25km
area_bir_100kmdouble	BIR log area breeding distribution, 100km
area_bir_genusdouble	BIR log area breeding distribution, genera avg. 25km
area_bir_geosim	BIR log area breeding distribution, similar areas
reproage_hum	HUM male age at first marriage
reproage_mam_25km	MAM age at first reproduction, 25km
reproage_mam_100km	MAM age at first reproduction, 100km
reproage_mam_genus	MAM age at first reproduction, genera avg. 25km
reproage_mam_geosim	MAM age at first reproduction, similar areas
reproage_bir_25km	BIR age at first reproduction, 25km
reproage_bir_100km	BIR age at first reproduction, 100km
reproage_bir_genus	BIR age at first reproduction, genera avg. 25km
reproage_bir_geosim	BIR age at first reproduction, similar areas
polygyny_hum	HUM % males married polygynously
polygyny_mam_25km	MAM % unstable groups, 25km
polygyny_mam_100km	MAM % unstable groups, 100km

polygyny_mam_genus	MAM % unstable groups, genera avg. 25km
polygyny_mam_geosim	MAM % unstable groups, similar areas
polygyny_bir_25km	BIR male plumage score, 25km
polygyny_bir_100km	BIR male plumage score, 100km
polygyny_bir_genus	BIR male plumage score, genera avg. 25km
polygyny_bir_geosim	BIR male plumage score, similar areas
harem_hum	HUM % males married polygynously
harem_mam_25km	MAM % harems, 25km
harem_mam_100km	MAM % harems, 100km
harem_mam_genus	MAM % harems, genera avg. 25km
harem_mam_geosim	MAM % harems, similar areas
harem_bir_25km	BIR male plumage score, 25km
harem_bir_100km	BIR male plumage score, 100km
harem_bir_genus	BIR male plumage score, genera avg. 25km
harem_bir_geosim	BIR male plumage score, similar areas
matripatri_hum	HUM patrilocal as established family (binary)
matripatri_mam_25km	MAM % female natal dispersal, 25km
matripatri_mam_100km	MAM % female natal dispersal, 100km
matripatri_mam_genus	MAM % female natal dispersal, genera avg. 25km
matripatri_mam_geosim	MAM % female natal dispersal, similar areas
matripatri_bir_25km	BIR % female natal dispersal, 25km
matripatri_bir_100km	BIR % female natal dispersal, 100km
matripatri_bir_genus	BIR % female natal dispersal, genera avg. 25km
matripatri_bir_geosim	BIR % female natal dispersal, similar areas
exogamy_hum	HUM exogamous (binary)
exogamy_mam_25km	MAM dispersal distance, 25km
exogamy_mam_100km	MAM dispersal distance, 100km
exogamy_mam_genus	MAM dispersal distance, genera avg. 25km
exogamy_mam_geosim	MAM dispersal distance, similar areas
exogamy_bir_25km	BIR dispersal distance, 25km
exogamy_bir_100km	BIR dispersal distance, 100km
exogamy_bir_genus	BIR dispersal distance, genera avg. 25km
exogamy_bir_geosim	BIR dispersal distance, similar areas
divorce_hum	HUM ease of divorce (ordinal)
divorce_mam_25km	HELP VARIABLE: VALUES ARE ARBITRARY!
divorce_mam_100km	HELP VARIABLE: VALUES ARE ARBITRARY!
divorce_mam_genus	HELP VARIABLE: VALUES ARE ARBITRARY!
divorce_mam_geosim	HELP VARIABLE: VALUES ARE ARBITRARY!
divorce_bir_25km	BIR divorce rate, 25km
divorce_bir_100km	BIR divorce rate, 100km
divorce_bir_genus	BIR divorce rate, genera avg. 25km
divorce_bir_geosim	BIR divorce rate, similar areas
patcare_hum	HUM % diet derived from male labor
patcare_mam_25km	MAM % paternal care, 25km
patcare_mam_100km	MAM % paternal care, 100km
patcare_mam_genus	MAM % paternal care, genera avg. 25km
patcare_mam_geosim	MAM % paternal care, similar areas

patcare_bir_25km	BIR % paternal care, 25km
patcare_bir_100km	BIR % paternal care, 100km
patcare_bir_genus	BIR % paternal care, genera avg. 25km
patcare_bir_geosim	BIR % paternal care, similar areas
density_hum	HUM Log population density
density_mam_25km	MAM population density, 25km
density_mam_100km	MAM population density, 100km
density_mam_genus	MAM population density, genera avg. 25km
density_mam_geosim	MAM population density, similar areas
density_bir_25km	BIR population density, 25km
density_bir_100km	BIR population density, 100km
density_bir_genus	BIR population density, genera avg. 25km
density_bir_geosim	BIR population density, similar areas
groupsize_hum	HUM residential group size
groupsize_mam_25km	MAM social group size, 25km
groupsize_mam_100km	MAM social group size, 100km
groupsize_mam_genus	MAM social group size, genera avg. 25km
groupsize_mam_geosim	MAM social group size, similar areas
groupsize_bir_25km	BIR % foraging in large groups, 25km
groupsize_bir_100km	BIR % foraging in large groups, 100km
groupsize_bir_genus	BIR % foraging in large groups, genera avg. 25km
groupsize_bir_geosim	BIR % foraging in large groups, similar areas
classes_hum	HUM existence of social classes (binary)
classes_mam_25km	MAM % cooperative breeder, 25km
classes_mam_100km	MAM % cooperative breeder, 100km
classes_mam_genus	MAM % cooperative breeder, genera avg. 25km
classes_mam_geosim	MAM % cooperative breeder, similar areas
classes_bir_25km	BIR % cooperative non-kin breeder, 25km
classes_bir_100km	BIR % cooperative non-kin breeder, 100km
classes_bir_genus	BIR % cooperative non-kin breeder, genera avg. 25km
classes_bir_geosim	BIR % cooperative non-kin breeder, similar areas

Note: hum/mam/bir is short for human/mammals/birds.

Variables contained in dataset jorgensen_replication

Variable name	Label
name	Name of human population
meat_hum	HUM % diet contributed by large game, small animals, and fowl (ordinal)
meat_mam_25km	MAM % eat mammals/birds, 25km
meat_bir_25km	BIR % eat mammals/birds, 25km
fish_hum	HUM % diet contributed by aquatic animals (ordinal)
fish_mam_25km	MAM % eat fish, 25km
fish_bir_25km	BIR % eat fish, 25km
store_hum	HUM multiple storage sites (binary)
store_mam_25km	MAM % food hoarding, 25km
store_bir_25km	BIR % food hoarding, 25km
migration_hum	HUM non-sedentary settlement (binary)
migration_mam_25km	HELP VARIABLE: VALUES ARE ARBITRARY!
migration_bir_25km	BIR migratory distance
polygyny_hum	HUM extent of polygyny (ordinal)
polygyny_mam_25km	MAM % unstable groups, 25km
polygyny_bir_25km	BIR male plumage score, 25km
matripatri_hum	HUM patrilocal after marriage (binary)
matripatri_mam_25km	MAM % female natal dispersal, 25km
matripatri_bir_25km	BIR % female natal dispersal, 25km
exogamy_hum	HUM exogamous (binary)
exogamy_mam_25km	MAM dispersal distance, 25km
exogamy_bir_25km	BIR dispersal distance, 25km
density_hum	HUM population density (ordinal)
density_mam_25km	MAM population density, 25km
density_mam_25km	BIR population density, 25km
groupsize_hum	HUM group size (ordinal)
groupsize_mam_25km	MAM social group size, 25km
groupsize_bir_25km	BIR % foraging in large groups, 25km

Note: hum/mam/bir is short for human/mammals/birds.