Codebook to Accompany Data for Resource Stress and Religious Beliefs

Publication Title: Resource Stress Predicts Changes in Religious Beliefs and Increases in Sharing Behavior

Authors: Ian Skoggard, Carol R. Ember, Emily Pitek, Joshua Conrad Jackson, Christina Carolus Human Nature, June 2020

The following information is originally from Section 2 (Codebook) of "Supplement for 'Resource Stress Predicts Changes in Religious Beliefs and Increases in Sharing Behavior'"

SCCS_ID: Numerical identifier for each society in the Standard Cross Cultural Sample (SCCS; see Murdock & White 1969; White 1989)

Society_Name: Name of society in the SCCS (Murdock & White 1969; also see D-PLACE; https://d-place.org/societysets/SCCS#2/14.2/151.1)

Glottocode: Glottolog language code. (See Kirby et al. 2016; also see D-PLACE; https://d-place.org/societysets/SCCS#2/14.2/151.1)

Codes for the following variables (G1_Resolved to MS4_Resolved) are 0) No; 1) Yes; NA) Not applicable or not enough information to code.

- G1_Resolved (G1_Associated): "Is high god associated with weather?"
- G2_Resolved (G2_Harm): "Is high god associated with weather that hurts food supply?"
- G3_Resolved (G3_Help): "Is high god associated with weather that helps food supply?"
- **G4_Resolved (G4_Punitive)**: "Is high god's action(s) punitive with weather?
- SG1_Resolved (SG1_Associated): "Are any superior gods associated with weather?"

SG2_Resolved (SG2_Harm): "Are any superior gods associated with weather that hurts food supply?"

SG3_Resolved (SG3_Help): "Are any superior gods associated with weather that helps food supply?"

SG4_Resolved (SG4_Punitive): "Are any superior gods' action(s) punitive with weather?

MS1_Resolved (MS1_Associated): "Are any minor spirits associated with weather?"

MS2_Resolved (MS2_Harm): "Are any minor spirits associated with weather that hurts food supply?"

MS3_Resolved (MS3_Help): "Are any minor spirits associated with weather that helps food supply?"

MS4_Resolved (MS4_Punitive): "Are any minor spirits' action(s) punitive with weather?

Famine: Famine is defined as, "a time of starvation when either many human deaths occur or it is reported that a substantial segment of the society has to move because of a lack of food (Ember & Ember 1992:180)." Scale scores are as follows: 1) low threat, 2) moderate threat—no famine, but ethnographer reports ever present threat of famine, 3) moderately high threat (one famine in 25-year period), 4) high threat (2 or more famines in 25-year period.)

Z Famine: Z-score (centered and scaled) of Famine

Natural_Hazards: Defined as the incidence of severe weather or pest problems that destroy food resources (Ember and Ember 1992). Scale scores are as follows: 1) low threat, 2) moderate threat—no hazard, but ethnographer reports ever present threat of hazard, 3) moderately high threat (one hazard in 25-year period), 4) high threat (2 or more hazards in 25-year period.) In the original paper Ember & Ember (1992) use the phrase "natural disaster."

Z_Natural_Hazards: Z-score (centered and scaled) of Natural Hazards

Chronic_Scarcity: Measure of chronic resource problems in regards to diet and food supply (Ember & Ember 1992). Scale scores are: 1) food abundant year round, 2) some "hungry times," 3) some members of the population usually do not have enough to eat, 4) most members usually do not have enough to eat.

Z_Chronic_Scarcity: Z-score (centered and scaled) of Chronic Scarcity
Resource_Abundance (SCCS_Abundance_imp): Factor score weighs 11 items, highly

weighted on plant and animal richness, annual mean precipitation, precipitation predictability.

See Table S2 in Supplement for factor loadings and individual items.

Z_SCCS_Abundance_imp: Z-score (centered and scaled) of SCCS_Abundance_imp **LS4_Res_IA_2**: "Is labor shared outside the household on a seasonal basis, e.g., hunting

migratory animals or at harvest time?" (0) No, including inferred no; (1) Yes (codes from Ember et al. 2018)

S3_Resolved_IA_TR: "Is food shared outside the typical household frequently during certain seasons in ways different than the daily sharing of food?" (0) No, including inferred no; (1) Yes (codes from Ember et al. 2018)

MHG_23_4 (HG_Pres_MoralNoYes): A dichotomized variable (0 – 1) to create an absence (0) or presence score (1) of high gods concerned with morality based on data from the *Ethnographic Atlas* when high gods are present (codes A, B or C in Atlas; 2-4 in D-PLACE). The score of 0 means that high gods are present but not concerned with morality (A or B in Atlas or 2-3 in D-PLACE). The score of 1 means that high gods are concerned with morality--C in Atlas or 4 in D-PLACE. The Atlas data are from Murdock 1967 via D-PLACE; https://d-place.org/home.

MHG_123_4 (MHG_PresAbs): A dichotomized variable (0-1) to create an absence (0) or presence score (1) of high gods concerned with morality based on data from the *Ethnographic*

Atlas and D-PLACE (see above). The score of 0 means that there is either no high god or the high god is not concerned with morality (O, A or B in the Atlas, or 1-3 in D-PLACE); the score of 1 means that the high god is concerned with morality (C in the Atlas; 4 in D-PLACE). The Atlas data are from Murdock 1967 via D-PLACE; https://d-place.org/home.

Social_Complexity: Murdock and Provost's (1973) social complexity score based on a summary of 10 variables (retrieved from Divale [2004] as variable 158.1)

ResourceStress: Variable used in restructured file (restructured file was created for multilevel analyses). Contains the names of the resource stress variables

Stress: Variable used in restructured file (restructured file was created for multilevel analyses). Contains the corresponding values for "ResourceStress"

References

Divale, W. (2004). Codebook of variables for the standard cross-cultural sample. *World Cultures: The Journal of Cross-Cultural and Comparative Research*, 14(2), 1-347.

Ember, C. R. & M. Ember. (1992). Warfare, aggression, and resource problems: Cross-cultural codes. *Cross-Cultural Research*, 26(1-4), 169-226.

Ember, C. R., Skoggard, I., Ringen, E. J. & Farrer, M. (2018). Our better nature: Does resource stress predict beyond-household sharing? *Evolution and Human Behavior*, 39(4), 380-391.

Kirby, K.R., Gray, R. D., Greenhill, S. J., Jordan, F. M., Gomes-Ng, S., Bibiko, H-J, et al. (2016). D-PLACE: A Global Database of Cultural, Linguistic and Environmental Diversity. *PLoS ONE*, 11(7): e0158391. doi:10.1371/journal.pone.0158391.

Murdock, G. P. (1962ff.) Ethnographic atlas. *Ethnology*.

Murdock, G. P. (1967). *Ethnographic atlas: A summary*. Pittsburgh: The University of Pittsburgh Press.

Murdock, G. P. & Provost, C. (1973). Measurement of cultural complexity. *Ethnology*, 12(4), 379-392.

Murdock G.P. & White D.R. (1969). Standard Cross-Cultural Sample. Ethnology, 9:329–369.

White, D. R. (1989). Focused ethnographic bibliography: Standard cross-cultural sample. *Behavior Science Research* 23(1-4):1-145.