

# Codebook to Accompany Skoggard et al., “The Gods Must Be Angry: Bad Weather, Supernatural Punishment, and Cooperative Behavior” (under review)

---

## Variable Labels, Descriptions, and Codes

**SCCS\_ID:** Numerical identifier for each society in the Standard Cross Cultural Sample (see White 1989)

**Complexity:** For social complexity we used a median-split dichotomized summary score (26 and below vs 27 and above) computed from Murdock and Provost (1973) based on a summary of 10 variables (retrieved from Divale [2004] as variable 158.1). Scores are 0) simpler societies and 1) more complex societies.

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:** “Is high god associated with weather?”

**G2\_Resolved:** “Is high god associated with weather that hurts food supply?”

**G3\_Resolved:** “Is high god associated with weather that helps food supply?”

**G4\_Resolved:** “Is high god’s action(s) deemed angry, punitive or vindictive?”

**SG1\_Resolved:** “Are any superior gods associated with weather?”

**SG2\_Resolved:** “Are any superior gods associated with weather that hurts food supply?”

**SG3\_Resolved:** “Are any superior gods associated with weather that helps food supply?”

**SG4\_Resolved:** “Are any superior gods’ action(s) deemed angry, punitive or vindictive?”

**MS1\_Resolved:** “Are any minor spirits associated with weather?”

**MS2\_Resolved:** “Are any minor spirits associated with weather that hurts food supply?”

**MS3\_Resolved:** “Are any minor spirits associated with weather that helps food supply?”

**MS4\_Resolved:** “Are any minor spirits’ action(s) deemed angry, punitive or vindictive?”

**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.) Original paper (Ember & Ember 1992) uses term “natural disaster.”

**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.

**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.)

**Resource\_Abundance:** Factor score weighs 11 items, highly weighted on plant and animal richness, annual mean precipitation, precipitation predictability. See Supplement Table 6 for factor loadings and individual items.

**Climate\_Stability:** Factor score weighs 11 items, highly weighted on annual mean temperature, temperature predictability, and low annual mean temperature variance. See Supplement Table 6 for factor loadings and individual items.

**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. (Ember et al. 2018)

**S3\_Resolved\_IA\_TR:** "Is labor shared outside the typical household on occasions less than daily or almost daily but more than seasonally or a few times a year?" (0) No, including inferred no; (1) Yes. (Ember et al. 2018)

**EA\_34MHG:** A dichotomized variable to create a presence or absence of moral high gods based on data from the *Ethnographic Atlas* (Murdock 1967 via D-Place; <https://d-place.org/home>).

## 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, Carol R. and Melvin 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.

Murdock, George 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.

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