TABLE 1

Matrix of correlations among independent variables (wealth measures in Table 2, SOM); No imputed values

	gender	birth order	education	height	house hold assets	house quality	residence	child's father's residence	relatives	child's fathers relatives	conception status	witch	child's father witch
gender	1.00	-0.03	-0.01	-0.04	-0.05	-0.01	-0.06	0.00	0.03	0.06	0.02	0.04	0.02
birth order		1.00	-0.02	-0.03	-0.05	-0.04	0.03	0.07	-0.01	-0.03	-0.25	0.02	0.02
education			1.00	0.23	0.17	0.05	0.07	-0.19	-0.14	-0.01	0.18	-0.04	-0.03
height				1.00	0.16	0.13	0.00	-0.11	-0.16	0.03	0.01	0.04	-0.07
household assets					1.00	0.34	-0.01	0.07	0.07	-0.04	-0.03	0.00	-0.04
house quality						1.00	0.02	0.05	0.02	0.02	-0.02	0.01	-0.02
residence							1.00	0.00	0.01	-0.01	-0.02	-0.08	-0.07
child's father's residence								1.00	0.03	-0.06	-0.40	-0.01	-0.01
relations									1.00	0.21	0.01	-0.03	-0.01
child's father relations										1.00	0.04	0.04	0.20
conception status											1.00	-0.05	-0.03
witch												1.00	0.23
child's father witch													1.00

TABLE 2. The hazard ratios (Exp(B)) calculated from bivariate analyses, with cluster-robust standard error (SE) and statistical significance (P), for each independent variable in predicting childhood mortality in Mpimbwe; No imputed values.

Variable, reference category; sample sizes in parentheses	Exp(B)	SE	P ‡
Control variables			
Sex (879); ref category “female” (439)			
male (440)	1.12	0.164	0.48
Birth parity (880); ref category “2nd to 4th birth” (407)			
1st birth (196)	1.490	0.188	0.04
5th to 12th birth (277)	1.060	0.184	0.74
Child weight/age adjusted age Z-score (516)	0.539	0.150	0.00
Embodied Wealth			
Education (853); ref category "none” (144)			
lower primary (177)	0.942	0.241	0.80
upper primary (499)	0.733	0.205	0.13
some or finished secondary(33)	0.385	0.602	0.11
Height (619)	0.975	0.012	0.20
Material Wealth			
Household assets (in 1000 s. Tz) (770)	0.997	0.000	0.00
House quality (770); ref category “no baked bricks” (256)			
baked bricks	0.810	0.129	0.10
Relational Wealth			
Residence status (792); ref category “in household” (769)			

absent/unknown (6) **$**			
dead (11)	4.310	0.162	0.00
in village (6) **$**			
Child's father's residence status (792); ref category "in household" (489)			
absent/unknown (175)	1.810	0.170	0.00
dead (25)	2.470	0.308	0.00
in village (103)	1.070	0.232	0.79
Relatives (760); ref category "none" (48)			
1-6 (275)	1.770	0.429	0.18
over 6 (437)	1.410	0.424	0.42
Child's father's relatives (619); ref category "none" (84)			
1-6 (162)	1.880	0.381	0.10
over 6 (373)	1.450	0.358	0.30
Child's conception status (916); ref category "born outside/before marriage" (259)			
born in marriage (657)	1.010	0.169	0.97
Witch (916); ref category "uninvolved" (884)			
victim (23)	0.660	0.303	0.47
accused perpetrator (9)	5.020	0.570	0.00
Child's father witch (916); ref category "uninvolved" (887)			
victim (13) **$**			
accused perpetrator (16)	4.020	0.277	0.00

‡ Exp(B) and P corrected for shared parental effects using frailty models
$ Estimate could not be calculated because of small category sample size

Mathematical Appendix

The Akaike Information Criteria (AIC) is

$$AIC = -2 \log(L(\text{theta}|\text{data})) + 2 K$$

where L(theta|data) is the likelihood associated with the MLE estimates for a model with K parameters. The relative distances, rather than absolute magnitudes, of the AIC scores of the models are the basis for comparing them, and so it is common to report each model's delta AIC relative to the "top model" (with the lowest AIC score). The Akaike weight associated with a given model is considered to be the weight of evidence in favor of that model being the closest approximation to the "real" process that generated the data. Among all R models used in the model comparison, Akaike weights are calculating for model i with associated delta AIC d_i via

$$W_i = \exp(-0.5\ d_i)\ /\ \sum_{r=1}^{R} \exp(-0.5\ d\_r)$$

Rather than report the parameter estimates from a particular model, we can use the AIC weights and parameter estimates of all models to create model-weighted estimates (Burnham and Anderson, 2002). Specifically, the vector of model-weighted estimates across a set of R models is given by

$$\text{theta}_{\text{hat}} = \sum_{r=1}^{R} w_i\ \text{theta}_i$$

and has associated variance

$$\text{var}(\text{theta}_{\text{hat}}) = [\ \sum w\_i\ \text{sqrt}(\text{var}(\text{theta}_i) + (\text{theta}_i - \text{theta}_{\text{hat}})^2)\ ]^2$$

These two equations were used to produce the estimates presented in Table 1. Since these weights can be used to aggregate the estimates from each of the models in the model selection as well as their variances, doing so incorporates the results of the model rankings into the estimates themselves, and the added uncertainty that exists between models as well as within individual models.