SUPPLEMENTARY MATERIALS

JOINT DISTRIBUTION OF HELPING AND KINSHIP TIES

Support networks of all types are predominantly composed of closely related kin. SM Table 1 and SM Figure 1 highlight the distribution of between household relatedness by type of support.

Table S1. Distribution of Kin Ties in Household Support Networks.

Total	Ties	Density	R5	R25	R125	R0625	R0	Mean Coef. R
Borrow Money	125	0.0176	99	13	6	3	3	0.45
Borrow Items	254	0.037	147	42	22	10	10	0.348
Women's Help	183	0.02	157	13	4	1	1	0.579
Men's Help	201	0.0239	155	30	5	2	2	0.522
Any Help	492	0.0642	324	72	34	16	16	0.433

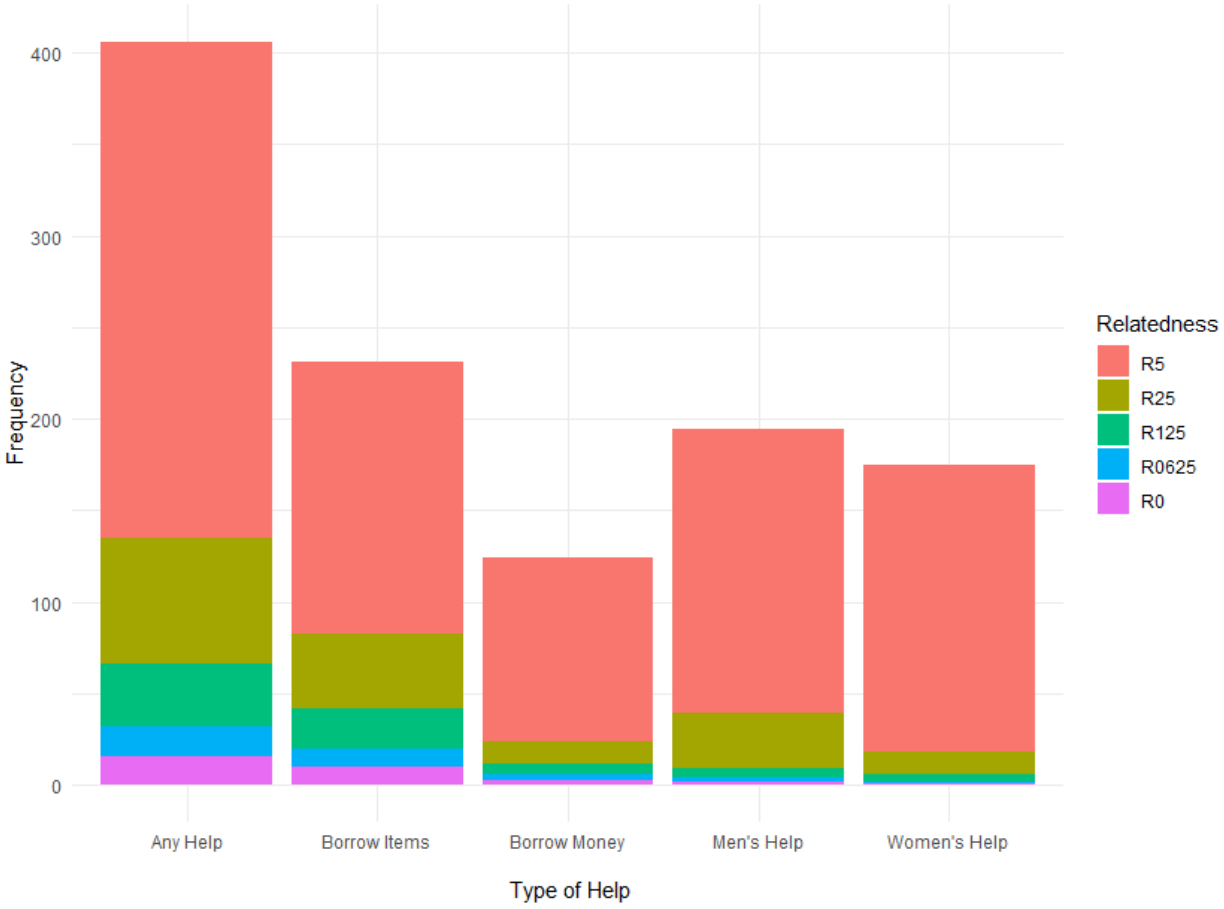

Figure S1. Distribution of Kin in support networks by support type.

NON-PARAMETRIC MEAN COMPARISON OF NETWORK KIN SUPPORT BY ECONOMIC STRATEGY

Table S2. Dunn's Mean Comparison Tests of Average Proportion of Kin in Support Networks by Economic Strategy

Group 1	Group 2	n1	n2	statistic	p	p.adj
Subsistence Agriculture	Intensive Agriculture	8	29	0.86	0.39	1.00
Subsistence Agriculture	Mixed	8	30	2.20	0.03	0.17
Subsistence Agriculture	Wage Labor	8	15	-0.52	0.60	1.00
Intensive Agriculture	Mixed	29	30	2.04	0.04	0.25
Intensive Agriculture	Wage Labor	29	15	-1.80	0.07	0.43
Mixed	Wage Labor	30	15	-3.49	0.00	0.00

SENSITIVITY ANALYSES USING ALTERNATIVE MEASURES OF HOUSEHOLD ECONOMIC STRATEGY

Table S3. OLS Regression of Total Number of Kin Ties and Proportion of Kin Ties in Support Networks

	Total Kin Ties			Proportion of Kin Ties		
	Estimate	Std. Error	p-value	Estimate	Std. Error	p-value
Intercept	**1.038**	**0.489**	**0.037**	**0.844**	**0.087**	**0.000**
Proportion of Wage Labor	-0.646	0.708	0.364	-0.063	0.118	0.593
Proportion of Agricultural Workers	**1.744**	**0.807**	**0.034**	**0.334**	**0.137**	**0.017**
Total Support Ties	**0.491**	**0.060**	**0.000**	**-0.026**	**0.011**	**0.014**

Higher levels of both total kin ties and proportion of kin ties with greater proportion of household adults engaged in agricultural labor.

Table S4. OLS Regression Predicting Household Economic Status

	Log Income			Income Per Capita			Material Wealth		
	Estimate	Std. Error	p-value	Estimate	Std. Error t	p-value	Estimate	Std. Error	p-value
(Intercept)	**9.53**	**0.30**	**0.00**	**8116.08**	**4430.28**	**0.07**	3810.10	38272.20	0.92
Economic Diversity	**0.18**	**0.07**	**0.01**	**2981.67**	**989.83**	**0.00**	**18439.40**	**8438.30**	**0.03**
Age of Male Head of Household	0.00	0.00	0.71	-27.06	53.61	0.62	**-964.70**	**455.40**	**0.04**
Proportion of Wage Labor	**0.99**	**0.34**	**0.01**	**13584.45**	**5032.74**	**0.01**	**92807.70**	**42799.80**	**0.03**
Proportion of Agricultural Workers	**-0.82**	**0.34**	**0.02**	**-14754.51**	**5017.74**	**0.00**	16593.80	42621.20	0.70
Proportion of Kin Help	**-0.70**	**0.27**	**0.01**	**-8599.44**	**3937.49**	**0.03**	22794.50	33784.70	0.50

Both log income and income per capita positively associated with proportion of wage-laborers and negatively associated with both proportion of agricultural workers and proportion of support coming

from kin. For material wealth, proportion of wage-labor negatively associated with wage-labor households.

SENSITIVITY ANALYSIS USING HOUSEHOLD MATERIAL WEALTH INCLUDING OUTLIERS

Table S5. Material wealth with uncoded outliers

	Material Wealth
Intercept	-9,938.09 (-108,087.70, 88,211.56)
Economic Diversity	**20,645.38** (1,630.51, 39,660.24)**
Age of Male Head of Household	**-860.72* (-1,844.78, 123.35)**
Intensive Agriculture	41,128.55 (-13,712.22, 95,969.31)
Mixed	2,877.27 (-55,000.52, 60,755.06)
Wage Labor	-14,466.72 (-74,921.49, 45,988.04)
Proportion of Kin Help	17,896.83 (-54,399.98, 90,193.63)
Total Number of Help Ties	-3,747.60 (-10,770.55, 3,275.35)
Observations	80
R^2	0.13
Adjusted R^2	0.04
Note:	65,318.40 (df = 72)

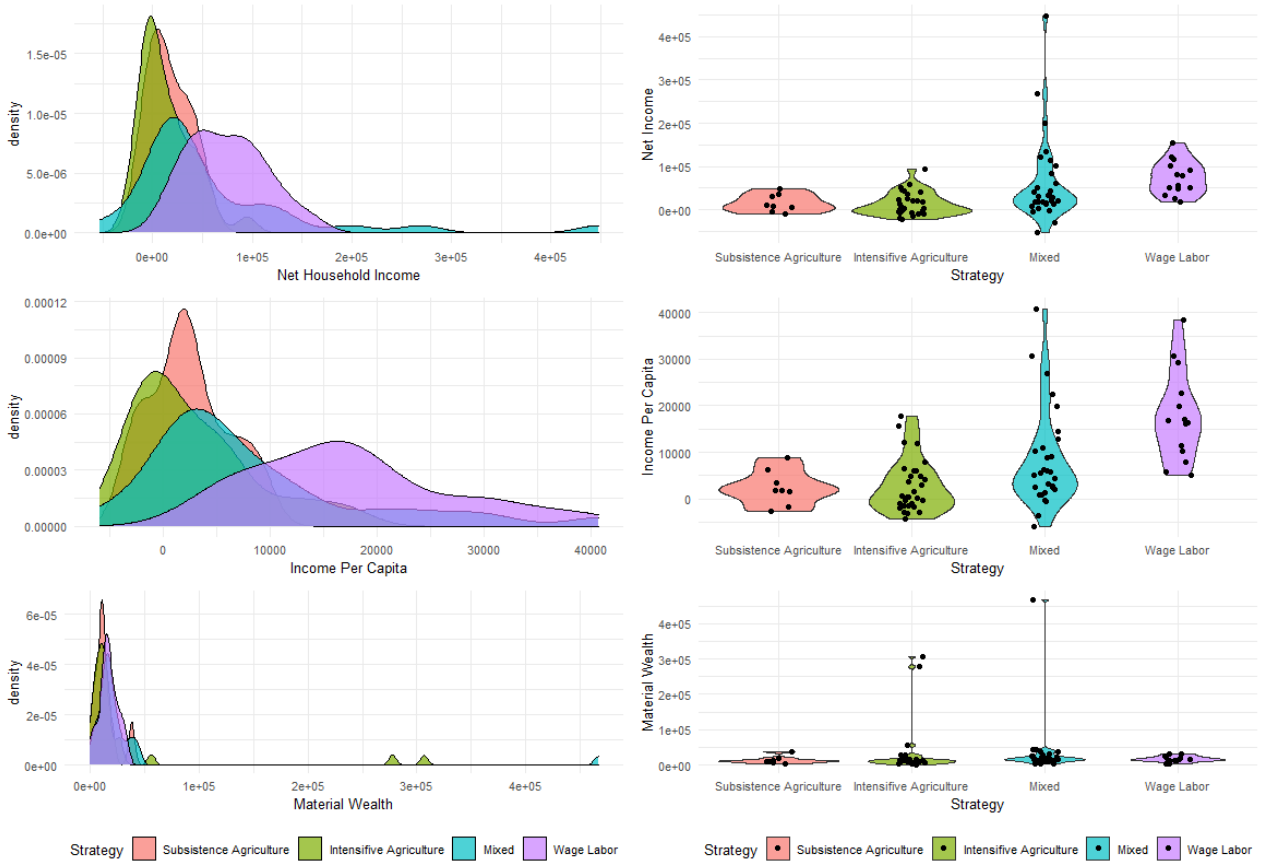

Figure S2. Economic outcomes with un-recoded material wealth distributions

DIAGNOSTICS FOR BETA AND POISSON REGRESSION ON AGGREGATE HOUSEHOLD DATA

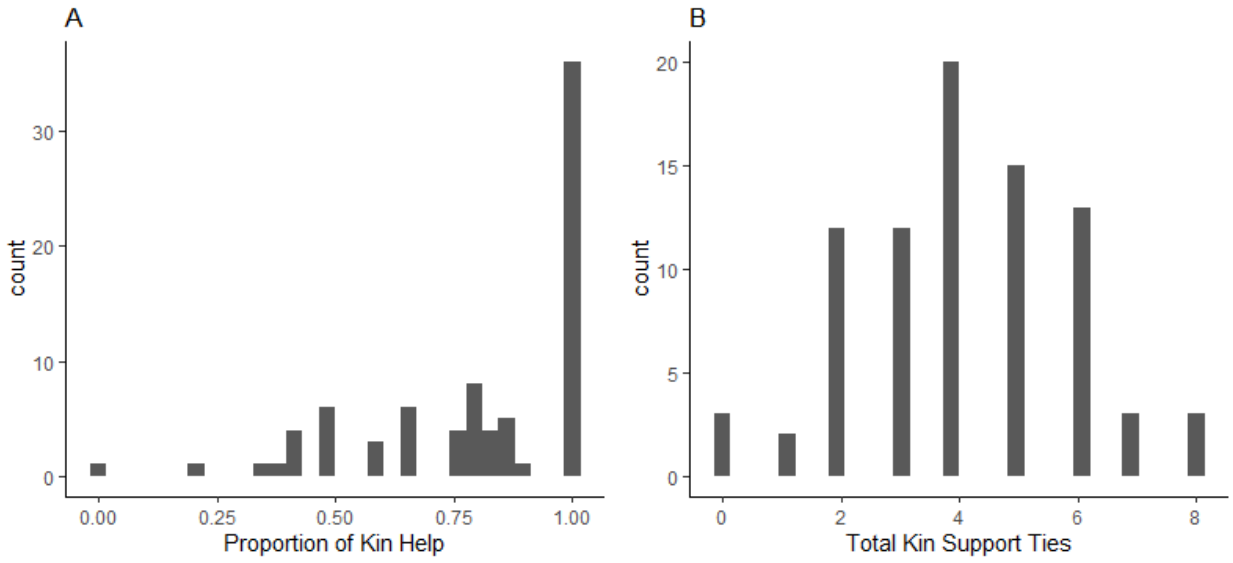

Figure S3. Distribution of proportion of kin help and total kin support ties.

Modelling the proportion of ties composed of kin (SM Figure 3: Panel A) we employ a zero-one inflated beta regression to account for the large number of 1's present in the data. Modelling total kin ties (SM Figure 3: Panel B) we employ the Conway-Maxwell Poisson Regression. While the distribution of the total number of kin ties reflect count data , for which a poisson regression is appropriate, dispersion tests indicate significant under-dispersion in the data. The Conway-Maxwell Poisson Regression provides more accurate standard errors for under-dispersed count data than standard poisson regression models.

SRM MODEL SPECIFICATIONS AND DIAGNOSTICS

The Social Relations Model is an additive random effects model that can be fit for binary outcomes using the ame function in the amen package in R. The ame function initiates an iterative Markov chain Monte Carlo (MCMC) algorithm to produces Bayesian inference for the model parameters, including the covariance parameters. The z-statistic is the posterior means divided by their posterior standard deviation, and the p-value is the probability that a standard normal random variable exceeds the absolute value of the corresponding z-statistic. We specified a 1,000 iteration burn-in with a 10,000 iterations to construct the posterior parameter distributions.

Diagnostic plots show the traceplots of the parameter values simulated from the posterior distribution. The regression parameters on the right, and the covariance parameters on the left. The second two rows provide the 1) Empirical standard deviation of the row means, 2) Empirical standard deviation of the column means, 3) The empirical within-dyad correlation, 4) A normalized measure of cycle and triadic dependence. Large discrepancies between the posterior predictive distributions and the empirical means generally mean lack of model fit. For all three models, the observed variances fit adequately with the posterior predictive distributions, though the column means (which correspond to the Receiver effects in the model).

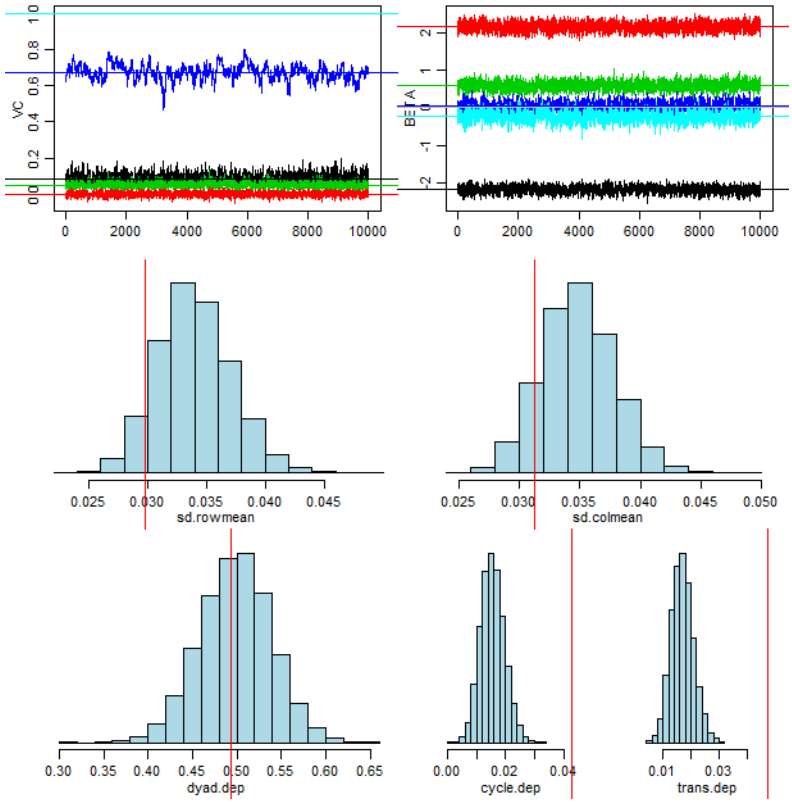

Figure S4 – SRM Diagnostic Plots for Dyad only model

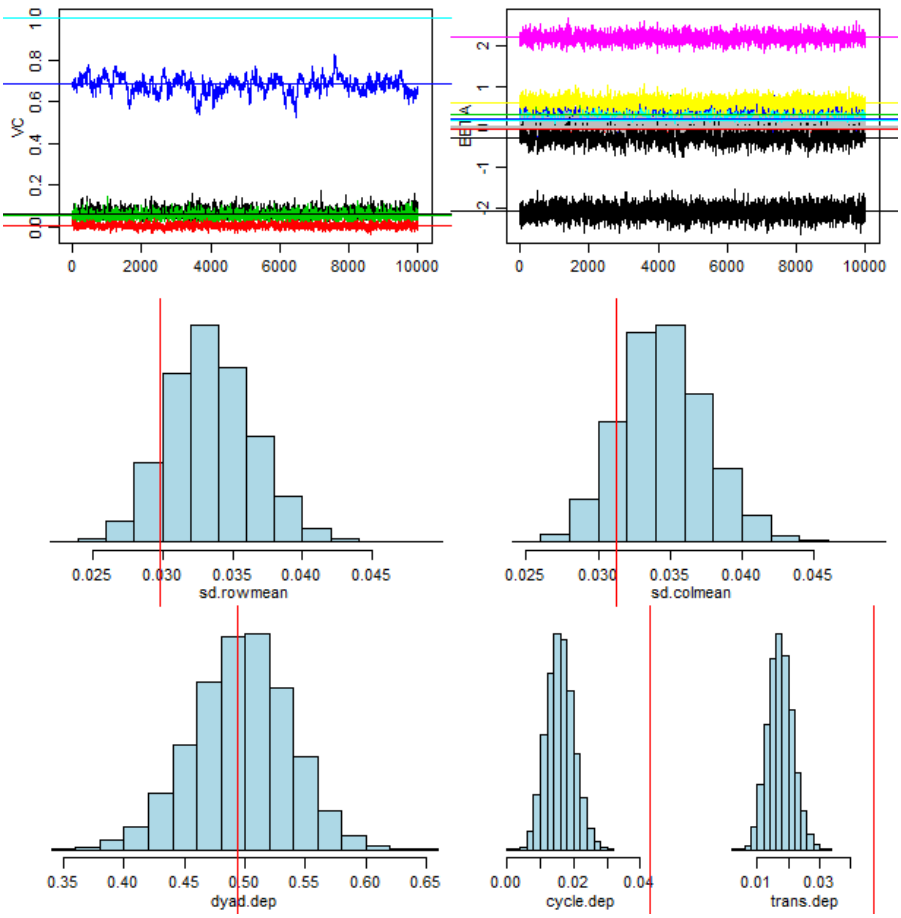

Figure S5 – SRM Diagnostic plots for Dyad+Sender Effects

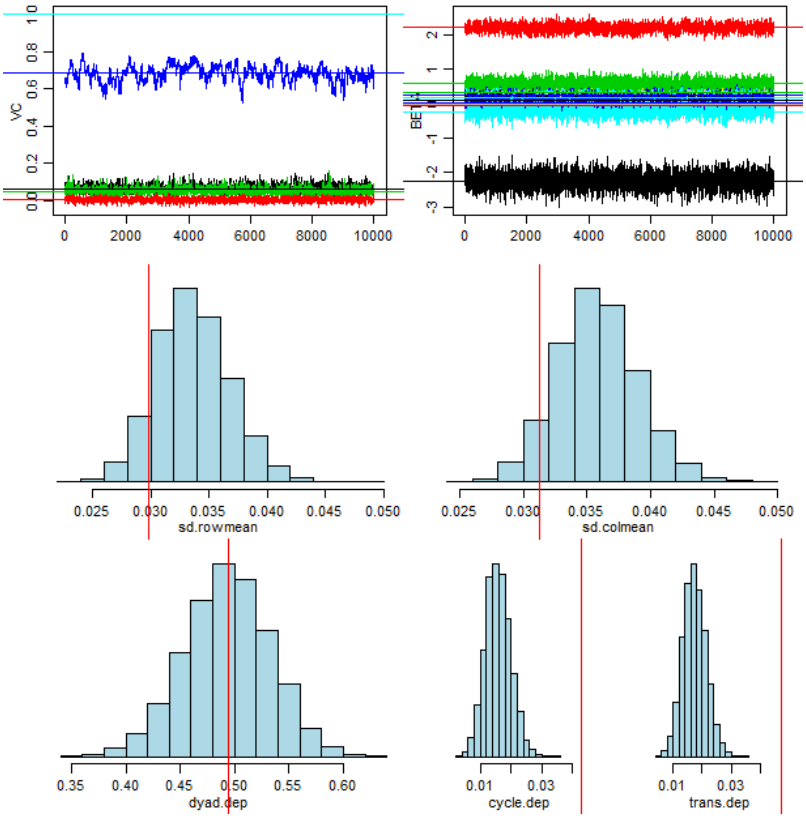

Figure S6 – SRM Diagnostic plots for Dyad+Sender+Reciever Effects