Supplementary Materials | The role of spousal separation on norms related to gender and sexuality among Himba Pastoralists

Brooke Scelza, Sean Prall, and Katie Starkweather

Additional methodological details

Table S1: Sample Demographics for Quantitative Surveys

Survey Type	Sample Size	Gender Breakdown
Spousal Separation Recall	44	Women=44, Men=0
Female Mobility Permissions	76	Women=24, Men=52
Female Mobility Natal Visit	84	Women=24, Men=61
IPV Norms	67	Women=42, Men=25
Tolerance of Infidelity Vignette	51	Women=0, Men=51
Relationship Histories	333	Women=171, Men=132
Resource Transfers	338	Women=209, Men=129
Food Insecurity	118	Women=118, Men=0

Female autonomy questions

The first set of questions examined women's **freedom of movement**. Both men and women were asked if women were permitted to do the following:

1. Travel to your natal compound by yourself?
2. Travel to a funeral or ceremony by yourself?
3. Travel to the clinic by yourself?
4. Travel to Opuwo by yourself?

In another set of questions, men and women were asked the following questions about **intimate partner violence**.
"Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations?"

1. If she goes somewhere without telling him
2. If she neglects their children
3. If she argues with him
4. If she refuses to have sex with him
5. If she burns the food
6. If she is sleeping with a boyfriend

Food insecurity

A food insecurity questionnaire, modified from Deitchler et al., (2010), was used. Participants were asked to assess these questions for themselves and their family, over the past month.

Responses included never, rarely/sometimes, and often, and responses coded into number (0-2) and summed for a food insecurity score.

1. "Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food?"
2. "Did you or any other household member have to eat fewer meals in a day?"
3. "Was there ever no food (of any kind) to eat in your household?"
4. "Did you or any household member go to sleep at night hungry?"
5. "Did you or any household member go a whole day and night without having eaten anything?"

Additional results

Female mobility and reproductive freedom

Table S2: Intimate partner violence model results

	Leaves without informing husband		**Neglects children**		**Argues with husband**	
Predictors	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*
Intercept	1.93	1.03 – 3.77	2.08	1.07 – 4.27	1.52	0.80 – 3.00
Male	0.12	0.03 – 0.39	0.58	0.20 – 1.76	0.32	0.11 – 0.95
Age	0.94	0.51 – 1.71	0.71	0.40 – 1.24	0.81	0.45 – 1.40
	Refuses sex		**Burns Food**		**Has sex with boyfriend**	
Predictors	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*	*Estimates*	*CI (95%)*
Intercept	2.41	1.22 – 5.05	0.4	0.18 – 0.79	3.06	1.22 – 8.81
Male	0.17	0.05 – 0.55	0.2	0.03 – 0.91	0.24	0.05 - 0.93
Age	2.06	1.13 – 4.01	0.63	0.28 – 1.26	0.66	0.25 - 1.259

Table S3: Boyfriend vignette model results

Predictors	*Odds Ratios*	*CI (95%)*
Intercept	0.36	0.17 – 0.67
Age (std)	1.98	1.10 – 3.74

Concurrency and resource transfers

Table S4: Predictors of time since last sex (log +1) with boyfriends

Predictors	*Estimates*	*CI (95%)*
Intercept	3.79	3.13 – 4.45
Boyfriend age (std)	0.90	0.21 – 1.59
Boyfriend married	-0.31	-1.16 – 0.51
Interaction	-1.14	-2.00 – -0.31
Sigma Intercept	0.37	0.17 – 0.60
Sigma Boyfriend married	0.11	-0.21 – 0.40
Sigma boyfriend age (std)	-0.16	-0.31 – 0.00
Random Effects		
σ^2	0.88	
τ_{00}	2.79	
ICC	0.24	
N_{id}	79	
Observations	150	

Table S5: Days since last gift model results

Predictors	*Estimates*	*CI (95%)*
Intercept	4.09	3.84 – 4.34
Age (std)	0.24	0.01 – 0.47
Husband	-1.47	-1.87 - -1.06

Table S6: Gift type model results

	Blankets		**Bracelets/Beads**		**Cash**	
Predictors	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*
Intercept	0.52	0.09 – 2.19	1.79	0.25 – 10.34	15.19	5.06 – 48.57
Husband	1.69	0.71 – 4.02	0.15	0.04 – 0.51	0.92	0.46 – 1.89
Age	1.01	0.98 – 1.04	0.97	0.93 – 1.01	0.97	0.94 – 1.00
	Food		**Livestock**		**Personal Item**	
Predictors	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*	*Odds Ratios*	*CI (95%)*
Intercept	1.71	0.43 – 6.60	0.04	0.00 – 0.49	1.79	0.09 – 19.44
Husband	2.09	0.94 – 4.71	5.12	1.41 – 18.77	1.6	0.49 – 4.92
Age	0.99	0.96 – 1.02	1.01	0.96 – 1.07	0.93	0.87 – 0.99

Random Effects	
σ^2	0.48
τ_{00}	1.6
ICC	0.23
N_{id}	144
Observations	364

Table S7: Food insecurity model results

Predictors	*Estimates*	*CI (95%)*
Intercept	2.2	1.71 – 2.75
Married no boyfriend	1.44	0.86 – 2.40
Unmarried	1.64	1.20 – 2.27
Age (std)	1.17	1.01 – 1.36
Random Effects		
σ^2	0.09	
τ_{00}	0.57	
ICC	0.38	
N_{id}	118	
Observations	158	

Table S8: Diet breadth model results

Predictors	*Incidence Rate Ratios*	*CI (95%)*
Intercept	4.23	3.56 – 5.01
Married no boyfriend	1.04	0.65 – 1.70
Unmarried	0.86	0.67 – 1.11
Age (std)	0.93	0.82 – 1.05
Random Effects		
σ^2	0.01	
τ_{00}	0.52	
ICC	0.1	
N_{id}	103	
Observations	126	

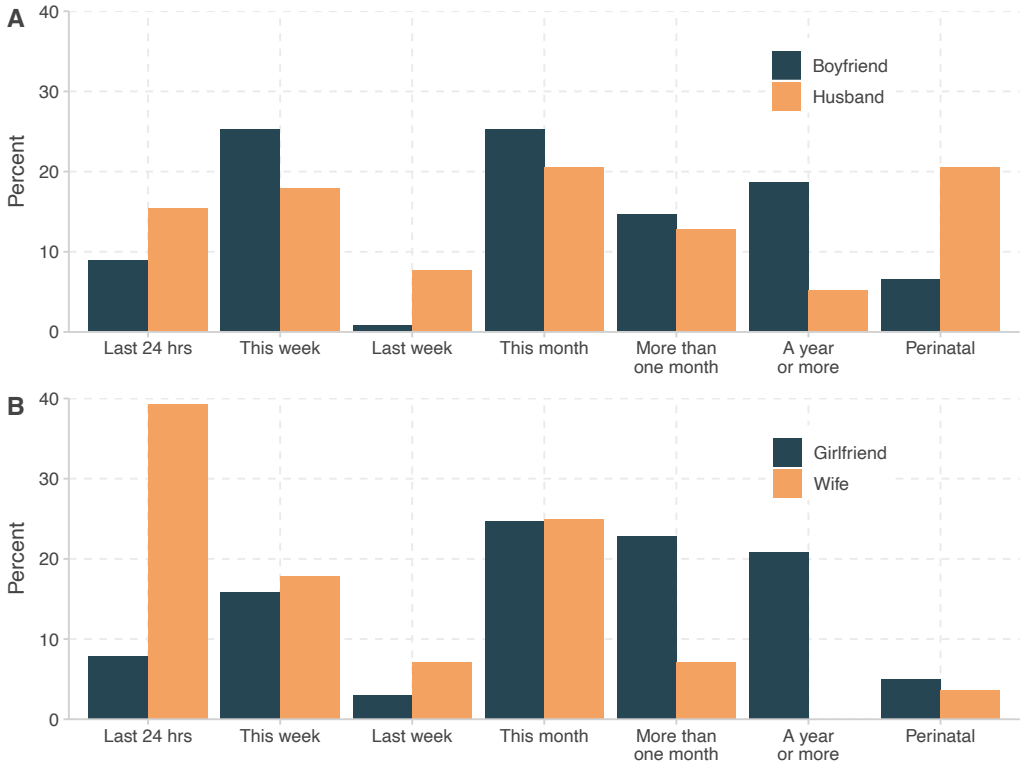

Figure S1: Time since last sexual contact, split by women's (A) responses and men's (B) responses

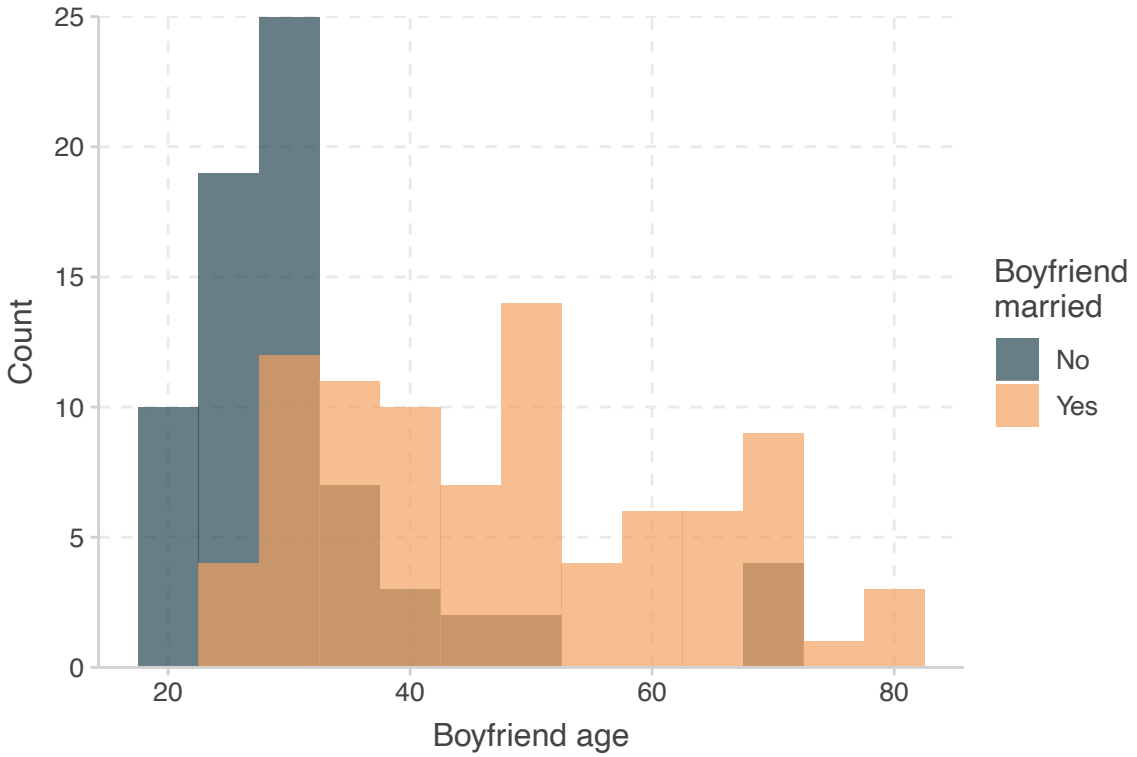

Figure S2: Age differences between married and unmarried boyfriends

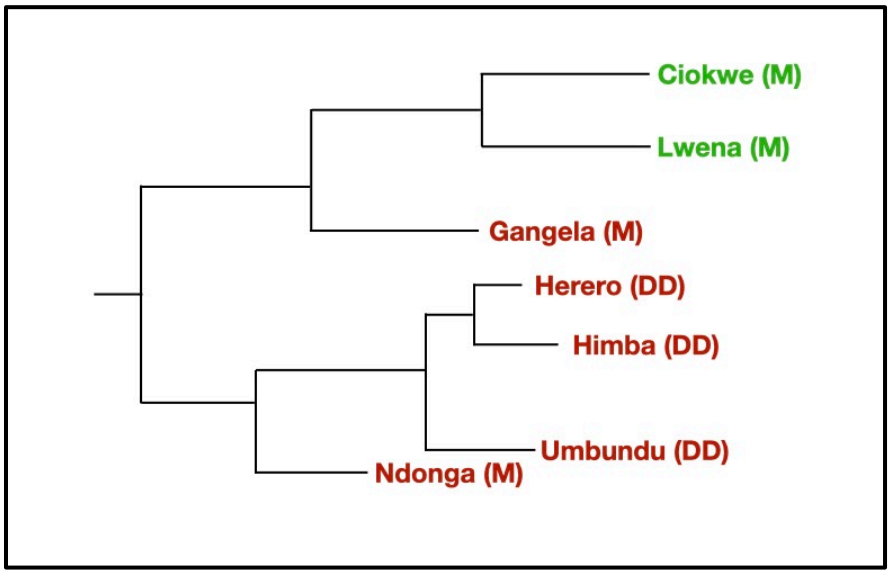

Figure S3: Inheritance structure and mode of production for Himba and related groups (Red=cattle holding, Green=no cattle). Descent type: M=matrilineal, DD=double descent. Figure redrawn from Holden and Mace (2003). Himba have been added to show their recent break from Herero.