

# How Do Perceptions of Relative Poverty Influence Women's Empowerment? Evidence from Papua New Guinea

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# Introduction

## Research Question

How does the experience of feeling relatively poor and disadvantaged affect **gender attitudes**? We consider support for:

- ▶ Women's economic participation
- ▶ Women's empowerment with respect to decision-making in their community and home

## Motivation

- ▶ Understanding how economic development affects women's empowerment is critical (do policies that contribute to economic growth also benefit women)?
- ▶ Attributing causality is challenging
  - ▶ Economic growth increases women's empowerment: Duflo (2012), Forsythe et al. (2000), Eastin and Prakash (2013) (non-monotonic)
  - ▶ But women's empowerment also simultaneously raises incomes
- ▶ Despite growing income inequality in development countries (Ravallion, 2014), even less is known about how inequality and feelings of relative deprivation affect women's empowerment
  - ▶ Inequality can engender social intolerance (Andersen and Fetner, 2008; Healy et al., 2017) and thus possibly lead women's empowerment to be seen as a threat
  - ▶ But women's empowerment can improve household welfare, making it attractive:
    - ▶ More efficient land management: Goldstein and Udry (2008), Seymour (2017), Dillon and Voena (2018)
    - ▶ Better health, nutrition, and education outcomes: Beegle et al. (2001), Smith and Haddad (2001), Smith et al. (2003), Qian (2008), Lépine and Strobl (2013), Sraboni et al. (2014) Dinçer et al. (2014), Imai et al. (2014), Ekbrand and Halleröd (2018),

## Preview of results

- ▶ Relative poverty (i.e. feeling one's household is relatively low in the income distribution) can engender more openness to women's economic participation
  - ▶ Disagree with prioritizing boys for education
  - ▶ Disagree with reserving jobs for men
- ▶ However, it has no effect on support for women's empowerment in community and household decision-making
- ▶ Consistent with qualitative studies: increases in relative deprivation lead to the attitude that women should do it all:
  - ▶ Contributing financially to the household
  - ▶ Managing traditionally female household work (e.g., cooking, childcare)
  - ▶ All without increased agency to make decisions in the community and at home

PNG survey and experiment

## The context: Papua New Guinea (PNG)

- ▶ 87 percent of the population living in rural areas (Bourke and Harwood, 2009)
- ▶ Poverty rate of 40 percent; about 90 percent live in rural areas (Gibson, 2012)
- ▶ Gender relations:
  - ▶ Domestic violence and aggression towards women and girls: (Bradley and Kesno, 2001; Eves et al., 2010; Jolly et al., 2012; Wardlow, 2006)
  - ▶ Most communities follow patrilineal inheritance structures: (Moretti, 2006; Overfield, 1998)
  - ▶ Men: major owner of agricultural assets and decision-maker of economic activities;
  - ▶ Women: unpaid or underpaid labor on these activities in return for access to land and/ or male protection (CARE International, 2015; Koczberski, 2007; Jones and McGavin, 2015; Moretti, 2006; Overfield, 1998),
  - ▶ Women are not inhibited from working and earning money outside of the household: 85 percent of vendors in food and goods markets are women (Stanley, 2018)
  - ▶ Women are still responsible for defined female roles, which affects their decisions regarding off-farm work (Overfield, 1998; Eves et al., 2018; Koczberski, 2007)

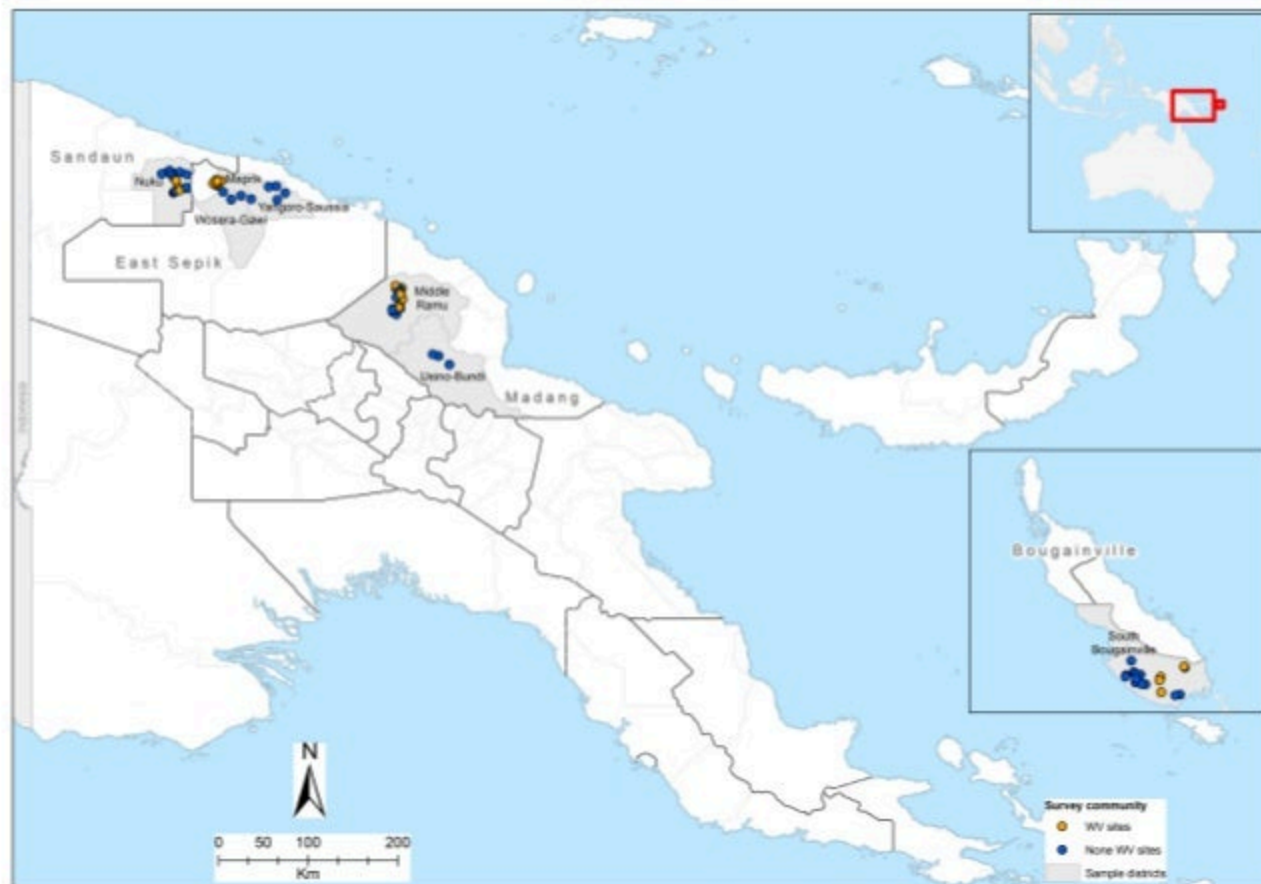


## The 2018 PNG survey

- ▶ The Papua New Guinea Household Survey on Food Systems: multi-topic household survey with each module conducted with “the most knowledgeable individual in the household” on that topic
- ▶ One exception: Gender module (completed by both the household head and their spouse) 1,026 households across 70 communities in 4 survey areas (provinces)
- ▶ Challenging environment: rugged topography, thick tropical rainforest, limited transportation infrastructure, heavy rainfall, localized violence, and tribal conflict
- ▶ Sampling strategy:
  - ▶ 1/3: randomly selected from planned WVI communities for each survey area
  - ▶ 2/3 communities: random selection from communities between one and four hours travel time from a WVI community
- ▶ Final sample for analysis: 1,372 individuals (779 women, 593 men) from 884 households



Figure 2.1: Survey sample locations by World Vision and non-World Vision status



## The priming experiment

- ▶ Individuals' perceptions of their relative economic standing can be influenced by researchers (Haisley et al., 2008; Mo, 2012; Healy et al., 2017; Mo, 2018)
- ▶ Ask: "Annual income is the amount of cash income you earn from all agricultural and non-agricultural activities. It includes the approximate value of items that you produce and consume as a family or give as a gift, or which you have sold. How much income did your family earn last year in KINA?"

Control (No Poverty Prime)	Treatment (Poverty Prime)
0-250 kina	0-2,000 kina
251-500 kina	2,001-4,000 kina
501-1,500 kina	4,001-8,000 kina
1,501-3,000 kina	8,001-16,000 kina
More than 3,000 kina	More than 16,000 kina

Control: feel that their income was more typical (at the median)

Treatment: feel as if their income was in the bottom of the income distribution

Empirical strategy

## Empirical strategy

$$G_{ijse} = \beta_0 + \beta_1 P_{ijse} + \beta_2 X_{ijse} + \omega_e + \phi_s + \epsilon_{ijse} \quad (3.1)$$

- ▶  $i$  indexes individuals,  $j$  indexes households,  $s$  indexes communities, and  $e$  indexes enumerators
- ▶  $G_{ijse}$  is the extent of disagreement or agreement to a gender-related statement (on a scale from 1 to 5), always coded such that larger values indicate more egalitarian, or progressive, gender attitudes
- ▶  $P_{ijse}$  is a dummy for receiving a poverty prime
- ▶  $X_{ijse}$  is a vector of individual-, household-, and community-level controls with imbalance ( $p$ -value  $> 0.10$ ) across treatment and control groups

## Main Outcomes: Gender attitudes (1–5 scale)

### *Attitudes toward women's economic participation*

- ▶ Extent of disagreement - In your opinion, when money is scarce, to what extent should boys have more education than girls? (“Prioritize boys for education”)
- ▶ Extent of disagreement - In your opinion, if jobs are scarce, to what extent should they be reserved for men rather than women? (“Reserve jobs for men”)

### *Attitudes about women's role in community and household decision-making*

- ▶ Extent of disagreement - In your opinion, to what extent should men have the final word about decisions affecting the community? (“Men should make community decisions”)
- ▶ Extent of disagreement - In your opinion, to what extent should a husband make all the decisions in the household about how to manage assets like farm equipment? (“Husband should manage household assets”)
- ▶ Extent of disagreement - A good woman always supports her husband's opinions. (“Women should support husband's opinions”)



## Additional Outcomes (1–5 scale): Opinions about women's work and how it affects others

- ▶ Extent of disagreement - If a women earns money outside the home, a man somewhere will be less able to provide for his own family. (“Women crowd out men for jobs”)
- ▶ Extent of agreement - Women should be able to work outside the home if they want to. (“Women wanting to work should be able to”)
- ▶ Extent of disagreement - When a wife earns money through work outside the home, her children are negatively affected. (“Women's work harms children”)
- ▶ Extent of disagreement - In your opinion, to what extent is it important for young women to abide by traditions, and behave like their mothers' generation? (“Young women should abide by tradition”)



## Results

Table 4.1: Summary statistics of outcome (1–5 range) variables by gender

	Women		Men		p-value, difference (5)
	Mean (1)	N (2)	Mean (3)	N (4)	
Extent of disagreement - In your opinion, when money is scarce, to what extent should boys have more education than girls? ("Prioritize boys for education")	3.008	752	3.066	561	0.409
Extent of disagreement - In your opinion, if jobs are scarce, to what extent should they be reserved for men rather than women? ("Reserve jobs for men")	3.120	747	3.132	559	0.858
Extent of disagreement - In your opinion, to what extent should men have the final word about decisions affecting the community? ("Men should make community decisions")	2.475	777	2.744	578	0.000
Extent of disagreement - In your opinion, to what extent should a husband make all the decisions in the household about how to manage assets like farm equipment? ("Husband should manage household assets")	2.844	762	2.997	576	0.030
Extent of disagreement - A good woman always supports her husband's opinions. ("Women should support husband's opinions")	1.510	777	1.691	593	0.000
Extent of disagreement - If a women earns money outside the home, a man somewhere will be less able to provide for his own family. ("Women crowd out men for jobs")	3.373	734	3.419	582	0.451
Extent of agreement - Women should be able to work outside the home if they want to. ("Women wanting to work should be able to")	3.773	753	3.592	588	0.005
Extent of disagreement - When a wife earns money through work outside the home, her children are negatively affected. ("Women's work harms children")	3.087	681	3.154	583	0.347
How much income did your family earn last year in KINA ("Income bucket")	2.252	779	2.433	593	0.016

Source: Authors' calculations based on PNG survey 2018.

Table 4.2: Individual-level summary statistics by gender

	Women		Men		p-value, difference (5)
	Mean (1)	N (2)	Mean (3)	N (4)	
Dummy - poverty prime	0.487	779	0.492	593	0.829
Dummy - married	0.932	778	0.973	593	0.001
Dummy - age 16-24	0.102	767	0.032	593	0.000
Dummy - age 25-35	0.417	767	0.312	593	0.000
Dummy - age 36-50	0.366	767	0.433	593	0.012
Dummy - age 51-64	0.095	767	0.180	593	0.000
Dummy - age 65+	0.020	767	0.042	593	0.014
Dummy - highest level of education: no schooling	0.182	779	0.069	593	0.000
Dummy - highest level of education: some school	0.175	779	0.162	593	0.535
Dummy - highest level of education: completed primary	0.610	779	0.683	593	0.005
Dummy - highest level of education: completed secondary	0.015	779	0.034	593	0.026
Dummy - highest level of education: completed university	0.018	779	0.052	593	0.000
Dummy - relationship to household head: Head	0.119	779	1.000	593	0.000
Dummy - relationship to household head: Spouse	0.881	779	0.000	593	0.000
Dummy - occupation: agriculture	0.634	779	0.779	593	0.000
Dummy - occupation: manual work	0.003	779	0.062	593	0.000
Dummy - occupation: trained worker	0.022	779	0.071	593	0.000
Dummy - occupation: services	0.021	779	0.039	593	0.044
Dummy - occupation: other	0.312	779	0.029	593	0.000
Dummy - occupation: unemployed	0.009	779	0.015	593	0.290
Dummy - occupation: not in labor force	0.000	779	0.005	593	0.047
Dummy - interviewed alone or just with children	0.789	779	0.496	593	0.000

Source: Authors' calculations based on PNG survey 2018.

Table 4.3: Effect of the poverty prime on income bucket selected

	(1)	(2)	(3)
<i>Controls added iteratively</i>			
Basic covariates with imbalance	x	x	x
Enumerator FE		x	x
Community FE			x
<i>Panel A: Women</i>			
Dummy - poverty prime	-1.423*** (0.078)	-1.422*** (0.075)	-1.421*** (0.076)
$R^2$	0.419	0.502	0.583
N	779	779	779
<i>Panel B: Men</i>			
Dummy - poverty prime	-1.371*** (0.084)	-1.327*** (0.078)	-1.351*** (0.083)
$R^2$	0.509	0.609	0.657
N	593	593	593

*Source:* Authors' calculations based on PNG survey 2018.

*Notes:* The outcome variable is the answer to the question "How much income did your family earn last year in KINA:", on a five-rung ladder (increasing with income). Our basic controls include all covariates with imbalance. Standard errors are in parentheses. \*\*\* indicates  $p < 0.01$ ; \*\* indicates  $p < 0.05$ ; and \* indicates  $p < 0.10$ .

Table 4.4: Effect of the poverty prime on attitudes toward women's economic participation

	Extent of disagreement...					
	"Prioritize boys for education"			"Reserve jobs for men"		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Controls added iteratively</i>						
Basic covariates with imbalance	x	x	x	x	x	x
Enumerator FE		x	x		x	x
Community FE			x			x
<i>Panel A: Women</i>						
Dummy - poverty prime	0.084 (0.088)	0.119 (0.085)	0.100 (0.087)	0.146 (0.089)	0.161* (0.086)	0.170* (0.088)
Control group mean	2.977	2.977	2.977	3.069	3.069	3.069
R <sup>2</sup>	0.123	0.241	0.337	0.078	0.200	0.314
N	752	752	752	747	747	747
<i>Panel B: Men</i>						
Dummy - poverty prime	0.261** (0.112)	0.214** (0.104)	0.266** (0.110)	0.193* (0.100)	0.164* (0.094)	0.216** (0.099)
Control group mean	2.937	2.937	2.937	3.035	3.035	3.035
R <sup>2</sup>	0.056	0.243	0.372	0.067	0.227	0.359
N	561	561	561	559	559	559

Notes: Standard errors are in parentheses. \*\*\* indicates  $p < 0.01$ ; \*\* indicates  $p < 0.05$ ; and \* indicates  $p < 0.10$ .

**Table 4.5:** Effect of poverty prime on attitudes about women's role in community and household decision-making

	Extent of disagreement...								
	"Men should make community decisions"			"Husband should manage household assets"			"Women should support husband's opinions"		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>Controls added iteratively</i>									
Basic covariates with imbalance	x	x	x	x	x	x	x	x	x
Enumerator FE		x	x		x	x		x	x
Community FE			x			x			x
<i>Panel A: Women</i>									
Dummy - poverty prime	0.024 (0.087)	0.041 (0.084)	0.011 (0.084)	0.134 (0.087)	0.157* (0.083)	0.170** (0.086)	-0.016 (0.051)	-0.008 (0.051)	-0.003 (0.052)
Control group mean	2.490	2.490	2.490	2.794	2.794	2.794	1.520	1.520	1.520
R <sup>2</sup>	0.033	0.155	0.297	0.117	0.250	0.340	0.101	0.184	0.279
N	777	777	777	762	762	762	777	777	777
<i>Panel B: Men</i>									
Dummy - poverty prime	0.232** (0.105)	0.120 (0.092)	0.129 (0.099)	0.063 (0.107)	-0.011 (0.093)	0.057 (0.102)	-0.035 (0.072)	0.040 (0.056)	0.074 (0.058)
Control group mean	2.631	2.631	2.631	2.949	2.949	2.949	1.698	1.698	1.698
R <sup>2</sup>	0.178	0.414	0.482	0.151	0.399	0.460	0.117	0.500	0.590
N	578	578	578	576	576	576	593	593	593

Notes: Standard errors are in parentheses. \*\*\* indicates  $p < 0.01$ ; \*\* indicates  $p < 0.05$ ; and \* indicates  $p < 0.10$ .



Table 4.6: Effect of poverty prime on opinions about women's work &amp; how it affects others

	Extent of...			
	Agreement...	Disagreement...		
	"Women wanting to work should be able to" (1)	"Women crowd out men for jobs" (2)	"Women's work harms children" (3)	"Young women should abide by tradition" (4)
<i>Panel A: Women</i>				
Dummy - poverty prime	0.022 (0.083)	0.038 (0.083)	0.108 (0.096)	
Control group mean	3.727	3.408	3.035	
$R^2$	0.391	0.350	0.416	
N	753	734	681	
<i>Panel B: Men</i>				
Dummy - poverty prime	-0.048 (0.095)	-0.039 (0.087)	0.137 (0.089)	0.136 (0.098)
Control group mean	3.649	3.473	3.119	1.826
$R^2$	0.298	0.329	0.484	0.371
N	588	582	583	586

Notes: Standard errors are in parentheses. \*\*\* indicates  $p < 0.01$ ; \*\* indicates  $p < 0.05$ ; and \* indicates  $p < 0.10$ .

Table 4.7: Effect of the poverty prime by pre-treatment perception of poverty (POP)

	Extent of disagreement...				
	Economic participation		Community and household decision-making		
	"Prioritize boys for education" (1)	"Reserve jobs for men" (2)	"Men should make community decisions" (3)	"Husband should manage household assets" (4)	"Women should support husband's opinions" (5)
<i>Panel A: Women</i>					
Treatment effect for below average POP group	-0.095	-0.083	0.002	-0.189	-0.042
p-value (below average)	0.592	0.644	0.990	0.281	0.691
Control group mean: below average POP	2.993	3.107	2.450	2.679	1.460
Treatment effect for about average POP group	0.187*	0.211*	0.010	0.242**	0.008
p-value (about average)	0.088	0.057	0.923	0.024	0.903
Control group mean: about average POP	2.945	2.945	2.547	3.014	1.622
Treatment effect for above average POP group	0.027	0.417*	0.032	0.442*	0.015
p-value (above average)	0.913	0.090	0.892	0.061	0.918
Control group mean: above average POP	2.977	3.090	2.500	2.800	1.528
R <sup>2</sup>	0.339	0.318	0.297	0.346	0.279
N	752	747	777	762	777
<i>Panel B: Men</i>					
Treatment effect for below average POP group	0.073	-0.016	0.201	0.183	-0.010
p-value (below average)	0.751	0.937	0.348	0.402	0.938
Control group mean: below average POP	2.923	3.032	2.568	2.857	1.643
Treatment effect for about average POP group	0.252*	0.388***	0.096	0.031	0.041
p-value (about average)	0.067	0.002	0.435	0.803	0.566
Control group mean: about average POP	2.918	3.124	2.730	3.212	1.901
Treatment effect for above average POP group	0.616**	-0.190	0.169	-0.009	0.346**
p-value (above average)	0.034	0.461	0.521	0.974	0.024
Control group mean: above average POP	2.957	3.004	2.648	2.931	1.669
R <sup>2</sup>	0.375	0.367	0.482	0.461	0.594
N	561	559	578	576	593

## Conclusion

- ▶ Relative poverty (i.e. feeling one's household is relatively low in the income distribution) can engender more openness to women's economic participation
  - ▶ Disagree with prioritizing boys for education
  - ▶ Disagree with reserving jobs for men
- ▶ However, it has no effect on support for women's empowerment in community and household decision-making
- ▶ Consistent with qualitative studies: increases in relative deprivation lead to the attitude that women should do it all:
  - ▶ Contributing financially to the household
  - ▶ Managing traditionally female household work (e.g., cooking, childcare)
  - ▶ All without increased agency to make decisions in the community and at home

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Collaborative  
Platform for  
Gender Research



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