



Replication of “Emerging
Parental Gender
Indifference? Sex
Composition of Children
and the Third Birth” (2002)
by Pollard & Morgan

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Paper introduction

- **Research Q:** Has the desire to have both both a daughter and a son disappeared, indicating the basic equivalence, or full substitutability, of sons and daughters?
- **Data:** Multiple cycles of the Current Population Survey and National Survey of Family Growth from the last 40 years.
- **Method:** Logistic regression.
- **Key assumptions:** Strong desire for particular sex compositions of children can increase fertility; preferences for these compositions have greater potential effects when parents want few children.
- **Findings:** The last 10-year period studied (1985 to 1995) shows evidence of weakening of the sex-of-previous-children effect. Although the gender effect still persists, the decline is theoretically consistent with current shifts in the gender systems.
- **Methodology statement:** *“The observed changes do not appear to be artifacts of particular data or measurement strategies; multiple approaches and data sources all indicated attenuation.”*

Main replication

Replication of Model 2: full sample with demographic controls for age, marital status, education level, race)

	Original model
(Intercept)	3.117
	[2.483, 3.755]
samesexsame-sex	0.525
	[0.248, 0.806]
as.factor(survey)1995	0.272
	[−0.002, 0.550]
age	−0.177
	[−0.198, −0.157]
maritalcohabiting	0.073
	[−0.327, 0.455]
maritalpreviously married	0.140
	[−0.146, 0.417]
maritalnever married	−0.070
	[−0.389, 0.245]
educathigh school	0.017
	[−0.237, 0.272]
educatcollege	0.370
	[0.104, 0.639]
raceblack	−0.030
	[−0.282, 0.218]
raceHispanics	0.723
	[0.453, 0.991]
raceother	0.516
	[−0.022, 1.020]
samesexsame-sex × as.factor(survey)1995	−0.298
	[−0.673, 0.075]

Sensitivity check

- Additional variable: having had an abortion
- Probit instead of logit estimator
- Modified data for the age variable to exclude the outliers, respondents who are very young and very old

	Original model	Additional variable	Probit estimator	Modified data
(Intercept)	3.117	3.121	1.739	3.997
	(0.324)	(0.325)	(0.181)	(0.381)
samesexsame-sex	0.525	0.515	0.282	0.498
	(0.142)	(0.142)	(0.078)	(0.148)
as.factor(survey)1995	0.272	0.256	0.149	0.249
	(0.141)	(0.141)	(0.077)	(0.147)
age	-0.177	-0.178	-0.101	-0.203
	(0.010)	(0.010)	(0.006)	(0.012)
maritalcohabiting	0.073	0.022	0.049	0.078
	(0.199)	(0.200)	(0.113)	(0.216)
maritalpreviously married	0.140	0.111	0.093	0.129
	(0.144)	(0.144)	(0.079)	(0.148)
maritalnever married	-0.070	-0.095	-0.019	0.093
	(0.162)	(0.162)	(0.092)	(0.172)
educathigh school	0.017	0.016	0.015	-0.066
	(0.130)	(0.130)	(0.073)	(0.139)
educatcollege	0.370	0.357	0.203	0.318
	(0.137)	(0.137)	(0.077)	(0.143)
raceblack	-0.030	-0.048	-0.005	0.002
	(0.128)	(0.128)	(0.070)	(0.133)
raceHispanics	0.723	0.730	0.414	0.768
	(0.137)	(0.137)	(0.079)	(0.145)
raceother	0.516	0.496	0.299	0.502
	(0.265)	(0.265)	(0.150)	(0.280)
samesexsame-sex x as.factor(survey)1995	-0.298	-0.285	-0.163	-0.332
	(0.191)	(0.191)	(0.106)	(0.200)
abortion		0.322		
		(0.117)		
Num.Obs.	3874	3874	3874	3690

Bayesian replication

	Original model	Bayesian model
(Intercept)	3.117	3.154
	[2.483, 3.755]	[2.545, 3.803]
samesexsame-sex	0.525	0.510
	[0.248, 0.806]	[0.233, 0.769]
as.factor(survey)1995	0.272	0.258
	[−0.002, 0.550]	[−0.005, 0.514]
age	−0.177	−0.178
	[−0.198, −0.157]	[−0.199, −0.159]
maritalcohabiting	0.073	0.061
	[−0.327, 0.455]	[−0.306, 0.406]
maritalpreviously married	0.140	0.139
	[−0.146, 0.417]	[−0.136, 0.415]
maritalnever married	−0.070	−0.075
	[−0.389, 0.245]	[−0.375, 0.243]
educathigh school	0.017	0.013
	[−0.237, 0.272]	[−0.238, 0.259]
educatcollege	0.370	0.364
	[0.104, 0.639]	[0.090, 0.628]
raceblack	−0.030	−0.038
	[−0.282, 0.218]	[−0.290, 0.204]
raceHispanics	0.723	0.711
	[0.453, 0.991]	[0.436, 0.974]
raceother	0.516	0.476
	[−0.022, 1.020]	[−0.054, 0.950]
samesexsame-sex × as.factor(survey)1995	−0.298	−0.273



Conclusions

Both Bayesian replication and sensitivity checks indicate a general robustness and appropriateness of the original model.

Bayesian replication is warranted due to potential collinearity of independent variables (for example, education and race). The comparison of the original and Bayesian models reveals that while collinearity between the variables might exist, the data is diverse and robust enough for the Bayesian model to closely replicate the results of the original model.

Adding abortion as a variable does not drastically alter the results of the original model. However, we do observe an effect of the abortion variable on other demographic controls, and it is not homogeneous.

Modified data for the age variable eliminated 184 outliers and presented similar results to the original model with notable differences for never married, high school educated, and Black populations.

Probit regression model is the only alternative model that produced significantly different results from the original model.