



“EMERGING PARENTAL GENDER INDIFFERENCE? SEX COMPOSITION OF CHILDREN AND THE THIRD BIRTH”: REPLICATION AND OTHER POSSIBLE DEVELOPMENTS

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INTRODUCTION TO THE PAPER

- American Sociological Review – 2002;
- The authors' major goal is to test the hypothesis that, in recent decades, the sex composition of the first two children has lost its influence on the decision or intention of having a third child;
 - The central explanation for this new trend would be the weakening of the “gender system”;
 - Their main IV were “fertility behavior” and “fertility intentions”;
- For their analysis they used several cycles from the *Current Population Survey* (4 cycles – 80, 85, 90, 95) and *National Survey of Family Growth* (3 cycles – 83, 88, 95);
- The data they presented indeed suggests that, after 1985, there has been a decline in the sex-of-previous-children influence over having or intending to have a third child.

MAIN REPLICATION

- Model 3: Currently married sample + demographic controls (age + educ. + race)

```
glm(formula = intent ~ samesex + as.factor(survey) +
samesex * as.factor(survey) + age + educat + race, family
= binomial(link = "logit"), data = married.ASR)
```

Deviance Residuals:

Min	1Q	Median	3Q	Max
-1.8956	-0.5416	-0.3617	-0.2271	2.9362

Coefficients:

	Estimate	Std. Error	z value
(Intercept)	4.27976	0.42756	10.010
samesexsame-sex	0.48324	0.18270	2.645
as.factor(survey)1995	0.27770	0.18358	1.513
age	-0.21753	0.01386	-15.697
educathigh school	-0.09313	0.18502	-0.503
educatcollege	0.42333	0.18561	2.281
raceblack	0.05975	0.17401	0.343
raceHispanics	0.77969	0.16832	4.632
raceother	0.65744	0.31965	2.057
samesexsame-sex:			
as.factor(survey) 1995	-0.10949	0.24580	-0.445
Pr(> z)			

(Intercept)	< 2e-16 ***
samesexsame-sex	0.00817 **
as.factor(survey)1995	0.13036
age	< 2e-16 ***
educathigh school	0.61470
educatcollege	0.02256 *
raceblack	0.73130
raceHispanics	3.62e-06 ***
raceother	0.03971 *
samesexsame-sex:	
as.factor(survey)1995	0.65601

Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

(Dispersion parameter for binomial family taken to be 1)

Null deviance: 2167.5 on 2671 degrees of freedom

Residual deviance: 1801.6 on 2662 degrees of freedom

AIC: 1821.6

Number of Fisher Scoring iterations: 5

Original replication

Initial model	
(Intercept)	4.280
	[3.447, 5.125]
samesexsame-sex	0.483
	[0.127, 0.844]
as.factor(survey)1995	0.278
	[-0.080, 0.640]
age	-0.218
	[-0.245, -0.191]
educathigh school	-0.093
	[-0.452, 0.274]
educatcollege	0.423
	[0.065, 0.793]
raceblack	0.060
	[-0.289, 0.395]
raceHispanics	0.780
	[0.447, 1.107]
raceother	0.657
	[0.003, 1.262]
samesexsame-sex × as.factor(survey)1995	-0.109
	[-0.592, 0.372]

MAIN REPLICATION

Num.Obs.	2672
AIC	1821.6
BIC	1880.5
Log.Lik.	-900.810
F	32.430
RMSE	0.82

	Initial model	Add Catholic	Probit	Transformed data
(Intercept)	4.280	4.226	2.369	5.386
	(0.428)	(0.431)	(0.236)	(0.516)
samesexsame-sex	0.483	0.500	0.245	0.444
	(0.183)	(0.183)	(0.099)	(0.190)
as.factor(survey)1995	0.278	0.264	0.145	0.390
	(0.184)	(0.185)	(0.098)	(0.190)
age	-0.218	-0.221	-0.122	-0.253
	(0.014)	(0.014)	(0.007)	(0.017)
educathigh school	-0.093	-0.120	-0.043	-0.083
	(0.185)	(0.186)	(0.104)	(0.202)
educatcollege	0.423	0.376	0.225	0.417
raceblack	0.060	0.184	0.049	0.163
	(0.174)	(0.178)	(0.095)	(0.179)
raceHispanics	0.780	0.500	0.437	0.871
	(0.168)	(0.181)	(0.096)	(0.179)
raceother	0.657	0.627	0.375	0.581
	(0.320)	(0.323)	(0.178)	(0.338)
samesexsame-sex × as.factor(survey)1995	-0.109	-0.108	-0.049	-0.206
	(0.246)	(0.247)	(0.134)	(0.256)
catholic		0.614		

SENSITIVITY CHECKS

Num.Obs.	2672	2672	2672	2570
AIC	1821.6	1804.6	1815.0	1674.9
BIC	1880.5	1869.4	1873.9	1733.4
Log.Lik.	-900.810	-891.302	-897.478	-827.430
F	32.430	30.136	34.887	29.649
RMSE	0.82	0.82	0.82	0.80

	Initial model	Bayesian model
(Intercept)	4.280	4.319
	[3.447, 5.125]	[3.492, 5.196]
samesexsame-sex	0.483	0.469
	[0.127, 0.844]	[0.114, 0.814]
as.factor(survey)1995	0.278	0.259
	[-0.080, 0.640]	[-0.088, 0.615]
age	-0.218	-0.218
	[-0.245, -0.191]	[-0.243, -0.190]
educathigh school	-0.093	-0.100
	[-0.452, 0.274]	[-0.452, 0.246]
educatcollege	0.423	0.419
	[0.065, 0.793]	[0.067, 0.765]
raceblack	0.060	0.050
	[-0.289, 0.395]	[-0.310, 0.382]
raceHispanics	0.780	0.758
	[0.447, 1.107]	[0.451, 1.087]
raceother	0.657	0.579
	[0.003, 1.262]	[-0.024, 1.195]
samesexsame-sex × as.factor(survey)1995	-0.109	-0.084
	[-0.592, 0.372]	[-0.559, 0.382]

BAYESIAN REPLICATION

Num.Obs.	2672	2672
AIC	1821.6	
BIC	1880.5	
Log.Lik.	-900.810	
F	32.430	
ELPD		-910.7
ELPD s.e.		30.6
LOOIC		1821.5
LOOIC s.e.		61.2
WAIC		1821.5
RMSE	0.82	0.32

CONCLUSIONS

- Sensitivity Checks:
 - When I add the variable “catholic,” it does not differ too much from the original (M3) model in most cases, which can suggest that even in a population more prone to accepting gender norms, the results are still similar to the initial one - corroborating the authors’ conclusion. However, there seem to be differing effects in the interplay between “catholic” and “educatcollege,” “raceblack,” and “raceHispanics;”
 - Using Probit regression model, the results are very dissimilar when compared to the original one;
 - When creating a new dataset without the age outliers, most results are also similar to the initial model, except for “raceblack” and “raceHispanics.” The higher sensitivity to changes might be due to the smaller sample sizes of these two populations;
- The Bayesian replication is very close to the Logistic Regression, which also corroborates their findings’ robustness.
- However, I am not convinced that the main explanations is a “transformation in gender norms;”
- Question: about the educatcollege variable.