

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

APRIL DEBOER, *et al.*,

Plaintiffs,

-vs-

ED Mi #12-civ-10285

Hon. Bernard A. Friedman

RICHARD SNYDER, *et al.*,

Defendants.

SUPPLEMENTAL WITNESS REPORT OF MICHAEL J. ROSENFELD, Ph.D.

Part 1) Additional analyses of 2000 US census data

In response to the analysis in State Defendants' witness Allen's (2013) expert report dated December 20, 2013, Tables 1 and 2 below address the question of how large the difference is in terms of grade attained between children of same-sex couples and children of heterosexual married couples, and how large the uncertainty of the measurements of the difference are. The difference between groups and the uncertainty about that difference are substantially smaller than Allen argued.

[Table 1 here]

The regression coefficients, standard errors, and confidence intervals from Table 1 were produced from weighted logistic regressions predicting good progress through school from the 2000 US census microdata, controlling for student's race, natural log of household income, head of household's educational attainment, student's gender, four kinds of student disabilities, school type (public or private), whether the student was born in the US, metropolitan area status, and state of residence. These are the same census data analyzed by Rosenfeld and by Allen, Price, and Pakaluk in the past (Allen, Pakaluk and Price 2013; Rosenfeld 2010; Rosenfeld 2013b). All students had at least 5 years of coresidence with their family at the time of the census. These are the same regression criteria used in Rosenfeld (2010) Table 3, Model 5, and replicated in Allen et al (2013) Table 2 and Table 3, Model 1.

Foster children, who were not included in Rosenfeld’s Table 3, Model 5 have been added into the model as a separate category. Coefficients predict the log odds of making good progress through the primary grades.

The table above uses the logistic regression to standardize the children from the other groups to the same demographic and economic background as the children from the comparison category. When the children of heterosexual married couples are the comparison category, their baseline average rate of grade retention is 6.56%, and their average grade level for 9-year olds is 2.934 years. Since the analysis above includes only “own children” of the different family types, consistent with Rosenfeld’s models, the average rate of grade retention is slightly lower than the 6.8% rate reported in Rosenfeld (Rosenfeld 2010, table 1) and Rosenfeld (Rosenfeld 2013a, appendix table 1) because the reported 6.8% grade retention rate included “own children,” step children, foster children, and adopted children, and the latter categories have worse average progress through school.

To derive predicted probability P_2 of making good progress through school for group 2 compared to reference group 1, I employ the following formula, where e^β is the exponentiated logistic coefficient:

$$P_2 = \frac{\left(\frac{P_1}{1-P_1} \right) e^\beta}{1 + \left(\left(\frac{P_1}{1-P_1} \right) e^\beta \right)}$$

Because grade retention is cumulative, and because students later in their educational careers have had more exposure to the risk of being held back in school, Table 1 overstates the grade retention difference between children of same-sex couples and children of heterosexual married couples in the earliest years, grades 2 and 3, which is the specific period covered by Allen’s figure 2.

Note also that after controlling for income and demographics, the difference in percentage of grade retention between children raised by same-sex couples and children raised by heterosexual married couples is about a 1% difference in terms of predicted grade level- 6.56% compared to 7.49% in grade retention, or 3- 6.56%=2.934 compared to 3- 7.49%=2.925 in predicted grade level for 9-year-olds, who should be in 3rd grade (in April, at the time of the census) if they were making good progress. Table 1 also shows that foster children make significantly worse progress through school compared to children of same-sex couples and compared to children of heterosexual married couples.

The coefficient for children raised by same-sex couples compared to children raised by heterosexual married couples is not significantly different from zero (coefficient of -0.142, SE of 0.125, z-score of -1.14, probability of 0.254). What the insignificant coefficient means is that if the true value of grade progress for the two groups were exactly the same, in a dataset as large as the census we expect to find a difference this large between the two groups 25% of the time. The null hypothesis of no difference between the groups is not rejected, so the null hypothesis remains our working hypothesis: the two groups are the same.

[Table 2 here]

The averages and confidence intervals from Table 2 were produced from weighted averages of good progress through elementary school from the 2000 US census microdata, with no controls. All students had 5 years of residential stability. Measured rates of grade retention and measured standard errors of grade retention were all multiplied by 4 to account for the fact that the US census 2000 grouped children's grades into groups of 4, so that only one fourth of actual age-grade-mismatches could be observed. The specifics of the census variables and the procedures necessary to accommodate them in analysis are described in Rosenfeld (2010). In Table 1, the starting percentages for the comparisons (for instance, 6.56% percentage held back for children of heterosexual married families) have the correction for census grade categories already included.

Unlike Table 1, Table 2 has no comparison category, so the standard errors are specific to each group only. Without controls for income or basic demography, the three groups are a little further apart in predicted grade in Table 2 than in Table 1. In Table 2, the children of same-sex couples and the children of heterosexual couples differ by about 2% of a grade level (6.56% left back compared to 8.52% left back), whereas in Table 1 the difference between the groups was about half as large, or about 1%.

As in Table 1 above, in Table 2 the entire span of the 95% confidence interval for grade attended for children of same-sex couples is approximately 4% of one grade level ($2.935-2.895 \approx 0.04$).

In Table 2's comparison, without controls, each of the 3 groups is significantly different (in progress through school) from the other two groups.

Part 2) Additional analyses of the New Family Structures Study data:

In response to the deposition testimony of State Defendants' witness Regnerus (Regnerus 2014 p.56-60) suggesting that the New Family Structures Study data show instability in same-sex couple relationships, I offer some additional analyses of the New Family Structures Study (NFSS) data.

[Table 3 here]

Table 3 presents averages from unweighted data (unless otherwise noted) from New Family Structure Study, N=2988. The "step family," "adopted parents," "single parents," and "all others" categories do not exactly match Regnerus's (2012) numbers because the categories overlap and the rules for assigning cases to categories could not be reproduced exactly from published materials. Family transitions are defined as the total of every year-to-year change in the roster of adults the subject lived with from birth to age 18, derived from the New Family Structure Study calendar.

The average number of family transitions among the "lesbian mother" and "gay father" groups (6.4 and 5.8 respectively) are comparable to the average number of family transitions among the (heterosexual) step family group (who had an average of 5 transitions). Furthermore, of all family transitions experienced by children who ever lived with same-sex couples, only 7% of the family transitions (0.44/6.6 at the average) were the direct result of the break-up of same-sex couples (i.e. of the biological parent's same-sex partner leaving the home).

Part 3) A correction

In my January 13, 2014 deposition (Rosenfeld 2014) in the DeBoer v. Snyder case, at page 144, I was asked the following question, and I gave the following answer:

"Q: Okay. How many Studies total have you referenced that convey long-term outcomes of children parented by same-sex parents"

...

"A: The Wainright, Russell & Patterson is a study, based, I believe, on the National Longitudinal Study of Adolescent Health, which follows respondents from high school into their 30s. So there's a variety of outcomes using the National Longitudinal Study of Adolescent Health, which is a nationally representative study, as I say, which follows subjects from high school into their 30s."

My correction to the record is as follows: While it is true that the National Longitudinal Study of Adolescent Health has followed subjects into their 30s, the portion of the data that was used by Wainright, Russell and Patterson (2004) included only subjects who were age 12-18.

Michael J. Rosenfeld

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Date: 2/7/2014

References Cited

- Allen, Douglas W. 2013. "Expert Witness Report of Douglas W. Allen, DeBoer vs. US District Court, Eastern District of Michigan, Southern Division." December 20.
- Allen, Douglas W., Catherine Pakaluk, and Joseph Price. 2013. "Nontraditional Families and Childhood Progress Through School: A Comment on Rosenfeld." *Demography* 50 (3):955-961.
- Regnerus, Mark. 2012. "How Different are the Adult Children of Parents who have Same-Sex Relationships? Findings from the New Family Structures Study." *Social Science Research* 41:752-770.
- Regnerus, Mark D. 2014. "Deposition in DeBoer v. Snyder." January 8.
- Rosenfeld, Michael J. 2010. "Nontraditional Families and Childhood Progress Through School." *Demography* 47 (3):755-775.
- . 2013a. "Expert Witness Report of Michael J. Rosenfeld in DeBoer v. Snyder." December 20.
- . 2013b. "Reply to Allen et al." *Demography* 50 (3):963-969.
- . 2014. "Deposition of Michael J. Rosenfeld in DeBoer v. Snyder." January 13.
- Wainright, Jennifer L., Stephen T. Russell, and Charlotte J. Patterson. 2004. "Psychosocial Adjustment, School Outcomes, and Romantic Relationships of Adolescents with Same-Sex Parents." *Child Development* 75 (6):1886-1898.

Table 1: Data on Grade Progress from the 2000 US census for Rosenfeld's Models:

	A) Baseline pct being held back in school	B) coefficient	C) SE	D) Z-score	E) Prob $z > Z $	F) Pct held back in school	G) =3-F Average grade level for 9 year olds	H) Bottom of 95% CI for average grade	G) Top of 95% Confidence Interval for average grade
Perspective 1: Comparison Category: own children raised by heterosexual married parents	6.56%					6.56%	2.934		
own children raised by same-sex couples		-0.142	0.125	-1.14	0.254	7.49%	2.925	2.906	2.940
foster children		-0.729	0.119	-6.11	0.000	12.70%	2.873	2.845	2.897
Perspective 2: Comparison Category: Own Children raised by Same-Sex Couples	8.52%					8.52%	2.915		
Own Children Raised by Heterosexual Couples		0.142	0.125	1.14	0.254	7.47%	2.925	2.906	2.941
Foster Children		-0.587	0.172	-3.41	0.001	14.34%	2.857	2.810	2.893

Table 2: 2000 US census data on Grade Progress for 9-year-olds without controls applied

	A) Baseline pct being held back in school	B) N	C) SE	D) =3-A Average grade level for 9 year olds	H) Bottom of 95% CI for average grade	G) Top of 95% Confidence Interval for average grade
own children raised by heterosexual married parents	6.56%	572,406	0.07%	2.934	2.933	2.935
own children raised by same-sex couples	8.52%	3,174	1.03%	2.915	2.895	2.935
foster children	21.46%	1,463	2.36%	2.785	2.739	2.832

Source: weighted Census 200 microdata. The mean of each of the 3 groups is significantly different from the other two groups.

Table 3: Transitions and break-ups from the NFSS data

Regnerus's Family categories	N of subjects in the NFSS	Mean of Family Transitions	Mean number of same-sex couple break-ups observed by coresident respondents as children
Intact Bio Family	919	0	N/A
Lesbian Mother	163	6.4	0.18
Gay Father	73	5.8	0.04
Coresident same-sex couple families (not a Regnerus category; subset of the two categories above)	75	6.6	0.44
Adopted Parents	106	2.7	N/A
Bio family later divorced (divorced after child turned 18)	116	0	N/A
(heterosexual) Step family	415	5.0	N/A
Single Parent	819	3.8	N/A
All Others	377	2.5	N/A
Total (unweighted)	2988	2.5	0.02
Total (weighted)		1.87	0.002

Source: NFSS data, unweighted except where otherwise noted.