

Supplement to:

Andrade, Stefan B., and Jens-Peter Thomsen. 2021. "Yes, Denmark Is a More Educationally Mobile Society than the United States: Rejoinder to Kristian Karlson." *Sociological Science* 8: 359-370.

In this supplement, we present a) our responses to what KBK lists as minor flaws in our 2018 comment, and b) additional tables.

First, KBK thinks we should have reported marginal effects instead of marginal probabilities in our online supplement: “had A&T computed marginal effects (not marginal predictions) from the multinomial logit model, these would be identical (yet more efficient) than the ones based on the linear probability model. In other words, these additional analyses do not add to the robustness of their findings.” To begin with, we added marginal probabilities not as a robustness check but simply to ease the interpretation of the logit models. Also, we do not see what marginal effects would have added when using fully specified models. For instance, the marginal effect of a child with college-educated parents going to college is 50%, which is the difference between the marginal prediction for a college-home child going to college (59%) and the marginal prediction for a no-high school home child going to college (9%). Second, KBK continues as follows: “not correcting for multiple hypothesis testing will inevitably result in overstating significance and finding country differences even when there are none.” We fail to see the relevance of this comment, as practically all our tests are significant at the 1% level. Third, KBK states that “for all odds ratios reported in the paper and online supplement, confidence intervals are symmetric, something that cannot be true given that odds ratios operate on a multiplicative scale. It appears that A&T have calculated these confidence intervals themselves using the standard formula ($\pm 1.96 \times SE$) instead of using the standard error reported by the statistical program.” This is not correct and can be easily checked in our online supplement. For example, confidence intervals for the odds ratio of going to college for college-home kids in the U.S. was 27.48 with a confidence interval of 20.44 to 36.93, which is asymmetric. For Denmark, the confidence interval will look symmetric, as we round off to two decimal points (and we use very large administrative data in this case). Fourth, KBK argues that we should have shown significant differences between Denmark and the U.S. by using two-tailed *t*-tests instead of one-tailed *t*-tests.

We agree that this would have been a better choice, but we did not place much emphasis on this point because cross-country differences are statistically significant whether we use one or the other. Finally, KBK states that not specifying standard errors as robust means that “A&T are more likely to reject their null” (p. 12). Specifying standard errors as robust changes nothing (as differences are substantial and highly significant).

Table A1. Educational mobility by continuous measures. Children’s years of education (2013) by fathers’ years of education, coded from highest degree. Correlations and beta coefficients. 1980–1984 cohorts. Separate models for each country.

	Denmark (<i>N</i> = 235,817)	U.S. (<i>N</i> = 4,895)	
	Correlations		
Father-child	0.35* (0.00) [0.35; 0.35]	Weighted 0.43* (0.01) [0.40; 0.45]	Unweighted 0.43* (0.01) [0.40; 0.45]
	Regressions		
Father-child	0.37* (0.00) [0.37; 0.37]	0.43* (0.01) [0.40; 0.45]	0.43* (0.01) [0.41; 0.45]

Notes: * $p < .01$. Standard errors are in parentheses, and 95% confidence intervals are in brackets. For U.S. unweighted estimates, standard errors are robust. For U.S. weighted estimates, standard errors fully consider the complex survey design of the NLSY97. We used Fisher (1925) for the correlations (under the assumption of independent samples) and two tailed *t*-test statistics for the regression coefficients to determine statistically significant differences between the two countries (all differences are significant at $p < .01$). Spearman rank-order correlations produce similar results.

Table A2. Educational mobility by positional measures. Children's educational attainment (2013) by parents' highest education, coded from years of education. Odds ratios (reference: lowest 40%). 1980–1984 cohorts. Separate multinomial logit models for each country.

	(1) Denmark (<i>n</i> = 251,016)	(2) U.S. (<i>n</i> = 4,982)	
			Lower middle [40–60%]
Parents' education:			Weighted
Lower middle [40–60%]	1.34* (0.02) [1.31; 1.38]	1.32† (0.15) [1.05; 1.66]	Unweighted 1.30† (0.14) [1.06; 1.59]
Upper middle [60–80%]	1.26* (0.02) [1.22; 1.30]	2.25* (0.25) [1.80; 2.81]	2.23* (0.25) [1.79; 2.78]
Top 20% [80–100%]	1.28† (0.02) [1.23; 1.32]	3.45* (0.43) [2.70; 4.42]	3.38* (0.44) [2.62; 4.36]
			Upper middle [60–80%]
Parents' education:			
Lower middle [40–60%]	1.33* (0.02) [1.29; 1.37]	1.87* (0.29) [1.38; 2.55]	1.79* (0.22) [1.40; 2.29]
Upper middle [60–80%]	1.69* (0.03) [1.64; 1.74]	4.66* (0.63) [3.55; 6.11]	4.66* (0.56) [3.68; 5.91]
Top 20% [80–100%]	3.40* (0.05) [3.29; 3.50]	12.87* (2.02) [9.41; 17.60]	13.01* (1.64) [10.15; 16.66]
			Top 20% [80–100%]
Parents' education:			
Lower middle [40–60%]	1.30* (0.02) [1.26; 1.34]	2.42* (0.35) [1.82; 3.24]	2.40* (0.29) [1.90; 3.04]
Upper middle [60–80%]	2.35* (0.04) [2.27; 2.43]	5.56* (0.68) [4.35; 7.11]	5.62* (0.67) [4.44; 7.10]
Top 20% [80–100%]	8.84* (0.14) [8.58; 9.11]	20.09* (2.87) [15.11; 26.71]	20.47* (2.51) [16.09; 26.03]

Notes: * $p < .01$, † $p < .05$. Standard errors are in parentheses, and 95% confidence intervals are in brackets. For U.S. unweighted estimates, standard errors are robust. For U.S. weighted estimates, standard errors fully consider the complex survey design of the NLSY97. Two-tailed t -test statistics show all differences are significant at $p < .01$.

Table A3. Intrinsic association coefficient. Different levels of educational aggregation. Child-parent (parents' highest education).

	3-level categorization	4-level categorization	5-level categorization	6-level categorization
	1. High school or lower 2. Short college degree 3. Bachelor's degree or higher	1. No high school 2. High school 3. Short college degree 4. Bachelor's degree or higher	1. No high school 2. High school 3. Short college degree 4. Bachelor's degree 5. Master's degree or higher	1. Primary school 2. Lower secondary 3. High school 4. Short college degree 5. Bachelor's degree 6. Master's degree or higher
Denmark ($N = 5,007$)	0.35 (0.01)	0.38 (0.02)	0.41 (0.02)	0.40 (0.02)
U.S. (NLSY97) ($N = 4,734$)	0.44 (0.02)	0.53 (0.02)	0.55 (0.03)	0.53 (0.03)
U.S. (GSS) ($N = 1,148$)	0.39 (0.03)	0.56 (0.07)	0.59 (0.06)	0.53 (0.05)

Notes: U.S. estimates are based on mobility tables computed using weighted data from both NLSY97 and GSS. The GSS data comprise 30–36 year olds born in 1979–1985 (see also Endnote 7). For Denmark, 2% sample were used. Standard errors from bootstrap.