Credits and Credentials: An In-Depth Analysis of the Association between Educational Attainment and the Risk of Divorce.

by

R. Kelly Raley
David McClendon
Ellyn Arevalo Steidl

Prior research establishes a strong and growing association between degree attainment and the risk of marital dissolution. Those who earn a college degree have significantly lower levels of marital dissolution than those with only some college. Likewise, those who do not complete their high school diplomas have a higher risk of divorce than those who earn a college degree. Moreover, those that attend college without obtaining a degree have a higher divorce rate than those who earn a high school degree but never attend a postsecondary institution. (Raley and Bumpass 2003; Martin 2006). This pattern of results suggests that educational credentials reduce the risk of divorce, but that marital stability does not benefit from educational attainment that does not lead to a degree.

This study uses detailed data on postsecondary experiences from the National Longitudinal Survey of Youth 1997 Cohort (NLYS97) to investigate the association between educational attainment and marital stability for men and women. The modal educational category for this cohort, now entering their thirties, is "some college, no degree." This is a heterogeneous group including some who attend 2-year institutions briefly to those who are only a few credits away from obtaining their bachelor's degree. We exploit this heterogeneity to gain insight into the social factors that connect education and marital stability.

BACKGROUND

Educational attainment is associated with a wide range of positive outcomes, from higher wages to better health, to more stable families. What accounts for these associations? Some argue that through the process of educational attainment individuals develop skills that are valuable to employers and may also be helpful in managing other aspects of life to improve health and social relationships. For example, research suggests that education can enhance non-cognitive skills like self-efficacy (Mirowsky and Ross 2007), which might in turn encourage couples to be more proactive and effective in managing problems in their relationship. One obvious way that postsecondary educational attainment might contribute to the development of skills is through course-taking. Another, is through involvement and participation in a university environment. While enrolled, students have the opportunity to form social ties that might shape young adult expectations and beliefs and increase cultural capital in ways that facilitate stable relationships.

Others suggest that credentials, rather than learning, are what matter. Many jobs require a college degree. Sometimes this requirement is in place not because the job requires skills developed through educational attainment but because it is an easy way to screen potential employees. Employers might be looking for personal qualities like persistence and ability and/or they could be screening for having the "right" family background and the attendant cultural characteristics associated with privilege.

If incremental measures of educational attainment (e.g. number of years of schooling, number of credits earned) are not significantly associated with marital stability once degree attainment is controlled, this supports the credentials argument. Alternatively, if degree attainment is not significant once incremental measures of educational attainment (i.e. years of education or number of credits earned) is

controlled, this supports the skill development explanation. Of course, education might matter for marital stability both because it develops skills that promote healthy relationships and because of the independent social value of a degree. In this case both degree attainment and educational accumulation should be significantly associated with marital dissolution.

Importantly, third factors such as family background might affect both educational attainment and marital stability in which case the association between education and divorce would be spurious. Fortunately, the NLSY includes measures of many of the factors that predict educational attainment, such as high school academic achievement, parental education, family structure, race, gender, and age at marriage.

DATA and METHOD

Data come from the first 15 rounds (1997-2012) of the 1997 NLSY, an annual survey of 8,984 men and women born 1980-84. Most of the information is provided by self-report through personal or telephone interviews. In addition to the self-report data, this study (will) use(s) the newly available data from the NLSY Postsecondary Transcript Study. Our analysis includes all respondents who had married by round 15 (or last observation), when the respondents were between age 26 and 31.

The dependent variable indicates whether the respondent's first marriage has ended in divorce or separation. The primary independent variables measure educational attainment. The first educational variable has five categories: less than high school, high school, some college but no postsecondary degree, associate's degree, and Bachelor's degree or more. (Note: currently this measure is taken from self-reports. We plan to use information in the transcript study to verify college attendance and degree attainment to improve these measures). A second set of educational variables indicate the number of postsecondary credits earned in 2- and 4-year institutions (separately). This measure is intended to capture the development of skills through classroom learning in postsecondary education. Because 2-year institutions tend to be less academically rigorous, we expect that 2-year credits will not be as negatively associated with divorce as 4-year credits. A third set of variables describes the respondent's years of postsecondary enrollment. Postsecondary experiences might contribute to skill development through classroom experiences, but the college experience goes beyond the classroom. Time spent in school could contribute to social development independently from credits earned. We explore this possibility through measures of school enrollment.

In addition, two variables measure other aspects of the educational experience, number of majors and number of postsecondary institutions. We expect that respondents who change majors frequently might also be more likely to divorce. Although this association might be causal, we consider this measure a control for perseverance that might affect both degree completion and marital stability. All education variables indicate educational attainment in June of the year that the respondent married.

In addition our models control for race-ethnicity (Non-Hispanic White, Non-Hispanic Black, Hispanic and other), college preparatory math in high school, fertility prior to marriage, parental education, family structure at age 12, and age at marriage. Descriptive information on all independent variables for women and men separately is provided in Table 1.

RESULTS

Table 2 presents estimates from a Cox Proportional Hazard model of regression analyses predicting marital dissolution using the NLSY sample of women. Model 1 shows that compared to women with a high school degree, those with less than high school have a higher rate of marital dissolution. In addition, having a college degree is significantly negatively associated with the risk of marital dissolution. These findings are consistent with past, but unlike previous research, this analysis shows

that having some college is associated with a reduced risk of divorce. Model 2 indicates that much of the association between educational attainment and marital stability is spurious, due to family background characteristics and age at marriage. Nonetheless, having a BA degree remains negatively associated with the risk of marital dissolution net of these controls. In addition, unlike most previous research, black women's risk of divorce is similar to the risk for Non-Hispanic white women. This might be because so few black women in these data have yet married and those that have might be especially positively selected on characteristics that promote marital stability.

Model 3 adds incremental measures of educational attainment. This model shows that number of credits earned towards a 4-year degree is negatively associated with the risk of divorce. This association is only marginally significant in the model shown, but this is because number of months enrolled is also in the model and it is positively correlated with number of credits earned. In a model without number of months enrolled, the coefficient for number of credits is the same (i.e. =0.018) and is statistically significant at $p < .01$. A squared term is also significant and positive, indicating that the strength of the negative association between credits earned and divorce weakens as the number of credits increases. That is, the returns to earning additional credits decline as the number of credits increases. Although number of 4-year credits earned is negatively associated with divorce, credits earned towards a 2-year degree are not associated with women's marital stability. In addition, with number of 4-year credits earned in the model, neither degree attainment nor number of months enrolled is statistically significant. (In a model not shown degree attainment is also not statistically significant with just 4-year credits in the model). Our preliminary analyses also indicate that number of majors and number of institutions are not associated with the risk of divorce (for women).

Altogether, these preliminary results indicate that incremental educational progress is associated with greater marital stability, even when it does not result in a degree. This provides more support for the learning than the credentialism argument. Moreover, years enrolled is not associated with reduced risk of divorce, but credits earned is. This supports the idea that something about what is learned in the classroom might contribute to marital stability, either directly or indirectly through labor force outcomes or spousal characteristics. Yet, this association might also be due to unmeasured personal characteristics that predict both academic and marital success. A weakness of this study is that we cannot rule out the possibility that the observed associations are spurious.

FUTURE PLANS

We plan to integrate information from the transcript data file to improve our measures of degree attainment and number of credits earned. Not only will we use transcript measures to verify self-reported number of credits, but we will also be able to distinguish between remedial, lower division, and upper division coursework. If skill development through coursework is an important mechanism through which education affects marital stability, then remedial coursework should be associated with relatively few benefits in contrast to lower and upper division credits. We will also explore additional measures of postsecondary experiences such as GPA, course failure, and course withdrawal. Although the number of majors measure is not (consistently) associated with risk of divorce, we continue to explore alternative ways to use information on postsecondary achievement to measure persistence. Between now and spring 2015 we will also improve the measurement of potentially confounding factors with controls for high school GPA and ASVAB scores and more detailed measures of parental education. Lastly, a strength of the NLSY is its detailed information on employment characteristics. We intend to explore these as potential factors through which educational attainment translates into lower levels of divorce.

Table 1. Descriptive statistics for all respondents at time of first marriage. NLSY-1997, men and women separately. Weighted.

	WOMEN		MEN		
	Mean	SD	Mean	SD	Range
DV: Divorced (=1)	0.22		0.18		
Education variables (at year of marriage)					
Educational attainment					
Less than high school	0.12		0.11		
High school degree (no post-secondary)	0.24		0.32		
Some college, no PS degree	0.34		0.33		
Associate's degree	0.06		0.06		
Bachelor's degree	0.24		0.19		
Credits earned at 2-year institution credits	10.18	22.0	8.41	19.8	0-233
Credits earned at 4-year institution credits	34.71	49.2	29.02	47.7	0-375
Months enrolled at 2-year institution	6.70	12.9	5.44	11.5	0-72
Months enrolled at 4-year institution	17.39	23.0	14.51	22.3	0-72
Number of post-secondary institutions attended	0.94	1.0	0.78	0.9	0-5
Number of majors declared	1.14	1.3	0.94	1.2	0-7
College prep math course in high school (=1)	0.41		0.40		
Demographics and family background					
Race-ethnicity					
Non-Hispanic White	0.76		0.73		
Non-Hispanic Black	0.08		0.10		
Hispanic	0.12		0.13		
Other race/ethnicity	0.04		0.03		
Parent earned a BA degree	0.28		0.27		
Family structure at age 12					
Biological parents, intact	0.51		0.55		
Single mother	0.33		0.28		
Stepfamily	0.07		0.07		
Other family structure	0.09		0.11		
Had first birth prior to marriage	0.25		0.21		
Age at first marriage					
Age 15-19	0.17		0.08		
Age 20-23	0.40		0.39		
Age 24-31	0.43		0.53		
Duration of marriage (until divorce or last observation)	4.82	3.1	4.20	2.8	0-14
N	1887		1582		

Table 2. Cox Proportional Hazard Estimates from models predicting first marriage dissolution, Women

	Model 1			Model 2			Model 3		
	Hazard ratio		SE	Hazard ratio		SE	Hazard ratio		SE
Educational attainment (ref. HS, no post-sec)									
Less than HS	0.27	*	-0.14	0.11		-0.14	0.156		-0.14
Some College (no degree)	-0.28	*	-0.13	-0.06		-0.14	0.177		-0.18
Associate's degree	-0.44		-0.31	-0.07		-0.32	0.209		-0.44
Bachelor's degree or more	-1.32	***	-0.28	-0.76	*	-0.30	-0.323		-0.46
Race/ethnicity (ref. NH white)									
NH Black				0.08		-0.16	0.086		-0.16
Hispanic				-0.37	**	-0.13	-0.392	**	-0.13
Other				-0.09		-0.34	-0.056		-0.34
College prep math in HS (1=Yes)				-0.19		-0.14	-0.114		-0.14
First birth prior to marriage (ref= no births)				0.14		-0.12	0.083		-0.12
Parent with Bachelor's degree (1=Yes)				0.06		-0.15	0.114		-0.15
Family structure age 12 (ref= Intact bio parents)									
Single mother				0.39	**	-0.13	0.358	**	-0.14
Step-parents				0.40	+	-0.21	0.347		-0.21
					**			**	
Other				0.62	*	-0.16	0.596	*	-0.17
Age at marriage (ref= married before age 20)									
Ages 20-23				-0.36	**	-0.13	-0.309	*	-0.13
					**				
Ages 24-31				-0.74	*	-0.20	-0.624	**	-0.2
Number of credits									
2-year credits							0.001		-0.01
4-year credits							-0.018	+	-0.01
2-year credits (squared)									
4-year credits (squared)							0.00	*	0.00
Number of months enrolled									
2 year college							-0.009		-0.01
4-year college							-0.004		-0.01

+ p <0.1 * p <0.05 ** p <0.01 *** p <0.001