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Union Status, Educational Attainment, and Body Mass Index Among Emerging Adults

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Abstract

This study uses fixed-effects regression modeling and three waves of data from the National Longitudinal Study of Adolescent to Adult Health (Add Health) to examine whether union status and educational attainment interact to influence change in body mass index (BMI) during emerging adulthood. The results support the hypothesis that the effect of union status on change in BMI is smaller for those with more educational attainment. In particular, emerging adults with no college education experience significant increases in BMI associated with both marriage and cohabitation. The increases in BMI associated with marriage and cohabitation are significantly smaller for those with some college education—but are still somewhat present. Among emerging adults with college degrees, however, involvement in cohabitation/marriage is not associated with increases in BMI at all. Potential explanations for this pattern of results and suggestions for future research are discussed.

Keywords

education; romantic relationships; health; marriage; obesity

From age 18 through the early 30s, individuals undergo numerous life changes in their transition to adulthood that have implications for health and well-being. Emerging adulthood is an especially important time period for considering health outcomes because health *outcomes* in emerging adulthood are also *risk factors for health* in later life. For instance, consider body mass index (BMI)—even small gains in BMI during early adulthood increase the risk of developing diseases such as diabetes as well as increasing the amount of health-care costs later in the life course (Daviglius et al., 2004; Schienkiewitz, Schulze, Hoffmann, Kroke, & Boeng, 2006). Increases in BMI also put one at increased risk for obesity—a chronic illness currently affecting over 36% of the U.S. adult population that leads to an

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Author Contribution

Rhiannon A. Kroeger contributed to conception, design, and acquisition; drafted the manuscript; critically revised the manuscript; gave final approval; and agrees to be accountable for all aspects of work ensuring integrity and accuracy.

Declaration of Conflicting Interests

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increased risk for hypertension, diabetes, heart disease, and many other chronic ailments (Ogden, Carroll, Fryar, & Flegal, 2015).

In this vein, efforts to better understand social factors and processes that influence BMI in emerging adulthood can inform not only research but also public health initiatives aimed at reducing the risk of disease that accompanies the aging process. This study considers two important and often overlapping processes that occur during emerging adulthood and that past research indicates are important for BMI—educational attainment and union status. With regard to their importance in emerging adulthood, most individuals complete their education, including any postsecondary education, by their late 20s or early 30s (Adelman, 2006). Further, many individuals enter into their first cohabitations and/or marriages during emerging adulthood. Indeed, more than half of young adults have ever been in a cohabiting union by age 25 (Kennedy & Bumpass, 2008; Payne, 2011), and the median age at first marriage is in the late 20s for both men and women (Manning, 2013). In particular, this study examines whether union status and educational attainment interact to influence change in BMI during emerging adulthood. In the remainder of this section, I first discuss current research linking educational attainment and union status to BMI separately and then consider why they might interact to influence change in BMI during emerging adulthood.

Educational Attainment and BMI

Research consistently shows that indicators of socioeconomic status (SES), especially educational attainment, are inversely related to BMI and risk of obesity (Ogden, Lamb, Carroll, & Flegal, 2010). In particular, college graduates enjoy a lower BMI than their less educated counterparts (Cohen, Rai, Rehkopf, & Abrams, 2013), in part because education empowers individuals with the knowledge and resources necessary to maintain a healthy weight (Link & Phelan, 1995). In other words, the more education one has, the more access they tend to have to the latest research on nutrition and exercise. In addition, such individuals tend to have more money to spend on nutritious foods, invest in gym memberships, see a personal trainer or nutritionist, and so on. In sum, these luxuries provide such individuals not only with a greater knowledge of what is necessary to maintain a healthy weight but also with greater means to successfully do so. At the same time, there is evidence that those with more educational attainment have a greater incentive to maintain a lower BMI than their less educated counterparts. For instance, research indicates that there is more stigma in the labor market toward heavier individuals for jobs requiring a college degree—such that lower BMI individuals with a college degree may be more likely to get hired and promoted than college-educated individuals with higher BMIs (Pudrovska, Reither, Logan, & Sherman-Wilkins, 2014).

Union Status and BMI

Despite general associations of committed unions with better health, even among young adults, both cohabitation and marriage are associated with an increase in BMI (Harris, Lee, & DeLeone, 2010; Umberson, Liu, & Powers, 2009). This pattern has been explained largely by two hypotheses. First, the marriage market hypothesis suggests that when individuals enter into cohabitation/marriage—they have less incentive to maintain a healthy

weight since they are “off the market” (Averett, Sikora, & Argys, 2008). Second, the social control/social obligation hypothesis indicates that involvement in intimate unions imposes social control that leads to both more regular meals and more sedentary behavior, both of which can potentially result in weight gain (Umberson et al., 2009). In addition, involvement in intimate unions may increase social obligations that involve food such as a demand to go to each partners’ family events over the holidays. Both the marriage market and social control/obligation hypotheses are said to carry more weight for marriages than cohabitations since, traditionally, marital unions have entailed more commitment than cohabiting unions (Waite & Gallagher, 2000). Yet it is important that studies continue to distinguish between marital and cohabiting unions in their analyses because as cohabitation becomes more commonplace, especially among emerging adults, it may become more or less distinguishable from marriage. Recent research also emphasizes the importance of considering past cohabitations/marriages in analyses of union status and body weight (Hernandez, Pressler, & Dorius, 2011), as only counting current status misses past transitions that may have had lasting effects on body weight and/or that may alter behavior in subsequent cohabitations/marriages.

Educational Attainment, Union Status, and BMI

It is likely that both the marriage market and social obligation hypotheses work differently across levels of educational attainment. In particular, to the extent that lower BMI is more of a resource in the labor market for those with a college education than for those without, emerging adults who have completed their college degrees might actively resist the weight gain that would otherwise accompany involvement in their intimate unions (Von Hippel & Lynch, 2014). Second, even if the social control/social obligation hypothesis worked the same way regardless of educational attainment, thereby leading to more frequent meals upon entering into a committed union for everyone, those with lower educational attainment would likely be eating cheaper food that is more processed and higher in calories, whereas those with higher educational attainment would likely have greater access to a diet inclusive of fresh fruits, vegetables, and proteins (Darmon & Drewnowski, 2008). This could potentially mean less weight gain due to fewer processed, more nutrient-dense foods. In addition to being higher in calories, a diet of more processed foods is associated with metabolic changes that result in weight gain (Ley, Hamdy, Mohan, & Hu, 2014). Taken together, this leads to the hypothesis that the effect of union status on change in BMI will be smaller for those with more educational attainment.

Data and Method

This study uses data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), a nationally representative sample of students in Grades 7 through 12 in 1994–1995 (Harris, 2009). In-home surveys were collected from 20,745 respondents nested within 132 schools. Of these, 18,924 were selected for inclusion in the nationally representative sample, whereas the remaining 1,821 respondents composed a separate genetic sample (for more information, see Harris, 2013). Subsequent in-home interviews were conducted in 1996, 2001–2002, and 2007–2008 with 72%, 76%, and 78% of the original 18,924 respondents, respectively. A total of 9,421 respondents in the Wave 1

nationally representative sample were present for all four waves. Respondents were on average 15 years old at Wave 1, 16 years old at Wave 2, 22 years old at Wave 3, and 28 years old at Wave 4.

Starting at Wave 2, respondent's height and weight were measured and recorded by the interviewer (whereas they were self-reported and thus prone to respondent bias at Wave 1). Accordingly, my analysis includes Waves 2, 3, and 4—the three time periods for which body weight was objectively measured. Importantly, respondents are captured once in adolescence (Wave 2) and twice during emerging adulthood (Waves 3 and 4). My analytic sample consists of men and non-pregnant women who had never married or cohabited at baseline. Of the 9,421 respondents in the longitudinal sample, 714 women were currently pregnant at the time of interview for Waves 2, 3, and/or 4; and 542 respondents had ever cohabited or married at Wave 2. This results in a starting analytic sample of 8,165 respondents. Of these, 83 respondents were missing information on the dependent variable, resulting in a final analytic sample of 8,082 respondents. There were 148 individuals with missing data on the predictor variables. Specifically, 33 were missing information on marital status, 3 were missing information on educational attainment, and 112 were missing information on one or more control variables. In the analysis, missing data were handled via full information maximum likelihood.

Key Measures

Union status—Given the aforementioned importance of considering cohabitations separately from marriages as well as of considering past unions in analyses of union status and change in BMI (Hernandez et al., 2010; Payne, 2011), I operationalize union status with categories that capture both the type of current union (i.e., marriage vs. cohabitation) and any prior unions involved in (1) currently single—never married, never cohabited, (2) currently single—has married or cohabited, (3) in first union—cohabiting, (4) in first union—married, (5) in higher order union—cohabiting, and (6) in higher order union—married. Prospective information on marriage and cohabitation experiences at Waves 2, 3, and 4 as well as retrospective histories collected at Waves 3 and 4 were used to construct the measure of union status at each wave.

BMI—For Waves 2 through 4, BMI is calculated using respondent height and weight measurements that were recorded by the interviewer, using the formula established by the CDC: $\text{weight (lb)} / (\text{height [in.]}^2 \times 703)$ (CDC, 2015). When the measured height and weight were missing, their values were replaced with the height and weight reported by the respondent. Results did not change when omitting these self-reported cases.

Educational attainment—I operationalize educational attainment with categories for (1) no college education, (2) some college education, and (3) a 4-year college degree or more. I operationalize educational attainment in this way rather than in years of schooling because past research indicates that, in the case of BMI, college completion matters more for BMI differentials than does the number of years one is educated (Ogden et al., 2010).

Controls—I control for the following time-varying variables at each wave: *respondent age* (interval), *parental status* (dichotomous: respondents are considered parents if they have any biological or adoptive children and/or if they have stepchildren in the household), and *current school enrollment* (dichotomous, equal to 1 if the respondent is currently enrolled in school). I also control for two health behaviors that are significantly associated with both union status and body weight (Umberson et al., 2009): *binge drinking* (ordinal indicator of how often respondent binge drank in the last year, ranging from 0 = *never* to 6 = *every day or nearly every day*) and *smoked in past 30 days* (dichotomous indicator of whether the respondent smoked cigarettes in the past 30 days). Finally, I include a categorical indicator of the wave of analysis to account for the natural change in body weight across waves. Descriptive statistics for all variables in the analysis are shown in Table 1. All estimates adjust for the complex survey design of Add Health by use of the *svy* prefix in Stata (Version 14).

Analytic Method

To examine whether educational attainment and union status interact to influence BMI, I use fixed-effects regression models to assess within-person estimates (Allison, 2009; Stock & Watson, 2011). Fixed-effects models are based on the following equation:

$$y_{it} = \mu_t + \beta x_{it} + \gamma z_i + \alpha_i + \varepsilon_{it},$$

where y_{it} is the dependent variable observed for individual i at time t , μ_t is the person-specific intercept at time t , x_{it} refers to a vector of predictors for individual i at time t , z_i refers to a vector of predictors that do not vary over time (e.g., race/ethnicity, gender), α_i refers to person-specific error, and ε_{it} refers to random error associated with individual i at time t (Allison, 2009). In fixed-effects models, α_i is allowed to correlate in all ways possible with the time-varying predictors in vector x_{it} . As a result, any time-invariant parameters entered into a traditional fixed-effects model will be perfectly collinear and therefore dropped from the model. The fixed-effects model, then, signifies *within-person change* and as such is said to implicitly control for all individual time-invariant characteristics. With respect to the current study, within-person change in BMI is modeled as a function, in part, of change in union status. Because all respondents in the analytic sample are single with no prior unions at Wave 2 (i.e., adolescence), any involvement in cohabitation or marriage is observed at Wave 3 and/or Wave 4 (i.e., emerging adulthood). Therefore, all union status coefficients estimate the effect of union status involvement on change in BMI specifically in emerging adulthood.

A popular alternative to fixed effects is random effects. Random-effects models are actually based on the same equation as fixed-effects models. The core difference between fixed- and random-effects models stems from their treatment of the individual-specific error α_i . In random-effects models, α_i is assumed to be uncorrelated with x_{it} . Because time-invariant characteristics are assumed to be uncorrelated with the time-varying predictors, random-effects models allow scholars to estimate effects of time-invariant parameters such as race or gender. But as a caveat of being able to estimate time-invariant characteristics, they are no longer implicitly controlled for—the researcher must put time-invariant indicators into the

model if they wish to control for them. Rather than estimating within-person change, random-effects estimates average together the change over time between individuals and the change over time within individuals for the given outcome. If the assumption that α_j is uncorrelated with x_{it} is incorrect, then random-effects models can yield biased estimates. In contrast, fixed-effects models yield unbiased estimates regardless of whether α_j is correlated with x_{it} . For the fixed-effects regression analyses, I present two models. In the first model, I regress BMI on union status, educational attainment, wave of analysis, and all controls. In the second model, I add interaction terms between union status and educational attainment to test whether the effects of union status on BMI in emerging adulthood vary by educational attainment.

Results

Table 2 illustrates results from the fixed-effects regression analysis. The coefficients for union status in Model 1 suggest that, net of controls for wave of analysis, educational attainment, and other covariates, involvement in cohabitation and marriage alike are associated with increases in BMI relative to being single with no prior unions. Yet cohabitation is only associated with increases in BMI when the union in question is a first union, whereas both first and higher order marriages are associated with increases in BMI. In contrast, being single but having previously married or cohabited is associated with a slightly decreased BMI relative to being single with no prior unions.

Model 2 introduces the interaction terms between union status and educational attainment. Figure 1 more clearly illustrates the story that the interaction terms tell in Model 2, displaying the effects of union status on increases in BMI across differing levels of educational attainment. The results show that involvement in first unions (regardless of whether they are marriages or cohabitations) and higher order marriages are all associated with about a one-unit increase in BMI among emerging adults with no college education. For emerging adults with some college, involvement in a first marriage is still associated with an increase in BMI, but a significantly smaller increase in BMI than is the case for individuals with no college. Emerging adults with some college, however, do not differ from those with no college with respect to increases in BMI associated with involvement in higher order marriages. In contrast, emerging adults with college degrees differ significantly from those with no college in the effects of union status on change in BMI for every type of union: first cohabitations, first marriages, higher order cohabitations, and higher order marriages. What's more, the effects of each union type on change in BMI among those with college degrees are negative—meaning that emerging adults with college degrees do not experience any increases in BMI associated with involvement in committed unions.

Conclusion

The results of the study support the hypothesis that the effect of union status on change in BMI is smaller for those with more educational attainment. In particular, emerging adults with no college education experience significant increases in BMI associated with both marriage and cohabitation. That cohabitation and marriage have similar effects on change in BMI supports recent scholarship recognizing that as cohabiting unions increase in

prevalence they are also becoming increasingly akin to marriage for some individuals, especially in more recent cohorts (see Kroeger & Smock, 2014). The increases in BMI associated with first marriage are significantly smaller for those with some college education—but are still present. Among emerging adults with college degrees, however, involvement in cohabitation/marriage is not associated with increases in BMI at all. The results are consistent with the idea that “the marriage market” and “social control/social obligation hypotheses” (Averett et al., 2008; Umberson et al., 2009) are not as powerful among those with more educational attainment. Whether the reason for this is because those with college degrees more actively resist weight gain due to larger incentives in the labor market to keep a lower BMI (Von Hippel & Lynch, 2014), or because the food they buy is more nutrient dense and less caloric (Darmon & Drewnowski, 2008), or some combination of these explanations, is yet to be known. Future studies should continue along this trajectory to try to identify mechanisms for the patterns found here. Future studies might also examine the potential role of involvement in cohabiting and marital unions in widening educational disparities in BMI over time, given their differential impact on BMI by educational attainment. Indeed, disparities in BMI and risk of obesity by SES appear to widen with age, especially throughout emerging adulthood (Baum & Ruhm, 2009). Finally, future research should perform similar analyses that include measures of metabolism and cardiovascular health other than BMI. This is especially important in light of recent research finding that almost one half and one third of overweight and obese patients, respectively, were found to be otherwise healthy on a wide array of cardiometabolic outcomes (Tomiyama, Hunger, Nguyen-Cuu, & Wells, 2016).

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References

- Adelman, C. The toolbox revisited: Paths to degree completion from high school through college. Washington, DC: U.S. Department of Education; 2006.
- Allison, PD. Fixed effects regression models. Thousand Oaks, CA: Sage; 2009.
- Averett SL, Sikora A, Argys LM. For better or worse: Relationship status and body mass index. *Economics and Human Biology*. 2008; 6:330–349. [PubMed: 18753018]
- Baum CL, Ruhm CJ. Age, socioeconomic status and obesity growth. *Journal of Health Economics*. 2009; 28:635–648. [PubMed: 19261343]
- Centers for Disease Control and Prevention (CDC). Adult obesity facts. 2015. Retrieved from https://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html#Interpreted

- Cohen AK, Rai M, Rehkopf DH, Abrams B. Educational attainment and obesity: A systematic review. *Obesity Review*. 2013; 14:989–1005.
- Darmon N, Drewnowski A. Does social class predict diet quality. *The American Journal of Clinical Nutrition*. 2008; 87:1107–1117. [PubMed: 18469226]
- Daviglus ML, Liu K, Yan LL, Pirzada A, Manheim L, Manning W, Stamler J, et al. Relation of body mass index in young adulthood and middle age to Medicare expenditures in older age. *The Journal of the American Medical Association*. 2004; 292:2743–2749. [PubMed: 15585734]
- Harris, KM. The National longitudinal study of adolescent health (Add Health), Waves I & II, 1994–1996; Wave III, 2001–2002; Wave IV, 2007–2009 [machine-readable data file and documentation]. Chapel Hill, NC: Carolina Population Center, University of North Carolina at Chapel Hill; 2009.
- Harris, KM. The add health study: Design and accomplishments. 2013. Retrieved from <http://www.cpc.unc.edu/projects/addhealth/data/guides/DesignPaperWIIIV.pdf>
- Harris KM, Lee H, DeLeone FY. Marriage and health in the transition to adulthood: Evidence for African Americans in the add health study. *Journal of Family Issues*. 2010; 31:1106–1143. [PubMed: 21833154]
- Hernandez, DC., Pressler, E., Dorius, C. The role of family structure transitions on young adult BMI: The importance of counting cohabitation and marital separations; Presented at NCMFR sponsored conference: Counting Couples, Counting Families; 2011. Retrieved from <https://www.bgsu.edu/content/dam/BGSU/college-of-arts-and-sciences/NCMFR/documents/Presentations%20and%20Posters/2011/The-Role-of-Family-Structure.pdf>
- Kennedy S, Bumpass L. Cohabitation and children's living arrangements: New estimates from the United States. *Demographic Research*. 2008; 19:1663–1692. [PubMed: 19119426]
- Kroeger, RA., Smock, PJ. Cohabitation: Recent research and implications. In: Treas, JK, Scott, J., Richards, M., editors. *The Wiley-Blackwell companion to the sociology of families*. 2. New York, NY: Wiley-Blackwell; 2014. p. 217–235.
- Ley SH, Hamdy O, Mohan V, Hu FB. Prevention and management of type 2 diabetes: Dietary components and nutritional strategies. *The Lancet*. 2014; 383:1999–2007.
- Link BG, Phelan JC. Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior*. 1995; 35:80–94.
- Manning, WD. Trends in Cohabitation: Over Twenty Years of Change, 1987–2010 (FP-13-12). National Center for Family & Marriage Research; 2013. Retrieved from http://ncfmr.bgsu.edu/pdf/family_profiles/file130944.pdf
- Ogden, CL., Lamb, MM., Carroll, MD., Flegal, KM. Obesity and socioeconomic status in adults: United States 1988–1994 and 2005–2008 (NCHS data brief no 50). Hyattsville, MD: National Center for Health Statistics; 2010.
- Ogden, CL., Carroll, MD., Fryar, CD., Flegal, KM. Prevalence of obesity among adults and youth: United States, 2011–2014 (NCHS data brief, no 219). Hyattsville, MD: National Center for Health Statistics; 2015.
- Payne, KK. FP-11-08. National Center for Family & Marriage Research; 2011. Retrieved from http://ncfmr.bgsu.edu/pdf/family_profiles/file87411.pdf
- Pudrovska T, Reither EN, Logan ES, Sherman-Wilkins KJ. Gender and reinforcing associations between socioeconomic disadvantage and body mass over the life course. *Journal of Health and Social Behavior*. 2014; 55:283–301. [PubMed: 25138198]
- Schienkiewitz A, Schulze MB, Hoffmann K, Kroke A, Boeng H. Body mass index history and risk of type 2 diabetes: Results from the European prospective investigation into cancer and nutrition (EPIC) potsdam study. *The American Journal of Clinical Nutrition*. 2006; 84:427–433. [PubMed: 16895894]
- Stock, JH., Watson, MW. Introduction to econometrics. Boston, MA: Addison-Wesley; 2011.
- Tomiyama AJ, Hunger JM, Nguyen-Cuu J, Wells C. Misclassification of cardiometabolic health when using body mass index categories in NHANES 2005–2012. *International Journal of Obesity*. 2016; 40:883–886. [PubMed: 26841729]
- Umberson D, Liu H, Powers D. Marital status, marital transitions, and body weight. *Journal of Health and Social Behavior*. 2009; 50:327–343. [PubMed: 19711809]

Von Hippel PT, Lynch JL. Why are educated adults slim—Causation or selection? *Social Science & Medicine*. 2014; 105:131–139. [PubMed: 24524908]

Waite, LJ., Gallagher, M. *The case for marriage: Why married people are happier, healthier, and better off financially*. New York, NY: Doubleday; 2000.

Biography

Rhiannon A. Kroeger is an assistant professor in the department of Sociology at Louisiana State University. Her research focuses on the ways in which romantic relationships influence health across different racial/ethnic, socioeconomic, and gendered contexts.

Figure 1.

Predicted effects of various union statuses (relative to having no unions) on within-person change in body mass index during emerging adulthood by educational attainment.

Note: **bolded** estimates represent significant differences relative to having no unions within one's education group; values representing significant differences between those with some college vs no college or college degrees vs no college are underlined; Effects are derived from fixed-effects regression estimates in Model 2 of Table 2; Estimates control for Wave of study and the following variables at each wave: Age, Enrolled in School, Has Child/ren, Smoking behavior, and Binge Drinking behavior. In addition, all time invariant characteristics are intrinsically controlled for via the fixed-effects modeling.

Table 1

Descriptive Statistics.

Variable	Range	Wave 2 (1996)		Wave 3 (2001–2002)		Wave 4 (2007–2008)	
		M	SE M	M	SE M	M	SE M
Body mass index (BMI)	<i>a</i>	23.03	.12	26.49	.13	28.87	.16
Union status							
Single—no previous unions	0, 1	1.00	—	0.57	.01	0.18	.01
Single—previous marriage/cohabitation	0, 1	0.00	—	0.16	.01	0.24	.01
In first union—cohabiting	0, 1	0.00	—	0.12	.01	0.09	.01
In first union—married	0, 1	0.00	—	0.10	.01	0.27	.01
In higher order union—cohabiting	0, 1	0.00	—	0.03	.00	0.11	.00
In higher order union—married	0, 1	0.00	—	0.01	.00	0.10	.01
Educational attainment							
No college	0, 1	0.98	.00	0.45	.02	0.29	.02
Some college	0, 1	0.02	.00	0.47	.01	0.37	.01
College degree	0, 1	0.00	—	0.09	.01	0.34	.02
Age	<i>b</i>	15.87	.11	21.31	.11	27.80	.11
Enrolled in school	0, 1	0.95	.01	0.42	.02	0.17	.01
Has child/ren	0, 1	0.02	.00	0.20	.01	0.45	.01
Has smoked past 30 days	0, 1	0.34	.01	0.34	.01	0.38	.01
Binge drinking past year	0–6	0.71	.04	1.37	.05	1.28	.04
Sample <i>N</i> = 8,082							
Population <i>N</i> = 16,016,798							

Note. All estimates account for the complex survey design National Longitudinal Study of Adolescent to Adult Health.

^aBMI range: Wave 2, 12.54–91.14; Wave 3, 14.31–58.75; and Wave 4, 14.36–97.42.

^bAge range: Wave 2, 12–21; Wave 3, 18–27; and Wave 4, 24–33.

Fixed-Effects Regression of Body Mass Index on Union Status, Educational Attainment, and Union Status Interacted With Educational Attainment.

Table 2

Predictors	Model 1			Model 2		
	B	SE B	p	B	SE B	p
Union status						
Single—no previous unions (reference)						
Single—previous marriage/cohabitation	−0.23	.12	.067	−0.09	.19	.643
In first union—cohabiting	0.44	.13	.001	0.07	.23	<.001
In first union—married	0.40	.15	.008	0.06	.27	<.001
In higher order union—cohabiting	−0.29	.19	.133	−0.03	.30	.535
In higher order union—married	0.45	.23	.055	0.07	.33	.005
Educational attainment						
No college (reference)						
Some college	0.28	.12	.024	0.04	.19	.004
College degree	−0.75	.15	<.001	−0.13	.22	.552
Union Status × Educational Attainment						
Single—Previous Marriage/Cohabitation × Some College				−0.13	.26	.624
Single—Previous Marriage/Cohabitation × College Degree				−0.18	.33	.581
In first union—Cohabiting × Some College				−0.73	.32	.024
In first union—Cohabiting × College Degree				−1.05	.38	.007
In first union—Married × Some College				−0.65	.33	.051
In first union—Married × College Degree				−1.46	.35	<.001
In higher order union—Cohabiting × Some College				−0.62	.48	.204
In higher order union—Cohabiting × College Degree				−0.94	.40	.021
In higher order union—Married × Some College				−0.43	.46	.346
In higher order union—Married × College Degree				−1.27	.51	.015
Age (centered)	−0.12	.16	.464	−0.06	.16	.417
Enrolled in school	−0.18	.09	.053	−0.02	.09	.048
Has child/ren	0.39	.11	.001	0.06	.11	.002
Has smoked past 30 days	−0.35	.10	.001	−0.05	.10	<.001
Binge drinking past year	0.04	.03	.233	.01	.03	.263

Predictors	Model 1			Model 2		
	B	SE	B	SE	B	SE
Analysis wave						
Wave 2 (1996) (reference)						
Wave 3 (2001–2002)	3.16	.16	<.001	.52	2.89	.19
Wave 4 (2007–2008)	5.59	.19	<.001	.94	5.31	.20
Constant	23.26	.17	<.001	23.26	.17	<.001

Note. All models implicitly control for time-invariant characteristics such as gender and race. All estimates account for the complex survey design National Longitudinal Study of Adolescent to Adult Health. *F*-test comparing Model 1 and Model 2: *F*= 3.41, *p* .001. β = standardized regression coefficients for continuous predictors and partially standardized regression coefficients for categorical predictors.