

College Quality and Young Adult Health Behaviors^{*}

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Abstract

Large literatures have shown important links between the quantity of completed education and health outcomes on one hand and the quality of schooling on a host of adult outcomes, such as wages, on the other hand. However, little research has been targeted to producing evidence of the link between school quality and health. The paper presents the first evidence in the literature on the potential short and intermediate term effects of attending a selective college on health behaviors during and following college attendance. Using a variety of empirical methods, this paper shows strong evidence that college quality reduces tobacco and marijuana use but has small and possibly positive effects on binge drinking. The effects on weight behaviors are suggestive of reduced weight, potentially through diet but not exercise change.

Keywords: college quality; smoking; binge drinking; marijuana; obesity

JEL Classification: I12, I21, J24

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1. Introduction

Grossman's (1972) health capital model describes a central role of human capital in the development of health. Consistent with this theoretical framework, the association between educational attainment and health is among the most robust in the social science literature. The evidence reviewed by Grossman and Kaestner (1997) suggests that there is a causal impact of educational attainment on health and an emerging set of research that has utilized more rigorous empirical designs has bolstered these claims of causality (e.g., Lleras-Muney, 2005). The majority of empirical research tends to focus on one dimension of human capital – the quantity of schooling completed. In this paper, we seek to contribute to the recent literature that examines the impact of an alternative dimension of human capital – the quality of schooling. This paper presents the first evidence of the short and intermediate term effects of college quality on a large and important set of health behaviors, including tobacco, alcohol, and marijuana use as well as weight-related behaviors (exercise and consumption) and outcomes (overweight, obesity, and body mass index).

This paper also complements the growing literature on the influence of college quality on labor market outcomes. Although it has been well-established that years of schooling and college attendance increase earnings (Card, 1999), more recent research has focused on whether the quality of schooling also contributes to earnings. For example, Long (2010) demonstrates that the quality of the college attended improves earnings and that this relationship has grown in magnitude over time. Thus, one plausible mechanism through which college quality could influence health is the increase in resources. Additionally, college quality increases the likelihood of graduating from college, and this relationship has also strengthened over time (Long, 2008, 2010). Increases in one dimension of human capital – the quality of schooling –

can complement the other dimension – the quantity of schooling – to further enhance the health returns to human capital. Alternatively, college quality can influence health behaviors for a variety of other reasons, including the composition of peers (Cutler and Lleras-Muney 2006).

In order to examine the influence of college quality on health behaviors, we utilize the National Longitudinal Study of Adolescent Health (Add Health), which surveys individuals in high school and continues to survey these respondents through young adulthood. We utilize a variety of empirical methods, including classmate comparisons and matching estimates, and focus on assessing the robustness of the preferred estimates by considering the required selection on unobservables that would be required to overturn our estimates. Overall, we find consistent evidence that attending a selective college is related to reductions in tobacco and marijuana use during and following college attendance and has mixed and often positive effects on binge drinking behaviors. We also find suggestive evidence that college quality is related to healthy weight-related behaviors and outcomes. These findings suggest additional benefits to attending a selective college than previously considered as well as new directions in investigating the mechanisms linking education and health outcomes.

2. Background Literature

Voluminous literatures across several branches of the social sciences have produced considerable evidence of a strong association between multiple measures of educational attainments and health outcomes and behaviors. While the limitations to producing causal estimates of this relationship are difficult to overcome, Grossman and Kaestner's (1997) review of this literature suggests, on balance, that there is considerable evidence of a causal relationship. However, only a few studies use rigorous econometric methods to establish causality, and

alternative hypotheses for the education-health associations found in the literature include reverse causality and omitted variables, such as ability (Card 1999), time preferences (Fuchs 1982), or other factors (Arendt 1999, Grossman and Kaestner 1997).

Several papers have, to a large extent, overcome these alternative hypotheses by exploiting alternative research designs. For example, Lleras-Muney (2005) uses compulsory schooling law changes to instrument for years of completed schooling in predicting mortality. Overall, she finds that a one year increase in educational attainment increases life expectancy at age 35 by a year or more.¹ Oreopolous (in press) also finds that changes in compulsory schooling throughout the mid-twentieth century in England and Ireland reduce the likelihood of being in poor health or depressed. In contrast, Clark and Royer (2010) find that changes in compulsory schooling laws in England in 1947 and 1972 did not influence mortality. An alternative to using compulsory schooling laws has been to use schooling induced by the Vietnam War in the US. For example, de Walque (2007) and Grimard and Parent (2007) find that changes in education stemming from the Vietnam War influenced smoking. Further, Jensen and Lleras-Muney (2010) find that a randomized intervention in the Dominican Republic that provided information on the returns to schooling increased schooling and reduced smoking, possibly due to changes in peers and income.

To complement these designs, several studies have examined the health returns to education by making sibling comparisons. Fletcher and Frisvold (2009) show that attending college boosts preventive care receipt around age 65 by 5-15%, even controlling for ability, time preferences, and health endowments. Their results provide suggestive evidence that a mechanism linking educational quantity with health was occupational characteristics but not

¹ Mazumder (2007) provides evidence that Lleras-Muney's estimates may be sensitive to the inclusion of state specific time trends, but also finds evidence consistent with a causal effect of education on mortality.

health insurance, income, or wealth. Likewise, Webbink, Martin, and Visscher (2010) compare identical twins in Australia and conclude that an increase in years of schooling reduces the likelihood of being overweight for men and that the size of this relationship increases with age, primarily from the mid 30s to the mid 40s.

Arguably, there is enough evidence of important effects of education attainment on a variety of health outcomes for research to attempt to discover the potential mechanisms underlying the relationship. Indeed, there is substantial theoretical and conceptual work outlining potential mechanisms. Grossman (1972) suggests that education may improve productive efficiency—individuals with greater education are able to use health inputs more efficiently. Kenkel (1991) focuses on the mechanism of allocative efficiency—individuals with greater education chose different health inputs. Likewise, Cutler and Lleras-Muney (2006) suggest that education increases lead to different thinking and decision making patterns.

While this large literature has focused exclusively on educational attainment as a measure of human capital, the quality of schooling could represent another important dimension measuring human capital. There are several theories suggesting that school quality may directly affect health. Educational quality may provide more information and better skills than lower quality education. For example, Glewwe (1999) shows that mother's education increases children's health and nutrition by increasing general skills such as literacy that can then be used indirectly to improve health through the ability to diagnosis and treat health problems. Educational quality, college selectivity in particular, may provide better future employment opportunities through social contacts and better jobs (Ishida et al. 1997, Rosenbaum 1984). Better schools may also have different culture and norms for health behaviors such as smoking, drinking, eating, and health investments (Cockerham, Rutten, and Abel 1997).

While the theoretical rationale for education-health links is relatively rich, there have been very few empirical examinations to validate these links. The literature estimating the effects of school quality has primarily focused on income effects. Behrman et al. (1996) show that several measures of school quality (Ph.D. granting, private universities, faculty salaries) increase adult wages for female twins. Black and Smith (2004) use matching estimators to show large effects of college selectivity on adult wages.² Long (2008) replicates the methods of Black and Smith (2004) and Dale and Krueger (2002) with recent data and concludes that college quality, using a variety of different measures, has a positive effect on college graduation and household income.

In contrast to the large literature linking school quality and income, there is only a small amount of evidence examining the effects of educational quality on later health. Frisvold and Golberstein (2010a,b) find that the substantial improvements in the quality of primary and secondary schools attended by blacks in the South in the first half of the twentieth century increased a broad range of health outcomes later in life and reduced racial disparities in health. MacInnis (2009) finds that primary and secondary school quality significantly increases cognitive functioning in old age. Only two papers have focused on post secondary school quality and health in the literature. Ross and Mirowsky (1999) estimate the effects of attending a selective college on physical functioning and self rated health. They find suggestive correlational evidence that attending a more selective college is associated with better health. Finally, Fletcher and Frisvold (2010) use data from siblings tracked for over 50 years in the Wisconsin Longitudinal Study to show important reductions in overweight and tobacco use from graduating from a selective college. This paper builds upon this recent literature and presents the

² In contrast, Dale and Krueger (2002) compare students with similar patterns of applications and acceptances and show that the wage effects of selective colleges are smaller than previous research.

first evidence of the impact of attending a selective college on short-term and immediate-term health behaviors using more current data.

3. Data

This paper uses data from the National Longitudinal Study of Adolescent Health (Add Health) to examine the relationship between college selectivity and health behaviors. Add Health is a school-based, longitudinal study of the health-related behaviors of adolescents and their outcomes in young adulthood. Beginning with an in-school questionnaire administered to a nationally representative sample of students in grades 7 through 12 in 1994-95 (Wave 1), the study follows up with a series of in-home interviews of respondents approximately one year (Wave 2; 1996), six years (Wave 3; 2001-2002), and thirteen years later (Wave 4; 2008). By design, the Add Health survey included a sample stratified by region, urbanicity, school type, ethnic mix, and size.³

While the original wave 1 sample collected information from over 20,000 respondents, approximately 15,000 were followed longitudinally at waves 3 and 4.⁴ During wave 3 in 2001-2002, information is collected on the colleges attended for the approximately 4,200 individuals who are currently enrolled. We focus our analysis on this sample of current college enrollees.⁵ We use information on college quality and health behaviors during college from wave 3, which are merged with family background, individual characteristics, and health behaviors during high

³ See Udry (2003) for a full description of the Add Health data set.

⁴ In order to maximize available sample sizes for the analysis, missing family income during high school, parental marital status, and maternal education was imputed and a dummy variable for missing family information is included as a control variable in the regressions below.

⁵ Appendix Table 1 displays the summary statistics for the analysis sample compared to the sample of respondents excluded from the analysis.

school from wave 1.⁶ We use information on health behaviors from wave 4, when individuals are between the ages of 26 and 32, for our “post college” set of outcomes. Although we refer to these outcomes as post-college, we note that nearly 20 percent of the sample is currently in school, which includes graduate school.

Our primary variable of interest is the quality of the college that the individual attended at Wave 3.⁷ We measure quality using the school’s national ranking in the median SAT score of entering students.⁸ This variable captures the academic selectivity and peer quality of the postsecondary institution that students attend.⁹ We compare the health behaviors of individuals who attended a “selective” college to the behaviors of individuals who attended a less selective college, where we classify selective colleges as those with median SAT scores in the top 25%.¹⁰

The outcomes that we examine are three measures of substance use – smoking, binge drinking, and marijuana use – and five measures related to weight – body mass index (BMI), overweight, obesity, fast food consumption, and exercise. Smoking is defined as whether the individual has smoked any cigarettes in the last 30 days. Binge drinking is defined as whether the individual has consumed at least 5 alcoholic drinks in one sitting during the past 12 months. Marijuana use is defined as whether the individual has consumed marijuana in the past 30 days. BMI is a measure of body fat based on height and weight that is equal to weight in kilograms

⁶ Wave 2 also measures pre-college behaviors approximately one year following Wave 1, but was collected only for a subsample of respondents.

⁷ Since individuals are between the ages of 18 and 26 in wave 3, some individuals may have completed college and others may not have started college, so that their college information would be missing in our data and they would be excluded from our analysis.

⁸ This variable was constructed by the Carolina Population Center, which administers the Add Health survey, as the mean from the following four sources of the reported median SAT score of students entering an institution: Integrated Postsecondary Education Data System, Barron’s Profiles of American Colleges, U.S. News and World Report, and American Survey of Colleges. The Carolina Population Center imputed missing SAT scores using information on the graduation rates, median ACT scores, and the proportion of the entering class that was in the top 25% of their high school graduating class (Riegle-Crumb et al., 2008).

⁹ Similar to much of the college quality literature, we use the terms quality and selectivity synonymously.

¹⁰ We code institutions without median SAT scores, such as two-year and proprietary institutions, as nonselective.

divided by height in meters squared. Overweight is defined as a BMI greater than 25 and obesity is defined as a BMI greater than 30. Fast food and exercise measure whether the individual has consumed fast food or engaged in any exercise in the past week.

Table 1 provides summary statistics for our sample and contains measures at waves 1, 3, and 4. During college, we find that approximately 23% of the individuals use tobacco, 18% are obese, 20% use marijuana, 75% have exercised in the past week, and 79% reported eating fast food in the past week. Approximately 20% of the individuals attend selective colleges. In addition to our set of outcomes, we will control for a variety of pre-college variables in order to reduce concerns with endogeneity into the type of college attended, including high school obesity, smoking, binge drinking, marijuana use and a large set of family background variables. In order to further limit the endogeneity of college type, we also use information on high school GPA, college expectations and high school-level characteristics. These concerns with endogeneity are substantial and shown in Table 1, where we compare the set of characteristics between individuals who attend selective college and those who attend non-selective colleges. There is both evidence of differences in post college outcomes and also pre-college choices.

4. Empirical Methods

4.1. OLS

In this paper, we follow much of the college quality literature by using a variety of empirical strategies to examine the links between college selectivity and health behaviors. We begin our analysis by using OLS and linear probability models to examine the associations between college selectivity and health behaviors while attending college in Wave 3 and six years later in Wave 4. We estimate the likelihood of each health behavior, B_{it} , as a function of an

individual's college selectivity, C_{it} , individual and family characteristics, X_i , and an idiosyncratic shock, ε_i :

$$B_{it} = \alpha_0 + \alpha_1 C_{it} + \alpha_2 X_i + \varepsilon_{it} . \quad (1)$$

Including a wide array of family background characteristics measured prior to college is important due to the influence of family background on education and health outcomes (Case et al., 2005; Wolfe and Behrman, 1987). The control variables included in the vector X measure age, sex, race/ethnicity, maternal education in wave 1, parents' marital status in wave 1, family income in wave 1, parents' age in wave 1, Peabody Picture Vocabulary Test (PPVT) test score in wave 1, expectations about college attendance, high school grades in English, science, and history, and a set of grade level in wave 1 dummy variables. The identifying assumption in equation (1) is that the unobserved determinants of these health behaviors are uncorrelated with college selectivity, after conditioning on individual and family background characteristics. Long (2008), in the context of the labor market returns to college quality, notes that although there is a potential for selection bias from OLS estimates, estimates from alternative methods designed to minimize this bias are not statistically different than OLS estimates. Thus, the results from equation (1) may be reasonable estimates of the effect of attending a selective college. However, we explore a variety of alternative specifications below to examine the robustness of these estimates to relaxing the assumptions in equation (1).

We augment equation (1) by exploiting the longitudinal structure of the Add Health data to control for these behaviors during high school ($B_{i,t-1}$):

$$B_{it} = \alpha_0 + \alpha_1 C_{it} + \alpha_2 B_{i,t-1} + \alpha_3 X_i + \varepsilon_{it} . \quad (2)$$

If $B_{i,t-1}$ is a sufficient statistic for the influence of unobserved parental investments, unobserved individual characteristics such as time preferences or personality, and other unobserved

determinants of health behaviors, then α_1 represents the causal impact of attending a selective college (Todd and Wolpin, 2003). Equation (2) is similar to a value-added specification that is commonly used to estimate the influence of teacher characteristics on students' test scores. As shown by Kane and Staiger (2008), value-added models that control for prior test scores produce unbiased estimates of teachers' effect on test scores in comparison to experimental estimates.¹¹ Equation (2) is also equivalent to a difference-in-differences specification where the units of observation are the same in each period.

In addition, to allow for the possibility that high school or community characteristics influence both the development of health behaviors and the choice of which college to attend, we compare classmates by including high school fixed effects:

$$B_{ist} = \alpha_0 + \alpha_1 C_{it} + \alpha_2 B_{is,t-1} + \alpha_3 X_{is} + \delta_s + \varepsilon_{it} . \quad (3)$$

The identifying assumption in equation (3) is that, conditional on individual characteristics, family background, risky behaviors in high school, and the unobservable characteristics of schools and their corresponding neighborhoods that influence the risky behaviors in high school, any remaining unobserved determinants of these health behaviors are uncorrelated with the reasons why one high school classmate attends a selective college and another classmate attends a less selective college.

4.2. *Matching Estimators*

In order to examine the robustness of the results from the above methods, we use matching methods to estimate the impact of a selective college on health behaviors. Black and Smith (2004), in their study of the impact of college quality on earnings, use matching methods

¹¹ Todd and Wolpin (2003) note that one potential source of bias in equation (2) is that health behaviors in high school could be endogenous due to the correlations in behaviors across time; however, the similarity in the estimates from equations (1) and (2) suggest that this possibility is not much of a concern.

to relax the parametric assumption of linearity embedded in the OLS specifications that are commonly estimated in the college quality literature and to explicitly focus on the overlap in the distributions of observable characteristics between the samples of students who attended selective and less selective colleges. These authors find that matching estimates are similar to OLS estimates for men, but are smaller for women. Similar to Black and Smith (2004), we examine the robustness of our results to the parametric assumption of linearity that is imposed in the previous specifications. We also focus on the extent of the overlap in the sample, given the differences in pre-college characteristics shown in Table 1.¹² Specifically, we use the bias-corrected nearest neighbor matching estimator described in Abadie and Imbens (2002) as well as several alternative propensity-score matching estimators, such as stratification and kernel matching.¹³ The general idea underlying these estimators is to non-parametrically compare individuals with similar observable characteristics, but whose college attendance differed. If individuals choose the selectivity of the college to attend based on the extensive list of observable characteristics that we can match on in our data, then matching estimates the causal effect of college selectivity on health behaviors.

4.3. *Selection on Unobservables*

¹² We estimate matching estimators for the full sample of observations in the common support and the trimmed sample of observations with propensity scores in the range of [0.1, 0.9], which is the optimal subsample for estimating the average treatment effect on the treated under a wide range of distributions (Crump et al. 2006). We also use matching methods for the “thick support” sample, which includes observations with propensity scores in the range of [0.33, 0.67], similar to Black and Smith (2004). In Appendix Table 14, we present findings using observations from the “trimmed” and “thick” support. The limitation with the “thick support” sample is that, if there are heterogeneous treatment effects, then confining the sample might estimate a different (local) treatment effect than the average treatment for the full population. Generally, none of our main results change qualitatively with these alternative samples, though a few outcomes, such as fast food consumption at wave 3, differ quantitatively based on the sample used.

¹³ The nearest neighbor matching estimator matches with replacement. Although the results in the tables are based on three matches, the results are robust to matching observations with two, three, or four observations from the control group.

Finally, we assess the sensitivity of our results under a variety of assumptions about the amount of selection on unobservables using the methods developed in Altonji, Elder, and Taber (2005). We specify the following bivariate probit equation,

$$\begin{aligned}
C_{it} &= \gamma_0 + \gamma_1 B_{is,t-1} + \gamma_2 X_{is} + \delta_s + \nu_{it} , \\
B_{ist} &= \phi_0 + \phi_1 C_{it} + \phi_2 B_{is,t-1} + \phi_3 X_{is} + \delta_s + \zeta_{it} , \text{ and} \\
\begin{bmatrix} \nu \\ \zeta \end{bmatrix} &\sim N\left(\begin{bmatrix} 0 \\ 0 \end{bmatrix}, \begin{bmatrix} 1 & \rho \\ \rho & 1 \end{bmatrix}\right).
\end{aligned} \tag{4}$$

The covariance between the errors terms, ρ , determines the amount of selection on unobservables and measures the extent of the relationship between the unobserved determinants of attending a selective college and the unobserved determinants of engaging in various health behaviors. As shown by Altonji, Elder, and Taber (2005), reasonable guidelines for the extent of selection on unobservables can be determined by estimating equation (4) under the assumption that there is no selection on unobservables, or that $\rho=0$, and under the assumption that the amount of selection on unobservables equals the amount of selection on observables. Although the extent of selection on unobservables is not likely to be as great as the selection on observables, given the large number of individual and family characteristics included in the model, the estimates from these values of ρ will provide guidance on the degree to which concerns about the potential bias from selection on unobservables are likely to be relevant. As a complementary method, we construct a ratio of the relative amount of selection on unobservables needed to fully account for the estimates with $\rho = 0$, under the null hypothesis that the true impact of college quality is zero using the formula developed by Altonji, Elder, and Taber (2005).

5. Results

5.1. OLS Results

Table 2 provides the results from regressions without any control variables and from equations (1), (2), and (3) for the associations between college selectivity and health behaviors during college in wave 3.¹⁴ Each row displays the results across the set of specifications for a separate outcome. Looking across each column in the first row, there is robust evidence of a 6-7 percentage point reduction in tobacco use for students attending a selective college. In contrast, the large, positive baseline, correlation between selective college attendance and binge drinking does not remain after controlling for individual and family background characteristics. Attending a selective college is consistently associated with a 3-4 percentage point reduction in marijuana use.

The estimates for BMI show that there is a large, negative baseline correlation with attendance at a selective college, but this correlation is substantially reduced after controlling for individual and family background characteristics and BMI in high school. Once high school fixed effects are also included, the estimate falls to -0.3 and is not statistically significant. The estimates for overweight are similar to those for BMI, in that the estimate falls substantially as additional covariates are included. There is not a robust relationship between selectivity and overweight status during college. While the estimated relationship between college quality and obesity also diminishes as further covariates are added, even with controlling for high school fixed effects, attendees of a selective college are 3 percentage points less likely to be obese than individuals who attended a less selective college. In order to examine the potential mechanisms for the weight outcomes, we examine the results for fast food consumption and exercise, which

¹⁴ The full set of estimates for each outcome in wave 3 for equations (1), (2), and (3) are shown in Appendix Tables 2 through 4.

show that fast food consumption is also less (by 5-7 percentage points) for those in selective colleges but that there is no evidence of differences in exercise participation.

To further examine the relationships between college selectivity and health behaviors during college, we examine the heterogeneity of the estimates based on gender, race, and maternal education in Table 3. For smoking, we find little evidence of heterogeneity by gender, but find no relationship for black students and large associations for students with mothers who completed less than high school. In Row 2, while there is no effect on binge drinking for the full sample, we find some evidence of heterogeneous effects, where selective colleges increase the binge drinking of females by 6 points. In contrast to binge drinking, Row 3 shows evidence that male marijuana use is affected but not female use; we also find large effects for white students but not for black or Hispanic students and for children of educated mothers. For obesity, we find large differences by gender, with no effect for males and a 6 percentage point reduction for females, which mirror the reduction in BMI. Consistent with the results for obesity, we find larger reductions in fast food consumption for females, which is suggestive that diet may be the main mechanism linking obesity status with college selectivity.

We next examine the post-college effects of attending a selective college on substance use in Table 4, which is formatted in the same manner as Table 2.¹⁵ We find that the smoking reductions during college are maintained following college, with reductions in tobacco use of approximately 5 percentage points. In contrast to the results for wave 3 outcomes, we find relatively large increases in binge drinking following college by 6-7 percentage points. Like

¹⁵ The full set of estimates for each outcome in wave 4 for equations (1), (2), and (3) are shown in Appendix Tables 5 through 7. The results for the sample of students not currently in school in wave 4 are provided in Appendix Tables 8 through 13.

smoking, our results also suggest that the reductions in marijuana use during college are maintained following college, with reductions of approximately 3 percentage points.

We find that the effects of college selectivity on weight-related outcomes are maintained and generally enhanced following college exit. The BMI reductions are approximately 0.5 units and the overweight and obesity reductions are approximately 5 percentage points. We also find that the reductions in fast food consumption are not robust to the inclusion of high school fixed effects and suggestive evidence of a slight increase in exercise.

5.2. Mechanisms

In order to examine potential mechanisms behind the effects of college selectivity on post-college outcomes, we next include a parsimonious set of wave 3 and wave 4 variables to examine the degree to which we can “explain” the college-selectivity coefficient in the previous results. First, we ask whether the estimated effects of college quality are the result of school quantity or learning by including measures of completed educational attainment at wave 4 as well as the Peabody Picture Vocabulary Test (PPVT) score administered during college (wave 3). We then examine two possible post-college channels, including earnings and marital status at wave 4. In Table 5, the findings suggest about $1/3^{\text{rd}}$ of the smoking effect might be explained by educational quantity, that is, individuals attending more selective colleges are more likely to complete additional years of schooling. However, we find no additional change in the coefficient related to controls for income or marital status. In Columns 4-6, we find the opposite qualitative changes for binge drinking—no reduction in the coefficient based on educational quantity or test scores, but approximately $1/5^{\text{th}}$ of the effect is reduced after controls for earnings and marital status (half of the change is related to earnings and half is related to controls for marital status).

Columns 7-9 in Table 8 examine marijuana use—we find that educational quantity explains approximately 1/3rd of the quality effect. In Table 6, we examine potential mechanisms of the weight-related behaviors. For weight outcomes, we find that approximately 20-30% of the BMI or obesity effects are explained by quantity of schooling. We also find 40-50% of the fast food and exercise differences at wave 4 are reduced by controls for quantity of schooling.

5.3. Robustness

In Tables 7 and 8, we examine the robustness of our main findings from previous tables by using a variety of techniques, including nearest neighbor, stratification, and kernel density matching estimates and selection on unobservables assumptions. In Table 7, we present the matching estimates. Overall, the results for smoking in wave 3, marijuana use in wave 3, fast food consumption in wave 3, and overweight/obesity in wave 3 are robust across the different types of matching methods and to the estimates based on equation (3). The results for binge drinking and exercise at wave 3 are less consistent across methods. The estimates for smoking in wave 4, binge drinking and fast food consumption are also robust to the method of matching but are consistent smaller than the estimates from equation (3). In contrast, the results for obesity post-college are variable, ranging from 2-8 percentage points, and the results for overweight are between 2-5 percentage points, depending on technique. Likewise, the BMI point estimates range by approximately 0.6 units. On the other hand, marijuana use at wave 4 is typically small and insignificant, though the point estimates range from 0 to 3 points.

Table 8 further examines the robustness of the baseline findings to selection on unobservables by using the approach of Altonji, Elder, and Taber (2005) (AET). Because this method utilizes a bivariate probit model, we examine binary outcomes only. The focus of this

approach is assessing the potential importance of selection on unobservables, whereas matching estimates focus on selection on observables. In the top panel of Table 8, we provide estimates for the value of the correlation coefficient, ρ , where selection on unobservables is equated with selection on observables and the corresponding average partial effect of attending a selective college from a bivariate probit model with the specified value of ρ . In panel B, we show the average partial effects of attending a selective college from a bivariate probit model with a correlation coefficient of 0, which imposes the assumption that there is no selection on unobservables. These two sets of estimates provide reasonable bounds for the effect of attending a selective college under a wide range of assumptions. In Column 1, the effect of attending a selective college on tobacco use during college is examined. While the probit estimate is a 6.5 percentage point reduction, the lower bound is still a 3 point reduction. The bounds are relatively tight because the estimated selection on observables is relatively low ($\rho = -0.077$). In Column 2, the resulting bounds are less narrow. While the probit estimate is a 5 percentage point reduction in smoking post-college, the lower bound effect is a 3.5 percentage point increase—because the estimated selection on observables is relatively large ($\rho = -0.3$). For binge drinking, the estimate of ρ is positive, which implies that the unobserved determinants of attending a selective college are positively correlated with the unobserved determinants of binge drinking, as opposed to binge drinking and obesity. Thus, any selection on unobservables would reduce the positive coefficients that assume no selection on unobservables and, in the case that the extent of selection on unobservables is equivalent to the selection on observables, would imply a large negative impact of attending a selective college. However, the bounds are too wide to be informative. Similarly, for obesity the bounds of the effects are not informative because of the large magnitude of selection on observables ($\rho = -0.4$ and -0.5) in the data. Thus the

estimates range from the probit estimates of 4-6 percentage point reductions to the AET lower bounds of 12-22 percentage point increases. Finally, Columns 7-8 show results for marijuana use.¹⁶ In this case, the bounds are relatively tight and indicate between a 3.5-7.5 reduction in use during and post-college for those who attend a selective college. The estimates assuming that there is selection on unobservables are greater in magnitude because of the positive correlation between the unobserved determinants of attending a selective college and the unobserved determinants of marijuana use.

The bottom of the table displays an alternative method for inferring the influence of selection on unobservables on the estimates. The ratio shown in the table refers to the ratio of the relative amount of selection on unobservables needed to fully account for the estimates shown in Panel B, which are the probit estimates. The ratio for smoking during college demonstrates that the amount of selection on unobservables would need to be 2.5 times greater than the amount of selection on observables to eliminate the estimated 6.5 percentage point reduction in smoking. Thus, this estimate is extremely robust to the possibility of selection on unobservables. On the other hand, the estimated 5 percentage reduction in smoking after college could be completely eliminated if the extent of selection on unobservables is half of the extent of selection on observables. For binge drinking and obesity, the small estimates for the ratio demonstrate that the estimates of college quality are not robust to selection on unobservables. For marijuana use, selection on unobservables would increase the magnitude (in absolute value) of the estimate of college quality.

6. Conclusions

¹⁶ The bivariate probit models did not converge for fast food consumption and exercise.

In this paper, we present the first evidence on whether college quality influences health behaviors during college and almost a decade later. In addition to increasing our understanding of the effects of human capital on health, research that broadly captures the impacts of raising educational quality on life outcomes is important in determining the entire benefits of investments in educational quality. Indeed, this research shows that college quality influences smoking and marijuana use. There is also suggestive evidence that college quality could influence binge drinking and weight outcomes depending on the extent and nature of selection on unobservable characteristics for these outcomes.

These results fit with an emerging literature that suggests that increases in educational quality, even holding quantity constant, may significantly increase population health over time through a broad set of health behaviors and outcomes. These impacts on population health should be included when educational investment decisions are being considered. A next step in examining the links between educational quality and health behaviors is to increase understanding of the mechanisms behind the associations. This paper provides suggestive evidence that educational quantity, income, and marital status are not key mechanisms, which is consistent with other research in this area; indeed, Fletcher and Frisvold (2010) also provide evidence that occupation and insurance may not be key mechanisms, though future research is necessary to further examine mechanisms. We posit that health literacy and health knowledge may be factors worth investigating in future research.

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Table 1
Descriptive Statistics of the Analysis Sample and by Treatment Status

Variable	Wave	Analysis Sample		Selective College Attendees		Less Selective College Attendees		Difference
		Mean	Std Dev	Mean	Std Dev	Mean	Std Dev	
Smoke	3	0.23	0.42	0.18	0.38	0.25	0.43	***
Smoke	4	0.12	0.32	0.06	0.24	0.13	0.34	***
Obese	3	0.18	0.38	0.11	0.32	0.19	0.39	***
Obese	4	0.32	0.47	0.22	0.41	0.34	0.47	***
BMI	3	25.70	5.65	24.77	4.84	25.92	5.80	***
BMI	4	28.15	7.07	26.56	6.40	28.52	7.18	***
Binge	3	0.52	0.50	0.59	0.49	0.50	0.50	***
Binge	4	0.52	0.50	0.62	0.49	0.50	0.50	***
Marijuana	3	0.20	0.40	0.19	0.39	0.21	0.40	
Marijuana	4	0.19	0.40	0.18	0.38	0.20	0.40	
Exercise	3	0.75	0.43	0.77	0.42	0.74	0.44	
Exercise	4	0.78	0.42	0.82	0.39	0.77	0.42	***
Fast Food	3	0.79	0.41	0.70	0.46	0.81	0.39	***
Fast Food	4	0.72	0.45	0.63	0.48	0.74	0.44	***
Very Competitive College	3	0.19	0.39	1.00	0.00	0.00	0.00	
Age	1	15.48	1.68	15.31	1.56	15.52	1.71	***
Obese	1	0.05	0.21	0.03	0.16	0.05	0.22	***
Smoke	1	0.16	0.37	0.14	0.34	0.17	0.37	**
Binge	1	0.17	0.38	0.14	0.35	0.18	0.38	***
Marijuana	1	0.09	0.29	0.06	0.23	0.10	0.30	***
Had Sex	1	0.23	0.42	0.15	0.35	0.25	0.44	***
SRHS	1	1.98	0.85	1.80	0.76	2.02	0.87	***
Male	All	0.43	0.50	0.45	0.50	0.43	0.49	
Black	All	0.20	0.40	0.11	0.31	0.22	0.41	***
Hispanic	All	0.13	0.34	0.10	0.30	0.14	0.35	***
Other Race	1	0.10	0.30	0.14	0.35	0.09	0.29	***
Maternal Education	1	13.83	2.25	14.57	2.16	13.66	2.24	***
Married Parents	1	0.78	0.39	0.82	0.36	0.77	0.39	***
Family Income (\$10,000s)	1	5.35	4.50	6.77	6.16	5.01	3.92	***
Parent Age	1	42.07	5.47	42.91	4.74	41.87	5.61	***
Missing Family Information	All	0.27	0.44	0.24	0.43	0.28	0.45	*
Grade=8	1	0.17	0.38	0.18	0.39	0.17	0.38	
Grade=9	1	0.22	0.41	0.28	0.45	0.20	0.40	***
Grade=10	1	0.18	0.38	0.17	0.37	0.18	0.38	
Grade=11	1	0.13	0.34	0.12	0.32	0.14	0.34	
Grade=12	1	0.10	0.30	0.08	0.26	0.11	0.31	***

Test Score	1	104.48	13.48	111.38	12.16	102.84	13.26	***
College Expectations	1	4.58	0.78	4.80	0.49	4.52	0.83	***
English GPA	1	3.16	0.85	3.52	0.70	3.08	0.86	***
Science GPA	1	3.12	0.87	3.48	0.69	3.03	0.89	***
History GPA	1	3.19	0.83	3.51	0.66	3.11	0.85	***
Missing Academic Information	1	0.20	0.40	0.18	0.39	0.21	0.41	
Average Maternal Education	1	13.37	0.82	13.74	0.97	13.28	0.76	***
Average Family Income	1	4.81	1.37	5.49	1.79	4.64	1.20	***

Notes: The sample sizes for the analysis, selective college attendees, and less selective college attendees samples are 3996, 769, and 3227, respectively. The asterisks demonstrate whether there is a statistically significant difference in means between the selective college attendees and the less selective college attendees samples.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Sources: National Longitudinal Study of Adolescent Health

Table 2

Estimates of the Effect of College Quality on Health Behaviors during College

	Baseline Correlation	Equation (1)	Equation (2)	Equation (3)	Sample Size
Outcome: Smoking	-0.069*** (0.016)	-0.067*** (0.015)	-0.064*** (0.014)	-0.065*** (0.016)	3996
Outcome: Binge Drinking	0.089*** (0.024)	0.029 (0.020)	0.027 (0.019)	0.017 (0.018)	3966
Outcome: Marijuana	-0.018 (0.016)	-0.032** (0.015)	-0.030* (0.016)	-0.038** (0.017)	3993
Outcome: BMI	-1.149*** (0.196)	-0.655*** (0.206)	-0.389** (0.192)	-0.302 (0.225)	3836
Outcome: Overweight	-0.079*** (0.020)	-0.042* (0.022)	-0.030 (0.022)	-0.015 (0.024)	3836
Outcome: Obesity	-0.080*** (0.013)	-0.051*** (0.015)	-0.035** (0.014)	-0.029* (0.015)	3836
Outcome: Fast Food	-0.117*** (0.020)	-0.073*** (0.020)	-0.074*** (0.020)	-0.049** (0.020)	3996
Outcome: Exercise	0.027 (0.018)	0.002 (0.018)	0.001 (0.018)	-0.001 (0.018)	3996
Control Variables	No Control Variables	Individual and Family Background Characteristics	Prior Health Behaviors, Individual and Family Background	Prior Health Behaviors, Individual and Family Background, High School Fixed Effects	

Notes: Heteroskedasticity-robust standard errors that allow for clustering within high schools in parentheses. Each number represents the estimate for attending a selective college from separate regressions. Control variables included, but not shown, in column (2) include age, sex, race/ethnicity, maternal education, parents' marital status, family income, parents' age, PPVT test score, college expectations, high school grades in English, science and history, and grade-level dummy variables. Additional control variables included in column (3) are obesity status, smoking, binge drinking, marijuana use, virginity status, and self-reported health status in wave 1.

Table 3
Heterogeneity in the Effects of College Quality on Health Behaviors during College

	Full	Male	Female	White	Black	Hispanic	Maternal Education		
							< HS	HS	> HS
Smoke	-0.065*** (0.016)	-0.073** (0.030)	-0.060*** (0.021)	-0.067*** (0.024)	0.002 (0.034)	-0.036 (0.034)	-0.117* (0.061)	-0.034 (0.041)	-0.069*** (0.019)
Binge	0.017 (0.018)	-0.022 (0.035)	0.060** (0.028)	0.017 (0.026)	0.008 (0.052)	0.097 (0.074)	0.120 (0.136)	0.012 (0.049)	0.014 (0.026)
Marijuana	-0.038** (0.017)	-0.093*** (0.026)	0.011 (0.024)	-0.055** (0.025)	0.004 (0.059)	-0.023 (0.053)	-0.101 (0.066)	0.004 (0.042)	-0.047** (0.021)
BMI	-0.302 (0.225)	-0.016 (0.342)	-0.555* (0.306)	-0.309 (0.286)	0.196 (0.672)	-0.922 (1.022)	0.631 (0.799)	0.278 (0.560)	-0.494* (0.272)
Obese	-0.029* (0.015)	0.006 (0.027)	-0.063*** (0.016)	-0.019 (0.020)	-0.016 (0.053)	-0.096 (0.061)	-0.007 (0.088)	-0.012 (0.042)	-0.032 (0.020)
Overweight	-0.015 (0.024)	-0.016 (0.035)	-0.023 (0.032)	-0.018 (0.029)	0.048 (0.071)	0.043 (0.094)	0.137 (0.106)	0.022 (0.055)	-0.032 (0.029)
Exercise	-0.001 (0.018)	-0.023 (0.027)	0.016 (0.031)	0.001 (0.026)	0.000 (0.062)	0.123** (0.056)	0.100 (0.109)	0.048 (0.047)	-0.023 (0.025)
Fast Food	-0.049** (0.020)	-0.007 (0.036)	-0.092*** (0.025)	-0.049* (0.027)	-0.014 (0.041)	-0.053 (0.049)	0.059 (0.107)	-0.084* (0.047)	-0.037 (0.025)
Observations	3847	1718	2278	2285	787	511	333	1113	2286

Notes: Heteroskedasticity-robust standard errors that allow for clustering within high schools in parentheses. Each number represents the estimate for attending a selective college from separate regressions. Control variables included, but not shown, include the individual and family characteristics and health measures in wave 1 described in Table 2, as well as high school fixed effects.

Table 4

Estimates of the Effect of College Quality on Health Behaviors Post-College

	Baseline Correlation	Equation (1)	Equation (2)	Equation (3)	Sample Size
Outcome: Smoking	-0.069*** (0.012)	-0.055*** (0.012)	-0.052*** (0.013)	-0.053*** (0.014)	3510
Outcome: Binge Drinking	0.118*** (0.023)	0.072*** (0.022)	0.071*** (0.021)	0.063*** (0.023)	3515
Outcome: Marijuana	-0.018 (0.016)	-0.030* (0.017)	-0.024 (0.016)	-0.033* (0.018)	3518
Outcome: BMI	-1.965*** (0.269)	-1.078*** (0.267)	-0.780*** (0.252)	-0.527* (0.283)	3475
Outcome: Overweight	-0.136*** (0.021)	-0.078*** (0.022)	-0.071*** (0.022)	-0.126*** (0.018)	3475
Outcome: Obesity	-0.072*** (0.019)	-0.058*** (0.018)	-0.045** (0.022)	-0.049** (0.022)	3475
Outcome: Fast Food	-0.117*** (0.026)	-0.074*** (0.024)	-0.074*** (0.024)	-0.029 (0.023)	3519
Outcome: Exercise	0.047*** (0.016)	0.018 (0.017)	0.016 (0.017)	0.033* (0.018)	3519
Control Variables	No Control Variables	Individual and Family Background Characteristics	Prior Health Behaviors, Individual and Family Background	Prior Health Behaviors, Individual and Family Background, High School Fixed Effects	

Notes: See Table 2.

Table 5
Effects of College Quality on Post-College Substance Use Behaviors: Mechanisms

	Smoke			Binge		Marijuana			
Competitive College	-0.054***	-0.040***	-0.043***	0.062***	0.063***	0.049**	-0.032*	-0.021	-0.030
	(0.014)	(0.014)	(0.014)	(0.023)	(0.023)	(0.022)	(0.018)	(0.019)	(0.019)
Test Score Wave 3	0.000	0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Completed Education		-0.022***	-0.022***		-0.001	-0.001		-0.018***	-0.016***
		(0.005)	(0.005)		(0.005)	(0.005)		(0.004)	(0.004)
Earnings Wave 4			-0.000			0.007***			-0.000
			(0.001)			(0.002)			(0.002)
Ever Married Wave 4			-0.051***			-0.174***			-0.142***
			(0.012)			(0.017)			(0.014)
Missing W3	-0.060*	-0.063**	-0.062**	-0.102*	-0.103*	-0.099*	-0.042	-0.045	-0.041
	(0.031)	(0.031)	(0.031)	(0.056)	(0.055)	(0.056)	(0.037)	(0.036)	(0.036)
Missing W4		0.012	0.007		0.007	-0.006		0.006	-0.007
		(0.034)	(0.034)		(0.049)	(0.047)		(0.050)	(0.048)
Constant	0.256	0.473***	0.488***	0.693***	0.701***	0.793***	0.372*	0.542**	0.594***
	(0.163)	(0.179)	(0.179)	(0.257)	(0.262)	(0.256)	(0.206)	(0.212)	(0.205)
Observations	3510	3510	3510	3515	3515	3515	3518	3518	3518
R-squared	0.149	0.159	0.165	0.168	0.168	0.196	0.114	0.118	0.145

Notes: Heteroskedasticity-robust standard errors that allow for clustering within high schools in parentheses. Control variables included, but not shown, include the individual and family characteristics and health measures in wave 1 described in Table 2, as well as high school fixed effects.

Table 6
The Effects of College Quality on Post-College Weight Behaviors: Mechanisms

	BMI		Overweight		Obese		Fast Food		Exercise	
Competitive College	-0.517*	-0.340	-0.047*	-0.044*	-0.043*	-0.035	-0.028	-0.015	0.032*	0.018
	(0.289)	(0.299)	(0.024)	(0.025)	(0.022)	(0.022)	(0.024)	(0.024)	(0.018)	(0.017)
Test Score Wave 3	-0.004	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.001	0.000
	(0.011)	(0.011)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Completed Education		-0.284***		-0.007		-0.012**		-0.021***		0.016***
		(0.082)		(0.005)		(0.006)		(0.005)		(0.005)
Earnings Wave 4		-0.011		0.003*		-0.001		0.000		0.005***
		(0.022)		(0.002)		(0.002)		(0.002)		(0.001)
Ever Married Wave 4		-0.148		0.012		0.007		-0.003		-0.021
		(0.222)		(0.016)		(0.015)		(0.018)		(0.015)
	0.865	0.861	0.065	0.066	0.065	0.064	-0.008	-0.009	0.012	0.014
	(0.780)	(0.785)	(0.046)	(0.046)	(0.075)	(0.075)	(0.061)	(0.062)	(0.050)	(0.050)
		-0.839		-0.075*		-0.052		-0.090*		0.001
		(0.672)		(0.044)		(0.047)		(0.049)		(0.047)
Constant	25.451***	28.360***	0.479**	0.553**	0.429*	0.546**	0.942***	1.157***	0.702***	0.571**
	(3.214)	(3.247)	(0.220)	(0.221)	(0.237)	(0.240)	(0.199)	(0.210)	(0.210)	(0.225)
Observations	3475	3475	3475	3475	3475	3475	3519	3519	3519	3519
R-squared	0.271	0.275	0.139	0.140	0.167	0.168	0.141	0.147	0.092	0.098

Notes: See Table 5.

Table 7
Matching Estimates of the Average Treatment Effect on the Treated of Attending a Selective College

Method	Nearest Neighbor	Stratification	Kernel
Smoke Wave 3	-0.074	-0.082	-0.083
	[0.019]	[0.025]	[0.025]
N	3665		
Smoke Wave 4	-0.036	-0.052	-0.047
	[0.015]	[0.018]	[0.014]
N	3153		
Overweight Wave 3	-0.016	-0.032	-0.035
	[0.024]	[0.026]	[0.026]
N	3469		
Overweight Wave 4	-0.019	-0.039	-0.051
	[0.027]	[0.031]	[0.030]
N	3469		
Obese Wave 3	-0.041	-0.052	-0.050
	[0.016]	[0.02]	[0.019]
N	3469		
Obese Wave 4	-0.036	-0.064	-0.07
	[0.022]	[0.026]	[0.026]
N	3149		
BMI Wave 3	-0.32	-0.63	-0.65
	[0.23]	[0.31]	[0.27]
N	3469		
BMI Wave 4	-0.47	-0.81	-0.96
	[0.32]	[0.38]	[0.41]
N	3149		
Binge Wave 3	0	0.019	0.022
	[0.024]	[0.03]	[0.023]
N	3638		
Binge Wave 4	0.047	0.052	0.063
	[0.026]	[0.028]	[0.028]
N	3182		
Marijuana Wave 3	-0.048	-0.031	-0.045
	[0.020]	[0.022]	[0.023]
N	3661		
Marijuana Wave 4	-0.048	0	0
	[0.020]	[0.021]	[0.021]
N	3183		
Any Exercise Wave 3	0	0.012	0.017
	[0.021]	[0.023]	[0.024]
N	3659		

Any Exercise Wave 4	-0.016	0.034	0.029
	[0.022]	[0.024]	[0.023]
N	3183		
Any Fast Food Wave 3	-0.049	-0.048	-0.051
	[0.023]	[0.027]	[0.026]
N	3659		
Any Fast Food Wave 4	-0.032	-0.019	-0.026
	[0.025]	[0.031]	[0.026]
N	3183		

Notes: Standard errors in brackets.

Table 8
Assessing the Sensitivity of the Estimates of the Impact of Attending a Selective College to
Selection on Unobservables

	Smoke		Binge		Marijuana		Obese		Fast Food		Exercise	
	Wave 3	Wave 4	Wave 3	Wave 4	Wave 3	Wave 4	Wave 3	Wave 4	Wave 3	Wave 4	Wave 3	Wave 4
Panel A: Bivariate Probit Estimates with Selection on Unobservables Equal to Selection on Observables												
Selective College	-0.032	0.035	-0.191	-0.192	-0.084	-0.050	0.117	0.219				
	(0.017)	(0.016)	(0.019)	(0.020)	(0.016)	(0.017)	(0.018)	(0.020)				
Rho	-0.077	-0.311	0.359	0.419	0.134	0.067	-0.388	-0.486	--	--	--	--
Panel B: Probit Estimates Assuming No Selection on Unobservables ($\rho=0$)												
Selective College	-0.065	-0.051	0.025	0.071	-0.028	-0.022	-0.035	-0.060	-0.072	-0.073	0.001	0.014
	(0.014)	(0.012)	(0.019)	(0.020)	(0.015)	(0.017)	(.013)	(0.018)	(0.020)	(0.024)	(0.018)	(0.017)
Ratio	2.478	0.448	0.170	0.392	-0.434	-0.598	0.219	0.285	0.100	0.131	0.004	0.038
N	3996	3510	3966	3515	3993	3518	3836	3475	3996	3519	3996	3519

Notes: The first row in panel A displays the average partial effect from bivariate probit estimates with heteroskedasticity-robust standard errors that allow for clustering within high schools in parentheses for the values of ρ when the amount of selection on observables equals the amount of selection on unobservables. For the outcomes with missing values, the bivariate probit models did not converge. In panel B, average partial effects for attending a selection college are shown with heteroskedasticity-robust standard errors that allow for clustering within high schools in parentheses. The values in the row with the heading “Ratio” represent the ratio of the relative amount of selection on unobservables needed to fully account for the estimates with $\rho = 0$, under the null hypothesis that the true impact of attending a selective college is zero. Additional control variables not shown are described in Table 2. School fixed effects are not included in these estimates.

Tables for Online Appendix

Appendix Table 1
Descriptive Statistics for Analysis Sample Compared with Dropped Sample

Analysis Sample					Dropped Sample		
Variable	Wave	Obs	Mean	Std Dev	Obs	Mean	Std.
Smoke	3	3996	0.23	0.42	10933	0.35	0.48
Smoke	4	3510	0.12	0.32	11905	0.24	0.43
Obese	3	3836	0.18	0.38	10334	0.25	0.43
Obese	4	3475	0.32	0.47	11829	0.38	0.49
BMI	3	3836	25.70	5.65	10334	26.83	6.32
BMI	4	3475	28.15	7.07	11829	29.41	7.65
Binge	3	3966	0.52	0.50	10890	0.45	0.50
Binge	4	3515	0.52	0.50	11975	0.45	0.50
Marijuana	3	3993	0.20	0.40	10957	0.21	0.41
Marijuana	4	3518	0.19	0.40	12011	0.23	0.42
Exercise	3	3996	0.75	0.43	10999	0.65	0.48
Exercise	4	3519	0.78	0.42	12018	0.70	0.46
Fast Food	3	3996	0.79	0.41	10994	0.83	0.38
Fast Food	4	3519	0.72	0.45	11952	0.79	0.41
Very Competitive College	3	3996	0.19	0.39	0		
College Selectivity	3	3996	8.09	7.18	0		
Age	1	3996	15.48	1.68	16560	16.32	1.71
Obese	1	3996	0.05	0.21	16078	0.08	0.26
Smoke	1	3996	0.16	0.37	16466	0.27	0.44
Binge	1	3996	0.17	0.38	16528	0.28	0.45
Marijuana	1	3996	0.09	0.29	16187	0.16	0.36
Had Sex	1	3996	0.23	0.42	16350	0.45	0.50
SRHS	1	3996	1.98	0.85	16550	2.16	0.92
Male	All	3996	0.43	0.50	16576	0.51	0.50
Black	All	3996	0.20	0.40	16576	0.23	0.42
Hispanic	All	3996	0.13	0.34	16576	0.18	0.38
Other Race	1	3996	0.10	0.30	16576	0.08	0.26
Maternal Education	1	3996	13.83	2.25	16576	12.99	2.22
Married Parents	1	3996	0.78	0.39	16576	0.68	0.43
Family Income	1	3996	5.35	4.50	16576	4.30	3.75
Parent Age	1	3996	42.07	5.47	16576	41.91	6.42
Missing Family Information	All	3996	0.27	0.44	16576	0.35	0.48
Grade=8	1	3996	0.17	0.38	16050	0.13	0.33
Grade=9	1	3996	0.22	0.41	16050	0.17	0.38
Grade=10	1	3996	0.18	0.38	16050	0.20	0.40

Grade=11	1	3996	0.13	0.34	16050	0.20	0.40
Grade=12	1	3996	0.10	0.30	16050	0.18	0.39
Test Score	1	3996	104.48	13.48	16576	98.49	14.86
College Expectations	1	3996	4.58	0.78	16576	4.05	1.26
English GPA	1	3996	3.16	0.85	16576	2.71	0.93
Science GPA	1	3996	3.12	0.87	16576	2.69	0.94
History GPA	1	3996	3.19	0.83	16576	2.74	0.94
Missing Academic Information	1	3996	0.20	0.40	16576	0.29	0.45
Average Maternal Education	1	3996	13.37	0.82	16575	13.11	0.80
Average Family Income	1	3996	4.81	1.37	16575	4.44	1.28
Average Test Score	1	3996	101.18	6.22	16575	99.29	6.83
% Black	1	3996	0.20	0.25	16575	0.23	0.26
% Hispanic	1	3996	0.15	0.20	16575	0.18	0.23
% Married	1	3996	0.72	0.10	16575	0.69	0.11
Test Score	3	3996	104.77	12.82	16576	99.30	14.12
Years of Schooling	4	3996	15.54	1.70	16576	13.94	1.67
Earnings	4	3996	39077	39874	16576	34209	37121

Appendix Table 2
Full Set of Estimates for the Estimates of the Effects of College Quality on Substance Use during College

Outcome Specification	Smoke Unadj	Smoke Xs	Smoke Xs	Smoke Xs	Binge Unadj	Binge Xs	Binge Xs	Binge Xs	Marijuana Unadj	Marijuana Xs	Marijuana Xs	Marijuana Xs
Fixed Effects	None	None	None	School	None	None	None	School	None	None	None	School
Competitive College	-0.069*** (0.016)	-0.067*** (0.015)	-0.064*** (0.014)	-0.065*** (0.016)	0.089*** (0.024)	0.029 (0.020)	0.027 (0.019)	0.017 (0.018)	-0.018 (0.016)	-0.032** (0.015)	-0.030* (0.016)	-0.038** (0.017)
Age		-0.008 (0.010)	-0.009 (0.010)	-0.012 (0.011)		-0.006 (0.015)	-0.007 (0.015)	-0.013 (0.015)		-0.030*** (0.010)	-0.032*** (0.010)	-0.025** (0.010)
Obese			0.073** (0.033)	0.073** (0.034)			-0.027 (0.036)	-0.015 (0.036)			-0.040 (0.026)	-0.046* (0.027)
Smoke			0.317*** (0.024)	0.303*** (0.025)			0.076*** (0.023)	0.077*** (0.022)			0.063** (0.027)	0.065** (0.028)
Binge			0.053** (0.021)	0.053** (0.021)			0.190*** (0.022)	0.179*** (0.023)			0.082*** (0.023)	0.085*** (0.023)
Marijuana			0.069** (0.029)	0.078*** (0.029)			-0.003 (0.027)	-0.027 (0.027)			0.183*** (0.032)	0.175*** (0.032)
Had Sex			0.039** (0.019)	0.035* (0.019)			-0.016 (0.022)	-0.015 (0.023)			0.002 (0.019)	-0.001 (0.019)
SRHS			0.004 (0.008)	0.006 (0.008)			-0.020** (0.009)	-0.016* (0.009)			-0.002 (0.007)	-0.002 (0.007)
Male		0.002 (0.015)	0.013 (0.013)	0.016 (0.014)		0.133*** (0.017)	0.129*** (0.017)	0.130*** (0.018)		0.061*** (0.013)	0.063*** (0.012)	0.066*** (0.012)
Black		-0.189*** (0.020)	-0.135*** (0.018)	-0.136*** (0.024)		-0.385*** (0.024)	-0.344*** (0.023)	-0.268*** (0.025)		-0.081*** (0.019)	-0.052*** (0.018)	-0.030 (0.021)
Hispanic		-0.159*** (0.024)	-0.113*** (0.022)	-0.089*** (0.026)		-0.143*** (0.034)	-0.120*** (0.033)	-0.058* (0.034)		-0.045** (0.021)	-0.022 (0.021)	-0.018 (0.027)
Other Race		-0.078*** (0.027)	-0.023 (0.024)	0.000 (0.028)		-0.245*** (0.031)	-0.210*** (0.032)	-0.170*** (0.036)		-0.084*** (0.023)	-0.058*** (0.022)	-0.068** (0.026)
Maternal Education		-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)		0.012*** (0.004)	0.012*** (0.003)	0.012*** (0.003)		0.007** (0.003)	0.007** (0.003)	0.006** (0.003)
Married Parents		-0.039** (0.016)	-0.027* (0.016)	-0.024 (0.017)		-0.039* (0.021)	-0.039* (0.021)	-0.045** (0.021)		-0.036* (0.019)	-0.029 (0.019)	-0.018 (0.019)
Family Income		0.001 (0.001)	-0.000 (0.001)	-0.000 (0.002)		0.002 (0.002)	0.001 (0.002)	0.001 (0.002)		0.004** (0.002)	0.003* (0.002)	0.002 (0.002)
Parent Age		0.001	0.001	0.001		0.002	0.002	0.002		0.001	0.001	0.001

		(0.001)	(0.001)	(0.001)		(0.002)	(0.002)	(0.001)		(0.001)	(0.001)	(0.001)
Missing Family Information		-0.009	-0.011	-0.017		-0.031*	-0.035*	-0.031*		-0.009	-0.010	-0.010
		(0.015)	(0.013)	(0.013)		(0.018)	(0.018)	(0.019)		(0.015)	(0.015)	(0.016)
PVT Score		0.002***	0.001**	0.001**		0.002***	0.002***	0.001**		0.002***	0.002***	0.002***
		(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)		(0.000)	(0.000)	(0.001)
College Exp		0.001	0.015*	0.013		-0.010	-0.004	-0.007		-0.002	0.006	0.007
		(0.009)	(0.008)	(0.009)		(0.010)	(0.009)	(0.010)		(0.009)	(0.009)	(0.009)
English Grade		-0.029***	-0.007	-0.011		-0.003	0.005	0.005		-0.028***	-0.019**	-0.017*
		(0.009)	(0.008)	(0.008)		(0.012)	(0.012)	(0.013)		(0.009)	(0.009)	(0.009)
Science Grade		-0.036***	-0.018**	-0.019**		-0.015	-0.009	-0.007		-0.022***	-0.012	-0.006
		(0.010)	(0.008)	(0.008)		(0.009)	(0.009)	(0.010)		(0.008)	(0.008)	(0.008)
History Grade		-0.024**	-0.018*	-0.015		-0.005	-0.003	-0.004		-0.019*	-0.015	-0.015
		(0.010)	(0.009)	(0.010)		(0.011)	(0.011)	(0.011)		(0.010)	(0.011)	(0.011)
Constant	0.245***	0.550***	0.304	0.345*	0.499***	0.357	0.311	0.421*	0.207***	0.513***	0.415**	0.367**
	(0.014)	(0.197)	(0.187)	(0.204)	(0.025)	(0.244)	(0.249)	(0.242)	(0.013)	(0.164)	(0.163)	(0.158)
Observations	3996	3996	3996	3996	3966	3966	3966	3966	3993	3993	3993	3993
R-squared	0.004	0.055	0.155	0.195	0.005	0.138	0.164	0.224	0.000	0.050	0.089	0.137

Notes: Heteroskedasticity-robust standard errors that allow for clustering within high schools in parentheses. Control variables included, but not shown, include grade-level dummy variables.

Appendix Table 3
Full Set of Estimates for the Estimates of the Effects of College Quality on Weight Behaviors during College

Outcome Specification	BMI Unadj	BMI Xs	BMI Xs	BMI Xs	Overweight Unadj	Overweight Xs	Overweight Xs	Overweight Xs	Obesity Unadj	Obesity Xs	Obesity Xs	Obesity Xs
Fixed Effects	None	None	None	School	None	None	None	School	None	None	None	School
Competitive College	-1.149*** (0.196)	-0.655*** (0.206)	-0.389** (0.192)	-0.302 (0.225)	-0.079*** (0.020)	-0.042* (0.022)	-0.030 (0.022)	-0.015 (0.024)	-0.080*** (0.013)	-0.051*** (0.015)	-0.035** (0.014)	-0.029* (0.015)
Age		0.273* (0.146)	0.134 (0.132)	0.050 (0.131)		0.020 (0.014)	0.013 (0.014)	0.004 (0.014)		0.019* (0.010)	0.010 (0.010)	0.005 (0.010)
Obese			12.503*** (0.514)	12.245*** (0.514)			0.490*** (0.016)	0.480*** (0.018)			0.716*** (0.025)	0.706*** (0.025)
Smoke			-0.199 (0.251)	-0.263 (0.277)			-0.010 (0.025)	-0.013 (0.027)			-0.030 (0.020)	-0.038* (0.022)
Binge			0.082 (0.238)	0.039 (0.243)			0.006 (0.021)	0.005 (0.022)			0.004 (0.019)	0.000 (0.019)
Marijuana			-0.880*** (0.310)	-0.781** (0.323)			-0.069** (0.030)	-0.068** (0.032)			-0.004 (0.025)	0.011 (0.026)
Had Sex			0.820*** (0.240)	0.785*** (0.258)			0.057*** (0.020)	0.055** (0.022)			0.046** (0.021)	0.039* (0.022)
SRHS			0.601*** (0.103)	0.591*** (0.102)			0.040*** (0.009)	0.040*** (0.009)			0.036*** (0.007)	0.034*** (0.008)
Male		0.677*** (0.174)	0.751*** (0.160)	0.729*** (0.167)		0.134*** (0.014)	0.141*** (0.014)	0.139*** (0.015)		0.004 (0.012)	0.008 (0.011)	0.005 (0.012)
Black		1.329*** (0.301)	0.670** (0.264)	0.732** (0.362)		0.107*** (0.024)	0.078*** (0.024)	0.085*** (0.032)		0.055*** (0.021)	0.015 (0.019)	0.001 (0.026)
Hispanic		0.736** (0.284)	0.240 (0.251)	0.411 (0.331)		0.053** (0.025)	0.031 (0.026)	0.038 (0.033)		0.038* (0.021)	0.009 (0.019)	0.013 (0.025)
Other Race		-1.058*** (0.300)	-1.026*** (0.298)	-1.008*** (0.329)		-0.067** (0.028)	-0.068** (0.029)	-0.065** (0.031)		-0.047*** (0.016)	-0.046*** (0.015)	-0.039** (0.018)
Maternal Education		0.029 (0.049)	-0.009 (0.038)	0.024 (0.041)		-0.001 (0.005)	-0.003 (0.004)	0.001 (0.004)		0.002 (0.004)	-0.000 (0.003)	0.001 (0.003)
Married Parents		0.203 (0.256)	0.328 (0.222)	0.264 (0.230)		0.039* (0.022)	0.046** (0.021)	0.039* (0.022)		-0.017 (0.017)	-0.009 (0.015)	-0.009 (0.015)
Family Income		-0.041** (0.021)	-0.021 (0.017)	-0.008 (0.019)		-0.005** (0.002)	-0.004** (0.002)	-0.002 (0.002)		-0.003*** (0.001)	-0.002** (0.001)	-0.002* (0.001)
Parent Age		-0.012	-0.018	-0.010		-0.001	-0.001	-0.000		-0.001	-0.001	-0.001

		(0.017)	(0.016)	(0.018)		(0.001)	(0.001)	(0.002)		(0.001)	(0.001)	(0.001)
PVT Score		0.012	0.011*	0.018***		0.001*	0.001*	0.002***		0.001	0.001	0.001**
		(0.008)	(0.006)	(0.006)		(0.001)	(0.001)	(0.001)		(0.001)	(0.000)	(0.000)
College Exp		-0.105	-0.018	0.017		-0.008	-0.003	-0.000		0.001	0.006	0.005
		(0.119)	(0.108)	(0.107)		(0.009)	(0.009)	(0.009)		(0.009)	(0.009)	(0.009)
English Grade		-0.133	-0.084	-0.160		-0.017	-0.014	-0.020		-0.008	-0.004	-0.009
		(0.144)	(0.128)	(0.126)		(0.012)	(0.013)	(0.013)		(0.010)	(0.009)	(0.009)
Science Grade		-0.313***	-0.176*	-0.210*		-0.020*	-0.013	-0.018*		-0.022***	-0.013	-0.016*
		(0.106)	(0.100)	(0.107)		(0.011)	(0.010)	(0.011)		(0.008)	(0.008)	(0.008)
History Grade		-0.165	-0.145	-0.185		-0.003	-0.001	-0.005		-0.012	-0.011	-0.016*
		(0.139)	(0.114)	(0.116)		(0.011)	(0.010)	(0.010)		(0.009)	(0.008)	(0.009)
Constant	25.916***	22.437***	22.445***	22.138***	0.466***	0.180	0.132	0.110	0.193***	-0.011	-0.007	0.012
	(0.138)	(2.492)	(2.249)	(2.244)	(0.011)	(0.224)	(0.220)	(0.226)	(0.008)	(0.168)	(0.168)	(0.172)
Observations	3836	3836	3836	3836	3836	3836	3836	3836	3836	3836	3836	3836
R-squared	0.006	0.041	0.259	0.293	0.004	0.046	0.095	0.136	0.007	0.028	0.184	0.218

Notes: See Appendix Table 2.

Appendix Table 4
Full Set of Estimates for the Estimates of the Effects of College Quality on Weight Behaviors during College

Outcome Specification	Fast Food Unadj	Fast Food Xs	Fast Food Xs	Fast Food Xs	Exercise Unadj	Exercise Xs	Exercise Xs	Exercise Xs
Fixed Effects	None	None	None	School	None	None	None	School
Competitive College	-0.117*** (0.020)	-0.073*** (0.020)	-0.074*** (0.020)	-0.049** (0.020)	0.027 (0.018)	0.002 (0.018)	0.001 (0.018)	-0.001 (0.018)
Age		-0.014 (0.012)	-0.013 (0.012)	-0.012 (0.012)		-0.013 (0.012)	-0.013 (0.012)	-0.017 (0.013)
Obese			-0.037 (0.026)	-0.048* (0.028)			0.012 (0.033)	0.014 (0.035)
Smoke			0.028 (0.021)	0.028 (0.022)			-0.047** (0.023)	-0.034 (0.023)
Binge			-0.011 (0.021)	-0.002 (0.022)			0.014 (0.021)	0.011 (0.022)
Marijuana			-0.031 (0.029)	-0.018 (0.029)			0.069** (0.029)	0.055* (0.030)
Had Sex			0.012 (0.017)	-0.001 (0.017)			-0.024 (0.020)	-0.017 (0.021)
SRHS			-0.001 (0.007)	-0.000 (0.007)			-0.018*** (0.007)	-0.021*** (0.007)
Male		0.047*** (0.015)	0.048*** (0.015)	0.043*** (0.015)		0.142*** (0.013)	0.136*** (0.013)	0.134*** (0.014)
Black		0.092*** (0.020)	0.095*** (0.022)	0.062*** (0.027)		-0.097*** (0.021)	-0.100*** (0.021)	-0.070** (0.034)
Hispanic		0.038 (0.024)	0.041* (0.024)	0.008 (0.025)		0.033 (0.020)	0.031 (0.020)	0.019 (0.028)
Other Race		0.025 (0.036)	0.027 (0.035)	-0.010 (0.031)		-0.010 (0.044)	-0.011 (0.045)	-0.009 (0.049)
Maternal Education		-0.007* (0.003)	-0.006* (0.003)	-0.006** (0.003)		0.003 (0.003)	0.003 (0.003)	0.002 (0.003)
Married Parents		-0.005 (0.015)	-0.005 (0.015)	-0.013 (0.016)		0.004 (0.019)	0.002 (0.020)	-0.004 (0.020)
Family Income		-0.003** (0.002)	-0.003** (0.002)	-0.002 (0.002)		0.003*** (0.001)	0.003** (0.001)	0.003** (0.001)
Parent Age		-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)		0.003* (0.001)	0.003* (0.001)	0.002 (0.002)
PVT Score		-0.002*** (0.001)	-0.002*** (0.001)	-0.002*** (0.001)		-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
College Exp		-0.015* (0.008)	-0.014 (0.009)	-0.012 (0.009)		0.029*** (0.009)	0.027*** (0.009)	0.025** (0.010)
English Grade		-0.009 (0.008)	-0.008 (0.008)	-0.013* (0.008)		0.020** (0.009)	0.018** (0.009)	0.015* (0.009)

Science Grade		0.000	0.000	-0.002		-0.013	-0.015	-0.009
		(0.007)	(0.007)	(0.008)		(0.009)	(0.009)	(0.009)
History Grade		0.007	0.007	0.003		-0.010	-0.012	-0.007
		(0.010)	(0.010)	(0.011)		(0.009)	(0.009)	(0.010)
Missing PVT			0.014	0.007			-0.014	-0.017
			(0.018)	(0.018)			(0.017)	(0.020)
Constant	0.812***	1.430***	1.408***	1.381***	0.742***	0.687***	0.761***	0.833***
	(0.013)	(0.178)	(0.172)	(0.167)	(0.010)	(0.174)	(0.176)	(0.185)
Observations	3996	3996	3996	3996	3996	3996	3996	3996
R-squared	0.013	0.040	0.042	0.101	0.001	0.045	0.049	0.091

Notes: Standard errors clustered at the high school level; Grade-level dummies controlled

Appendix Table 5
Full Set of Estimates for the Estimates of the Effects of College Quality on Post-College Substance Use Behaviors

Outcome Specification	Smoke Unadj	Smoke Xs	Smoke Xs	Smoke Xs	Binge Unadj	Binge Xs	Binge Xs	Binge Xs	Marijuana Unadj	Marijuana Xs	Marijuana Xs	Marijuana Xs
Fixed Effects	None	None	None	School	None	None	None	School	None	None	None	School
Competitive College	-0.069*** (0.012)	-0.055*** (0.012)	-0.052*** (0.013)	-0.053*** (0.014)	0.118*** (0.023)	0.072*** (0.022)	0.071*** (0.021)	0.063*** (0.023)	-0.018 (0.016)	-0.030* (0.017)	-0.024 (0.016)	-0.033* (0.018)
Age		-0.007 (0.008)	-0.008 (0.008)	-0.005 (0.009)		-0.024* (0.014)	-0.024* (0.014)	-0.027* (0.014)		-0.035*** (0.013)	-0.037*** (0.012)	-0.025** (0.013)
Obese			0.021 (0.025)	0.017 (0.027)			-0.069** (0.034)	-0.056 (0.036)			-0.043 (0.030)	-0.041 (0.030)
Smoke			0.147*** (0.024)	0.134*** (0.023)			0.085*** (0.023)	0.091*** (0.025)			0.057** (0.024)	0.065*** (0.025)
Binge			-0.001 (0.020)	0.003 (0.019)			0.145*** (0.027)	0.144*** (0.029)			0.082*** (0.029)	0.089*** (0.030)
Marijuana			0.025 (0.033)	0.039 (0.033)			-0.017 (0.035)	-0.039 (0.034)			0.146*** (0.031)	0.127*** (0.030)
Had Sex			0.058*** (0.015)	0.052*** (0.015)			0.028 (0.023)	0.027 (0.023)			0.027 (0.017)	0.021 (0.018)
SRHS			0.011* (0.006)	0.013* (0.006)			-0.018* (0.010)	-0.016 (0.010)			0.020*** (0.007)	0.021*** (0.007)
Male		0.023 (0.014)	0.033** (0.013)	0.037*** (0.014)		0.130*** (0.016)	0.130*** (0.016)	0.132*** (0.016)		0.072*** (0.015)	0.081*** (0.014)	0.080*** (0.015)
Black		-0.097*** (0.016)	-0.080*** (0.015)	-0.091*** (0.019)		-0.287*** (0.022)	-0.252*** (0.022)	-0.195*** (0.025)		-0.042** (0.019)	-0.018 (0.019)	-0.012 (0.026)
Hispanic		-0.125*** (0.018)	-0.104*** (0.016)	-0.081*** (0.018)		-0.084** (0.033)	-0.062* (0.033)	0.003 (0.037)		-0.020 (0.018)	0.001 (0.017)	-0.021 (0.027)
Other Race		-0.056*** (0.021)	-0.032 (0.020)	-0.015 (0.026)		-0.190*** (0.031)	-0.161*** (0.032)	-0.130*** (0.040)		-0.050** (0.022)	-0.027 (0.021)	-0.056* (0.029)
Maternal Education		-0.002 (0.002)	-0.002 (0.002)	-0.000 (0.002)		0.009** (0.004)	0.009** (0.004)	0.008* (0.004)		0.002 (0.003)	0.003 (0.003)	0.002 (0.003)
Married Parents		-0.034** (0.015)	-0.028* (0.015)	-0.029* (0.015)		-0.029 (0.022)	-0.028 (0.022)	-0.031 (0.022)		-0.053*** (0.019)	-0.046** (0.019)	-0.034* (0.019)
Family Income		0.001 (0.001)	0.000 (0.001)	0.001 (0.001)		0.004*** (0.002)	0.004** (0.002)	0.003* (0.002)		0.003** (0.002)	0.003* (0.002)	0.001 (0.002)
Parent Age		-0.002* (0.001)	-0.001 (0.001)	-0.002* (0.001)		0.003 (0.002)	0.003* (0.002)	0.004** (0.002)		0.002 (0.001)	0.002 (0.001)	0.001 (0.001)
PVT Score		0.001 (0.000)	0.000 (0.000)	0.001 (0.000)		0.001 (0.001)	0.001* (0.001)	0.000 (0.001)		0.002*** (0.001)	0.002*** (0.001)	0.002** (0.001)
College Exp		0.005 (0.009)	0.013 (0.009)	0.011 (0.008)		-0.014 (0.012)	-0.009 (0.011)	-0.012 (0.012)		-0.001 (0.010)	0.008 (0.010)	0.006 (0.010)
English Grade		-0.030*** (0.009)	-0.019** (0.008)	-0.022** (0.009)		0.006 (0.013)	0.013 (0.012)	0.011 (0.013)		-0.032*** (0.011)	-0.021** (0.010)	-0.019* (0.011)

Science Grade		-0.024***	-0.014*	-0.016*		-0.023**	-0.016	-0.015		-0.018**	-0.006	0.000
		(0.008)	(0.008)	(0.009)		(0.011)	(0.010)	(0.011)		(0.008)	(0.008)	(0.009)
History Grade		-0.010	-0.008	-0.008		-0.005	-0.002	0.002		0.000	0.002	0.004
		(0.009)	(0.008)	(0.009)		(0.011)	(0.011)	(0.012)		(0.011)	(0.010)	(0.011)
Constant	0.129***	0.487***	0.333**	0.266*	0.497***	0.679***	0.591**	0.693***	0.198***	0.575***	0.427**	0.342
	(0.010)	(0.145)	(0.146)	(0.156)	(0.019)	(0.245)	(0.243)	(0.254)	(0.012)	(0.209)	(0.203)	(0.209)
Observations	3510	3510	3510	3510	3515	3515	3515	3515	3518	3518	3518	3518
R-squared	0.007	0.047	0.088	0.148	0.009	0.100	0.122	0.167	0.000	0.039	0.076	0.114

Notes: See Appendix Table 2.

Appendix Table 6
Full Set of Estimates for the Estimates of the Effects of College Quality on Post-College Weight Behaviors

Outcome Specification	BMI Unadj	BMI Xs	BMI Xs	BMI Xs	Overweight Unadj	Overweight Xs	Overweight Xs	Overweight Xs	Obesity Unadj	Obesity Xs	Obesity Xs	Obesity Xs
Fixed Effects	None	None	None	School	None	None	None	School	None	None	None	School
Competitive College	-1.965*** (0.269)	-1.078*** (0.267)	-0.780*** (0.252)	-0.527* (0.283)	-0.136*** (0.021)	-0.078*** (0.022)	-0.071*** (0.022)	-0.048** (0.024)	-0.126*** (0.018)	-0.072*** (0.019)	-0.058*** (0.018)	-0.045** (0.022)
Age		0.349* (0.187)	0.240 (0.186)	0.123 (0.195)		0.027** (0.013)	0.024* (0.013)	0.016 (0.013)		0.014 (0.014)	0.010 (0.013)	-0.001 (0.014)
Obese			12.841*** (0.586)	12.594*** (0.593)			0.319*** (0.020)	0.305*** (0.021)			0.559*** (0.022)	0.543*** (0.023)
Smoke			-0.302 (0.321)	-0.214 (0.335)			0.029 (0.024)	0.032 (0.025)			-0.029 (0.025)	-0.025 (0.025)
Binge			-0.283 (0.308)	-0.348 (0.320)			-0.024 (0.024)	-0.024 (0.024)			0.012 (0.025)	0.009 (0.026)
Marijuana			-1.006** (0.387)	-0.794* (0.403)			-0.100*** (0.032)	-0.095*** (0.033)			-0.060** (0.025)	-0.042* (0.024)
Had Sex			0.639** (0.305)	0.530 (0.341)			0.033 (0.022)	0.036 (0.025)			0.013 (0.022)	0.005 (0.023)
SRHS			0.654*** (0.126)	0.621*** (0.125)			0.031*** (0.010)	0.029*** (0.010)			0.039*** (0.009)	0.039*** (0.009)
Male		0.668*** (0.236)	0.749*** (0.238)	0.715*** (0.248)		0.135*** (0.016)	0.142*** (0.016)	0.134*** (0.017)		0.023 (0.015)	0.028* (0.016)	0.031* (0.016)
Black		2.518*** (0.334)	1.725*** (0.315)	1.545*** (0.455)		0.128*** (0.022)	0.108*** (0.022)	0.096*** (0.030)		0.137*** (0.022)	0.106*** (0.021)	0.098*** (0.027)
Hispanic		0.687* (0.400)	0.112 (0.399)	0.107 (0.467)		0.046* (0.026)	0.031 (0.027)	0.024 (0.031)		0.042 (0.030)	0.014 (0.030)	0.020 (0.036)
Other Race		-1.193** (0.490)	-1.336*** (0.424)	-1.283*** (0.461)		-0.055 (0.040)	-0.060 (0.038)	-0.050 (0.040)		-0.080*** (0.024)	-0.089*** (0.022)	-0.066** (0.029)
Maternal Education		-0.041 (0.066)	-0.082 (0.054)	-0.053 (0.058)		-0.006 (0.005)	-0.007 (0.004)	-0.005 (0.004)		-0.005 (0.005)	-0.007 (0.004)	-0.005 (0.005)
Married Parents		0.508 (0.320)	0.646** (0.296)	0.519* (0.312)		0.040* (0.021)	0.044** (0.021)	0.038* (0.022)		0.014 (0.019)	0.019 (0.018)	0.011 (0.019)
Family Income		-0.102*** (0.027)	-0.077*** (0.025)	-0.054** (0.025)		-0.007*** (0.002)	-0.006** (0.002)	-0.004* (0.002)		-0.005** (0.002)	-0.004* (0.002)	-0.002 (0.002)
Parent Age		-0.027 (0.019)	-0.028 (0.018)	-0.017 (0.019)		-0.002* (0.001)	-0.002* (0.001)	-0.001 (0.001)		-0.003** (0.001)	-0.003** (0.001)	-0.002 (0.001)
PVT Score		0.015 (0.009)	0.012* (0.007)	0.025*** (0.008)		-0.009 (0.019)	-0.007 (0.019)	-0.011 (0.021)		-0.017 (0.017)	-0.013 (0.016)	-0.009 (0.017)
College Exp		-0.064 (0.157)	-0.000 (0.142)	0.073 (0.144)		-0.011 (0.031)	-0.001 (0.030)	-0.004 (0.030)		-0.015 (0.033)	0.002 (0.032)	0.006 (0.033)

English Grade		0.014 (0.183)	0.057 (0.180)	0.026 (0.185)	-0.041 (0.038)	-0.030 (0.037)	0.013 (0.041)	-0.043 (0.037)	-0.026 (0.036)	0.012 (0.040)
Science Grade		-0.413*** (0.140)	-0.295** (0.133)	-0.409*** (0.137)	-0.059 (0.049)	-0.056 (0.049)	-0.005 (0.052)	0.008 (0.050)	0.010 (0.049)	0.067 (0.054)
History Grade		-0.503*** (0.177)	-0.454*** (0.159)	-0.528*** (0.162)	-0.059 (0.057)	-0.053 (0.057)	-0.008 (0.060)	-0.054 (0.059)	-0.041 (0.060)	0.020 (0.064)
Constant	28.525*** (0.177)	26.326*** (3.156)	25.733*** (2.994)	25.276*** (3.103)	-0.116 (0.071)	-0.114 (0.071)	-0.049 (0.074)	-0.038 (0.075)	-0.028 (0.073)	0.049 (0.076)
Observations	3475	3475	3475	3475	0.000	0.000	0.001	0.001	0.000	0.001**
R-squared	0.012	0.059	0.232	0.271	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Notes: See Appendix Table 2.

Appendix Table 7
Full Set of Estimates for the Estimates of the Effects of College Quality on Post-College Weight Behaviors

Outcome Specification	Fast Food Unadj	Fast Food Xs	Fast Food Xs	Fast Food Xs	Exercise Unadj	Exercise Xs	Exercise Xs	Exercise Xs
Fixed Effects	None	None	None	School	None	None	None	School
Competitive College	-0.117*** (0.026)	-0.074*** (0.024)	-0.074*** (0.024)	-0.029 (0.023)	0.047*** (0.016)	0.018 (0.017)	0.016 (0.017)	0.033* (0.018)
Age		0.018 (0.013)	0.017 (0.013)	0.005 (0.013)		-0.001 (0.013)	-0.001 (0.013)	0.002 (0.013)
Obese			0.008 (0.028)	0.004 (0.029)			-0.029 (0.042)	-0.021 (0.044)
Smoke			0.026 (0.025)	0.014 (0.025)			-0.040* (0.020)	-0.027 (0.020)
Binge			-0.029 (0.021)	-0.026 (0.020)			0.055** (0.024)	0.055** (0.024)
Marijuana			-0.052* (0.027)	-0.027 (0.026)			-0.023 (0.027)	-0.045 (0.030)
Had Sex			0.035 (0.021)	0.015 (0.021)			-0.009 (0.018)	-0.005 (0.019)
SRHS			0.010 (0.008)	0.008 (0.009)			-0.018** (0.009)	-0.018** (0.009)
Male		0.078*** (0.017)	0.082*** (0.018)	0.069*** (0.017)		0.109*** (0.018)	0.102*** (0.019)	0.102*** (0.020)
Black		0.149*** (0.023)	0.143*** (0.024)	0.098*** (0.029)		-0.080*** (0.020)	-0.080*** (0.020)	-0.083*** (0.026)
Hispanic		0.025 (0.028)	0.024 (0.028)	0.025 (0.030)		-0.022 (0.023)	-0.022 (0.023)	-0.019 (0.025)
Other Race		0.027 (0.037)	0.026 (0.037)	0.027 (0.037)		-0.016 (0.027)	-0.014 (0.028)	-0.046 (0.033)
Maternal Education		-0.008** (0.004)	-0.008** (0.004)	-0.007** (0.003)		0.002 (0.004)	0.002 (0.004)	0.001 (0.004)
Married Parents		0.005 (0.022)	0.006 (0.021)	-0.006 (0.022)		0.016 (0.017)	0.013 (0.017)	0.004 (0.018)
Family Income		-0.001 (0.002)	-0.001 (0.002)	0.003 (0.002)		0.003*** (0.001)	0.003** (0.001)	0.003** (0.001)
Parent Age		-0.003*** (0.001)	-0.003** (0.001)	-0.002* (0.001)		0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
PVT Score		-0.001 (0.001)	-0.001 (0.001)	0.000 (0.001)		-0.001 (0.001)	-0.001 (0.001)	-0.001* (0.001)
College Exp		-0.026*** (0.010)	-0.025** (0.010)	-0.024** (0.010)		0.005 (0.010)	0.003 (0.010)	-0.000 (0.011)
English Grade		0.005 (0.011)	0.006 (0.011)	0.001 (0.011)		0.027** (0.012)	0.025* (0.013)	0.022* (0.013)

Science Grade		-0.003	-0.003	-0.021**		-0.010	-0.013	-0.011
		(0.010)	(0.010)	(0.010)		(0.011)	(0.011)	(0.012)
History Grade		-0.001	-0.001	-0.015		0.009	0.007	0.008
		(0.010)	(0.010)	(0.011)		(0.012)	(0.012)	(0.013)
Constant	0.743***	0.856***	0.823***	0.889***	0.768***	0.630***	0.715***	0.745***
	(0.015)	(0.200)	(0.195)	(0.193)	(0.010)	(0.198)	(0.201)	(0.207)
Observations	3519	3519	3519	3519	3519	3519	3519	3519
R-squared	0.011	0.044	0.046	0.141	0.002	0.033	0.037	0.092

Notes: See Appendix Table 2.

Appendix Table 8
The Effects of College Quality on Post-College Substance Use Behaviors—Sample of Non-Students at Wave 4

Outcome Specification	Smoke Unadj	Smoke Xs	Smoke Xs	Smoke Xs	Binge Unadj	Binge Xs	Binge Xs	Binge Xs	Marijuana Unadj	Marijuana Xs	Marijuana Xs	Marijuana Xs
Fixed Effects	None	None	None	School	None	None	None	School	None	None	None	School
Competitive College	-0.063*** (0.013)	-0.046*** (0.014)	-0.045*** (0.015)	-0.041** (0.016)	0.116*** (0.026)	0.070*** (0.026)	0.067*** (0.024)	0.065** (0.027)	-0.019 (0.019)	-0.028 (0.022)	-0.022 (0.022)	-0.027 (0.023)
Age		-0.010 (0.010)	-0.011 (0.009)	-0.006 (0.010)		-0.013 (0.017)	-0.014 (0.017)	-0.017 (0.017)		-0.044*** (0.014)	-0.047*** (0.014)	-0.033** (0.014)
Obese			0.040 (0.030)	0.028 (0.033)			-0.070* (0.040)	-0.061 (0.044)			-0.019 (0.037)	-0.023 (0.037)
Smoke			0.136*** (0.029)	0.118*** (0.027)			0.089*** (0.025)	0.095*** (0.027)			0.038 (0.029)	0.047 (0.030)
Binge			0.015 (0.022)	0.021 (0.021)			0.169*** (0.030)	0.173*** (0.032)			0.103*** (0.032)	0.114*** (0.033)
Marijuana			0.015 (0.037)	0.026 (0.038)			-0.028 (0.045)	-0.045 (0.045)			0.176*** (0.038)	0.154*** (0.037)
Had Sex			0.051*** (0.018)	0.051*** (0.019)			0.026 (0.027)	0.017 (0.028)			0.038* (0.021)	0.028 (0.023)
SRHS			0.002 (0.007)	0.004 (0.007)			-0.020* (0.012)	-0.021* (0.012)			0.014* (0.008)	0.011 (0.008)
Male		0.031* (0.016)	0.038** (0.015)	0.042** (0.017)		0.142*** (0.020)	0.141*** (0.020)	0.142*** (0.021)		0.075*** (0.017)	0.080*** (0.017)	0.071*** (0.018)
Black		-0.091*** (0.017)	-0.075*** (0.016)	-0.077*** (0.022)		-0.256*** (0.028)	-0.220*** (0.028)	-0.168*** (0.032)		-0.021 (0.022)	0.003 (0.022)	0.019 (0.030)
Hispanic		-0.115*** (0.021)	-0.096*** (0.019)	-0.073*** (0.022)		-0.071* (0.041)	-0.043 (0.040)	0.023 (0.047)		-0.002 (0.021)	0.019 (0.020)	-0.004 (0.032)
Other Race		-0.056** (0.023)	-0.034 (0.023)	-0.016 (0.030)		-0.180*** (0.030)	-0.147*** (0.032)	-0.114*** (0.043)		-0.030 (0.026)	-0.003 (0.024)	-0.032 (0.035)
Maternal Education		-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)		0.008* (0.004)	0.009** (0.004)	0.007 (0.005)		0.002 (0.003)	0.002 (0.003)	0.002 (0.003)
Married Parents		-0.021 (0.019)	-0.017 (0.018)	-0.018 (0.019)		-0.020 (0.028)	-0.019 (0.029)	-0.024 (0.030)		-0.049** (0.021)	-0.039* (0.021)	-0.029 (0.022)
Family Income		0.001 (0.001)	0.001 (0.001)	0.001 (0.001)		0.004** (0.002)	0.003* (0.002)	0.003* (0.002)		0.003* (0.002)	0.003 (0.002)	0.001 (0.002)
Parent Age		-0.003** (0.001)	-0.002** (0.001)	-0.003** (0.001)		0.002 (0.002)	0.003 (0.002)	0.003 (0.002)		0.001 (0.002)	0.002 (0.002)	0.001 (0.002)
PVT Score		0.001 (0.001)	0.001 (0.001)	0.001 (0.001)		0.001* (0.001)	0.002* (0.001)	0.001 (0.001)		0.002*** (0.001)	0.002*** (0.001)	0.002** (0.001)
College Exp		0.008 (0.010)	0.014 (0.010)	0.010 (0.010)		-0.009 (0.014)	-0.005 (0.013)	-0.011 (0.014)		0.000 (0.011)	0.007 (0.011)	0.004 (0.012)
English Grade		-0.033*** (0.011)	-0.022** (0.010)	-0.024** (0.011)		0.012 (0.014)	0.019 (0.014)	0.016 (0.015)		-0.025** (0.012)	-0.011 (0.011)	-0.012 (0.011)

Science Grade		-0.020**	-0.012	-0.013		-0.011	-0.004	-0.002		-0.022**	-0.010	-0.001
		(0.009)	(0.009)	(0.010)		(0.011)	(0.012)	(0.012)		(0.010)	(0.010)	(0.011)
History Grade		-0.016	-0.014	-0.016		-0.009	-0.007	-0.003		0.001	0.002	0.003
		(0.010)	(0.010)	(0.010)		(0.014)	(0.013)	(0.014)		(0.013)	(0.012)	(0.013)
Constant	0.130***	0.531***	0.426**	0.344*	0.511***	0.442	0.369	0.479*	0.199***	0.641***	0.525**	0.411*
	(0.010)	(0.170)	(0.171)	(0.183)	(0.019)	(0.273)	(0.266)	(0.281)	(0.012)	(0.238)	(0.234)	(0.243)
Observations	2707	2707	2707	2707	2710	2710	2710	2710	2714	2714	2714	2714
R-squared	0.006	0.047	0.082	0.151	0.009	0.088	0.115	0.170	0.000	0.035	0.081	0.132

Notes: See Appendix Table 2.

Appendix Table 9
The Effects of College Quality on Post-College Weight Behaviors—Sample of Non-Students at Wave 4

Outcome	BMI	BMI	BMI	BMI	Obesity	Obesity	Obesity	Obesity
Specification	Unadj	Xs	Xs	Xs	Unadj	Xs	Xs	Xs
Fixed Effects	None	None	None	School	None	None	None	School
Competitive College	-1.943*** (0.282)	-1.025*** (0.286)	-0.620** (0.265)	-0.407 (0.327)	-0.121*** (0.019)	-0.070*** (0.021)	-0.052*** (0.019)	-0.038 (0.024)
Age		0.379* (0.210)	0.220 (0.213)	0.084 (0.231)		0.007 (0.015)	0.001 (0.015)	-0.009 (0.017)
Obese			13.136*** (0.678)	12.922*** (0.688)			0.573*** (0.024)	0.555*** (0.027)
Smoke			-0.468 (0.337)	-0.296 (0.350)			-0.037 (0.027)	-0.028 (0.027)
Binge			-0.300 (0.356)	-0.424 (0.375)			0.014 (0.031)	0.010 (0.033)
Marijuana			-0.708 (0.495)	-0.520 (0.516)			-0.044 (0.031)	-0.026 (0.032)
Had Sex			0.477 (0.351)	0.442 (0.398)			-0.011 (0.024)	-0.018 (0.025)
SRHS			0.654*** (0.145)	0.625*** (0.150)			0.042*** (0.010)	0.041*** (0.011)
Male		0.583** (0.286)	0.698*** (0.265)	0.745*** (0.282)		0.020 (0.019)	0.026 (0.019)	0.031 (0.019)
Black		2.477*** (0.384)	1.737*** (0.332)	1.596*** (0.461)		0.137*** (0.027)	0.111*** (0.024)	0.090*** (0.032)
Hispanic		0.676 (0.433)	-0.212 (0.399)	-0.268 (0.526)		0.012 (0.029)	-0.030 (0.027)	-0.022 (0.039)
Other Race		-1.061* (0.615)	-1.451*** (0.474)	-1.540*** (0.459)		-0.069** (0.028)	-0.091*** (0.025)	-0.080*** (0.030)
Maternal Education		-0.063 (0.070)	-0.105* (0.057)	-0.094 (0.062)		-0.008* (0.005)	-0.010** (0.005)	-0.009* (0.005)

Married Parents		0.283 (0.351)	0.367 (0.323)	0.204 (0.339)		0.006 (0.022)	0.010 (0.021)	0.002 (0.023)
Family Income		-0.089*** (0.030)	-0.063** (0.026)	-0.044 (0.028)		-0.003 (0.002)	-0.002 (0.002)	-0.001 (0.002)
Parent Age		-0.050** (0.020)	-0.048** (0.019)	-0.036* (0.021)		-0.004** (0.002)	-0.004** (0.002)	-0.003* (0.002)
PVT Score		0.027** (0.012)	0.021** (0.010)	0.035*** (0.010)		0.002** (0.001)	0.001* (0.001)	0.002*** (0.001)
College Exp		-0.192 (0.190)	-0.090 (0.176)	-0.030 (0.174)		-0.012 (0.012)	-0.007 (0.012)	-0.002 (0.012)
English Grade		-0.029 (0.195)	0.046 (0.187)	0.031 (0.198)		-0.004 (0.013)	-0.003 (0.013)	-0.004 (0.014)
Science Grade		-0.349** (0.155)	-0.294** (0.141)	-0.394*** (0.143)		-0.016 (0.012)	-0.013 (0.012)	-0.021 (0.013)
History Grade		-0.765*** (0.207)	-0.728*** (0.183)	-0.769*** (0.190)		-0.036*** (0.013)	-0.032*** (0.012)	-0.038*** (0.012)
Constant	28.460*** (0.195)	27.465*** (3.353)	27.837*** (3.323)	27.372*** (3.559)	0.348*** (0.011)	0.294 (0.226)	0.343 (0.212)	0.399* (0.224)
Observations	2681	2681	2681	2681	3622	3450	3351	3351
R-squared	0.012	0.067	0.242	0.290	0.012	0.044	0.124	0.167

Notes: See Appendix Table 2.

Appendix Table 10
The Effects of College Quality on Post-College Weight Behaviors—Sample of Non-Students at Wave 4

Outcome Specification	Fast Food Unadj	Fast Food Xs	Fast Food Xs	Fast Food Xs	Exercise Unadj	Exercise Xs	Exercise Xs	Exercise Xs
Fixed Effects	None	None	None	School	None	None	None	School
Competitive College	-0.100*** (0.026)	-0.057** (0.025)	-0.056** (0.025)	-0.010 (0.027)	0.045** (0.019)	0.011 (0.020)	0.008 (0.021)	0.023 (0.021)
Age		0.030* (0.016)	0.029* (0.016)	0.021 (0.016)		-0.004 (0.016)	-0.004 (0.016)	0.001 (0.016)
Obese			0.025 (0.029)	0.029 (0.030)			-0.040 (0.045)	-0.034 (0.046)
Smoke			0.027 (0.027)	0.012 (0.027)			-0.052** (0.022)	-0.042* (0.023)
Binge			-0.059*** (0.022)	-0.051** (0.023)			0.058** (0.026)	0.058** (0.027)
Marijuana			-0.058* (0.033)	-0.038 (0.033)			-0.024 (0.035)	-0.046 (0.038)
Had Sex			0.045* (0.024)	0.020 (0.023)			-0.002 (0.021)	-0.001 (0.022)
SRHS			0.015 (0.009)	0.016 (0.010)			-0.019** (0.008)	-0.022** (0.009)
Male		0.077*** (0.019)	0.083*** (0.019)	0.070*** (0.019)		0.106*** (0.019)	0.099*** (0.020)	0.097*** (0.020)
Black		0.141*** (0.026)	0.128*** (0.027)	0.093*** (0.035)		-0.067** (0.027)	-0.069*** (0.026)	-0.076** (0.033)
Hispanic		0.043 (0.031)	0.038 (0.031)	0.039 (0.034)		-0.011 (0.023)	-0.010 (0.023)	0.011 (0.027)
Other Race		-0.004 (0.044)	-0.008 (0.043)	-0.013 (0.047)		-0.009 (0.031)	-0.006 (0.031)	-0.032 (0.035)
Maternal Education		-0.005 (0.004)	-0.005 (0.004)	-0.004 (0.004)		0.001 (0.004)	0.001 (0.004)	-0.000 (0.004)

Married Parents	0.006	0.007	-0.003		0.008	0.005	-0.003
	(0.024)	(0.025)	(0.025)		(0.021)	(0.020)	(0.022)
Family Income	-0.000	0.000	0.004		0.003**	0.003**	0.003*
	(0.002)	(0.002)	(0.002)		(0.001)	(0.001)	(0.002)
Parent Age	-0.003**	-0.003*	-0.002		0.002	0.002	0.002
	(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.002)
PVT Score	-0.001	-0.001	-0.000		-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)		(0.001)	(0.001)	(0.001)
College Exp	-0.024*	-0.021*	-0.020*		0.007	0.004	0.001
	(0.012)	(0.012)	(0.012)		(0.012)	(0.012)	(0.013)
English Grade	0.003	0.003	-0.001		0.031**	0.028**	0.026*
	(0.012)	(0.012)	(0.013)		(0.014)	(0.014)	(0.015)
Science Grade	-0.002	-0.002	-0.021*		-0.009	-0.012	-0.010
	(0.011)	(0.011)	(0.011)		(0.011)	(0.011)	(0.012)
History Grade	-0.002	-0.001	-0.015		0.019	0.016	0.018
	(0.012)	(0.012)	(0.014)		(0.013)	(0.013)	(0.014)
Constant	0.742***	0.673***	0.631***	0.677***	0.773***	0.564**	0.646***
	(0.017)	(0.238)	(0.229)	(0.218)	(0.011)	(0.237)	(0.241)
Observations	2714	2714	2714	2714	2714	2714	2714
R-squared	0.008	0.041	0.046	0.150	0.002	0.033	0.038
							0.105

Notes: See Appendix Table 2.

Appendix Table 11
Effects of College Quality on Post-College Substance Use Behaviors: Mechanisms—Non-Students at Wave 4

	Smoke			Binge			Marijuana		
Competitive College	-0.041** (0.016)	-0.030* (0.016)	-0.033** (0.016)	0.063** (0.026)	0.059** (0.027)	0.047* (0.026)	-0.026 (0.023)	-0.016 (0.024)	-0.026 (0.024)
Test Score Wave 3	-0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Completed Education		-0.021*** (0.005)	-0.020*** (0.005)		0.000 (0.007)	0.001 (0.006)		-0.018*** (0.006)	-0.017*** (0.005)
Earnings Wave 4		-0.001 (0.001)	-0.001 (0.001)		0.004** (0.002)	0.005** (0.002)		-0.001 (0.002)	-0.001 (0.002)
Ever Married Wave 4			-0.048*** (0.015)			-0.164*** (0.018)			-0.144*** (0.016)
Missing W3	-0.072* (0.043)	-0.080* (0.042)	-0.077* (0.041)	0.000 (0.067)	-0.001 (0.066)	0.007 (0.066)	-0.032 (0.052)	-0.040 (0.052)	-0.034 (0.050)
Missing W4		0.019 (0.039)	0.016 (0.039)		-0.006 (0.056)	-0.016 (0.054)		0.014 (0.054)	0.005 (0.051)
Constant	0.355* (0.191)	0.544*** (0.199)	0.555*** (0.199)	0.418 (0.289)	0.435 (0.301)	0.470 (0.290)	0.463* (0.237)	0.633** (0.247)	0.665*** (0.238)
Observations	2707	2707	2707	2710	2710	2710	2714	2714	2714
R-squared	0.152	0.161	0.166	0.170	0.171	0.193	0.133	0.137	0.164

Notes: See Table 5.

Appendix Table 12
Effects of College Quality on Post-College Weight Behaviors: Mechanisms—Non-Students at Wave 4

	BMI			Overweight			Obese		
Competitive College	-0.384 (0.329)	-0.240 (0.332)	-0.253 (0.333)	-0.060** (0.026)	-0.056** (0.026)	-0.057** (0.026)	-0.036 (0.024)	-0.029 (0.024)	-0.029 (0.024)
Test Score Wave 3	-0.007 (0.011)	-0.004 (0.011)	-0.003 (0.011)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Completed Education		-0.266*** (0.085)	-0.264*** (0.085)		-0.009 (0.006)	-0.009 (0.006)		-0.012* (0.007)	-0.012* (0.007)
Earnings Wave 4		-0.005 (0.023)	-0.005 (0.023)		-0.003** (0.002)	-0.003* (0.002)		-0.000 (0.002)	-0.000 (0.002)
Ever Married Wave 4			-0.196 (0.278)			0.021 (0.019)			0.002 (0.019)
	0.755 (1.000)	0.676 (1.004)	0.686 (1.003)	0.015 (0.061)	0.014 (0.060)	0.013 (0.060)	0.064 (0.082)	0.060 (0.082)	0.060 (0.082)
		-0.323 (0.792)	-0.335 (0.790)		-0.053 (0.050)	-0.052 (0.050)		0.003 (0.056)	0.003 (0.056)
Constant	27.752*** (3.623)	30.289*** (3.636)	30.342*** (3.642)	0.488** (0.264)	0.587** (0.262)	0.581** (0.263)	0.554** (0.279)	0.668** (0.282)	0.668** (0.282)
Observations	2681	2681	2681	2681	2681	2681	2681	2681	2681
R-squared	0.290	0.293	0.293	0.146	0.178	0.178	0.177	0.178	0.178

Notes: See Table 5.

Appendix Table 13
Effects of College Quality on Post-College Weight Behaviors: Mechanisms—Non-Students at Wave 4

	Fast Food				Exercise			
Competitive College	-0.008 (0.027)	0.003 (0.027)	0.003 (0.028)	0.003 (0.027)	0.021 (0.021)	0.012 (0.021)	0.009 (0.021)	0.008 (0.021)
Test Score Wave 3	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Completed Education		-0.020*** (0.006)	-0.020*** (0.006)	-0.020*** (0.006)		0.016*** (0.006)	0.015** (0.006)	0.015** (0.006)
Earnings Wave 4			0.000 (0.002)	0.000 (0.002)			0.005*** (0.001)	0.005*** (0.001)
Ever Married Wave 4				-0.000 (0.021)				-0.019 (0.017)
	0.007 (0.065)	0.001 (0.065)	0.001 (0.064)	0.001 (0.065)	-0.063 (0.063)	-0.056 (0.062)	-0.058 (0.062)	-0.057 (0.063)
		-0.077 (0.056)	-0.077 (0.056)	-0.077 (0.056)		-0.009 (0.048)	-0.006 (0.048)	-0.007 (0.048)
Constant	0.738*** (0.227)	0.935*** (0.235)	0.935*** (0.234)	0.935*** (0.234)	0.567** (0.254)	0.418 (0.257)	0.446* (0.258)	0.450* (0.259)
Observations	2714	2714	2714	2714	2714	2714	2714	2714
R-squared	0.150	0.155	0.155	0.155	0.106	0.109	0.111	0.112

Notes: See Table 5.

Appendix Table 14
Trimmed Matching Estimates

Sample Method	Nearest Neighbor	Trim (0.1,0.9) Stratification	Kernel	Nearest Neighbor	Trim(0.33,0.67) Stratification	Kernel
Smoke Wave 3	-0.07 [0.021]	-0.085 [0.024]	-0.088 [0.022]	-0.074 [0.041]	-0.095 [0.040]	-0.01 [0.034]
N	2518			692		
Smoke Wave 4	-0.04 [0.017]	-0.052 [0.023]	-0.045 [0.016]	-0.01 [0.030]	-0.03 [0.041]	-0.015 [0.024]
N	2203			594		
Overweight Wave 3	-0.031 [0.026]	-0.035 [0.029]	-0.039 [0.023]	-0.066 [0.050]	-0.072 [0.043]	-0.07 [0.040]
N	2420			652		
Overweight Wave 4	-0.044 [0.028]	-0.041 [0.037]	-0.055 [0.028]	-0.035 [0.053]	-0.027 [0.061]	-0.035 [0.050]
N	2177			579		
Obese Wave 3	-0.046 [0.018]	-0.063 [0.022]	-0.059 [0.020]	-0.084 [0.036]	-0.122 [0.04]	-0.111 [0.032]
N	2420			652		
Obese Wave 4	-0.048 [0.023]	-0.065 [0.024]	-0.075 [0.026]	-0.073 [0.044]	-0.073 [0.037]	-0.092 [0.043]
N	2083			579		
BMI Wave 3	-0.53 [0.24]	-0.77 [0.35]	-0.76 [0.29]	-1.11 [0.48]	-1.5 [0.48]	-1.4 [0.48]
N	2420			652		
BMI Wave 4	-0.8 [0.33]	-1.00 [0.38]	-1.16 [0.37]	-1.48 [0.64]	-1.25 [0.58]	-1.4 [0.54]
N	2177			579		
Smoke Wave 3	-0.07 [0.021]	-0.085 [0.024]	-0.088 [0.022]	-0.074 [0.041]	-0.095 [0.040]	-0.01 [0.034]
N	2518			692		
Smoke Wave 4	-0.04 [0.017]	-0.052 [0.023]	-0.045 [0.016]	-0.01 [0.030]	-0.03 [0.041]	-0.015 [0.024]
N	2203			594		
Overweight Wave 3	-0.031	-0.035	-0.039	-0.066	-0.072	-0.07

	[0.026]	[0.029]	[0.023]	[0.050]	[0.043]	[0.040]
N	2420			652		
Overweight Wave 4	-0.044	-0.041	-0.055	-0.035	-0.027	-0.035
	[0.028]	[0.037]	[0.028]	[0.053]	[0.061]	[0.050]
N	2177			579		