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Overweight and Obesity and Romantic Relationship Racial Composition among White Dating, Cohabiting, and Married Young Adults

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Author :

Lucia Lykke
University of Maryland

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Lucia C. Lykke

Abstract

Romantic relationships, particularly marriage, and to a lesser extent, cohabitation, are generally protective of physical and mental health. However, despite this protective effect on health, romantic relationships are actually associated with higher body mass index (BMI). Further, this relationship varies by race and ethnicity, though the existing literature is scarce. This study extends the current research on relationships, BMI, and race/ethnicity by examining the association between being overweight and obese with partner race/ethnicity among White young adults. I also examine to what extent this association is due to selection on weight status into new relationships versus differences in weight change over time in existing relationships. Data come from the National Longitudinal Study of Adolescent to Adult Health. I find a positive association between being overweight or obese and having a Black and Hispanic partner for non-Hispanic White women. Moreover, I find evidence that overweight/obese White women are more likely to select into new partnerships with Black partners. I also find differences in weight change over time, such that White women with Black partners are more likely to become overweight or obese over time compared to White women with White partners. I do not find statistically significant associations between partner race and weight status for White men. I interpret these findings on the associations between partner race/ethnicity and BMI as evidence for gendered standards of beauty that are particularly oppressive for overweight and obese women and also as consistent with social exchange theories of exogamous partnering.

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Introduction

The relationship between romantic partnerships and health is generally considered a protective one, especially for married individuals (Waite and Gallagher 2000). Several explanations are offered for the associations between partnership status and health outcomes, and the explanation usually boil down to the issue of selection versus causation (House, Umberson, and Landis 1988; Koball, Moiduddin, Henderson, Goesling, and Besculides 2010) – that is, are healthy people more likely to marry or be in partnerships, or do romantic partnerships, particularly marriage, encourage better health, by promoting better health behaviors, providing social support, and offering economic advantages? (Umberson 1992; Umberson et al. 2010).

However, despite the protective effects that social support from romantic relationships provides for many types of health outcomes, relationships are generally found to be associated with higher body mass index (BMI), particularly marriage (Mata, Frank and Hertwig 2015; Schoenborn 2004; Teachman 2016). There is debate in the literature over whether selection effects, particularly assortative mating, are responsible for the association between partnership status and BMI, or whether aspects of partnerships cause increases in BMI (The and Gordon-Larsen 2009). Whatever the explanation, the research on partnerships and BMI, particularly marriage, strongly suggests that partnerships have important implications for individuals' weight status.

Prior research has begun to chip away at how marital status affects BMI for different racial and ethnic groups, but several major gaps remain. The existing research focuses largely on marriage, despite the fact that marriage's impact on health may be lessening as the meaning of marriage changes over time and growing numbers of people have never married or choose cohabitation over marriage (U.S. Census Bureau 2015; Liu and Umberson 2008; Wang and

Parker 2014). Second, although current research has started to account for the differential effects of marriage on different racial and ethnic groups, there is virtually no peer-reviewed research to date on the interplay of exogamous vs. endogamous relationships, including dating, cohabitation, and marriage, with weight status. We know that body weight and overweight/obesity are stratified by race, ethnicity and gender, and by relationship status (Sobal, Hanson, and Frongillo 2009; Shafer 2010), and that relationship status differentially affects men and women's health across various outcomes. Yet we do not know how the racial and ethnic composition of romantic relationships is associated with weight, if at all. I draw on theoretical literature on racialized and gendered standards of beauty that argues that beauty standards related to weight are particularly restrictive for White women, and nonwhites may have less restrictive standards for partners' weight, to frame this association between interracial relationships and weight. I also draw on status exchange theories of interracial relationships (Davis 1941; Fu 2001; Gullickson 2006), arguing that weight may represent another marker of status that affects how people partner endogamously versus exogamously. To do this, I use data from multiple waves of the National Longitudinal Study of Adolescent to Adult Health (Add Health) to examine the association between relationship racial composition and overweight/obese weight status for White young men and women.

Literature Review

Theoretical Frameworks: Selection and Causation in the BMI-Partnership Association

The existing literature on romantic partnerships and BMI points overwhelmingly to one general finding: people in relationships, particularly married people, are heavier than people who are single (particularly never-married) or divorced. However, there is debate in the literature over why this association exists, particularly regarding the issue of selection vs. causality – that is, are

heavier people more likely to be in romantic relationships, or do relationships themselves cause increases in body weight and increased risk of overweight and obesity?

The first explanation typically offered for the association between partnerships and health is selection – that is, people who are healthier are more likely to be married or in romantic relationships because they are more desirable as partners and better suited to maintaining a stable relationship (Lillard and Panis 1996).

However, although a selection hypothesis may make sense for when explaining the relationship between marriage and some health outcomes (e.g., married people are less likely to die, which is in part due to the fact that healthy people are more likely to get married [Lillard and Panis 1996]), a selection hypothesis does not satisfactorily explain the relationship between relationships and BMI in terms of explaining why people in relationships have higher BMI. In fact, a selection hypothesis would predict that the most desirable partners, in terms of health and attractiveness, are most likely to be in relationships, particularly marriage (because marriage partners are presumably selected most stringently compared to dating or cohabitation partners) – therefore, we would expect marriage and other relationships to be inversely related to higher BMI. Most research does not support this hypothesis: cross-sectional studies examining marital status and BMI generally show that married people have higher BMI than single people (Mata, Frank, and Hertwig 2015; Schoenborn 2004; Sobal et al. 2009; Sobal et al. 1992; Teachman 2016).

Overall, the reality is that overweight and obese people are selected *out* of romantic relationships, including dating, cohabiting, and marriage. Overweight and obese individuals are stigmatized in marriage and dating markets, especially for women (particularly White women) (for a review, see Puhl and Heuer 2009). The dating penalty for obese women is particularly

strong Among college-aged women, overweight women are less likely than normal-weight women to date (Sheets and Ajmere 2005). Penalties continue from adolescence to adulthood: girls and boys who are overweight in adolescence are less likely to be married at a seven year follow up (Gortmaker et al. 1993). Obese individuals have lower marriage rates than their healthier-weight counterparts (Fu and Goldman 1996). Indeed, obesity is associated with a 16% lower likelihood of marriage for women (Conley and Glauber 2006), and thinner women are more likely to be selected into both cohabiting and marital relationships. Men, on the other hand, were not less likely to be selected into relationships based on heavy weight (Averett et al. 2008).

On the other hand, there is a wealth of research that indicates that romantic partnerships themselves, particularly marriage, have a causal relationship with various health outcomes. AA growing body of literature provides evidence that relationships cause increases in body weight for men and women, which seems to contradict the idea that people with the greater social support, financial resources, and behavior regulation of marriage and other types of relationships should be healthier. A recent study, using data from the 1979 National Longitudinal Survey of Youth, found that marriage is associated with an increased risk of overweight and obesity for both men and women. (Averett et al. 2008). Another study, using waves 2 and 3 from the National Longitudinal Survey of Adolescent Health (Add Health) found that transitioning from being single or just dating to cohabitation or marriage was associated with increased odds of obesity; further, longer duration of living with a romantic partner was associated with obesity for both men and women (The and Gordon-Larsen 2009). In an Australian sample of young adults, cohabitation was associated with increases in BMI and sedentary behavior for men and women (Burke et al. 2004).

Further, the existing research indicates that transitioning into relationships may be a primary driving factor in the relationship-BMI association (Umberson et al. 2009). Jeffery and Rick (2002) found that those who married during a longitudinal study conducted in Minnesota gained weight, while those who divorced lost weight; another study using the US National Health and Nutrition Epidemiological Follow-up Survey (NHEFS) found that women who married gained more weight than those who remained consistently married (Sobal et al. 2003).

Several explanations have been offered to explain the seemingly paradoxical association between marriage and cohabitation, and increased BMI. One explanation has been dubbed the "marriage market hypothesis," and posits that people consider maintaining a healthy and attractive weight important when searching for a partner, but once people feel that they are "off" the marriage market, they no longer value maintaining their weight and thus feel freer to gain weight. Further, the fact that marriage has a stronger effect on weight gain than cohabitation can be interpreted as evidence that the more serious the commitment, the more likely partners are to consider themselves removed from the marriage market and thus "let themselves go" (Averett et al. 2008).

Another explanation offered in the literature revolves around the influence of behavioral changes and shared lifestyle and environment for cohabiting and married couples (The and Gordon-Larsen 2009). A "spousal obligation" hypothesis asserts that spousal role obligations encourage married and cohabiting people to cook and eat together (Averett et al. 2008; Sobal et al. 2003); for example, married people exercise less (Nomaguchi and Bianchi 2004) and cohabiting is linked to negative dietary changes (Burke et al. 2004). .

Race/Ethnicity, Partnership, and BMI

Race and ethnicity are linked to both the likelihood of marrying and cohabiting, and the likelihood of being overweight and obese, yet to date, there is not a robust literature on how relationships and race/ethnicity intersect to affect BMI (Shafer 2010). Further, there is no study to date that has examined how the racial composition of romantic partnerships and BMI are related.

Several studies have found evidence that the effect of cohabitation and marriage on body weight differs by race and ethnicity, though this remains an under-researched topic. Using the National Longitudinal Survey of Youth (1979 cohort), Schafer (2010) posited that a preference for women with heavier body types among Black Americans may interact with the effect of marriage on weight gain. The results of this study showed that marriage is associated with increases in BMI regardless of race and gender, and cohabitation is associated with a smaller increase in BMI for men only. Black women were especially affected by marriage – marriage increased the likelihood of becoming obese for Black women. Another recent study using Add Health waves 1 and 3 examined links between early marriage and cohabitation (that is, marriage and cohabitation in the early 20s) and BMI, finding that marriage (not cohabitation) was associated with higher weight for Black men and women, as well as White women (not White men), when controlling for weight in adolescence (Harris et al. 2010).

Theoretical Frameworks: Interracial Relationships and BMI

The empirical findings that point to variation by race/ethnicity in the association between romantic relationships and BMI beg the question of whether the racial and ethnic composition of relationships might also affect BMI. Three theoretical frameworks lend support to the notion that

endogamous vs. exogamous relationships might be associated with BMI: gendered and racialized standards of beauty, status exchange theory, and stress theory.

Research on body type preference and partner selection and race supports the notion that there are racial and ethnic differences in partnering that could lead to variation in the partnership-BMI association by race and ethnicity, creating a selection effect. Evidence on body type preferences indicates that Black Americans are more accepting of heavier body types than White Americans are when considering potential partners. Studies have shown that Black men prefer larger body types for women and associate fewer unfavorable characteristics with obese women compared to White men; the effect is similar for Black women compared to White women, though smaller in magnitude (Jackson and McGill 1996). More recently, among Internet daters, White men and women preferred thinner body types than their non-White counterparts, and White men in particular were found to value thinner partners compared to Black and Hispanic men (Glasser et al. 2009). This race difference holds for ideal body types as well – as early as adolescence, Black adolescent boys select heavier bodies as ideal compared to White adolescent boys (Thompson et al. 1996).

These preferences translate into actual relationship consequences on the basis of body size, and the evidence suggests that overall, overweight and obese White women are most heavily penalized on the dating and marriage market for their weight. Starting in adolescence, obese White girls are less likely to date or engage in sexual behavior compared to their normal weight counterparts, whereas Black adolescent girls do not differ in their likelihood of dating or engaging in sexual behavior by weight (Ali et al. 2014). In adulthood, although both Black and White obese women have lower probabilities of marrying than their non-obese counterparts, the effect is smaller for Black women (Averett and Korenman 1999). Further, different cultural

preferences for body types between racial and ethnic groups could affect not only selection into relationships, but also how relationships affect BMI trajectories over time. For example, if nonwhite individuals are more accepting of heavier body types, and people who perceive themselves as "off" the dating or marriage market are less likely to worry about maintaining a lower weight (in keeping with a "marriage market hypothesis" [Averett et al. 2008]), these two factors could interact such that White individuals in interracial relationships might be more prone to weight gain than White individuals in same-race relationships. Second, we know from a limited body of prior research that perceived and actual spouse and sexual partner evaluations affect one's body image and body satisfaction (Miller 2001; Ogden and Taylor 2000; Pole et al. 2004), demonstrating that romantic partners are a salient source of understanding one's own weight, therefore possibly affecting one's actual weight.

Interracial relationships can be seen as evidence of expanding racial boundaries for some groups, particularly Hispanics and Asians (Miyawaki 2015; Qian and Lichter 2007), and are on the rise as the U.S. becomes more racially and ethnically diverse, particularly as the biracial and multiracial population grows (Qian and Lichter 2007, 2011). However, previous research has shown that couples' racial composition is associated with relationship instability, stress, disapproval from others, and adverse mental and physical health outcomes (Bratter and King 2008; Bratter and Eschbach 2006; Joyner and Kao 2005; Kroeger and Williams 2011; Miller 2014; Miller and Kail 2016; Wang et al. 2006), which may in turn affect BMI outcomes. One study found that among Add Health respondents, interracial relationships are of shorter duration than same-race relationships and less likely to result in cohabitation or marriage (Kroeger-D'Souza 2010). Other studies using Add Health data have found that adolescents who date across racial and ethnic lines are associated are more likely to exhibit depressive symptoms

(Miller 2014) and nonblack young adults with Black partners report more depressive symptoms than nonblack young adults with nonblack partners (Kroeger and Williams 2011). Further, White women and Hispanic men and women with cross-race spouses report higher distress (Bratter and Eschbach 2006). Whites in interracial and inter-ethnic relationships report lower self-rated health (Miller and Kail 2016). These findings from studies on the health of Whites[1] in interracial and inter-ethnic partnerships indicate that indeed, exogamous relationships may be more prone to stress and thus less protective of health. However, research has not examined the association between racial composition of couples and other health outcomes such as BMI. Many studies in the medical literature on obesity indicates that stress, particularly chronic stress, is associated with weight gain, possibly because stress activates a neural response that increases the motivation to consume unhealthy "comfort" food and also promotes insulin secretion (Dallman 2010; Dallman et al. 2003). Thus, it is reasonable to posit that interracial relationships, being more stressful and prone to stigma than endogamous ones for Whites specifically, could cause weight gain in the long term.

Status exchange theory is often cited (Davis 1941; Fu 2001; Gullickson 2006) as one explanation for interracial pairings: in order to marry a partner with higher racial status (i.e., someone White), racial minorities must have higher status in the form of socioeconomic status. There is empirical support for this: higher socioeconomic status Blacks and Hispanics are more likely to marry Whites, especially in Black male/White female unions (Fu 2001; Gullickson 2006; Torche and Rich 2016). It may be the case that body weight, as one facet of physical

[1]Conversely, there is evidence that stress theory may not adequately address the effect of interracial and inter-ethnic relationships on nonwhites, given that having a White spouse is correlated with better self-rated health for nonwhites (Miller and Kail 2016). Regardless, because this study is limited to Whites, I draw primarily on prior findings that support the idea that exogamous relationships are stressful and therefore adversely associated with health outcomes for Whites.

attractiveness, acts as an additional marker of status that may be exchanged for a White partner. Following the theoretical and empirical insights on racialized and gendered standards of body size for women outlined above, it may be that heavier White women are considered lower status on dating and marriage markets by White men, who prefer thinner partners. Research has found that this is true for heavier women in terms of exchanging weight for partner socioeconomic status: women's weight is negatively correlated with their husband's income (Oreffice and Quintana-Domeque 2010), providing evidence that indeed, body weight may be a status marker on dating and marriage markets, especially for women. Similarly, overweight and obese White women may select into relationships with nonwhite partners because their lower "body status" shuts them out of partnerships with White men.

Research Questions

This study answers the following research questions.

1. What, if any, is the association between the racial composition of married, cohabiting, and dating relationships and being overweight/obese for White young adults?
2. What is the evidence for selection vs. causation processes in the association between the racial/ethnic composition of married, cohabiting, and dating relationships and overweight/obesity in young adulthood?
    a. Does overweight/obesity prior to entering a new romantic relationship affect the likelihood of partnering with a same- or different-race/ethnicity partner for Whites?
    b. Does the racial composition of marriage, cohabiting, and dating relationships affect change in weight and the likelihood of becoming overweight/obese over time?

3. Does the association between partner race and overweight/obesity among White men and women vary by gender?

Data and Methods

Data

To draw conclusions about the population of the U.S. who were enrolled in middle and high school in the mid-1990s, I use data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), focusing on weight outcomes in waves 3 and 4. Add Health is a nationally representative, longitudinal study of adolescents who were enrolled in 7th through 12th grade in the 1994-5 school year (Chen and Chantala 2014; Harris 2013). The sampling design is clustered by school., At Wave 1 adolescents were sampled from the enrollment rosters for the schools in the sample to participate in the in-home interview portion of the study, stratified by grade and sex. Black adolescents with highly educated parents were oversampled. In-home interviews were conducted in 1995 (Wave 1), 1996 (Wave 2), 2001 (Wave 3), and 2008 (Wave 4). The core in-home sample includes 12,105 respondents (Chen and Chantala 2014).

Analytic Sample

The analytic sample for this study is drawn from Wave 3 and Wave 4 in-home sample respondents who reported being in a current relationship at the time of the interviews in 2001 (W3) and 2008 (W4). Because the sample sizes are very small for nonwhites partnered with other nonwhites of different races, I restrict the analytic sample only to White men and women who report having Hispanic, Black, Asian, and White partners. At each wave, respondents were asked to list their past and present romantic relationships. From the respondents who listed any relationships, I selected only those respondents that reported that a relationship (of any type,

including dating, married, and cohabiting) was current, who indicated that they were currently married, or that indicated they were currently cohabiting with a romantic partner at each wave. Appendix Table 1 shows the sample sizes for each partnership racial composition, by gender. Sample sizes are particularly small for relationships between non-Whites with other non-White partners, such as Asians and Blacks. However, there is sufficient sample size to examine Whites who partner exogamously with each racial and ethnic group separately. Only for White men with Black women partners are there fewer than 100 cases.

Based on this initial current relationship sample, I constructed three data sets for the three steps of the analysis (described below). First, I constructed a person-wave data set for the *cross-sectional* analysis. This data set pools White respondents in current relationships at Wave 3 and White respondents in current relationships at Wave 4. Those with a current relationship in both waves contribute two person-wave observations to the data set. The analytic sample consists of those respondents who are not pregnant and in opposite-sex relationships only, who identify as White and identify their partners as White, Black, Hispanic, or Asian and who are not missing data on any analysis variables (age, education, household roster variables, living arrangement, skin tone, nativity, duration of the current relationship, and BMI reported at wave). The resulting sample consists of 3,897 White male and 5,034 White female person-wave observations.

Second, I constructed a person-wave data set for the *selection* analysis that reflects White men and women who report current relationships with new partners since the prior observation. To construct this sample, I compared the year that respondents reported their relationships starting to the year they were last interviewed, and only kept those respondents whose relationship durations indicated they entered the relationship after the prior wave of data collection. This sample consists of 3,123 White male and 3,798 White female person-wave

observations. In all analyses of the cross-sectional and selection samples, statistical tests and standard errors are adjusted for clustering within individual.

Third, I constructed a person-level data set for the *BMI change* analysis that reflects White men and women who report current relationships with the same partner at both Waves 3 and 4. Unfortunately, one limitation of the Add Health data is the inability to directly link Wave 3 relationships to relationships reported at Wave 4 (by, for example, a unique partner ID number).. I therefore use age, race, and gender as proxies for determining whether a partner changed between waves 3 and 4. I compared partner age at Wave 3 with the expected age of that partner at Wave 4 based on the length of time elapsed between interviews. If the Wave 4 partner matched the Wave 3 partner on race, gender, and expected age (plus or minus one year, to adjust for the timing of birthdays within the calendar year), I designated that partner as being the same. Of course, it is impossible to know for sure whether the partner was in fact the same person; however, this is the closest I can come to determining partner identity, and at the very least, respondents in this subsample have partners with consistent race/ethnicity and age characteristics over time even if the actual person changed. This sample consists of 703 White men and 1,058 White women.

Key Variables

Body mass index. The key dependent variable in this study is body mass index (BMI), which is equal to weight in kilometers over height in meters squared. BMI is frequently used as a measure of body fat, and high BMI is linked to outcomes including diabetes, cardiovascular disease, cancer, disability, and mortality (Berrington de Gonzalez et al. 2010; Whitlock et al. 2009; Okosun et al. 2001). BMI is also criticized in the literature as not being an ideal proxy for fat mass, although there is an association between fat mass and BMI in subjects (Ahima and Lazar

2013; Muller 2013). However, for the purposes of social science research, height and weight are the most commonly reported variables that allow measurement of respondent body size. Add Health has the advantage of including height and weight as measured by the interviewer, rather than self-reported height and weight, which tends to overestimate BMI at the low end of the BMI scale (BMI <22) and underestimate it at the high end of the scale (BMI>28) (Stommel and Schoenborn 2009). Measured BMI is generally considered a more valid and reliable measure of body weight than self-reported BMI.

For this study, I primarily use BMI as a categorical variable coded as normal weight (coded as 0, BMI is less than 25) and overweight/obese (coded as 1, BMI of greater than or equal to 25), following the Centers for Disease Control classifications (Centers for Disease Control and Prevention 2015). BMI categories have been criticized as arbitrary thresholds (Muller 2013), yet they can be useful when examining change in BMI status over time, including whether individuals transition from one BMI status to another (e.g., Rendall et al. 2012). Additionally, this categorical specification of BMI is most theoretically consistent with the idea that BMI may be associated with relationship outcomes (and vice versa) because BMI is a facet of physical attractiveness, in which normal weight people are more attractive than overweight and obese people.

Race/ethnicity. In my coding of race, I account for both racial and ethnic identification, as Hispanic ethnicity has been found to be an important facet of racial identity (Vaquera and Kao 2006). Race and ethnicity were asked at waves one and three. I use responses from wave one[2] to

[2] Race of the respondent was not asked at waves two or four. Because more respondents at wave four are missing values for race measured at wave three than race measured at wave one, I opted to use race measured at wave 1. Some respondents changed their racial categorization between waves 1 and 3: of the entire Add Health sample observed at waves 1 and 2.5% of respondents changed their race between waves (n=378). Of the Wave 3 current relationship sample, 2.3%

construct a race variable. For the present study, I restrict respondent race to Whites only, including multiracial Whites, due to sample size limitations with respect to exogamous relationships of non-White respondents.

Partner race/ethnicity. Partner race and ethnicity was collected using two questions in the Add health for both waves three and four. It is reported by the Add Health respondent and therefore is not a measure of the partner's self-identified race. Respondents were asked whether their partner was of Hispanic origin, and asked to select one racial category (Black, Asian, Native American, or White) for their partner. For the present study, I restrict partner race to non-Hispanic White, Black, Asian, and Hispanic. I omit White respondents partnered with Native Americans for the present study due to small sample sizes.

Control Variables. *Gender* is coded dichotomous (0=male, 1=female) and was asked at each wave. *Age* is a continuous variable asked at each wave (age range at wave 3 was 18-26, age range at wave 4 was 24-32). *Union type* is a three-category variable to capture whether the respondent is or has been in a marriage, cohabiting, or dating relationship with their current partner. *Educational attainment* is coded as a four-category variable. Note that because of the age range of the sample at Wave 3, many students had not yet had a chance to complete a college degree. Educational attainment is correlated both with lower risk of overweight and obesity (Ailshire and House 2011) and also with a greater likelihood of dating across race for Hispanics in particular (Miyawaki 2015; Qian and Lichter 2007). *Multiracial* identifies respondents who identify with more than one race at Wave 1 (but selected "White" as the race they most identify with)**.** *Biological children* measures whether or not the respondent lives with one or more of their own biological children. Prior research has indicated that having children increases risk of

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changed race between waves and 2.4% of the wave 4 current relationship changed race between waves. I retain these individuals in all analyses.

obesity for men and women (Weng et al. 2004). *Living arrangements* measures whether the respondent reports living in their parents' home, their "own place," or another living arrangement (not specified by Add Health). This variable captures a dimension of the life course transition from living with parents to living on one's own, and may have an impact on how influential a person's partner is for their health. *Skin tone* is interviewer-rated skin tone, measured at Wave 3, measured continuously from 1 (darkest) to 5 (lightest). *Foreign born* is coded 0 for US-born and 1 for born outside of the US. Relationship duration is a continuous variable, measured in years.

Due to the complex sampling design of the Add Health, I use sample weights, school-based clusters, and a post-stratification variable ("region") for descriptive statistics and analyses (Chen and Chantala 2014) with the *BMI change* sample, those respondents observed in a relationship with a partner with stable characteristics from Wave 3 to Wave 4. Because the Wave 3 and 4 pooled samples for the *cross-sectional* and *selection* analyses had more than one observation per person, I use individual-level clustering to adjust standard errors rather than school-based clusters and post-stratification strata.

Data Analysis

The analysis begins with a *cross-sectional* logistic regression model predicting the likelihood of being overweight or obese for Whites by partner race (Hispanic, Black, or Asian). It then is followed by models whose respective purposes are: (1) to estimate the extent that partner race for Whites is determined by one's overweight/obesity status, in a *selection model*; and (2) to estimate the causal effect of partner's race on the likelihood of being overweight/obese and on BMI change (measured continuously), in a *BMI-change* model.

Cross-sectional Model

The first step of the analysis is the *cross-sectional model,* to establish whether there is a statistically significant and substantively significant association between partner race and the likelihood of being overweight or obese for Whites. Formally, I denote being overweight/obese (compared to reference group normal weight) by 0, as noted above as measured as having a BMI of 25 or over. In the cross-sectional model, the probability of being overweight/obese at time t is a function of a main explanatory variable of partnership race *P* at wave t, P_t, and additional explanatory variables specified in vector Z_t. Vector Z_t consists of age, relationship type (married, cohabiting, dating), education level, whether or not the respondent is multiracial at time *t*, whether there are biological children in the household, living arrangement, skin tone, nativity, and relationship duration (in years). Treating the binary overweight/obese vs. normal weight variable O_t as a dichotomous variable, $E[O_t|P_t, Z_t]$ is estimated by logistic regression, representing the expectation as a logistic function *F* as follows:

$$E[O_t|P_t, Z_t] = F(\beta_0+\beta_1 P_t + \beta_2 Z_t) \qquad (1)$$

In order to ascertain whether or not the effect of each predictor variable on the likelihood of being overweight or obese differed by gender, I also separately estimated models pooled by gender with gender interactions on all covariates.

For this *cross-sectional* model analysis, I used the person-wave dataset of all individuals reporting current relationships at waves 3 and 4, described above. The models were estimated separately for White men and women, for a total of two models. Because the same individual frequently contributes more than one wave of BMI health while partnered, "clustering" of observations within individuals is adjusted for in estimating the standard errors.

BMI-change Model

The second step of the analysis is the "BMI-change" model. The outcome variable is BMI, specified as a binary outcome[3] (normal vs. overweight/obese) and is measured at wave 4. Again, the main explanatory variable is partner race/ethnicity for Whites among those who are partnered with the "same" partner at both waves 3 and 4. The model includes additional explanatory variables age, relationship type (married, cohabiting, dating), education level, multiracial, biological children in the household, living arrangement, skin tone, nativity, and relationship duration in years. However, the objective of the BMI-change model, and therefore the time specification of the outcome variable, is different than for the cross-sectional model. I use what Allison (1990) refers to as the regressor-variable method of estimating at the *change* in the dependent variable, here the likelihood of being overweight or obese, and interpret the results as suggesting a causal impact of partner race on BMI status among individuals in long term relationships with stable partners. The period of time over which BMI change is measured is approximately seven years. The equation used to estimate the effect of partner race on BMI change for Whites is as follows:

$$E[O_{t+1}|P_t, BMI_t, Z_t] = F(\beta_0+\beta_1 P_t + \beta_2 BMI_t + \beta_3 Z_t) \qquad (2)$$

In this equation, the probability of being overweight/obese at time $t+1$ (wave 4) is a logistic function of partner race at time t (wave 3), BMI at time t (measured continuously), and vector Z, which represents the variables described above measured at time t (wave 3). These

[3] I also tested a specification of the BMI-Change model using a continuous BMI outcome variable. This specification did not produce any statistically significant results, suggesting that any association between partner race/ethnicity and BMI is not a general one across all BMI levels, but rather, occurs as a contrast between normal and overweight or obese partners. This is consistent with a theoretical interpretation, discussed above, that considers weight as a facet of attractiveness, in which normal weight partners are considered more attractive and desirable than those who are overweight or obese.

latter variables include relationship type. See Appendix Table 2 for the matrix of Wave 4 relationship type by Wave 3 relationship type.

I estimated the above equation (2) as a logistic regression model. I estimated this equation separately for White men and women, resulting in two models. I additionally estimated the model with pooled genders with gender interactions on all covariates to determine whether the effect of the independent variables measured at time *t* on health at time *t+1* varies by gender. These models are estimated from person-level Add Health data set of respondents who were observed with partners of consistent age, gender, and race/ethnicity from waves 3 to 4 (the "same partner" sample). To account for Add Health's complex sampling design, I use school-based clusters and post-stratification region strata to adjust standard errors.

Selection Model

The "selection model" is designed to investigate to what extent the associations between partner race and being overweight/obese established in the "cross-sectional model" might be attributed to selection processes whereby individuals select into endogamous vs. exogamous relationships on the basis of weight reported before the start of the relationship. I first determined which relationships formed between wave 2 and 3, and wave 3 and 4, respectively, formally denoted above as times *t* (waves 3 and 4) and *t-1* (waves 2 and 3). I then predict partner race of a new cohabiting, dating, or married partner at wave 3 and 4 (time *t)* by weight status approximately seven years prior at waves 2 and 3 (time *t-1).* Note again that the sample used for the selection model pools waves 3 and 4, and thus some individuals who were observed with new partners at both waves 3 and 4 contribute two person-wave observations.

Consider the following BMI selection model into endogamous vs. exogamous relationships for Whites:

$$E[P_t|O_{t-1}, Z_t] = F(\beta_0+\beta_1 O_{t-1} + \beta_2 Z_t) \quad (3)$$

In the above model, the expected value of partner race at time *t* in a newly formed married, dating, or cohabiting partnership is a function of overweight/obesity at time *t – 1* and characteristics Z_t, which represents age, relationship type, education level, multiraciality, biological children in the household, living arrangement, skin tone, foreign born, and relationship duration measured at time *t*. Multinomial logistic regression is used to estimate this model for Hispanic, Black or Asian partners, with non-Hispanic White partner as the base outcome.

However, in the new relationships subsample, missing values occur for BMI observed at time t – 1, and therefore of O_{t-1} in equation 3, for two reasons. First, the Add Health observed sample was smallest at wave 2 compared to all other waves, because the wave 2 follow-up to wave 1 did not include respondents who were no longer in high school at wave 2. Therefore, for respondents in new relationships at wave 3 (based on the length of the relationship – that is, the relationship started after the interview period for wave 2), the wave 2 interview was not administered and therefore interviewer-measured BMI data from wave 2 was not recorded. This is important because Wave 2 BMI was interviewer-measured, shown to be a more valid and reliable way to measure BMI (Stommel and Schoenborn 2009), whereas at Wave 1, BMI is calculated from self-reported weight and height. Therefore, it would not be optimal to substitute Wave 1 BMI for wave 2 BMI for individuals observed in new relationships at Wave 3, due to increased reporting error. Second, BMI data at waves 2 or 3 could be missing at random due to non-response on that particular item.

In order to include a measure of interviewer-measured BMI at the prior observation to help account for possible selection on the basis of health into relationships, I used multiple imputation (MI). That is, for cases where a new relationship was observed at Wave 3, I impute interviewer-measured BMI at Wave 2, and for cases where a new relationship was observed at Wave 4, I impute interviewer-measured BMI at Wave 3. In the imputation equation, I used self-reported BMI from Wave 1, plus interviewer-measured BMI at the current wave (that is, the wave the new relationship is observed) to impute interviewer-measured BMI at the prior wave. More specifically, to impute measured BMI at wave 2 to use to predict partner race at Wave 3, I used Wave 1 self-reported BMI as well as measured BMI at Wave 3. I also included in the imputation equation interviewer-measured BMI from other men and women whose BMI was observed at waves 2 and 3. For new relationships observed at Wave 4, in the imputation equation I used self-reported BMI from wave 1 as well as measured BMI at Wave 4. I also included measured BMI from other men and women whose BMI was observed at Waves 3 and 4. The imputation equation also included the covariates used for the regression models (partner race, gender, education level, relationship type, age, multiracial identity, having biological children in the household, living arrangement, skin tone, nativity, and relationship duration). Twenty imputations were performed (m=20). This application of multiple imputation to correct for error in self-report is analogous to that used by Schenker et al. (2010), and represents an improvement over using only Wave 1 BMI as a predictor variable for individuals observed in new relationships at Wave 3 because it allows for interviewer-measured BMI to be used, reducing reporting error due to self-reports of height and weight.

For the analysis models, I first performed the multinomial logistic regression model represented by equation 3 separately for White men and White women. Second, I used gender

interactions on all covariates to determine whether being overweight/obese predicted partner race differently for men and women. However, because there are no cases in the data where a White woman who is foreign-born has a Black partner, the multinomial logistic regression model with gender interactions would not converge. Therefore, I instead performed separate logistic regression models to predict a binary outcome of partner race for each race individually (that is, a separate model predicting Hispanic partner, Black partner, and Asian partner), compared to a partner of any other race, with gender interactions on all covariates. The variable *foreign-born* (respondent) is omitted from the logistic regression model predicting a Black partner, causing 35 observations to be dropped. The full results from the gender interaction models predicting partner race are available by request.

Results

Descriptive statistics for the three groups described above (all White men and women in the US cohort that was in high school in the mid-1990s in current relationships, those in new relationships, and those in relationships with partners with stable characteristics over time (inferred to be the same partner) are shown in Tables 1, 2, and 3, respectively. Table 1 displays descriptive statistics for White young adult men and women, aged approximately 19 through 30 years old at the time of observation (with mean age of about 25 years), who report current dating, married, and cohabiting relationships. Gender differences were tested using t-tests for continuous variables and chi-squared tests for categorical variables; p-values are represented by asterisks in the "Men vs. Women" column.

[TABLE 1 ABOUT HERE]

Table 2 displays descriptive statistics for White men and women who are observed in new relationships in approximately the previous seven years (the time between waves 2 and 3,

and waves 3 and 4). The characteristics of this population mirror the full group (reported in Table 1) in current relationships, BMI measured at between six and seven years prior is less than the BMI reported by the current relationship population, which is unsurprising given that respondents were younger at the prior time point and BMI tends to increase with age, especially as people transition from adolescence into adulthood (Gordon-Larsen et al. 2010). However, men are found to have greater mean BMI at the previous time point than women ($p<.001$) and a greater frequency of being overweight/obese than women ($p<.001$). This gender difference for individuals in relationships contrasts with studies of all adult men and women, which find that obesity is more prevalent among women than men for adults observed from 1999-2008, approximately the same period as this study examines (Flegal et al. 2010). This contrast between findings for those in relationships versus all adults is consistent with a greater overweight and obesity "penalty" for women than men in forming relationships. That is, women are more likely to be excluded from the dating and marriage market on the basis of weight than men are (Fu and Goldman 1996; Puhl and Heuer 2009). However, another study using Add Health data finds comparable rates of obesity between men and women (Gordon-Larsen et al. 2010), suggesting that the relative youth of the Add Health sample may also be a factor.

[TABLE 2 ABOUT HERE]

Finally, Table 3 displays descriptive statistics for White men and women who are observed in long term relationships with partners with the same measured characteristics over a time period of approximately seven years, from about 2001 to 2008 (see Analytic Sample section for details), here assumed to be the same partner at both points in time that they were observed, though their relationship type may have changed over this time period (see Appendix Table 2). This population has a greater percentage of endogamy compared to all current relationships and

new relationships: 94.3% of White men and 93.2% of White women have White partners, though the distribution of partner race is not statistically significantly different between men and women for this relatively smaller sample (the *p*-value is only statistically significant at the 0.10 level). [TABLE 3 HERE]

Tables 4, 5, and 6 show the results from the cross-sectional, selection, and BMI change models, respectively. Results from gender interaction models (in which White men and women are pooled and gender is interacted with all covariates) are available by request from the author. All tables display logistic coefficients, but also odds ratios below on the key variables. Table 4 displays the results from the cross-sectional logistic regression model predicting the likelihood of being overweight/obese on partner race among White men and women observed in current dating, marriage, and cohabiting relationships at two points in time (about seven years apart), pooled. For men, there is no statistically significant effect of partner race on the likelihood of being overweight/obese. For women, on the other hand, having a Hispanic partner is associated with 1.47 times the likelihood of being overweight/obese, and having a Black partner is associated with 2.14 times the risk of being overweight/obese. The gender interaction for Black partner is statistically significant, indicating that the effect of having a Black partner on overweight/obesity is greater for White women than White men. These cross-sectional results are the associations that I further disaggregate into selection and causal associations in the selection and BMI change models.

Being in a dating or cohabiting relationship is associated with an lesser likelihood of being overweight/obese compared to being married for both men and women, consistent with prior findings regarding the association between marital status and weight (Harris et al. 2010; Teachman 2016). For women, higher levels of education are associated with a lower risk of

overweight/obese. Age is associated with an increase in the likelihood of being overweight/obese for White men and women.

[TABLE 4 ABOUT HERE]

Table 5 shows the results from the selection model, which is a multinomial logistic regression model predicting partner race (Hispanic, Black, Asian, with reference group White partner) among those who began a new relationship in approximately the seven years after the prior observation. Table 5 also shows statistical significance for gender interactions (full gender interaction model available by request). The results indicate that for White women, selection into relationships likely accounts for at least a portion of the cross-sectional association between having a Black partner and the likelihood of overweight/obesity. Being overweight/obese (compared to normal weight) before starting a new romantic relationship more than doubles the chances that a White woman will partner with a Black partner, compared to a White partner. The gender interaction results indicate that there may be a gender difference in this effect, such that being overweight or obese is more likely to predict having a Black partner for White women compared to White men; however, the gender interaction on Black partner is only statistically significant at the $p<0.10$ level. Being overweight/obese before the start of a partnership does not affect partner race for White men, nor does it affect the likelihood of having a Hispanic or Asian partner for White women.

The results also show that being in a cohabiting or dating relationship, compared to a marriage, is associated with a higher likelihood of a Black partner for White women; likewise, cohabiting relationships compared to marriages increase the likelihood of having an Asian partner for White women. This is consistent with prior research showing that interracial relationships are more likely to be cohabiting than married (Joyner and Kao 2005) and more

likely to be dating rather than progress to cohabiting or marriage (Kroeger-D'Souza 2010). White women with lower education are more likely to partner in new relationships with Black and Hispanic partners. Specifically, having a Bachelor's degree or more education decreases the likelihood of a Hispanic partner (compared to having less than a high school degree), and having some college or a Bachelor's degree or more education decreases the likelihood of having a Black partner for White women. This may indicate a type of inverse status exchange, in which less-educated White women partner with lower racial status men (Torche and Rich 2016).

[TABLE 5 ABOUT HERE]

Finally, Table 6 displays the results from the BMI-change models testing for the multivariate association of partner race and other variables with BMI among White men and women who report current relationships with the "same" partners over a period of about seven years (i.e., partners with the same characteristics at two points in time in Waves 3 and 4 of the Add Health). In these models, BMI is measured as a binary outcome, predicted using a logistic regression model. Odds ratios for the key independent variable (partner race) are presented. These models were estimated separately by gender, and statistical significance levels for gender interaction models (results available by request) are indicated in the "Men vs. Women" columns for each specification of the outcome variable, BMI. Key for interpretation of this model is the inclusion of BMI (measured continuously) measured at time *t* (Wave 3) as a covariate for estimating the effect of partner race on BMI at time *t+1* (Wave 4), consistent with the regressor-variable framework for examining change in a "stock" dependent variable over time (Allison 1990).

Looking at the results from the logistic regression model predicting overweight/obesity over time, the key finding from this portion of the analysis is that White women's chance of

being overweight/obese is adversely affected by having a Black partner, compared to White women partnered with White male partners. Moreover, the magnitude of this effect is substantial. The odds of being overweight or obese at Wave 4 are 15 times greater for White women with consistent Black partners over this time period of approximately seven years than for White women who are consistently partnered with White partners over the same time period. Further, there is some evidence that this overweight/obesity-inducing effect may be stronger for White women compared to White men, indicated by the results of the gender interaction for having a Black partner: the p-value for the gender interaction effect is statistically significant at the 0.10 level. There is an estimated 3.23 increase in the odds of being overweight/obese at Wave 4 for White women with a Hispanic partner; the coefficient for this association is statistically significant only at the 0.10 level. No statistically significant effect is observed for White men with any non-white partner category, nor is it observed for White women with Asian partners.

In the logistic regression model results for BMI change, BMI at a prior point in time is, unsurprisingly, a strong predictor of being overweight/obese for both men and women, though it is a stronger predictor for White men than White women, suggesting greater continuity of BMI over time for men. Unlike in the cross-sectional and BMI selection results discussed above, there is no association between relationship type at the first point in time and the likelihood of being overweight/obese about seven years later for men or women. This is perhaps because in these stable relationships with "same" partners, the commitment level is more likely to be high regardless of relationship type, whereas in the other analyses, partnerships may have represented different durations and therefore more varying levels of commitment. This interpretation is supported by the fact that almost all of the relationships observed at Wave 4 are marriage or cohabitations, rather than dating, by Wave 4 (see Appendix Table 2).

Discussion

There is a paradox in the literature on romantic relationships and weight: although heavier people, especially women, are penalized on the marriage market for being overweight or obese and are less likely to marry or enter new relationships (Averett et al. 2008; Conley and Glauber 2006; Gortmaker et al. 1993; Puhl and Heuer 2009), people in relationships - especially marriage and cohabitation - are more likely to gain weight (Averett et al. 2008; Burke et al. 2004; Jeffery and Rick 2002; The and Gordon-Larsen 2009). This is considered paradoxical, because romantic relationships are usually associated with better health outcomes, not worse (Lillard and Panis 1996; Umberson and Montez 2010). Prior studies have examined some facets of how these processes of selection and causation may be gendered and racialized, specifically whether the propensity to gain weight varies by gender and race, and whether selection into relationships on the basis of BMI varies by gender and race. Previous cross-sectional findings, including those that use Add Health data (Harris et al. 2010) indicate that the association between relationship status and BMI varies by race and gender to some degree, such that Black women in romantic partnerships are particularly heavy (Harris et al. 2010; Schafer 2010). Further, existing empirical research indicates that selection processes are gendered and racialized, such that White women in particular are penalized on the dating and marriage market for being overweight/obese (Puhl and Heuer 2009) and considered less desirable partners (Ali et al. 2013), whereas Black men are more accepting of heavier body types in potential partners (Glasser et al. 2009).

However, previous research has not examined whether these selection and causal processes in the association between romantic relationships and BMI may vary by partner race as well as one's own race. In this study, I fill that gap by investigating the association between interracial and inter-ethnic partnerships and overweight/obesity, thus contributing to the

literature on how partner selection and the causal association between romantic relationships and overweight/obese are gendered and racialized. I first examined whether any association exists between partner race in current dating, marriage, and cohabiting relationships among White young adults approximately 19 to 30 years old who were enrolled in middle and high school in the mid-1990s U.S. The results from the cross-sectional analysis show that White women with Black partners are more likely to be overweight/obese, and the association of having a Black partner is stronger for women compared to men. Further, White women with Hispanic partners are also more likely to be overweight/obese. These results represent the associations to be explained - to what extent can this association be attributed to the propensity of White women to partner with Black and Hispanic men on the basis of their weight status, indicating a status exchange process, and to what extent can this association be attributed to causal processes, including stress, status, and resources, in interracial relationships?

Overall, I find evidence for both selection processes and for causal processes, the latter indicated by change over time in overweight and obesity. The results from the selection analysis show that among White young adults in the cohort, White women who are overweight or obese are more likely to enter new relationships with Black partners compared to with White partners. This finding suggests that the cross-sectional association between having a Black partner and being overweight/obese is due at least in part to selection mechanisms for White women. I interpret this finding as being suggestive of a status exchange process. Status exchange theory posits that race acts as a status marker on the marriage and dating market (Kalmijn 2010), and most research to date examines the extent which education is "exchanged" by minorities, particularly Black men, for obtaining a White partner; recent studies suggest that this process continues in the present day at levels identical to thirty years ago, even as interracial pairings

become more common (Torche and Rich 2016). In this study, I extend this theoretical framework to apply to weight status. The existing research indicates that people who are heavier are less likely to partner in the first place, especially White women (Puhl and Heuer 2009). We know that being overweight or obese is also a status marker, particularly for women, as it is an important cultural facet of physical attractiveness (Chen and Brown 2005; Saguy 2014). This study posits that thinness and heaviness may also act as status markers that can be "exchanged" for partner race. The results support this idea, suggesting that heavier White women are unable to trade thinness, as a marker of physical attraction, for a higher "status" White partner.

Finally, I investigated the propensity for individuals to become overweight/obese over time among White men and women observed in dating, cohabiting, and marriage relationships with partners with stable characteristics in terms of age, race, and gender over a period of at least seven years. Due to data limitations, I cannot say definitively that a partner is in fact the same, but I assume that it is likely that they are the same person. Moreover, we know that these partners have the same crucial characteristic of interest (race/ethnicity). The results show that White women who are partnered with Black partners, and possibly also White women who are partnered with Hispanic partners, experience an adverse impact on their likelihood of being overweight/obese at follow-up. This effect is, substantively speaking, quite strong for White women with Black partners: these women are 14.7 times more likely to be overweight or obese at follow-up when consistently partnered with Black partners compared to White women consistently partnered with White partners.

Research on the causal link between romantic relationships and health typically relies on relationships' abilities to buffer stress to explain how relationships protect health (Umberson and Montez 2010); however, this explanation is not satisfactory for explaining a causal link between

relationships and BMI, because relationships are typically shown to adversely affect weight by causing weight gain (Averett et al. 2008; The and Gordon-Larsen 2009), and transitioning into romantic relationships, particularly marriage, is linked to weight gain (Jeffery and Rick 2002; Sobal et al. 2003). Thus, researchers have typically looked to various aspects of the social environment to explain weight gain in relationships, including shared environment, relaxed standards of weight due to the commitment relationships provide, and partner concordance in health outcomes, especially among partners who have lived together for a long duration (The and Gordon-Larsen 2009). This study, by bringing partner race to bear, pushes this literature forward in several ways. First, one interpretation of the finding that having a Black partner increases White women's likelihood of overweight/obesity may be evidence that interracial relationships, especially those with Black partners, are more prone to stress for Whites and thus greater weight gain compared to relationships with same-race partners. Medical literature shows that stress and weight gain are linked, especially chronic stress (Dallman 2010); it could be the case that the chronic stress of being in a relationship that is stigmatized or subject to the disapproval of family and friends leads to weight gain.

However, in both the case of selection and status exchange as well as causality and stress, there is another possible interpretation for the results presented in this study that should not be ignored Prior research indicates three important patterns for interpreting these results. First, Black men are accepting of heavier bodies and find them more attractive (Glasser et al. 2009; Jackson and McGill 1996), including in adolescence (Thompson et al. 1996). Second, people relax their worries about gaining weight in romantic relationships (Averett et al. 2008). Third, romantic relationships are a primary source of reflected appraisals and inform the self-concept, including the self-concept as it pertains to the perceptions of one's own body and body

satisfaction (Miller 2001; Ogden and Taylor 2000; Pole et al. 2004).

Taking together the weight selection and weight change results, there appear to be multiple processes explaining the associations between White women's Black partners and greater likelihood of being overweight or obese. First, it is reasonable to conclude that White women with Black partners gain weight in the course of a relationship because they are shielded by the relationship from particularly oppressive body weight standards that might be of greater importance with a White male partner. Similarly, with regard to selection processes, it may be that White women find more satisfying relationships with men who do not subscribe to body type ideals that are particularly oppressive for women's bodies. "Fat shaming" is a pernicious part of our culture, and it rests largely on the promotion of an attractiveness ideal that idealizes thin, White female bodies, resulting in cultural and structural forces that oppress heavy women (Fikkan and Rothblum 2012; Saguy 2014), resulting in worse labor, education, and marriage outcomes (Glass et al. 2010). We thus should perhaps not disregard overweight/obese White women's partnering with Black men as purely a status-exchange process in which heavy White women simply can't attract a White partner, but would want to otherwise, and consider the possibility that White women may be exercising agency by selecting partners who are more supportive and accepting. Future research and theorizing on romantic relationships and weight should be mindful that although obesity is a public health concern, its stigmatization is linked to gender and race inequalities, and consider how to study weight and obesity from a perspective that both attends to health and to "fat" as a feminist issue (Saguy 2014).

One key limitation of this study combines the BMI categories of overweight and obese together into a single category. Operationalizing BMI in this way was done both to consider BMI as a status marker related to attractiveness, and to incorporate the social psychological processes

of weight gain based on a partner's perceptions of attractiveness over time. This is different, however, from studying the question of interracial relationships' associations with BMI from a public health perspective, in which obesity specifically would alternately be examined.

References

Ailshire, Jennifer A., and James S. House. 2011. "The Unequal Burden of Weight Gain: An Intersectional Approach to Understanding Social Disparities in BMI Trajectories from 1986 to 2001/2002." *Social Forces* 90 (2):397–423.

Ali, Mir M., John A. Rizzo, Aliaksandr Amialchuk, and Frank Heiland. 2014. "Racial Differences in the Influence of Female Adolescents' Body Size on Dating and Sex." *Economics & Human Biology* 12 (January):140–52. https://doi.org/10.1016/j.ehb.2013.11.001.

Ali, Mir M., John A. Rizzo, and Frank W. Heiland. 2013. "Big and Beautiful? Evidence of Racial Differences in the Perceived Attractiveness of Obese Females." *Journal of Adolescence* 36 (3):539–49. https://doi.org/10.1016/j.adolescence.2013.03.010.

Allison, Paul D. 1990. "Change Scores as Dependent Variables in Regression Analysis." *Sociological Methodology* 20:93–114.

Averett, Susan, and S. Korenman. 1999. "Black-White Differences in Social and Economic Consequences of Obesity." *, Published Online: 21 January 1999; | doi:10.1038/sj.ijo.0800805* 23 (2). https://doi.org/10.1038/sj.ijo.0800805.

Averett, Susan L., Asia Sikora, and Laura M. Argys. 2008. "For Better or Worse: Relationship Status and Body Mass Index." *Economics & Human Biology*, Symposium on the Economics of Obesity, 6 (3):330–49. https://doi.org/10.1016/j.ehb.2008.07.003.

Bratter, Jenifer L., and Karl Eschbach. 2006. "'What about the Couple?' Interracial Marriage and Psychological Distress." *Social Science Research* 35 (4):1025–47. https://doi.org/10.1016/j.ssresearch.2005.09.001.

Bratter, Jenifer L., and Rosalind B. King. 2008. "'But Will It Last?': Marital Instability Among Interracial and Same-Race Couples." *Family Relations* 57 (2):160–71. https://doi.org/10.1111/j.1741-3729.2008.00491.x.

Burke, Valerie, Lawrie J. Beilin, Diana Dunbar, and Melodie Kevan. 2004. "Changes in Health-Related Behaviours and Cardiovascular Risk Factors in Young Adults: Associations with Living with a Partner." *Preventive Medicine* 39 (4):722–30. https://doi.org/10.1016/j.ypmed.2004.02.038.

Cawley, John, Kara Joyner, and Jeffery Sobal. 2006. "Size Matters The Influence of Adolescents' Weight and Height on Dating and Sex." *Rationality and Society* 18 (1):67–94. https://doi.org/10.1177/1043463106060153.

Chen, Eunice Y., and Molly Brown. 2005. "Obesity Stigma in Sexual Relationships." *Obesity Research* 13 (8):1393–97. https://doi.org/10.1038/oby.2005.168.

Chen, Ping, and Kim Chantala. 2014. "Guidelines for Analyzing Add Health Data." Carolina Population Center. http://www.cpc.unc.edu/projects/addhealth/documentation/guides/wt-guidelines.pdf.

Conley, Dalton, and Angela Glauber. 2006. "Gender, Body Mass, and Socioeconomic Status: New Evidence from the PSID." In *The Economics of Obesity*, 17:253–75. Advances in

Health Economics and Health Services Research 17. Emerald Group Publishing Limited. http://www.emeraldinsight.com/doi/abs/10.1016/S0731-2199(06)17010-7.

Dallman, Mary F. 2010. "Stress-Induced Obesity and the Emotional Nervous System." *Trends in Endocrinology & Metabolism* 21 (3):159–65. https://doi.org/10.1016/j.tem.2009.10.004.

Dallman, Mary F., Norman Pecoraro, Susan F. Akana, Susanne E. la Fleur, Francisca Gomez, Hani Houshyar, M. E. Bell, Seema Bhatnagar, Kevin D. Laugero, and Sotara Manalo. 2003. "Chronic Stress and Obesity: A New View of 'comfort Food.'" *Proceedings of the National Academy of Sciences* 100 (20):11696–701. https://doi.org/10.1073/pnas.1934666100.

Davis, Kingsley. 1941. "Intermarriage in Caste Societies1." *American Anthropologist* 43 (3):376–95. https://doi.org/10.1525/aa.1941.43.3.02a00030.

Fikkan, Janna L., and Esther D. Rothblum. 2012. "Is Fat a Feminist Issue? Exploring the Gendered Nature of Weight Bias." *Sex Roles* 66 (9–10):575–92. https://doi.org/10.1007/s11199-011-0022-5.

Flegal KM, Carroll MD, Ogden CL, and Curtin LR. 2010. "PRevalence and Trends in Obesity among Us Adults, 1999-2008." *JAMA* 303 (3):235–41. https://doi.org/10.1001/jama.2009.2014.

Fu, Haishan, and Noreen Goldman. 1996. "Incorporating Health into Models of Marriage Choice: Demographic and Sociological Perspectives." *Journal of Marriage and Family* 58 (3):740–58. https://doi.org/10.2307/353733.

Fu, Vincent Kang. 2001. "Racial Intermarriage Pairings." *Demography* 38 (2):147–59. https://doi.org/10.1353/dem.2001.0011.

Glass, Christy M., Steven A. Haas, and Eric N. Reither. 2010. "The Skinny on Success: Body Mass, Gender and Occupational Standing Across the Life Course." *Social Forces* 88 (4):1777–1806.

Glasser, Carol L., Belinda Robnett, and Cynthia Feliciano. 2009. "Internet Daters' Body Type Preferences: Race-Ethnic and Gender Differences." *Sex Roles* 61 (1/2):14–33. https://doi.org/10.1007/s11199-009-9604-x.

Gordon-Larsen, Penny, Natalie S. The, and Linda S. Adair. 2010. "Longitudinal Trends in Obesity in the United States From Adolescence to the Third Decade of Life." *Obesity* 18 (9):1801–4. https://doi.org/10.1038/oby.2009.451.

Gortmaker, Steven L., Aviva Must, James M. Perrin, Arthur M. Sobol, and William H. Dietz. 1993. "Social and Economic Consequences of Overweight in Adolescence and Young Adulthood." *New England Journal of Medicine* 329 (14):1008–12.

Gullickson, Aaron. 2006. "Education and Black-White Interracial Marriage." *Demography* 43 (4):673–89. https://doi.org/10.1353/dem.2006.0033.

Harris, Kathleen Mullan. 2013. "The Add Health Study: Design and Accomplishments." Carolina Population Center. http://www.cpc.unc.edu/projects/addhealth/documentation/guides/DesignPaperWIIV.pdf.

Harris, Kathleen Mullan, Hedwig Lee, and Felicia Yang DeLeone. 2010. "Marriage and Health in the Transition to Adulthood: Evidence for African Americans in the Add Health Study." *Journal of Family Issues*, April. https://doi.org/10.1177/0192513X10365823.

House, J. S., D. Umberson, and K. R. Landis. 1988. "Structures and Processes of Social Support." *Annual Review of Sociology* 14:293–318.

Jackson, Linda A., and Olivia D. McGill. 1996. "Body Type Preferences and Body Characteristics Associated with Attractive and Unattractive Bodies by African Americans and Anglo Americans." *Sex Roles* 35 (5–6):295–307. https://doi.org/10.1007/BF01664771.

Jeffery, Robert W., and Allison M. Rick. 2002. "Cross-Sectional and Longitudinal Associations between Body Mass Index and Marriage-Related Factors." *Obesity Research* 10 (8):809–15. https://doi.org/10.1038/oby.2002.109.

Joyner, Kara, and Grace Kao. 2005. "Interracial Relationships and the Transition to Adulthood." *American Sociological Review* 70 (4):563–81. https://doi.org/10.1177/000312240507000402.

Kalmijn, Matthijs. 2010. "Educational Inequality, Homogamy, and Status Exchange in Black/White Intermarriage: A Comment on Rosenfeld." *American Journal of Sociology* 115 (4):1252–63.

Koball, Heather L., Emily Moiduddin, Jamila Henderson, Brian Goesling, and Melanie Besculides. 2010. "What Do We Know About the Link Between Marriage and Health?" *Journal of Family Issues* 31 (8):1019–40. https://doi.org/10.1177/0192513X10365834.

Kroeger, Rhiannon A., and Kristi Williams. 2011. "CONSEQUENCES OF BLACK EXCEPTIONALISM? Interracial Unions with Blacks, Depressive Symptoms, and Relationship Satisfaction." *The Sociological Quarterly* 52 (3):400–420. https://doi.org/10.1111/j.1533-8525.2011.01212.x.

Kroeger-D'Souza, Rhiannon A. 2010. "A Multilevel Analysis of Interracial Relationship Characteristics Among Young Adults." *Race and Social Problems* 2 (2):92–100. https://doi.org/10.1007/s12552-010-9030-2.

Lillard, Lee A., and Constantijn W. A. Panis. 1996. "Marital Status and Mortality: The Role of Health." *Demography (Pre-2011)* 33 (3):313–27.

Liu, Hui, and Debra J. Umberson. 2008. "The Times They Are a Changin': Marital Status and Health Differentials from 1972 to 2003." *Journal of Health and Social Behavior* 49 (3):239–53. https://doi.org/10.1177/002214650804900301.

Mata, Jutta, Ronald Frank, and Ralph Hertwig. 2015. "Higher Body Mass Index, Less Exercise, but Healthier Eating in Married Adults: Nine Representative Surveys across Europe." *Social Science & Medicine* 138 (August):119–27. https://doi.org/10.1016/j.socscimed.2015.06.001.

Miller, Byron. 2014. "What Are the Odds: An Examination of Adolescent Interracial Romance and Risk for Depression." *Youth & Society*, April, 0044118X14531150. https://doi.org/10.1177/0044118X14531150.

Miller, Byron, and Ben Lennox Kail. 2016. "Exploring the Effects of Spousal Race on the Self-Rated Health of Intermarried Adults." *Sociological Perspectives* 59 (3):604–18. https://doi.org/10.1177/0731121416641702.

Miller, Douglas J. 2001. "Weight Satisfaction Among Black and White Couples: The Role of Perceptions." *Eating Disorders* 9 (1):41–47. https://doi.org/10.1080/106402601300187722.

Miyawaki, Michael H. 2015. "Expanding Boundaries of Whiteness? A Look at the Marital Patterns of Part-White Multiracial Groups." *Sociological Forum* 30 (4):995–1016. https://doi.org/10.1111/socf.12205.

Müller, M. J. 2013. "From BMI to Functional Body Composition." *European Journal of Clinical Nutrition* 67 (11):1119–21. https://doi.org/10.1038/ejcn.2013.174.

Nomaguchi, Kei M., and Suzanne M. Bianchi. 2004. "Exercise Time: Gender Differences in the Effects of Marriage, Parenthood, and Employment." *Journal of Marriage and Family* 66 (2):413–30. https://doi.org/10.1111/j.1741-3737.2004.00029.x.

Ogden, Jane, and Clare Taylor. 2000. "Body Dissatisfaction Within Couples Adding the Social Context to Perceptions of Self." *Journal of Health Psychology* 5 (1):25–32. https://doi.org/10.1177/135910530000500107.

Oreffice, Sonia, and Climent Quintana-Domeque. 2010. "Anthropometry and Socioeconomics among Couples: Evidence in the United States." *Economics & Human Biology* 8 (3):373–84. https://doi.org/10.1016/j.ehb.2010.05.001.

Pole, Michele, Janis H. Crowther, and John Schell. 2004. "Body Dissatisfaction in Married Women: The Role of Spousal Influence and Marital Communication Patterns." *Body Image* 1 (3):267–78. https://doi.org/10.1016/j.bodyim.2004.06.001.

Puhl, Rebecca M., and Chelsea A. Heuer. 2009. "The Stigma of Obesity: A Review and Update." *Obesity* 17 (5):941–64. https://doi.org/10.1038/oby.2008.636.

Qian, Zhenchao, and Daniel T. Lichter. 2007. "Social Boundaries and Marital Assimilation: Interpreting Trends in Racial and Ethnic Intermarriage." *American Sociological Review* 72 (1):68–94. https://doi.org/10.1177/000312240707200104.

———. 2011. "Changing Patterns of Interracial Marriage in a Multiracial Society." *Journal of Marriage and Family* 73 (5):1065–84. https://doi.org/10.1111/j.1741-3737.2011.00866.x.

Rendall, M. S., M. M. Weden, M. Fernandes, and I. Vaynman. 2012. "Hispanic and Black US Children's Paths to High Adolescent Obesity Prevalence." *Pediatric Obesity* 7 (6):423–35. https://doi.org/10.1111/j.2047-6310.2012.00080.x.

Saguy, Abigail C. 2014. *What's Wrong with Fat?* Reprint edition. New York: Oxford University Press.

Schenker, Nathaniel, Trivellore E. Raghunathan, and Irina Bondarenko. 2010. "Improving on Analyses of Self-Reported Data in a Large-Scale Health Survey by Using Information from an Examination-Based Survey." *Statistics in Medicine* 29 (5):533–45. https://doi.org/10.1002/sim.3809.

Schoenborn, Charlotte A. 2004. "Marital Status and Health: United States, 1999-2002." *Advance Data From Vital and Health Statistics* 351:1–36.

Shafer, Emily Fitzgibbons. 2010. "The Effect of Marriage on Weight Gain and Propensity to Become Obese in the African American Community." *Journal of Family Issues* 31 (9):1166–82. https://doi.org/10.1177/0192513X10366006.

Sheets, Virgil, and Kavita Ajmere. 2005. "Are Romantic Partners a Source of College Students' Weight Concern?" *Eating Behaviors* 6 (1):1–9. https://doi.org/10.1016/j.eatbeh.2004.08.008.

Sobal, Jeffery, Karla L. Hanson, and Edward A. Frongillo. 2009. "Gender, Ethnicity, Marital Status, and Body Weight in the United States." *Obesity* 17 (12):2223–31. https://doi.org/10.1038/oby.2009.64.

Sobal, Jeffery, Barbara Rauschenbach, and Edward A Frongillo. 2003. "Marital Status Changes and Body Weight Changes: A US Longitudinal Analysis." *Social Science & Medicine* 56 (7):1543–55. https://doi.org/10.1016/S0277-9536(02)00155-7.

Sobal, Jeffrey, Barbara S. Rauschenbach, and Edward A. Frongillo Jr. 1992. "Marital Status, Fatness and Obesity." *Social Science & Medicine* 35 (7):915–23. https://doi.org/10.1016/0277-9536(92)90106-Z.

Stommel, Manfred, and Charlotte A. Schoenborn. 2009. "Accuracy and Usefulness of BMI Measures Based on Self-Reported Weight and Height: Findings from the NHANES & NHIS 2001-2006." *BMC Public Health* 9:421. https://doi.org/10.1186/1471-2458-9-421.

Teachman, Jay. 2016. "Body Weight, Marital Status, and Changes in Marital Status." *Journal of Family Issues* 37 (1):74–96. https://doi.org/10.1177/0192513X13508404.

The, Natalie S., and Penny Gordon-Larsen. 2009. "Entry Into Romantic Partnership Is Associated With Obesity." *Obesity* 17 (7):1441–47. https://doi.org/10.1038/oby.2009.97.

Thompson, Sharon H., Roger G. Sargent, and Karen A. Kemper. 1996. "Black and White Adolescent Males' Perceptions of Ideal Body Size." *Sex Roles* 34 (5–6):391–406. https://doi.org/10.1007/BF01547808.

Torche, Florencia, and Peter Rich. 2016. "Declining Racial Stratification in Marriage Choices? Trends in Black/White Status Exchange in the United States, 1980 to 2010." *Sociology of Race and Ethnicity* 3 (1):31–49. https://doi.org/10.1177/2332649216648464.

Umberson, Debra. 1992. "Gender, Marital Status and the Social Control of Health Behavior." *Social Science & Medicine* 34 (8):907–17. https://doi.org/10.1016/0277-9536(92)90259-S.

Umberson, Debra, Robert Crosnoe, and Corinne Reczek. 2010. "Social Relationships and Health Behavior Across the Life Course." In *Annual Review of Sociology, Vol 36*, edited by K. S. Cook and D. S. Massey, 36:139–57.

Umberson, Debra, Hui Liu, and Daniel Powers. 2009. "Marital Status, Marital Transitions, and Body Weight." *Journal of Health and Social Behavior* 50 (3):327–43. https://doi.org/10.1177/002214650905000306.

U.S. Census Bureau. 2014. "2014 American Community Survey 1-Year Estimates."

Vaquera, Elizabeth, and Grace Kao. 2006. "The Implications of Choosing 'No Race' On the Salience of Hispanic Identity: How Racial and Ethnic Backgrounds Intersect among Hispanic Adolescents." *The Sociological Quarterly* 47 (3):375–96. https://doi.org/10.1111/j.1533-8525.2006.00050.x.

Waite, Linda, and Maggie Gallagher. 2000. *The Case for Marriage: Why Married People Are Happier, Healthier and Better Off Financially*. Crown/Archetype.

Wang, Hongyu, Grace Kao, and Kara Joyner. 2006. "Stability of Interracial and Intraracial Romantic Relationships among Adolescents." *Social Science Research*, Katrina in New Orleans/Special Issue on Contemporary Research on the Family, 35 (2):435–53. https://doi.org/10.1016/j.ssresearch.2004.10.001.

Wang, Wendy, and Kim Parker. 2014. "Record Share of Americans Have Never Married." *Pew Research Center's Social & Demographic Trends Project* (blog). September 24, 2014. http://www.pewsocialtrends.org/2014/09/24/record-share-of-americans-have-never-married/.

Weng, Haoling H., Lori A. Bastian, Donald H. Taylor, Barry K. Moser, and Truls Ostbye. 2004. "Number of Children Associated with Obesity in Middle-Aged Women and Men: Results from the Health and Retirement Study." *Journal of Women's Health* 13 (1):85–91. https://doi.org/10.1089/154099904322836492.

Table 1 Descriptive statistics for the cross sectional analysis, non-Hispanic White[i] men and women in dating, married, and cohabiting relationships in 2001 and 2008; weighted percentages unless otherwise noted

	Men	Women	Men v. Women
Partner Race			***
Hispanic	5.6	5.2	
Black	1.3	4.2	
White	89.4	87.9	
Asian	3.6	2.8	
Skin Tone[±]	5.0	5.0	
Multiracial (wave 1)	2.7	2.4	!
Foreign Born (wave 1)	0.7	1.1	!
Relationship Type			***
Married	41.1	47.5	
Cohabiting	27.6	27.3	
Dating/Other	31.3	25.2	
Relationship Duration (years)	3.3	3.9	***
Living Arrangement			*
Parents' home	18.9	16.9	
Own place	73.6	76.4	
Other	7.5	6.7	
Biological Children in Household	30.1	45.9	***
Education			***
Less than high school	11.5	8.8	
High school	24.2	20.3	
Some College	41.6	41.9	
Bachelors' Degree or more	22.7	29.0	
Age	25.6	25.2	***
BMI[a]	27.9	27.0	***
Overweight/obese (%)	62.2	50.2	***
N	3,897	5,034	

Source: Add Health waves 1, 3 and 4, person-wave observations from waves 3 and 4

[i]Non-Hispanic White includes multiracial Whites who most identify as White

[±]Skin tone is measured on a scale with values 1-5; 1 is darkest, 5 is lightest; interviewer-rated at Wave 3

[a]BMI measured at Wave 3 and 4

*** p<0.001, ** p<0.01, * p<0.05, ! p<0.1

Table 2. Descriptive statistics for the selection analysis, non-Hispanic White[i] men and women in new dating, married, and cohabiting relationships in 2001 and 2008; weighted percentages unless otherwise noted

	Men	Women	Men v. Women
Partner Race			***
Hispanic	5.6	5.8	
Black	1.4	4.2	
White	89.2	87.2	
Asian	3.8	2.9	
Skin Tone±	4.95	4.95	
Multiracial	2.5	2.6	
Foreign Born	0.7	1.3	
Relationship Type			***
Married	32.5	37.0	
Cohabiting	30.1	31.8	
Dating/Other	37.4	31.3	
Relationship Duration (years)	2.1	2.3	***
Living Arrangement			*
Parents' home	22.1	19.5	
Own place	70.0	72.8	
Other	7.8	7.7	
Biological Children in Household	20.7	35.7	***
Education			***
Less than high school	10.4	8.2	
High school	23.1	18.9	
Some College	42.4	41.4	
Bachelors' Degree or more	24.0	31.5	
Age	25.2	24.6	***
BMI at prior observation[a]	24.7	23.8	***
Overweight/obese (%) at prior observation	46.8	37.6	***
N	3,123	3,798	

Source: Add Health waves 1 - 4, person-wave observations pooled from waves 3 and 4

[i]Non-Hispanic White includes multiracial Whites who most identify as White

[a]BMI measured at Wave 2 and 3

[±]Skin tone is measured on a scale with values 1-5; 1 is darkest, 5 is lightest; interviewer-rated at Wave 3

*** p<0.001, ** p<0.01, * p<0.05, ! p<0.1

Table 3. Descriptive statistics for non-Hispanic White[i] men and women in continuing dating, married, and cohabiting relationships from 2001 to 2008; weighted percentages unless otherwise noted

	Men	Women	Men v. Women
Partner Race			
Hispanic	3.4	3.0	
Black	0.4	2.8	
White	94.3	93.2	
Asian	2.0	1.1	
Skin Tone[±]	4.96	4.96	
Multiracial (wave 1)	3.1	1.9	
Foreign Born (wave 1)	0.5	0.7	
Relationship Type			!
Married	33.4	39.6	
Cohabiting	29.6	27.6	
Dating/Other	37.0	32.8	
Relationship Duration at W3 (years)	2.9	3.3	***
Living Arrangement			!
Parents' home	25.1	22.3	
Own place	67.3	69.3	
Other	7.6	8.4	
Biological Children in Household	20.1	33.4	***
Education			
Less than high school	12.9	10.9	
High school	32.3	28.9	
Some College	39.1	40.4	
Bachelors' Degree or more	15.7	19.8	
Age	22.3	21.9	***
BMI (Wave 3)	26.7	26.1	*
Overweight/obese (%) (Wave 3)	55.4	43.3	***
BMI (Wave 4)	29.4	28.4	*
Overweight/obese (%) (Wave 4)	71.3	60.6	***
N	703	1,058	

Source: Add Health waves 1, 3, and 4

[i]Non-Hispanic White includes multiracial Whites who most identify as White

[±]Skin tone is measured on a scale with values 1-5; 1 is darkest, 5 is lightest; interviewer-rated at Wave 3

*** p<0.001, ** p<0.01, * p<0.05, ! p<0.1

Table 4 Logistic Regression of likelihood of being overweight/obese on partner race/ethnicity among non-Hispanic White men and women in current dating, cohabiting, and married relationships

	Men	Women	Men v. Women
Partner Race (White)			
Hispanic Partner	0.072	0.386*	
	(0.205)	(0.160)	
Odds Ratio	1.08	1.47	
Black Partner	-0.401	0.761***	**
	(0.364)	(0.210)	
Odds Ratio	0.67	2.14	
Asian Partner	-0.083	-0.248	
	(0.245)	(0.223)	
Odds Ratio	0.920	0.780	
Skin Tone	-0.097	-0.201	
	(0.214)	(0.170)	
Multiracial	0.053	0.290	
	(0.314)	(0.289)	
Foreign Born	-1.299*	-0.606	
	(0.567)	(0.432)	
Relationship Type (Married)			
Cohabiting	-0.263*	-0.215*	
	(0.121)	(0.102)	
Dating	-0.498***	-0.362**	
	(0.134)	(0.121)	
Relationship Duration (years)	-0.004	0.037*	!
	(0.019)	(0.015)	
Living Arrangement (Parents' Home)			
Own Place	-0.278*	-0.225!	
	(0.130)	(0.120)	
Other	-0.413*	-0.411*	
	(0.190)	(0.175)	
Biological Children in Household	0.134	0.318***	
	(0.119)	(0.096)	
Education (Less than high school)			
High School	0.156	0.394*	
	(0.173)	(0.171)	
Some College	0.295!	-0.096	!
	(0.167)	(0.164)	
Bachelors' Degree or Higher	0.084	-0.528**	
	(0.188)	(0.180)	
Age	0.114***	0.097***	
	(0.014)	(0.012)	
Constant	-1.641	-1.303	
	(1.138)	(0.898)	
Log Likelihood	-4780709	-5566216	
Observations	3,897	5,034	

Robust standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05, ! p<0.1
Source: Add Health Waves 1, 3, and 4; wave 3 and 4 person-wave observations pooled

Statistical analyses adjust for clustering within individual in the case of observation in a relationship in waves 3 and 4

Table 5 Multinomial Logistic Regression Predicting Partner Race among non-Hispanic White men and women in new dating, married, and cohabiting relationships in 2001 and 2008

	HISPANIC PARTNER			BLACK PARTNER			ASIAN PARTNER		
	Men	Women	Men v. Women	Men	Women	Men v. Women	Men	Women	Men v. Women
Prior Overweight/ Obese[a]	0.272	0.236		-0.202	0.823***	!	-0.363	-0.253	
	(0.200)	(0.210)		(0.513)	(0.243)		(0.266)	(0.265)	
Odds Ratio	1.31	1.27		0.817	2.28		0.700	0.777	
Skin Tone (Wave 3)	-0.543*	-0.467*		-0.354	-0.852***		0.288	-0.570**	
	(0.245)	(0.223)		(0.653)	(0.210)		(0.473)	(0.213)	
Multiracial (Wave 1)	0.513	0.336		-1.360	0.959!		-0.392	0.584	
	(0.566)	(0.458)		(0.945)	(0.516)		(0.791)	(0.565)	
Foreign Born (Wave 1)	-3.852***	0.348	***	2.620**	-20.731***		-0.231	0.606	
	(1.065)	(0.682)		(0.816)	(0.548)		(1.059)	(0.721)	
Relationship type (Married)									
Cohabiting	0.277	0.234		0.578	1.305***		0.212	0.794**	
	(0.277)	(0.256)		(0.666)	(0.311)		(0.313)	(0.304)	
Dating	-0.528	0.261		0.062	1.604***		0.001	0.620	
	(0.374)	(0.314)		(0.722)	(0.393)		(0.309)	(0.410)	
Relationship duration (years)	0.002	0.075		0.079	0.015		-0.021	0.163*	
	(0.068)	(0.050)		(0.159)	(0.075)		(0.081)	(0.075)	
Living Arrangement (Parents' home)									
Own Place	-0.656*	-0.240		-0.809*	-0.230		-0.428	0.195	
	(0.314)	(0.259)		(0.380)	(0.328)		(0.344)	(0.384)	
Other	0.109	0.215		-0.117	0.093		-0.681	0.490	
	(0.430)	(0.359)		(0.645)	(0.426)		(0.533)	(0.415)	
Biological Children in Household	0.200	0.206		-1.151!	0.671*	*	0.270	-0.051	
	(0.272)	(0.268)		(0.668)	(0.268)		(0.369)	(0.291)	
Education (Less than high school)									
High School	-0.388	-0.577		0.712	-0.510		-0.311	-0.650	
	(0.401)	(0.396)		(0.696)	(0.370)		(0.423)	(0.421)	
Some College	-0.123	-0.577		0.301	-1.024**		-0.651!	-0.571	
	(0.366)	(0.377)		(0.743)	(0.360)		(0.375)	(0.393)	
Bachelors' or Higher	-0.695!	-0.928*		-1.178	-1.835***		-0.048	-0.865!	
	(0.420)	(0.431)		(1.084)	(0.498)		(0.443)	(0.473)	
Age	0.026	0.017		0.043	0.027		0.011	-0.055	
	(0.030)	(0.028)		(0.055)	(0.036)		(0.049)	(0.037)	
Constant	-0.155	-0.573		-3.358	-0.213		-4.126	0.350	
	(1.341)	(1.339)		(3.027)	(1.307)		(2.651)	(1.524)	

Observations	3,123	3,714	3,123	3,714	3,123	3,714

Robust standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, ! p<0.1

[a]BMI at prior observation was multiply imputed from measured BMI and self-reported BMI at Wave 1 for those with no observed BMI at prior observation - see text for details

Source: Add Health, Waves 1-4; person-wave observations. Partner race at Waves 3 and 4 predicted from BMI at Waves 2 and 3; control variables observed at Wave 3 or 4 unless otherwise noted

Statistical analyses adjust for clustering within individual in the case of observation in a relationship in waves 3 and 4

Table 6 Logistic Regression of the Likelihood of Being Overweight/Obese by Prior BMI and Partner Race among non-Hispanic White men and women in dating, cohabiting, and married relationships with the same partner from 2001 to 2008

	Men	Women	Men vs. Women
Partner Race (White)			
Hispanic Partner	-0.050	1.173!	
	(0.640)	(0.638)	
Odds Ratio	0.951	3.23	
Black Partner	-0.457	2.685*	!
	(1.512)	(1.186)	
Odds Ratio	0.633	14.7	
Asian Partner	0.783	-0.645	
	(1.245)	(0.543)	
Odds Ratio	2.19	0.525	
Skin Tone	0.457	0.171	
	(0.636)	(0.471)	
Multiracial (Wave 1)	-1.276!	1.828*	**
	(0.688)	(0.778)	
Foreign Born (Wave 1)	0.110	0.632	
	(1.504)	(1.397)	
Relationship Type (Married)			
Cohabiting	0.379	0.060	
	(0.415)	(0.337)	
Dating	0.235	-0.153	
	(0.518)	(0.352)	
Relationship Duration (years)	0.004	0.008	
	(0.078)	(0.050)	
Living Arrangement (Parents' Home)			
Own Place	-0.082	-0.025	
	(0.408)	(0.253)	
Other	0.268	-0.538	
	(0.656)	(0.334)	
Biological Children in Household	0.385	-0.598*	!
	(0.409)	(0.297)	
Education (Less than high school)			
High School	0.776	0.139	
	(0.534)	(0.409)	
Some College	0.776	-0.286	
	(0.570)	(0.438)	
Bachelors' Degree or Higher	-0.191	-0.937*	
	(0.706)	(0.429)	
Age	-0.239*	0.000	!
	(0.106)	(0.083)	
Wave 3 BMI (Continuous)	0.736***	0.538***	*
	(0.082)	(0.047)	
Constant	-14.684***	-12.899***	

	(4.182)	(3.169)
Observations	703	1,058

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, ! p<0.1

Source: Add Health, waves 1, 3 & 4; predictor variables measured at Wave 3 unless otherwise noted

Appendix Table 1 Frequencies of partnership racial combinations in pooled Wave 3 & Wave 4 sample, by gender

Opposite sex current dating, married, and cohabiting relationships					
	PARTNER RACE				
	Hispanic	Black	White	Asian	Total
MEN					
Hispanic	756	38	300	52	1,146
Black	92	920	146	35	1,193
White	221	49	3,487	140	3,897
Asian	46	*	80	294	422
Total	1,115	1,009	4,013	521	6,658
WOMEN					
Hispanic	896	107	269	47	1,319
Black	69	1,531	58	24	1,682
White	295	198	4,389	152	5,034
Asian	49	29	126	325	529
Total	1,309	1,865	4,842	548	8,564

Source: Add Health waves 3 & 4

*Fewer than 10 cases

Appendix Table 2 Relationship type transitions from wave 3 to 4 among non-Hispanic White[i] men and women in relationships with stable characteristics across waves

Unweighted frequencies

	Wave 4 relationship type			
Wave 3 relationship type	Married	Cohabiting	Dating/ Other	Total
Married	667	13	*	687
Cohabiting	356	109	21	486
Dating/Other	431	99	58	588
Total	1,454	221	86	1,761

Sources: Add Health waves 3 & 4

*Fewer than ten cases

[i]Non-Hispanic White includes multiracial Whites who most identify as White