Marital Status, Marital Transitions and Body Mass:

Gender, Race and Life Course Considerations

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ABSTRACT

Overweight and obesity are major health concerns in the United States and a great deal of recent research focuses on identifying facets of the social environment that are associated with excessive weight gain. Marital status and marital transitions are important features of the social environment that may shape weight change over time. Moreover, gender, race and age shape life course experiences—including both marital processes and health behaviors—in ways that may modify the impact of marital status/transitions on trajectories of change in body mass over time. We adopt a life course perspective to consider how the impact of marital status and marital transitions on body mass trajectories depend on age, gender, and race. Growth curve analysis of a four-wave national survey reveals few significant effects of age and gender on the impact of marital status/transitions on body mass trajectories over a fifteen year period. But marital status/transitions are associated with weight change over time in quite different ways for African Americans and Whites.

Overweight and obesity are major health concerns in developed nations around the world, with the United States serving as the world leader. In the United States, roughly 65 percent of the adult population is overweight and over 30 percent is obese (SCI). These percentages have increased over time and the cost to population health is great—especially in contributing to type 2 diabetes, cardiovascular disease, and some cancers (SCI). These trends are of particular concern because rates of obesity and overweight have climbed over time for children and adolescents as well as adults (REF). As a result, some experts argue that today's children will become the first American generation to be less healthy and live shorter lives than their parents (REF).

In light of these ominous statistics and projections, researchers are increasingly focused on identifying the factors that contribute to and deter excessive weight gain. A number of scholars now emphasize the importance of the social environment in affecting body mass. Typically, the focus is on the neighborhood environment—including access to various types of grocery stores, fresh produce, fast foods, and places to exercise. But family and relationships are also an important part of one's social environment. Marriage is a major feature of one's social environment and many studies show that marital status is associated body mass (REF). But previous studies on marital status and body mass are limited in some important ways. First, many of these studies are cross-sectional by design and the longitudinal studies are typically limited to two points in time and focus on absolute amounts of change in body mass over time. These analyses are unable to demonstrate baseline differences in body mass in addition to the rate of change in body mass over time and in relation to marital status/marital status changes. Second, although many of these studies include sociodemographic variables as control variables in analyses, sociodemographic differences in the estimated effect of marital status on body mass are not typically considered. While a few studies consider gender differences in the impact of marital status on body mass, the existing literature yields almost no information on race and age differences in this impact. This is important because body mass differs significantly by race and age and the prevalence as well as

the experience of different marital statuses vary by race and age. In the present study, we address these limitations by estimating trajectories of change in body mass over a fifteen year period (with data collected at four different time points) in relation to marital status and marital status transitions. In addition, we consider whether and how these trajectories differ on the basis of gender, race, and age. For example, being married may contribute to weight gain at a more rapid rate for men than women but only at younger ages when unmarried men are less likely to eat regular meals.

BACKGROUND

Most scholars and a lot of politicians point to the marital relationship as the most important relationship for health and mortality. Marital status is associated with a number of different health behaviors but they are not all affected by marriage in the same way. Research consistently shows that the married drink less and smoke less than the unmarried (REF) and that this marital benefit is greater for men than for women (REF). But several studies show that the married weigh more than the unmarried, seems to be especially true for men (actually NM and Mar women about equally likely to be overwt (CDC).

Body mass refers to the ratio of one's height to one's weight. Body mass, per se, is not a health behavior. But eating is the main predictor of body mass and how much (and what) one eats is a health behavior. U.S. government statistics show that the married weight more than the unmarried with an important gender difference: married men (about 73 percent) are much more likely than never married men (56%) to be overweight but married and never married women about equally likely to be overweight (both at about 50%) (CDC, 2006). Some of this gender difference may be due to selection effects. Fu and Goldman (1996) find that obese women are less likely than obese men to marry but overweight men are more likely than overweight women to marry. The authors suggest that appearance-related variables may have a greater impact on selection into marriage for women than men.

Previous studies considering the relationship between marital status and body mass typically find that the married are heavier than the unmarried (REFS). Many of these studies simply control for gender or they analyze men and women separately. INSERT WHICH ONES DO CONSIDER GENDER—WHAT DO THEY FIND. Many studies that distinguish between different "unmarried" categories focus on a comparison of the married to only one unmarried group. Fairly consistently, the married are found to be heavier than the divorced, widowed, and never-married (REFS).

Studies that consider the transition from one marital status to another typically find that divorce and widowhood are associated with weight loss (REFS), with some studies reporting that this effect is stronger for men than women (REF). However, gender differences in the effects of divorce on body mass are more inconsistent across studies. The transition into marriage is often associated with weight gain (REF) but gender differences in this effect are not clear. While previous studies often control for race, we were unable to find any studies that consider whether or not the effects of marital status or marital transitions on body mass differ across racial/ethnic groups.

A number of explanations have been offered for the association between marital status and body mass. INSERT MECHANISMS/EXPLANATIONS. 1. Social facilitation (eat at more regular intervals, eat as shared social activity). Kind of like Jeffery and Rick's "shared environment." I think there's a growing literature on social facilitation—eating more in social settings. 2. Role of parenting/parity. Married more likely to have kids (still true?) and parity associated with weight gain for men and women. More likely to eat with kids and eat what kids eat. 3. For men, it may be related to having someone around to prepare foods—really goes with social facilitation. Many of the explanations fall under "social facilitation" or "shared environment." While it is important to identify the mechanisms through which marital status/transitions affect change in body mass, an important first step to systematically establish how marital status and marital transitions shape trajectories of change in body mass over time and to consider how these trajectories of change differ on the basis of race, gender, and age. (PROBABLY NEED TO INSERT ABOVE: WHY

TRAJECTORIES ARE AN IMPORTANT NEXT STEP—MOST STUDIES LOOKING AT ABSOLUTE CHANGE BETWEEN TWO POINTS IN TIME AND CAN'T TAKE INTO ACCOUNT THAT BASELINE LEVELS MAY BE DIFFERENT AND THAT DIFFERENT GROUPS MAY GAIN OR LOSE AT A DIFFERENT RATE THAN OTHERS—SEE OLD SF). Past theoretical and empirical work points to the possibility of group differences in the link between marital status/transitions and body mass.

*Social control (e.g., spouse tells you to do things, controls your HB, health)

*Emotional support, psychological well-being, healthier behaviors. Fat and happy?

*Less stress, better behaviors. Divorced/widowed, more stress and depression. Stress and depression to weight loss?

Moderating Factors

While marital status and marital transitions may influence change in body mass over time, the direction, magnitude, and rate of change in body mass may vary across social groups. We consider three sociodemographic characteristics that may modify the impact of marital status/transitions on change in body mass over time: age, gender, and race.

Age. National data show that overweight and obesity increase steadily with age for men and women (CDC). Overweight and obesity are most likely in one's middle years and tend to occur earlier for women than for men. Late in the life course, body mass tends to decline, particularly after age 75. In fact, weight loss may become a greater concern than weight gain among the elderly.

There are a number of reasons to expect that the impact of marital status would depend on one's age. Since American adults are most likely to become overweight in middle-age, being married or getting married may be associated with greater weight gain in middle-age. On the other hand, since weight loss becomes a greater concern at advanced ages, being or becoming

widowed may be a greater concern for weight loss in later life. Age differences in the effects of marital status/transitions on body mass change may further depend on gender.

Gender. Both marital status and marital quality differ for men and women over the life course. Men are more likely to be married and this becomes even more likely with advancing age. Outside of marriage, women have more close & confiding relationships than men have. Within marriage, men get more emotional support and women give more support. Within marriage, women are more likely than men to tell or remind their spouse to do things to stay healthy. Women are also more likely than men to obtain and prepare food for their families. They are also more likely than men to monitor the health of their loved ones. This often involves altering the dietary habits of their spouse, particularly following diagnoses of high cholesterol, diabetes, or heart disease (REF). The presence of a wife, then, may have a stronger influence on body mass for men as they age and become increasingly more likely to suffer from various health conditions.

Race. There is a lot of research on how marital status patterns differ by race and on the race differences in body mass but research on race differences in the impact of marital status (or transitions) on body mass is virtually nonexistent. Compared to Whites, African Americans are less likely to be married (REF). African Americans are more likely to never marry and to cohabit (REF). Divorce rates have increased over the past several decades for African Americans while they have remained fairly stable for Whites since the 1980s. Among the married, African Americans report lower levels of marital quality than do whites. On the other hand, compared to Whites, African Americans may have stronger ties outside of marriage—particularly religious ties and extended family ties (REF). All of these factors suggest that marital status may be less important to trajectories of change in body mass over time for African Americans compared to Whites. But this possibility is complicated by race differences in body mass.

Overall, African Americans are more likely than Whites to be overweight but, again, gender differences are apparent. African American women are more likely than White women to be overweight but the difference between African American and White men are minimal (CDC). On

the other hand, obesity rates are substantially higher for African American men and women (CDC). While gender has received a lot of attention in relation to marital status and health, race has received little attention. In our study, we ask how marriage is associated with weight change over time. We also ask if this relationship differs by age, gender, and race.

The Present Study

Past research on the link between marital status/transitions and change in body mass over time is limited in several important ways. First, much of the past research is cross-sectional or examines change in absolute levels of body mass between two points in time. Findings from these studies suggest that there may be an important link between marital status/transitions and body mass, but these studies are unable to establish both baselines of body mass and the rate of change in body mass over time for different groups of individuals. Second, while past research suggests the possibility of gender differences in the impact of marital status/transitions on change in body mass, the possibility of age and race differences in these linkages is largely ignored. The present study fills these gaps by using growth curve analysis to address the following research questions:

1. Do marital status and marital transitions affect trajectories of change in body mass over time?
2. Do marital status/transitions affect trajectories of change body mass in different ways as individuals age.
3. Are there gender or race differences in the impact of marital status/transitions on trajectories of change body mass?

DATA

We analyze national longitudinal data covering a 15 year period. Our data are from the Americans' Changing Lives Surveys conducted by the Institute for Social Research (House, 1986). Data were collected at four time points from 1986 to 2001. The original sample (ages 24-96 in 1986) was obtained using multistage stratified area probability sampling with an oversample of

African Americans, persons over 59 years of age, and married women whose husbands were over the age of 64. Face-to-face interviews lasting approximately 90 minutes each were conducted with individuals in 1986 (N=3,617), 1989 (N=2,867), 1994 (N=2,398), and 2001 (N=1,787). In this study we limit our sample to those non-Hispanic whites and blacks whose marital status and transitions are traceable across the 4 waves of data. There are 1,500 respondents included in the final analysis. Analysis with the full sample using Full Information Maximum Likelihood (FIML) miss-data handling technique shows similar results as those reported with the complete data.

Table 1 shows the socio-demographic compositions of the sample analyzed. The average age of the sample is about 47. About 36 percent of them are men and 23 percent are African Americans. The average years of schooling is nearly 13 and the average family income is about $30,240. The total number of children is 2.5 on average for the baseline sample. The marital status and transition compositions show that nearly half of the respondents are continually married over the 15-year study period. 6.8 percent of the sample are continually never married. The continually divorced/separated and continually widowed account for 8.33 and 9.20 percent of the total sample. 5.4 percent of the sample experienced transition from being married to divorced/separated at any time point of the 15-year study period. 11.67 percent of them experienced transition to widowhood. Those who experienced first-time marriage during the 15-year study period account for 3.13 percent, while those who experienced from previously married to remarried account for 4.87 percent. In addition, 4.2 percent of the sample experienced marital transitions more than once during the 15 years.

Table 1 about here

Measures

Marital status/transitions. Many studies simply compare the married to the unmarried, but the meaning and experience of being never married is very different from being divorced or widowed. In our study we take into account different marital statuses as well as marital transitions.

We consider eight categories of marital status continuity and transitions across Time 1 and Time 4: (1) continually married, (2) continually never-married, (3) continually divorced or separated, (4) continually widowed, (5) transition from married to divorced or separated, (6) transition from married to widowed, (7) transition from never-married to married, and (9) transition from previously married to remarried. We also control the multiple marital transitions across Time 1 and Time 4 in the study. The continually married serve as the reference group in analyses, with the remaining categories serving as dummy variables representing marital continuity and transitions.

Covariates. Our primary proxy for life course position is age of the respondent (in years), measured at Time 1. Gender is coded zero for female and one for male. Race is categorized as zero for White and one for African American. Other racial/ethnic categories were too small to include in the analysis. Other covariates that may influence marital status/transitions and body mass included as control variables in the analysis. They include education (number of years completed), income (in thousands of dollars) and total number of children at Time 1.

Body Mass Index. Our primary dependent variable is the Body Mass Index (BMI). This index is calculated as weight (in kilograms) divided by height-squared (in meters). We examine the BMI as a continuous variable in our growth curve analyses because we are focusing on trajectories and degrees of change over time.

METHODS

Past research on marital status and body mass has been primarily cross sectional or based on data between two time points. We estimated growth curve models to take advantage of four waves of data and to see if this analytic strategy yields additional information on the link between marital status/transitions and change in body mass over time. This approach allows us to examine BMI trajectories over time and link these trajectories to marital status and marital transitions.

Each individual has a marital history and a body mass history over our fifteen year study period. In addition, everyone in the sample begins the study period with a different baseline level

of body mass. Growth curve analysis allows us to predict body mass trajectories from that baseline and in response to continuity and change in marital status during the study period. Linear growth curve modeling allows us to assess the effects of marital status/transitions on initial level and change in body mass over time. Initial level and rate of change in body mass are viewed as growth parameters that vary randomly among respondents. Our models account for systematic variation in growth parameters that is attributable to marital status/transitions in addition to age, race, gender, and other control variables. The structural parameters from this part of the model provide the basis for assessing effects of key variables on level of and change in body mass. The linear growth curve model we employed in this study can be specified as:

$$Y_{ij} = \pi_{0i} + \pi_{1i} T_{ij} + \varepsilon_{ij}$$
$$\pi_{0i} = X_{0i}' A_0 + \zeta_{0i}$$
$$\pi_{1i} = X_{1i}' A_1 + \zeta_{1i}$$

where Y_{ij} represents the outcome variable, i.e. body mass of individual *i* at time *j* . T_{ij} is the time variable and ε_{ij} indicates the level-1 residual. π_{0i} and π_{1i} are the *i*th individual's true intercept and slope. X_{0i}' and X_{1i}' are vectors of explanatory variables for the *i*th individual, A_0 and A_1 are the corresponding parameter vectors of population-average effects. ζ_{0i} and ζ_{1i} denote the individual-level (level-2) residuals.

RESULTS

Results from growth curve models with no covariates indicate that body mass tends to change over the fifteen year study period. Figure 1 illustrates the average trajectory of change in body mass over the fifteen year period from the unconditional growth curve model (not shown in the paper). As expected, on average, individuals tend to gain weight over time. We emphasize that these are individual growth curves and a number of studies comparing age groups show that BMI follows a curvilinear pattern with age, beginning to decline in late life. This is illustrated in Figure 2 which shows baseline levels of BMI by age from the unconditional growth curve model.

Figure 1 about here

Figure 2 about here

Table 2 below presents the predicted BMI trajectories based on marital status/transitions from growth curve model estimations. Model 1 in Table 2 shows the results only controlling marital status/transition variables. We illustrate those unconditional growth patterns of BMI by marital status/transition group in Figure 3. From Figure 3 we can see that BMI trajectories differ by marital status as measured at Time 1. Only the continuously widowed and those making the transition to widowhood experience a decline in BMI over time. All other marital status groups gain weight over time. The married, divorced, and never-married exhibit very similar trajectories of moderate weight gain over the fifteen year period. Two groups stand out in exhibiting the most rapid rate of increase in body mass over time: Previously married individuals who make the transition into remarriage exhibit the most rapid weight gain over time. Never married individuals who make the transition into their first marriage start out with a much lower BMI than most groups but their rate of change is dramatic and parallels that of those who remarry. (MAY NEED TO SAY MORE ABOUT BASELINE LEVELS IN ADDITION TO RATE OF CHANGE FOR EACH GROUP—AND BE VERY SYSTEMATIC.) Although the rate of change is not quite as dramatic, those making the transition from marriage to divorce gain at a more rapid rate than do the continuously married.

Table 2 about here

Figure 3 about here

We add socio-demographic covariates of Time 1 in Model 2 of Table 2. Model 2 shows that although most of the associations between marital status/transitions and BMI trajectories are explained by controlling socio-demographic characteristics, we see two exceptions. First, those who transit from being married to widowed still have less rapid increase in BMI than the continually married netting of the socio-demographic differences. Second, the remarried group display more

rapid increase in BMI than the continually married after the socio-demographic covariates are controlled.

Do Marital Status/Transitions Affect BMI Trajectories in Different Ways as We Age?

None of the interactions of age with marital status/transitions were statistically significant in their influence on BMI trajectories over time. This suggests that marital status and marital transitions shape BMI trajectories in similar ways across the life course.

Does Gender Modify the Impact of Marital Status/Transitions on BMI Trajectories?

Model 3 of Table 3 presents the gender differences in the association between marital status/transition and BMI trajectories. Results in Model 3 reveal only one interaction of gender with Marital Status/Transitions in shaping BMI trajectories. The significant interaction of gender with remarriage suggests that the association between remarriage and baseline levels of body mass are different for men and women. Figure 4 illustrates the pattern of results. Among women, those who remarry have lower initial body mass levels than do continuously married women. Among men, those who remarry have higher initial body mass levels than do continuously married men. Although we can't make any causal statements about this, the pattern suggests that thinner women remarry while heavier men remarry. This finding fits with past research by Fu and Goldman suggesting a selection effect by which overweight status reduces the probability of marriage for women but less for men.

Figure 4 about here

Does Race Modify Trajectories of Change in BMI Over Time?

We report the race differences in the association between marital status/transitions and BMI trajectories in Model 4 of Table 3. Results in Model 4 reveal several significant interactions of race with marital status/transitions in predicting baseline levels and rates of change in BMI over time. First, we find a significant interaction of race with the transition to widowhood in predicting baseline levels of BMI. We illustrate this race difference in Figure 5. Although among whites those who

became widowed are not different from those continually married in body mass, African Americans who became widowed have much higher baseline lever of body mass than their continually married counterparts. This may occur because of the high concordance on BMI between partners. If the heaviest individuals are most at risk for mortality and they tend to be concordant with their partner on BMI, then those who become widowed may be from more overweight/obese couples. This may be more salient in the African American community because the rates of obesity are higher than among whites.

Figure 5 about here

Model 4 of Table 3 also reveals a significant interaction between race and the transition to first marriage in association with baseline levels of body mass. Among Whites, baseline BMI for the continually married and those marrying for the first time is similar. But, among African Americans, those who enter their first marriage have a lower baseline BMI than those who are continually married. Figure 6 is an illustration of this race pattern. At this point, we can only speculate about the reasons for this but it may reflect selection processes in that weight has little influence on the probability of marriage for Whites (most of whom marry) but more influence on the probability of marriage for African Americans who are a more selective group. The lower baseline BMI among African Americans who marry may also occur because if continually married African Americans gain more weight over more weight over time (than do Whites) as a function of marital duration.

Figure 6 about here

Model 4 shows a significant interaction of race with remarriage in predicting the rate of change in weight gain over time. Whites who remarry gain weight at a more rapid rate than whites who are continually married. But African Americans who remarry exhibit a very slight decline in body mass over time in comparison to their continually married peers. As shown in Figure 7, Whites who remarry were thinner at baseline than their married peers but, by 2001, they were equally heavy. So the transition to remarriage appears to leads to more rapid weight gain for Whites over time.

Figure 7 about here

Model 4 shows an additional interaction between race and being continually divorced in predicting trajectories of change in body mass. This effect, illustrated in Figure 8, shows that African Americans who are continually divorced experience a more rapid increase in BMI compared to their continually married peers. But the rate of weight increase for divorced and married Whites is quite similar.

Figure 8 about here

DISCUSSION OF RACE DIFFERENCES

First, marital status and transitions are associated with weight change in different ways for AAs and whites.

For example, getting married is more likely for thinner AAs (while it doesn't matter for whites) and remarriage doesn't increase the speed of weight gain for AAs as much as it does for whites.

Divorce leads to more weight gain for AAs than whites.

Higher baseline BMI for AAs more strongly associated with transition to widowhood for AAs but not whites.

All of this, taken together, suggests that marital status and transitions may be more important in relation to changes in BMI for AAs than for whites.

Of course, these findings raise many "WHY" questions.

Many of the answers probably lie in race and cultural differences about the meaning and experience of different marital statuses as well as the meaning and experience of food.

Selection may also be at work: AAs are less likely to be married, those who do marry tend to be of higher SES. We control for education and income in our analyses but SES should be examined further.

Past research on marriage and weight emphasizes that getting and being married are associated with weight gain.

This pattern may be true for whites, on average. But our results suggest a much more complicated pattern of weight change depending on which marital status and marital transition one examines and whether the study population is AA or white.

A more in-depth and qualitative analysis of possible explanations for these race differences is needed. As part of our larger project, we will be conducting in-depth interviews to explore the processes and dynamics through which relationships affect health behavior.

We have only conducted a few in-depth interviews that deal with relationships and health behaviors.

These interviews suggest that marriage leads to weight gain, in part, because couples tend to eat as a shared activity—both at regularly scheduled meals and at snack times. In fact, food is a source of shared pleasure and recreation.

I interviewed one woman in her 80s, married for over 50 years. When I walked into her house, there was a delicious aroma from the kitchen where she was cooking a cake.

She told me: I HAVE GAINED WEIGHT ALL OVER. NOW I AM ABOUT 30 POUNDS MORE THAN WHAT I OUGHT TO WEIGH AND I CAN'T SEEM TO GET RID OF IT. IT UPSETS ME BUT NOT ENOUGH TO MAKE ME STOP COOKING SWEETS.

Her husband takes great pride in his wife's cooking and he clearly enjoys it too.

Of course, partners can also influence one another in ways that stabilize weight or facilitate weight loss when it's needed.

Richard, in his 70s, after a heart attack:

"SHE PUT ME ON SKIM MILK IMMEDIATELY. AND I SAID I WOULD NEVER DRINK SKIM MIL. SHE TOOK ME TO 2% AND THEN SKIM MILK, WITHIN A WEEK. AND I CAN'T HAVE TOO MUCH RED MEAN. SHE WILL JUST SAY, 'YOU CAN'T HAVE IT.' AND RATHER THAN MAKE HER FEEL UNHAPPY, I DO WHAT SHE TELLS ME TO DO. I HAVE BEEN VERY BLESSED WITH GOOD HEALTH AND IT HAS BEEN BECAUSE OF HER.

Unfortunately, one partner may be a bad influence on the other—eating fast foods, desserts, sabotaging diets.

As one young man told us: "I am the queso influence."

We have to spend a lot more time analyzing our longitudinal data as well as thinking about important questions for our in-depth interviews to help us develop a coherent story of the link between marital ties and body mass.

CONCLUSIONS

There is a notion that marriage is a panacea for health, partly because it's good for HBs.

But marriage and other social ties are not *necessarily* associated with *better* health behavior. Social ties may be stressful or they may encourage health-compromising behavior.

The balance of costs and benefits is likely to depend on which health behavior, which relationship, and which life stage we examine.

We expect to find that the balance of costs and benefits of social ties for HB varies a great deal across social groups—

perhaps particularly by race and perhaps more so at some points in the life course than others.

The key questions are:

Which relationships matter, when and who do they help, when and who do they hurt, and how do these process unfold?

Future research: identifying those mechanisms. Social control (facilitation), stress and depression. Food as social activity/norm. Across social groups.

These higher rates of overweight and obesity contribute to disease and the higher mortality of AAs relative to whites.

TABLE 1. Descriptive Statistics of the Sample Analyzed		
	Mean	**S.D.**
Age	47.43	14.92
Male	0.36	0.48
Black	0.23	0.42
Education	12.62	2.81
Family Income ($1000)	30.24	23.75
Total Number of Children	2.52	1.91
	Percentage	
Marital status/Transition		
Continually Married	46.40	
Continually Never Married	6.80	
Continually Divorced/Separated	8.33	
Continually Widowed	9.20	
Married to Divorced/Separated	5.40	
Married to Widowed	11.67	
Never Married to Married	3.13	
Remarried	4.87	
Multiple Marital Transitions	4.20	
Total	100.00	
Total N	1500	

TABLE 2. Estimated Effects of Marital Status/Transition on BMI Trajectory from Growth Curve Models (N=1500)

	Body Mass Index Trajectory			
	Model 1		Model 2	
	Latent Intercept	**Latent Slope**	**Latent Intercept**	**Latent Slope**
Marital Status/Transitions (0=Continually married)				
Continually Never Married	-0.174	0.049	-0.342	0.015
Continually Divorced/Separated	0.743	0.033	-0.061	0.023
Continually Widowed	0.863	-0.160***	0.249	-0.020
Married to Divorced/Separated	-0.698	0.064*	-0.524	0.009
Married to Widowed	1.326**	-0.166 ***	0.810	-0.049*
Never Married to Married	-1.642*	0.131***	-0.612	0.045
Remarried	-0.990	0.114***	-1.000	0.059*
Multiple Marital Transitions	-1.998**	0.046	-2.077**	-0.008
Socio-demographic Covariates (T1)				
				-0.007***
Age			0.030**	
Age-squared			-0.004***	0.000*
Male			0.700**	-0.019
Black			1.683***	-0.002
Education			-0.196***	0.006*
Family Income ($1000)			-0.018**	0.000
Total Number of Children			0.150	0.004
Mean	26.137***	0.105***	25.988***	0.110***
Residual Variance	23.912***	0.042***	21.672***	0.036***
R-squared	0.026	0.144	0.118	0.283

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$ (two-tailed tests)
Age, education and household income are all centered at group means.

TABLE 3. Estimated Interaction Effects of Marital Status/Transition and Gender/Race on BMI Trajectory from Growth Curve Models (N=1500)

	Body Mass Index Trajectory			
	Model 3		Model 4	
	Latent Intercept	Latent Slope	Latent Intercept	Latent Slope
Marital Status/Transitions (0=Continually married)				
Continually Never Married	0.012	-0.003	0.614	0.017
Continually Divorced/Separated	0.124	0.051	-0.451	-0.020
Continually Widowed	0.341	-0.023	-0.249	-0.003
Married to Divorced/Separated	-0.907	0.036	-0.826	0.016
Married to Widowed	0.928	-0.057*	0.194	-0.038
Never Married to Married	-0.849	0.062	0.120	0.013
Remarried	-1.786*	0.071	-1.386*	0.086**
Multiple Marital Transitions	-2.092*	0.001	-1.601*	-0.026
Marital Status/Transitions X Gender				
Continually Never Married X Male	-0.765	0.041		
Continually Divorced/Separated X Male	-0.667	-0.088		
Continually Widowed X Male	-1.889	0.095		
Married to Divorced/Separated X Male	1.119	-0.075		
Married to Widowed X Male	-1.130	0.086		
Never Married to Married X Male	0.443	-0.031		
Remarried X Male	2.488*	-0.032		
Multiple Marital Transitions X Male	0.016	-0.017		
Marital Status/Transitions X Race				
Continually Never Married X Black			-2.063	-0.005
Continually Divorced/Separated X Black			1.294	0.110*
Continually Widowed X Black			1.699	-0.051
Married to Divorced/Separated X Black			1.253	-0.024
Married to Widowed X Black			2.740**	-0.044
Never Married to Married X Black			-3.758*	0.166
Remarried X Black			2.581	-0.184*
Multiple Marital Transitions X Black			-1.174	0.056
Mean	25.950***	0.109***	26.038***	0.111***
Residual Variance	21.542***	0.035***	21.261***	0.035***
R-squared	0.123	0.290	0.134	0.298

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$ (two-tailed tests)

Age, age-squared, male, black, education, family income, total number of children at time 1 are controlled in both Model 3 and 4 in Table 3.

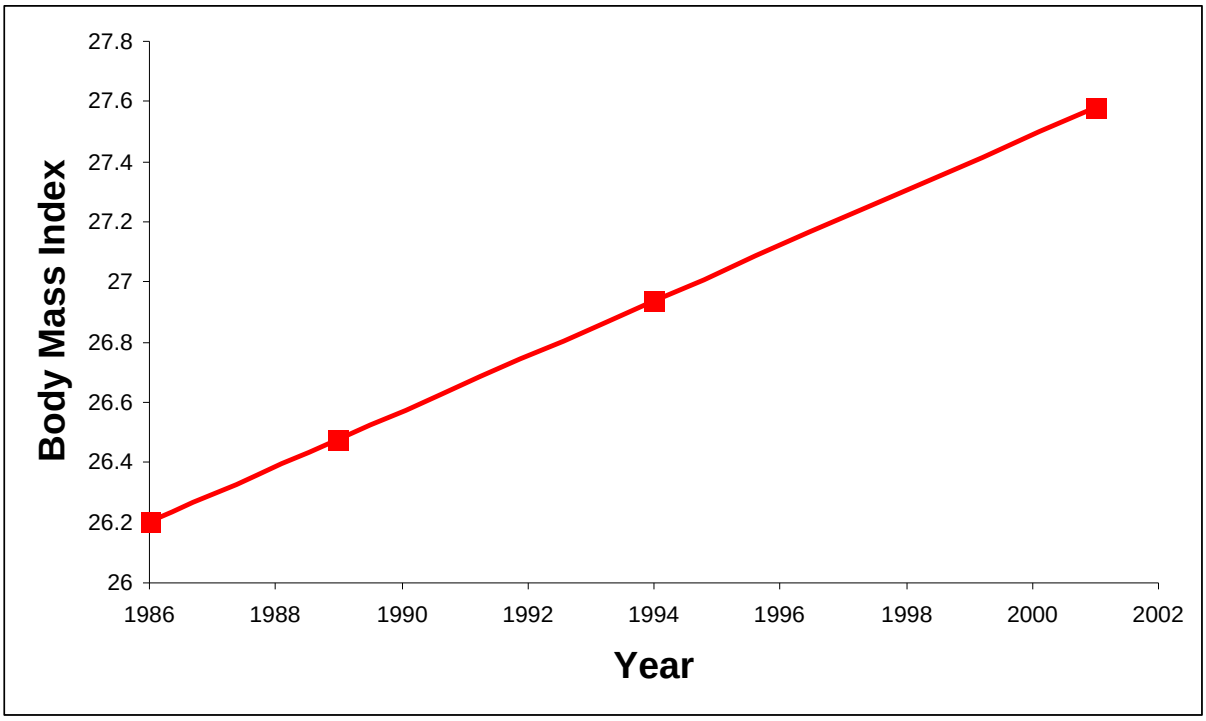

FIGURE 1. Average Body Mass Trajectory from Unconditional Growth Curve Model, 1986-2001

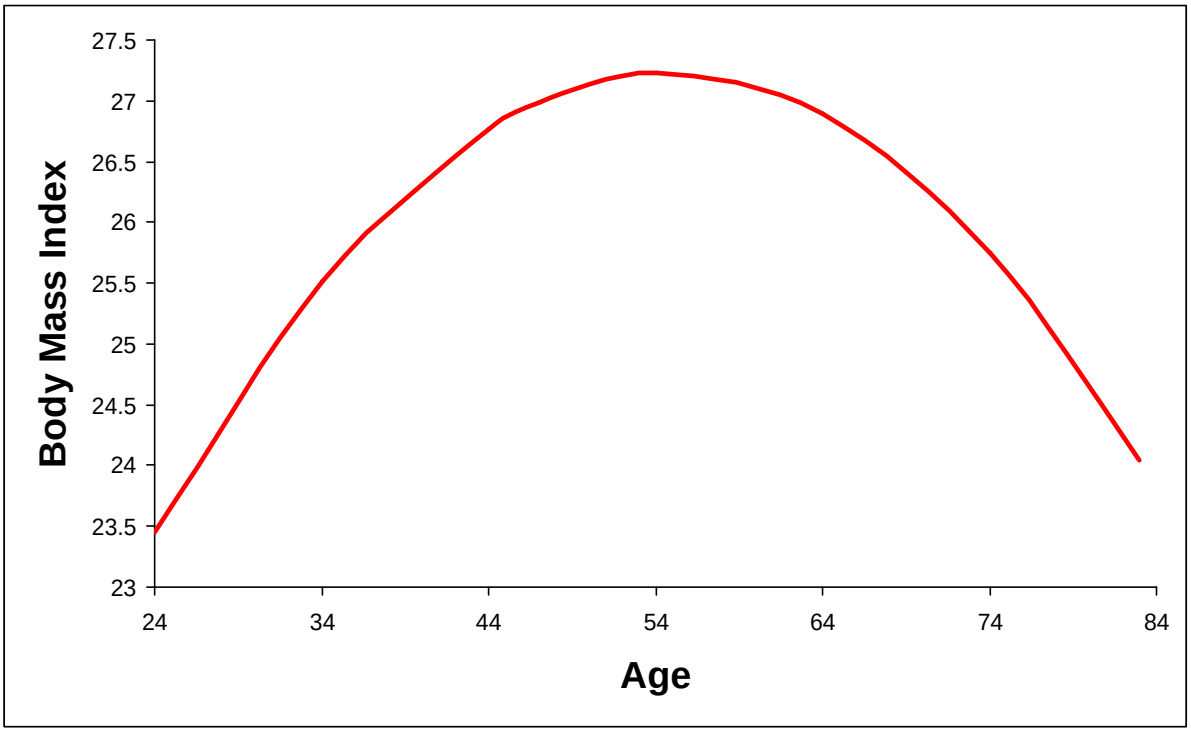

FIGURE 2. Initial Level of Body Mass Index with Age from Growth Curve Analysis

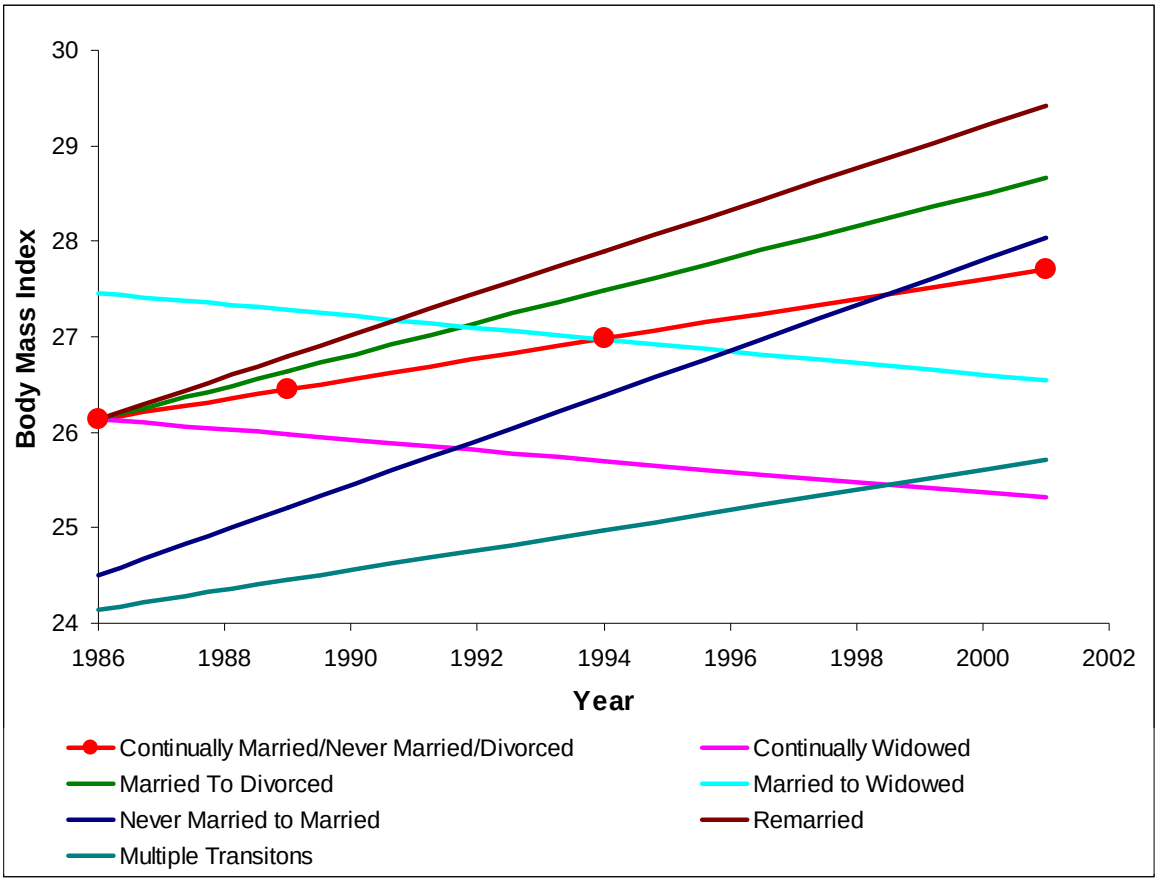

FIGURE3. BMI Trajecoties by Marital Transition Status from Unconditional Growth Curve Model 1986-2001

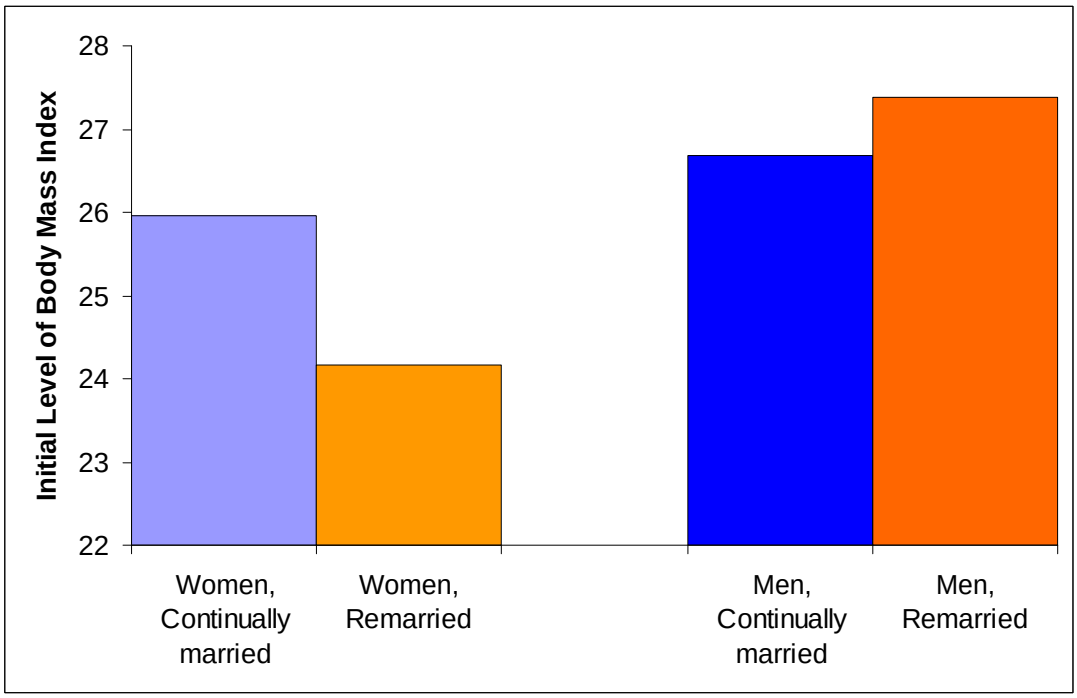

FIGURE 4. Gender Differences in Initial BMI Gap (Continually Married v.s. Remarried)

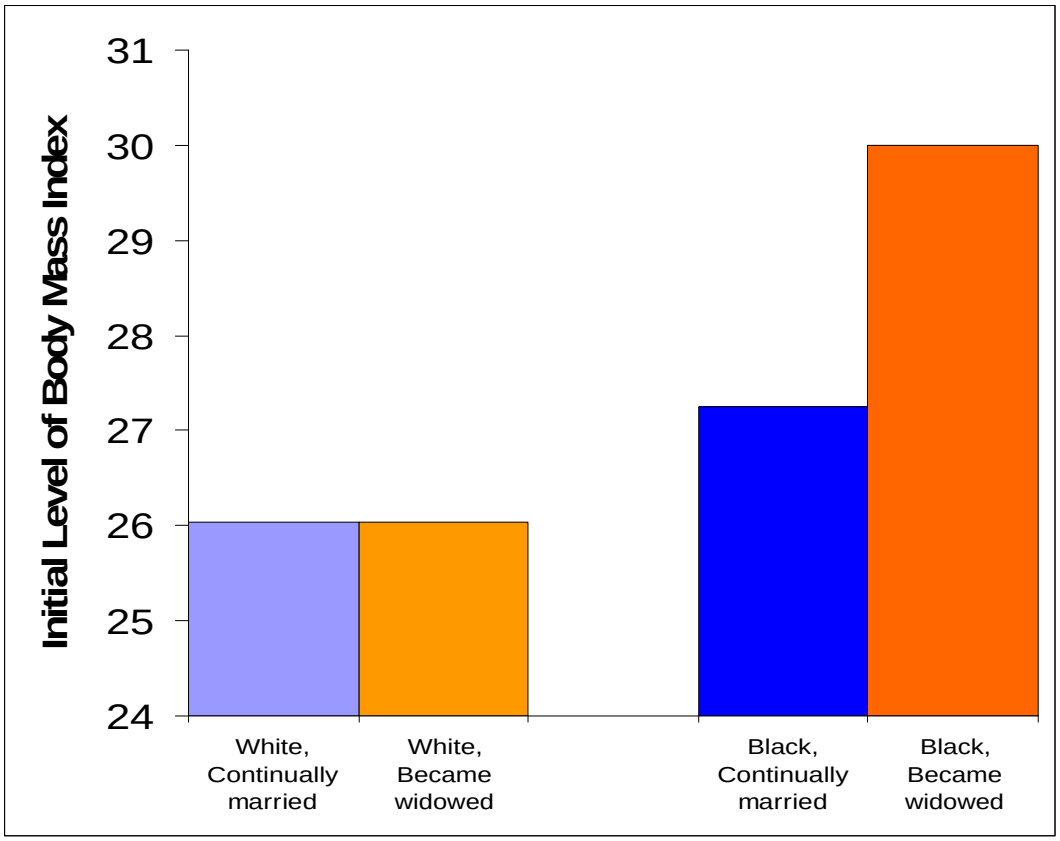

FIGURE 5. Race Differences in Initial BMI Gap (Became Widowed v.s. Continually Married)

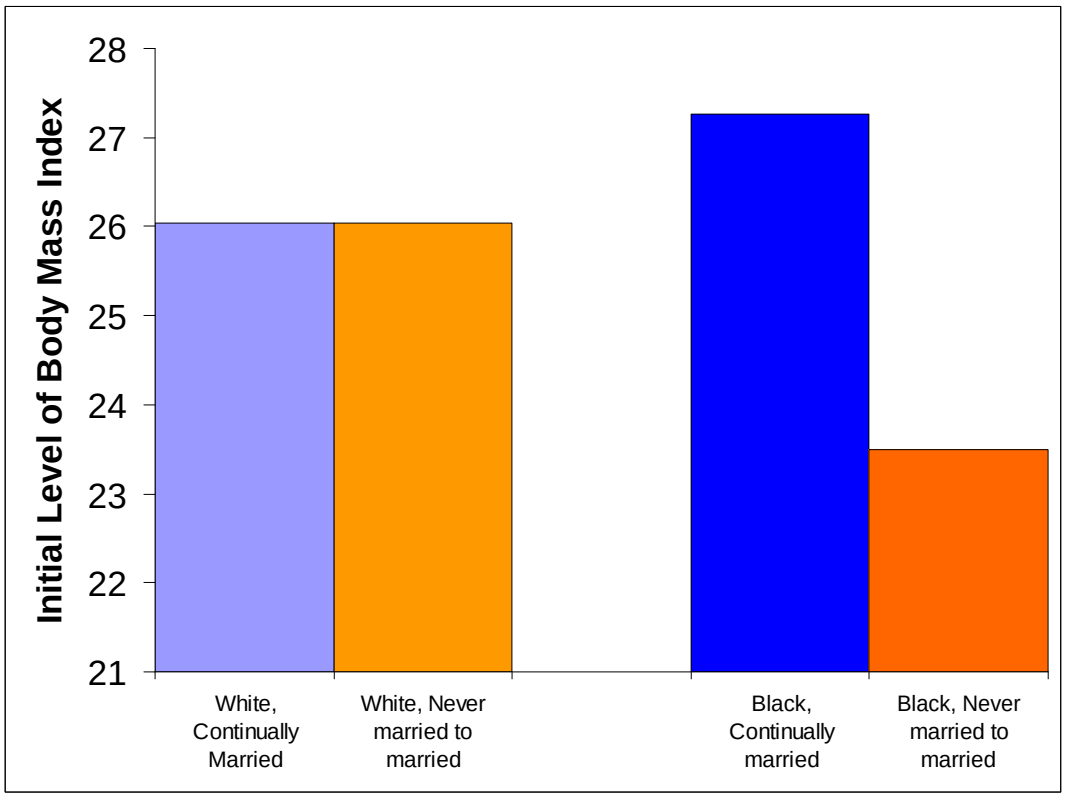

FIGURE 6. Race Differences in Initial BMI Gap (Never Married to married v.s. Continually Married)

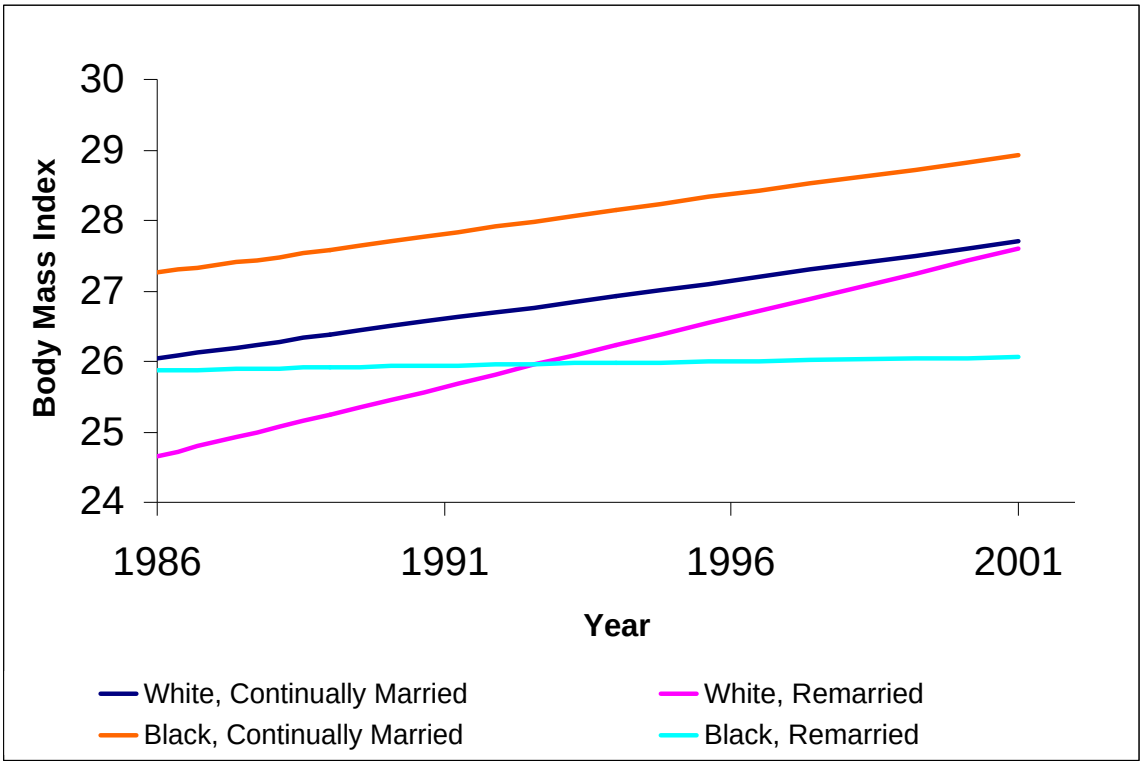

FIGURE 7. Race Differences in BMI Trajectories from Growth Curve Analysis (Remarried v.s. Continually Married)

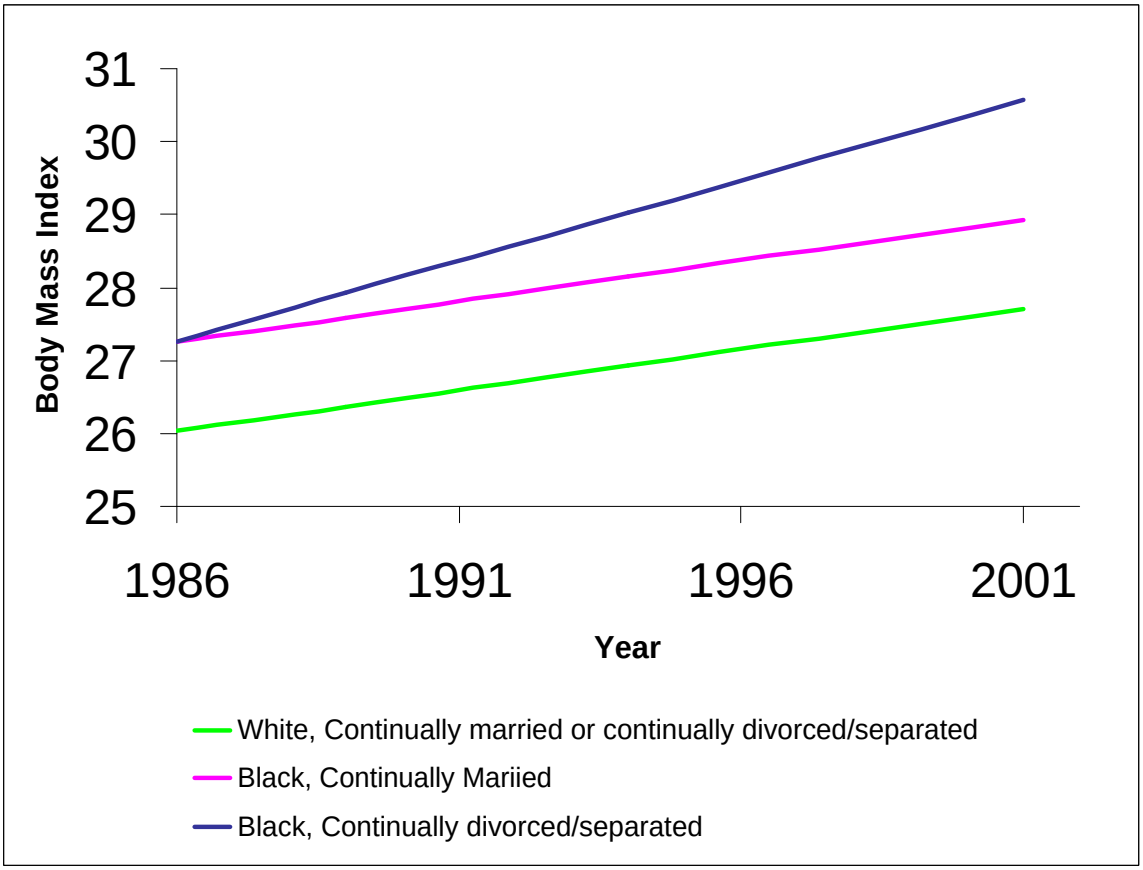

FIGURE 8. Race Differences in BMI Trajectories from Growth Curve Analysis (Continually Divorces/separated v.s. Continually Married)