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Interracial and Inter-ethnic Marriage and Cohabitation and Self-Rated Health

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Abstract

Despite increases in interracial and inter-ethnic relationships in the United States, few studies have investigated associations between partner race/ethnicity and health. We do so using the 1996, 2001, 2004, and 2008 panels of the Survey of Income and Program Participation (292,411 combined years of observation). We analyze self-rated health in cross-section and at two time points one-year apart in marital and cohabiting relationships. Having a White partner is associated with higher self-rated health for Hispanic, Black, and Asian men and women, relative to having a partner of one's own race/ethnicity. For White women, but not for White men, having a non-White partner is associated with worse self-rated health. We interpret these findings as contrary to stress theories of the adverse impact of interracial and inter-ethnic partnership on health, and more consistent instead with gendered social-status and economic-resource theories.

Keywords: self-rated health; marriage and cohabitation; interracial relationships; partner race

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INTRODUCTION

Interracial and inter-ethnic relationships are of growing interest in the sociological literature as marriage and cohabitation across racial and ethnic lines has increased as the non-White population grows and racial boundaries become more porous (Miyawaki 2015; Qian and Lichter 2011). Interracial and inter-ethnic relationships are socially important because they represent the breaking down or blurring of racial boundaries and the decreasing of social distance between groups. They also imply major changes in the racial/ethnic composition of the next generation, as children from these unions will be of mixed or multiple race/ethnicities. Social acceptance of interracial and inter-ethnic relationships, however, is incomplete at best (Djamba and Kimuna 2014; Herman and Campbell 2012). Accordingly, the literature on interracial or inter-ethnic relationship and health typically adopts the perspective of potentially adverse impacts on health due to stress processes (Bratter and Esbach 2006; Kroeger and Williams 2011; Yu and Zhang 2017). Evidence from these studies, however, offers mixed or incomplete support for the stress-process perspective. Whereas stress theory implies negative health associations with interracial relationships for both Whites and non-Whites, empirical evidence of negative health associations has been confined to individuals (White or non-White) partnered with non-White individuals. Miller and Kail (2016) instead find that having a White race/ethnicity spouse has positive self-rated health associations for both White and minority race/ethnicity individuals compared to having a non-White spouse. Yu and Zhang (2017) find evidence of worse self-rated health for interracially-married Whites, but not for interracially-married Blacks. This evidence together suggests that the interracial/inter-ethnic character of a

relationship may be less important than the partner's race/ethnicity itself, notably whether the partner's race/ethnicity is White versus non-White.

Adjudicating between differences in empirical findings across studies is important because these findings require different theories to account for them. A positive health association with having a White partner may arise through positive health impacts of the higher social status and economic and other resources that accrue to White individuals in the U.S. (Williams 2012; Williams and Jackson 2005). Alternatively, the positive health association may arise through selection: valued characteristics including education, occupational position, and health may be "exchanged" on the marriage market for a partner's higher-status race/ethnic group (Schwartz 2013). These causal-impact and selection explanations have in common that better health is associated not with racial/ethnic homogamy but with being partnered with a member of a race/ethnic group with higher social status or who possesses greater resources.

Stress-process theory implies a direction of causation from interracial and inter-ethnic partnering to health. Establishing the causal direction of observed associations of romantic relationships with health is difficult, though it is generally accepted that longitudinal data are required (Goldman 2001; Lillard and Panis 1996). All research to date on interracial and inter-ethnic relationships on health, meanwhile, has relied on cross-sectional data. In the present study, we use panel survey data to investigate both cross-sectional and longitudinal multivariate associations of self-rated health with having a White versus minority race/ethnicity marital or cohabiting partner. We do so for men and women aged 18 to 59 across the period 1996 to 2011. Together, our analyses provide a more comprehensive and rigorous evaluation of

the contributions of stress-process and social-status and resource theories to our understanding of interracial and inter-ethnic partnering and health.

BACKGROUND

Married individuals report better health outcomes than the unmarried across the spectrum, from fewer health limitations (Teachman 2010) to lower morality risk, especially for men (Rendall et al. 2011). The findings on the association between cohabitation and health and mortality are more mixed (Lund et al. 2002). Married people consistently report better self-rated health than cohabiting people (Waite 2000; Schoenborn 2004; Bennett 2006; Liu and Umberson 2008; though see also Zheng and Thomas 2013). The research examining cohabitation versus marriage and self-rated health is limited, and the results are inconclusive regarding whether cohabitation helps or harms health (Cullati et al. 2014; Harris et al. 2010; Ren 1997).

Romantic relationships are thought to positively affect health because they provide a social structure in which individuals are embedded, and their social roles and experiences are tied to this structure (Pearlin 1989; Ross et al. 1990). Marriage, due to its symbolic meaning (Ross 1995), provides an extra degree of commitment and stability and may foster a greater sense of obligation to stay healthy. Romantic relationships can additionally provide economic resources and may foster better mental health, which is linked to reporting better physical health (Waite and Gallagher 2000; Waite and Lehrer 2003; Umberson and Montez 2010). Romantic relationships additionally encourage better health behaviors, including seeking medical care, eating healthier diets, and reducing the abuse of alcohol, smoking, and drugs (Duncan et al. 2006). Positive selection on health is an alternative explanation for the better

health of married than unmarried individuals. Studies find that young adults with unhealthy behaviors such as drug use and physical characteristics indicative of poor health, such as obesity, are less likely to marry (Fu and Goldman 1996; but see also Lillard and Panis 1996), and that people with worse health are more likely to divorce (Joung et al. 1998).

Stress Theories of Interracial and Inter-ethnic Couples and Health

Relatively little is known about the effects of the race/ethnicity of one's partner on health. Existing research has focused on adverse health impacts of racially/ethnically heterogamous relationships, hypothesizing they will be less health-protective than racially and ethnically homogamous relationships. Social acceptance of interracial and inter-ethnic relationships is still incomplete (Djamba and Kimuna 2014; Herman and Campbell 2012). Qian and Lichter (2007) argue that the higher proportion of interracial relationships between Whites and Blacks that involve non-marital cohabitation signifies that the boundaries between Blacks and Whites still remain, because cohabitation does not represent the same level of commitment and stability as marriage.

Invoking variants on stress process theory (Pearlin 1989), studies have investigated health behaviors, mental health, and self-rated health in interracial and inter-ethnic relationships. Studies have found that interracially paired individuals are more likely to engage in problematic health behaviors such as binge drinking (Chartier and Caetano 2012) and interpersonal violence (Fusco 2010). Interracial dating has been found to be associated with a higher risk of depression compared to same-race dating in adolescence (Miller 2017). Kroeger and Williams (2011) and Bratter and Eschbach (2006) find that being a racial-majority group member with a racial-minority partner is associated with greater depression compared to

having a racial-majority partner, respectively among young adults in cohabiting and marital relationships, and among marital individuals at all ages.

Stress theory has also been invoked by Yu and Zhang (2017) to investigate self-rated health differences between individuals of all ages in racially/ethnically heterogamous versus homogamous marriages in the National Health Interview Survey. They find that Whites married to Black and Hispanic partners report lower self-rated health, and interpret this as consistent with greater exposure to stress in interracial relationships. Their predictions of lower self-rated health for individuals with a spouse of another race/ethnicity, however, are not supported for Black and other non-White race/ethnic groups. Miller and Kail (2016) use cross-sectional data from the Current Population Survey to investigate the associations of interracial and inter-ethnic marriages at all ages with self-rated health. Contrary to stress theory, they find that having a White spouse is associated with better self-rated health for minorities. Among Whites, however, they find that having a non-White spouse is associated with worse health. Miller and Kail suggest that greater economic and psychosocial resources that a majority White partner brings to a relationship may then extend to benefitting their racial minority partners' health too.

Social Status, Resources, and Exchange

Other theoretical perspectives potentially relevant to interracial and inter-ethnic relationships and health include those that focus on the economic and psychosocial resources that partners of different race/ethnicities bring to the relationship (Carr and Springer 2010; Goldman 2001; Thoits 1995; Umberson and Montez 2010). Theory from the social psychology of health often looks to subjective social status to explain health disparities. Rooted in symbolic

interactionism, this theoretical framework posits that individuals make social comparisons with significant others and their self-evaluations of status literally "get under the skin" and result in health disparities (Wilkinson 1999; Schnittker and McLeod 2005). Both economic resource and racial/ethnically-based social status theories predict that having a White partner will be beneficial for the health of both majority White and minority race/ethnicity individuals relative to having a minority race/ethnicity partner.

"Exchange theory" similarly focuses on the resources that are brought to a relationship by partners of differing race/ethnicities, but explains observed positive associations of health instead by processes of partner selection. Kalmijn (2010), in the context of status exchange theory to explain exogamous partnering, posits that race and ethnicity act as status markers on the marriage market, and therefore as something that can be "traded" in exchange for socioeconomic status as people form romantic relationships. Empirical support is found in higher socioeconomic status Blacks and Hispanics being more likely to marry Whites (Fu 2001; Gullickson 2006) and cohabit with Whites (Torche and Rich 2016). Analogously, healthier Black, Hispanic, or other minority race/ethnicity individuals may select into relationships with Whites. Positive health selection into partnering with Whites would be consistent with findings that higher self-rated health and other positive health markers such as lower obesity increase one's likelihood of marriage (Fu and Goldman 1996; Wilson 2002; Schwartz 2013). Despite intermarriages between Blacks and Whites in the U.S. having become more common, the prevalence of status exchange among higher education Blacks with White partners has not decreased over time (Lewis and Ford-Roberson 2010; Torche and Rich 2016), and this may also be true of status exchanges involving health.

Gendered Interactions of Interracial and Inter-ethnic Couples and Health

Evidence suggests that gender may moderate the effects of relationship-related stress and status on self-rated health. Although marriage is found to be equally protective of mental health for men and women (Simon 2002), marriage exerts a stronger protective effect on men's mortality (Rendall et al. 2011) and men's self-rated health is more adversely affected by marital dissolution than women's (Williams and Umberson 2004). A greater overall magnitude of the effect of being married on men's than on women's health might plausibly translate into a greater magnitude also of the difference in the health effect of partner's race/ethnicity. On the other hand, women both experience more stress and are more vulnerable to the detrimental effects of chronic stress on mental and physical health (Kessler and McLeod 1984; Mirowsky and Ross 1995), and this may explain the finding that White women in interracial relationships are more prone to mental distress (Bratter and Eschbach 2006). Race, moreover, may be a stronger status cue for White women than White men in relationships with non-Whites (Miller et al. 2004). These stress and status processes both point to partner's race/ethnicity having a greater impact on women's than men's health.

The composition of interracial and inter-ethnic relationships varies by gender: the majority of interracial unions (married and cohabiting) involving a Black partner involve a Black man and a White woman, and this is true for both native and foreign born Blacks (Batson, Qian, and Lichter 2006), whereas Asian women are more likely to partner with White men compared to Asian men with White women (Qian, Glick, and Batson 2012). We know that White women are more likely than White men to marry Black and Hispanic partners with high educational attainment (Fu 2001; Gullickson 2006). If status exchange processes also operate in partner

selection based on health, then they may also be gendered. That is, White women with worse health may also be more likely than White men to partner with a minority-race/ethnicity individual. A greater health association of women than men in interracial and inter-ethnic partnering could in this way also be responsible for a greater contrast in the cross-sectional association of self-rated health with White versus non-White partner for women than for men.

Miller and Kail (2016) and Yu and Zhang (2017) find very limited evidence for gender differences in the association between spouse race/ethnicity and self-rated health. Miller and Kail find only an effect of having a Black versus White spouse being greater for women's health than for men's. Yu and Zhang find evidence only of White women's poorer health when partnered with a Hispanic husband compared to White men's health when married to a Hispanic wife. We have several concerns, however, with these analyses of these gender and partner race/ethnicity interactions. The first is simply a problem of limited statistical power to detect such three-way interactions given that these studies treat each minority race/ethnic group separately. We show in our analyses that combining minority race/ethnic groups is warranted by statistical tests of model fit. Our second concern, specific to the study of Miller and Kail, is that they have specified incorrectly their interaction model. Their presented results (in their Table 3) include no main effect for Asian, Black, or Hispanic spouse. If these main effects were indeed omitted in their regression, all of their three-way interaction effect estimates will be invalid.

Beyond the concerns we have about previous studies' testing for gendered interactions of interracial and inter-ethnic partner, we note also that both the Miller and Kail (2016) and Yu and Zhang (2017) examine only married couples and impose no upper age restrictions. Older

adults are less likely to be interracially married compared to younger adults, as interracial marriage rates have increased in recent years, while cohabitors are the most likely to have interracial and inter-ethnic partnerships (Qian and Lichter 2011). Moreover, paradoxically, older people are disproportionately optimistic with their health assessments (Layes et al. 2012), and self-rated health is a weaker predictor of mortality among older age groups (Benyamini et al. 2003). This suggests that the process underlying older people's responses may be different from that for younger people.

The above two previous studies on self-rated health, along with those of Bratter and Eschbach (2006) and Kroeger and Williams (2011) on mental health outcomes, use only cross-sectional data to draw inferences about potentially adverse impacts of interracial and inter-ethnic relationships on health. This leaves open, as these studies each note, the possibility of individuals being selected into interracial and inter-ethnic relationships based on their health as an alternative explanation for health differences from those in racially and ethnically homogamous relationships. In the present study, we investigate self-rated health associations with own and partner racial/ethnicity among married and cohabiting individuals aged 18 to 59, applying both cross-sectional and longitudinal methods of analysis to nationally-representative panel survey data. To address statistical power issues, we compare models with separate treatment of minority race/ethnic groups to models that combine minority race/ethnic groups into a single "non-White" category to compare to non-Hispanic Whites. We attend carefully throughout to the correct specification and statistical testing of race/ethnicity and gender interactions.

DATA AND METHODS

We use public use data from 1996, 2001, 2004, and 2008 Survey of Income and Program Participation (SIPP) panels, which represent the non-institutionalized U.S. population (U.S. Census Bureau 2016). These SIPP Panels run for about four years each, with waves at four month intervals and information reported retrospectively on each of those four months. At Wave 1 of each SIPP panel, the survey is household-based: that is, all members of the household present at Wave 1 are included. The longitudinal design of the SIPP is person-based. SIPP follows original sample members regardless of household composition, unless they are no longer in the SIPP universe (i.e., not institutionalized, do not live in military barracks, and do not move out of the country) or are under 15 and no longer live with an original sample member (U.S. Census Bureau 2001:2-9). Individuals who were not in the sample at prior waves become part of the SIPP sample if they start living with an original sample member. They are followed as long as they continue to live with that sample member. Our analysis samples include both the original SIPP respondent and the new partners of these individuals. The SIPP assigns to these new partners a portion of the weights of the original sample persons in the household they moved into (U.S. Census Bureau 2001:8-4), and this is their weight used in our analyses. We used person-level sample weights for all descriptive statistics and regression analyses. We adjusted for clustering at the individual level wherever there were multiple observations per individual.

We constructed two analysis files, respectively for cross-sectional and health-change analyses. Both are person-year files of married and cohabiting individuals aged between 18 and 59 years old. We restrict the population studied to 18 to 59 year olds in part because, as we

noted earlier, the meaning of self-rated health changes with age. Moreover, restricting age to exclude older age groups, and analyzing only a one-year time period, minimizes the potential problem of individuals with poor health dropping out due to incapacitation or death.

In the person-year file for the cross-sectional analyses, we used data from wave 1 plus each of the following waves at which self-rated health was reported (see Table 1), consisting of between 2 and 4 waves per panel (N=223,986 White and 68,425 non-White observations). A subset of the cross-sectional file, in which individuals are observed to report health status at intervals one year apart, constitutes the health-change file of person-year pairs (135,203 White and 40,194 non-White observations).

We identify married couples from a spouse ID variable, available irrespective of relationship to reference person. We are able to identify cohabiting couples only when one of the two partners is listed as the reference person for the household. Subfamily cohabiting couples (e.g., living in the household of one of their parents) are therefore excluded from our analyses. We included only opposite-sex relationships, allowing for more straightforward gendered analyses of health by partner's race/ethnicity. Our inclusion of both married and cohabiting couples represents an important advance over prior work limited only to married couples (Miller and Kail 2016). Nevertheless, we note that we do not compare partnered individuals' health outcomes to the health outcomes of individuals who are not partnered, possibly for health-related reasons.

Variables

All variables listed here are captured for SIPP respondents and their marital or cohabiting partners, if applicable. *Self-rated health* was measured once a year as a part of the

topical modules administered in addition to the core questionnaire of SIPP. The question was: "Would you say your health in general is excellent, very good, good, fair or poor?" This question was asked of each member of the household. This is the standard "self-rated health" question of the literature discussed above. We coded this variable with values 1 ("poor") through 5 ("excellent") so that larger values indicate better health. We include both self-reports and proxy reports.[1]

Our *race/ethnicity* variable is first constructed with four categories: Hispanic (all races), and non-Hispanic White, Black, and Asian. Hispanic race/ethnicity comes from the SIPP's ethnicity questions which asked about Hispanic origin. In the 2004 and 2008 panels, Hispanic origin was asked: "Is [person] Spanish, Hispanic or Latino?" with possible responses "yes" or "no." In the 1996 and 2001 panels, greater detail about Hispanic origin was provided in a variable that captures nine Hispanic origin categories: Mexican, Mexican-American, Chicano, Puerto Rican, Cuban, Central American, South American, Dominican Republic, and Other Hispanic. We coded as "Hispanic" from these panels all respondents who indicated that they were any of these nine Hispanic origins. To code the non-Hispanic categories, we included individuals self-identified as "Black Alone," "White Alone," or "Asian Alone." The remaining SIPP race category, "Residual," combines people who chose multiple racial categories, as well as people who selected "American Indian/Alaska Native," "Native Hawaiian/Pacific Islander," and "Other." This residual category accounts for less than 4% of the adult population represented by the SIPP. Because of lack of detail about the racial/ethnic composition of the residual category, we exclude these individuals from all our analyses. Appendix Table 1 displays the unweighted frequencies of own race/ethnicity by partner race/ethnicity for men and women in

the sample. Nativity was not asked as part of the core SIPP questionnaire in 1996 and 2001 but rather was included as part of a topical module administered at Wave 2; consequently, there is a large proportion of missing data for nativity, notably for those who joined the SIPP panel by partnering after Wave 2. We thus do not include nativity as a predictor variable.

Control variables for all models include the following. *Union type* is a binary variable for marriage versus cohabitation. *New relationship* captures whether or not the relationship formed in the prior year. *Education* is a four-category variable consisting of less than high school, high school degree, some college, and Bachelors' degree or higher. *Age* is reported in years and is centered around the mean value of age reported for all individuals in the sample at Wave 1, which is 38 years. *Year* is an integer variable that we code with a range from 0 in 1996 to 15 in 2011. *Region* is a four-category variable for Northeast, Midwest, South, and West.

Analyses

Cross-sectional Model

The expected value of self-rated health H at time t is specified as a function of a main explanatory variable of partner race/ethnicity at year t, P_t, and control variables Z_t. Following previous analyses of self-rated health (see Gunasekara et al. 2011 for a review), we treat the self-rated health variable H_t as a continuous, interval scale variable. We thus represent the expected value of health expectation as the linear function *F*, estimated by Ordinary Least Squares (OLS) regression:

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

We estimated this model separately for men and women. To test for gender differences in the association of partner race/ethnicity with self-rated health, we re-estimated this model

pooling men and women and including gender interactions on all covariates. We estimated equation (1) for White individuals alternately with a simple White/Nonwhite categorization of own and partner race/ethnicity and a four-category White, Hispanic, Black, and Asian grouping. For non-White individuals, we estimated equation (1) alternately with all non-Whites pooled with a White/non-White partner race/ethnicity, and with each of the three groups of non-Whites (Hispanic, Black, and Asian) in separate models with a three-category partner race/ethnicity grouping of "own race/ethnicity," "other non-White," and "White." We present in the Results section below estimates from both the White/non-White models and from the models with multiple-category non-White groupings. As we describe in that section, comparisons of AIC and BIC model fit statistics and examination of Wald tests for differences in coefficients both indicate that modeling treatments that separate Hispanic, Black, and Asian race/ethnicity categories perform worse than do models that combine them into a single "non-White" category (Hispanics together with Blacks and Asians). This binary coding of race/ethnicity also aligns with a status exchange theoretical framework, in which (non-Hispanic) Whiteness operates as a status marker compared to other races (Kalmijn 2010).

We also tested for model fit improvements when including interactions of partner race/ethnicity with cohabiting versus married, with region, and with year. Using the more conservative BIC criterion across the four sets of models (White and non-White men and women), we found only two cases of improvement in model fit when including these interaction specifications. That is, our findings on the associations of partner race/ethnicity with self-rated health generally apply similarly to cohabiting and marital partners, similarly across the four census regions of the U.S., and similarly across the time period 1996 to 2011. [2]

Health-change Model

Closely related to the "cross-sectional" model is the "health-change" model. Again, the outcome variable is self-rated health, and the main explanatory variable is partner race/ethnicity. Following the results of the statistical tests performed on the larger cross-sectional samples, we estimate the health-change model for a simple White/Non-White categorization of the individual's and his or her partner's race/ethnicity. For the health-change model, two observations of self-rated health, one year apart, are required for each individual. This allows us to estimate change in self-rated health. We achieve this using the regressor-variable method (Allison 1990). The model is:

$$E[H_{t+1}|P_t, H_t, Z_t] = F(\beta_0 + \beta_1 P_t + \beta_2 H_t + \beta_3 Z_t), \quad (2)$$

where the expected value of own health at time *t+1* is a linear function of partner race at time *t,* own health at time *t*, measured categorically, and the same set of control variables Z_t as for the cross-sectional model: age, age squared, education, the union type (cohabiting or married), education, a "new relationship" indicator, year, and region. We use OLS regression to estimate this equation separately for White and non-White men and women, resulting in four models. We additionally estimate White and non-White models with pooled genders with gender interactions on all covariates to determine whether the associations of the independent variables measured at time *t* on health at time *t+1* vary by gender.

An alternative to the regressor-variable method that has been used in the modeling of individual outcome change in general (Morgan and Winship 2014), and change in self-rated health in particular (Gunasekara 2011), is the "change-score" method. We chose the regressor-variable method consistent with Allison's (1990) arguments that it is the more appropriate

method to handle "stock" type dependent variables, which health clearly is. Another reason for not using change scores to model self-rated health is that they leave no way to measure health improvement for someone who has rated their health "excellent," or health decline for someone who has rated their health "poor" (Gunasekara 2011, 2012). This two-period observation of self-rated health represents a major gain over the cross-sectional analysis in terms of controlling for selection into having a White versus non-White partner based on prior self-rated health. We consider the limitations of having *only* two periods of observation of health in the Discussion section.

RESULTS

We first compare the self-rated health and sociodemographic characteristics and relationship type of the populations of White and non-White individuals aged 18-59 who were married or cohabiting (see Table 2). Mean self-rated health for Whites is 3.91, just below a rating of "very good," and .16 points higher than non-Whites' mean score of 3.75. To give more context to this .16 mean difference, Whites are seen to be more than five percentage-points more likely to report excellent health (31.5% versus 26.1% of non-Whites), whereas non-Whites are 8 percentage-points more likely to report their health as poor, fair, or good (38.8% versus 30.8% of Whites).

The non-White married or cohabiting population aged 18-59 is about half Hispanic, a third Black, and one-sixth Asian. Whites have a lower prevalence of partnering exogamously compared to non-Whites, with only 3.9% of Whites partnered with non-Whites whereas 12.0% of non-Whites are partnered with Whites. Whites are more likely to be married compared to non-Whites (92.1% versus 90.3%). Slightly fewer (4.1%) Whites than non-Whites (4.9%) are in a

new relationship (that is, one formed in the last year). Whites' educational attainment exceeds substantially that of non-Whites, and Whites are slightly older on average (41.8 years old) than are non-Whites (39.7 years old). Region of residence differs between Whites and non-Whites, with Whites more heavily represented in the Northeast (20.1% of Whites and 14.4% of non-Whites) and Midwest (27.3% of Whites and 12.3% of non-Whites) and non-Whites more heavily represented in the South (41.6% of non-Whites compared to 34.6% of Whites) and West (31.7% of non-Whites compared to 17.5% of Whites).

[TABLE 2 ABOUT HERE]

Table 3 displays the results from the cross-sectional OLS regression model estimating the multivariate associations of partner race/ethnicity and other covariates with self-rated health, separately for White and non-White men and women. For Whites, we present versions of the estimated models in which non-White partner race/ethnicity is respectively separated into Hispanic, Black, and Asian (left two columns) and included in a single "non-White" category (middle two columns). For neither men nor women is the AIC model fit statistic improved by the separate grouping of Hispanic, Black, and Asian partners, and the BIC statistic is substantially worsened with this separate grouping.[3] In the statistically favored model that groups non-White race and Hispanic ethnicity into a single "non-White" race/ethnic category, White women with non-White partners have worse self-rated health than White women with White partners, by .070 points of health. This association attains statistical significance at the .01 level. The interaction effect between gender and having a non-White partner is also statistically significant (at the .05 level), consistent with only White women experiencing lower self-rated health with a non-White partner. This is the first indicator that gendered theories are

needed to explain self-rated health associations with partner's race/ethnicity.

In the version of the model estimated for White individuals that separates the non-White partners into Hispanic, Black, and Asian (left two columns), the associations with self-rated health are mostly similar across these three groups. For White men, none of the non-White partner groups' coefficients is statistically significantly different from zero, and the magnitudes are all close to zero. White women with Hispanic and with Black partners report worse health compared to White women with White partners, associations that are significant at the .05 level. White women's Asian-partner coefficient, however, is close to zero and non-significant. By gender, the only statistically-significant difference in partner race/ethnicity is that for Hispanic partners: White women with Hispanic partners experience lower self-rated health compared to White men with Hispanic partners. The difference between White men with a Black partner and White women with a Black partner is not statistically significant (p = .128, result not shown), even though the magnitude of difference in the coefficients between partners (0.024 versus -0.098) is greater than that between White men and White women with a Hispanic partner (0.012 versus -0.07). We interpret this as evidence of low statistical power to detect gender interactions when Non-White partners are broken down into the three separate race/ethnic groups.

For Whites, Table 3 shows that for men and women, greater age is associated with worse self-rated health. Cohabiting is consistently associated with worse self-rated health, and self-rated health increases with each additional level of education compared to having less than a high school degree. For women, being in a newly formed relationship is associated with poorer self-rated health. There are some regional differences in health for Whites: for both

men and women, living in the Midwest or South is associated with worse self-rated health compared to living in the Northeast, and the same is true of living in the West for White women. Self-rated health worsens over time.

In the two rightmost columns, we present estimates for non-White men and women, including White partner race/ethnicity as the main predictor variable. We see that having a White partner is associated with better self-rated health than having a non-White partner, respectively .107 and .166 points better for non-White men and non-White women. These are both substantial magnitudes when recalling (Table 2) that the overall difference in mean self-rated health between Whites and non-Whites is .16.

The gender difference in non-Whites' associations of higher self-rated health when with a White partner is only statistically significant at the .10 level. At .053, it is of a magnitude not much lower than the gender association of self-rated health with having a non-White partner for White individuals (.071), however, and is in the same direction of being stronger for women than for men. Therefore, for both Whites and non-Whites, some form of gendered process of self-rated health association with having a White versus non-White partner is indicated.

For non-Whites, as with Whites, increasing age is associated with declining self-rated health. Cohabiting non-White individuals report lower self-rated health, and increasing levels of education are associated with better self-rated health. For non-Whites, living in the West is associated with better health compared to living in the Northeast. Non-White women's health improved somewhat over the time period of interest.

[TABLE 3 ABOUT HERE]

Table 4 shows the cross-sectional regression results for non-Whites estimated

separately for Hispanic, Black and Asian men and women. All models include controls for age, age-squared, union type, education level, whether or not the relationship is new since the last observation one year prior, year, and region. The full results are presented in Appendix Table 2. Here too, there are similar patterns across non-White race/ethnic groups. Having a White partner instead of an own race/ethnicity partner is associated with higher self-rated health for all three non-White groups. This association is statistically significant at least at the .05 level for all except the comparison of Black women with White versus Black partners which, due to their small number (see again Appendix Table 1), is significant only at the .10 level. There are no statistically significant associations at the .05 level between self-rated health and having a non-White partner of a different race/ethnicity for Hispanics, Blacks, or Asians. For Hispanic women, however, having a Black or Asian partner is statistically significantly associated with better self-rated health at the .10 level of significance. Together, these results again point to having a White versus non-White partner as being the major dimension of partner race/ethnicity for understanding its association with self-rated health.

[TABLE 4 ABOUT HERE]

Table 5 presents the results from the health-change models for men and women aged 18-59 in a marital or cohabiting relationship for two consecutive years, with self-rated health observed in both years. The health-change interpretation comes from our having controlled for self-rated health in the previous year in estimating the association of partner race/ethnicity with the current-year self-rated health outcome. Unsurprisingly, level of self-rated health is strongly associated with self-rated health one year prior for all four race/ethnicity-by-gender groups. The relationship is of a monotonic increase with prior year's self-rated health for all

four groups, consistent with the regressor-variable modeling assumption that self-rated health is a "stock" variable in its character.

The findings of the health-change models with respect to the partner race/ethnicity coefficients, however, are notably similar to those in the cross-sectional models, albeit with smaller coefficient magnitudes. Even after controlling for prior year's self-rated health, self-rated health is higher for White women with a White partner than with a non-White partner, and self-rated health is higher for both non-White men and non-White women with a White partner than with a non-White partner. White women who are partnered with a non-White man see a loss of -.044 self-rated health points relative to when partnered with a White man. This is statistically different from the change in self-rated health for White men when partnered with a non-White woman relative to when partnered with a White woman (itself a non-significant .009 points). For non-White men and women, their health-change associations with having a White partner versus a non-White partner are respectively .075 and .082, with the difference between these two coefficients not statistically significant. Although the samples and specifications are only partially overlapping between the cross-sectional and health-change models, it is nevertheless also notable that the associations of partner race/ethnicity with self-rated health are of lesser magnitudes in the health-change models than in the cross-sectional models. This is consistent with the cross-sectional associations being partly due to individuals with poorer self-rated health being more likely to form a partnership with a non-White cohabitor or spouse: an "adverse health selection" effect.

Other variables that are controlled for in estimating these partner-race effects on self-rated health change have the expected associations. Older individuals experience more adverse

health changes. Cohabitors experience more adverse health change than do married individuals. Health changes are more favorable the higher is the individual's education attainment. All of these associations of these control variables with health change are found for all four populations of partnered individuals: White and non-White men and women. Over the one-year period, Whites living in the Midwest and South see adverse health change compared to those living in the Northeast. Health declines for White women over the 1996-2011 period, whereas it increases for non-White women.

The magnitudes of the coefficients for having a non-White partner for Whites and for having a White partner for non-Whites may be compared to other binary variables to assess the strength of the associations with self-rated health. For both White women and non-White men, these coefficients are of similar absolute values to those of their coefficients for being in a cohabiting (versus married) relationship. That is, approximately equal losses in self-rated health are experienced by being partnered with a non-White individual compared to a White individual as are experienced by being in a cohabiting and not marital union.

[TABLE 5 ABOUT HERE]

DISCUSSION

Racially and ethnically heterogamous relationships are an increasingly integral and important part of the social fabric of the U.S., and will influence population characteristics for generations to come (Qian and Lichter 2011). The study of whether and how interracial and inter-ethnic relationships may affect health is thus far a small field of investigation, despite compelling theoretical and substantive reasons to study this topic. Two prior studies on intermarriage and self-rated health, both using cross-sectional data over a similar period

(Current Population Survey from 2000 to 2013, Miller and Kail 2016, and National health Interview Survey from 1997-2013, Yu and Zhang 2017), found that self-rated health varies by the racial composition of marriages. Our analyses of data from the 1996, 2001, 2004, and 2008 Survey of Income and Program Participation (SIPP) Panels allow us to add to these studies by including cohabiting as well as marital unions, by considering different race/ethnic groupings including a combined "non-White" group, by more careful consideration of gender interactions with partner race/ethnicity, and by using longitudinal data to control for self-rated health one year before. The latter feature of our analysis allows us to advance the prior cross-sectional research by taking into account health change over time, providing evidence that is suggestive of partner race/ethnicity's having a longitudinal associationwith self-rated health, independently of processes of health-based selection into interracial and inter-ethnic partnering.

We first examined the cross-sectional association of partner race/ethnicity and self-rated health. Our analyses both confirm findings of Miller and Kail (2016), and extend them especially with respect to gender differences. We find that for (non-Hispanic) White women, and for non-White (including Hispanic) men and women, having a non-White partner is associated with lower self-rated health compared to having a White partner. Having a White partner is indeed associated with higher self-rated health for all combinations of Hispanic, Black, and Asian men and women, relative to having a partner of one's own race/ethnicity. Our findings are thus consistent with Yu and Zhang's (2017) findings of an overall negative health association for Whites, though with the addition that we find this to hold only for White women. Our findings are not consistent with Yu and Zhang's (2017) finding of no health

association with having a White spouse for Black individuals. Our inclusion of cohabiting as well as married individuals, and our restricting our age range to non-elderly adults, are possible reasons for this difference across our respective studies.

The magnitudes of our coefficients, moreover, are substantial. In our bivariate analyses, we estimated an overall disparity in self-rated health between partnered White and non-White 18 to 59 year olds of .16 points, corresponding to an 8 percentage-point greater likelihood that a partnered non-White individual has a level of health below "Very Good" or "Excellent" (38.8%, versus 30.8% of partnered Whites). In our multivariate regressions, non-White women's higher self-rated health when partnered to a White man was .17 points higher than when partnered to a non-White man, almost exactly equaling the overall self-rated-health disparity. Non-White men's higher self-rated health when partnered to a White woman was .12 points higher than when partnered to a non-White woman, or two thirds of the overall self-rated-health disparity. These are substantively important findings in the context that 12% of non-Whites were partnered with Whites across our 1996-2011 period of investigation.

Previous studies on the advantages of being partnered on health and mortality have found them to be larger for men than for women (Lillard and Panis 1996; Rendall et al 2011). We found in the present study instead that associations of self-rated health with interracial and inter-ethnic partnering were stronger for women than for men. We found evidence at the .05 level of statistical significance that the negative association of having a non-White partner compared to a White partner with self-rated health is larger for White women than for White men (for whom no negative association is found), and evidence at the .10 level that the positive association of having a White partner compared to a non-White partner with self-rated health

is larger for non-White women than for non-White men. These results suggest a different type of gendered process of partner race/ethnicity with self-rated health among Whites in particular than for the general relationship of being partnered or married to health.

Our findings of gendered associations of partner race/ethnicity with self-rated health, moreover, are stronger than those reported by Miller and Kail (2016) or Yu and Zhang (2017). These two studies did not report mutually consistent results: Miller and Kail found evidence for worse health for White women married to Black spouses compared to White, whereas Yu and Zhang found evidence only for a gendered association of health with having a Hispanic spouse for White women. We noted several concerns, however, with these analyses of these gender and partner race/ethnicity interactions, the first being simply a problem of limited statistical power to detect such three-way interactions given that both studies treat each minority race/ethnic group separately. Further, Miller and Kail's interaction model appears to have omitted a main effect for Asian, Black, or Hispanic spouse.

We also drew inferences about differences in change in self-rated health over a one-year period according to whether one's partner is White or non-White. The results from these analyses showed that being in a relationship with a non-White partner is associated with adverse health change for White women, and that both non-White men and non-White women experience a better health trajectory across consecutive years when their partner is White than when their partner is non-White. In these health-change results, however, only for Whites was there evidence that the process is gendered: specifically, White women's more adverse health changes when partnered with a non-White man are not matched by any corresponding adverse health change experienced by White men partnered with a non-White versus a White woman.

Our findings offer at best limited support for the theory that interracial and inter-ethnic relationships adversely affect health through stress processes. Only for White women is there any evidence that could reasonably be interpreted as consistent with stress-process theory. For White women, interracial and inter-ethnic relationships may be more stressful than racially/ethnically homogamous relationships, or they may not provide the same stress-buffering benefits as a homogamous relationship. Previous studies suggest that interracial relationships are associated with worse mental health compared to same-race relationships due to heightened stress (Bratter and Eschbach 2006; Kroeger and Williams 2011; Miller 2017), particularly for the racial majority group. Yu and Zhang (2017) find some evidence that psychological stress mediates the partner race-self-rated health association, but acknowledge that the mediating effect is small in their cross-sectional analysis. Other theoretical interpretations, however, may better explain White women's negative non-White partner race/ethnicity associations with health compared to White partner associations with health, interpretations that have more generality across the four groups (White and non-White men and women), as we now discuss.

A second theoretical interpretation comes from the social psychology of health literature, which looks to status processes to explain health disparities. It has been argued that both the structural conditions that come with higher social status (e.g., more financial resources, living in a better neighborhood, etc.) and the social psychological experience of feeling oneself to have subjectively higher status are beneficial to health (Schnittker and McLeod 2005; Wolff et al. 2010), and research on romantic relationships specifically find that individuals who perceive their relationship to be marginalized – and thus low status – report

lower health, worse self-esteem, and riskier health behaviors such as cigarette smoking (Lehmiller 2012). If social status is also the process producing health impacts, the gendered associations found for Whites may be interpreted as consistent with partner race/ethnicity being a stronger status cue for White women than White men in relationships with non-Whites. Having a White partner, moreover, may increase social status for both non-White men and women, which could in turn benefit actual health or one's assessment of health. Interracial relationships are still stigmatized despite their increasing prevalence, especially for Whites (Djamba and Kimuna 2014; Herman and Campbell 2012). A third theoretical interpretation is that having a White partner is "healthier" because of greater resources that they bring to a relationship (Carr and Springer 2010; Thoits 1995). Partner race/ethnicity may be more important for non-Whites and for women, in particular, due to socioeconomic labor-market disadvantages experienced by both women and non-Whites (England 2010; Tomaskovic-Devey, Thomas, and Johnson 2005).

Both social status and resource theories, however, have counterparts in "social exchange" theory. In the case that healthier individuals are able, through "social exchange" processes, to select into unions with partners with higher social status or greater resources, we cannot then distinguish in cross-sectional data if social status or resources have any positive impact on health. In our finding that these positive associations between self-rated health and having a White partner remain after controlling for self-rated health in the previous year, our study provides evidence that the association between the racial/ethnic composition of relationships and self-rated health is unlikely to be entirely due to selection through social-exchange processes. Previous studies of selection versus causation in the relationship-health

association (Harris et al. 2010; Lillard and Panis 1996; Waite and Lehrer 2003) have led to conclusions that social causation arguments are more compelling than selection arguments. Because our health-change analyses are limited to two consecutive years of self-rated health status, however, our ability to draw causal inferences is still relatively weak. In particular, there remains the possibility that an individual was selected into having a White versus non-White partner based on his or her health *trajectory* (see Vaisey and Miles 2014 for discussion of this problem in a more general context). Disentangling the causal effects of a health trajectory that was already in place before an individual was observed in the survey requires a longer sequence of observations of health.

A further limitation of our study is that, despite large sample sizes obtained by pooling four SIPP panels, there are not enough cases to disaggregate racial categories beyond a White/non-White categorization without losing significant statistical power needed to draw substantive conclusions. Our statistical tests did not reveal evidence for differences across minority race/ethnic groups. With larger sample sizes, future research may benefit from comparing different partnership racial and ethnic combinations to discern whether certain combinations have stronger effects on self-rated health than others, and for which minority race/ethnic groups are women more susceptible to these effects than men.

Taken together, the results for White women and non-White men and women suggest that resource and social status theories provide better explanations for the association between partner race/ethnicity and health than do stress theories. The analyses of the present study, however, do not allow us to distinguish which of social status or economic resources is more important. Future work that controls for economic resources of the partner

(employment, education, etc.) may test whether social status or economic resources are the main resources brought to the union, thereby improving self-rated health. Prior research has found that spousal education is linked to better self-rated health for women (Brown et al. 2014), and research on educational status exchange suggests high levels of educational homogamy among interracial couples (e.g., Torche and Rich 2016). In this case, the isolation of minorities, especially minority women, from the interracial marriage and dating market (Crowder and Tolnay 2000; Gullickson 2006) might also have an adverse effect on minority health. If these already socioeconomically-disadvantaged minority men and women, with worse health to begin with, are also blocked out of relationships with individuals who have greater economic and health resources at their disposal, this could deepen health disparities along racial/ethnic and socioeconomic lines.

[APPENDIX TABLE 1 TO FOLLOW REFERENCES]

NOTES

1. Proxy reports are given by another household member, and constitute 40% of our full sample of self-rated health observations. When we reran the cross-sectional analyses described below excluding individuals with proxy-reported health, we found no substantive differences in the results.
2. The two exceptions were: for non-White men, a BIC improvement was induced by a statistically significant negative interaction coefficient of partner race/ethnicity with year, indicating that the positive association of having a White partner for non-White men became smaller between 1996 and 2011; and for White women, a BIC improvement was induced by a statistically significant positive interaction coefficient of partner race/ethnicity with cohabitation, indicating that the negative association of having a non-White partner holds only for marital partners. For better comparability of interpretation of the main effect for partner race/ethnicity across the four race/ethnicity-by-gender groups, we omit these interactions in the models presented in Table 3.
3. We additionally conducted Wald tests to determine whether the effects of partner race differed between the non-White categories (that is, all categories that were not the reference category for partner race/ethnicity in each non-White race/ethnicity sample) and found that none did.

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Table 1. Availability of Self-Rated Health (H) in SIPP, by Wave

	Wave*			
Panel	3 (4)	6 (7)	9 (10)	12
1996	H	H	H	H
2001	H	H	H	x
2004	H	H	x	x
2008	H	H	H	x

*2008 panel waves are in parentheses

Source: 1996, 2001, 2004, 2008 SIPP Panels

Table 2. Characteristics of Married and Cohabiting Men and Women aged 18-59, 1996-2011 (Weighted % unless otherwise indicated)

	White	Non-White	White v. Non-White±
Self-Rated Health			
Mean Self-Rated Health	3.91	3.75	***
Self-Rated Health Categories			***
Poor	1.9	2.3	
Fair	5.9	8.1	
Good	23.0	28.4	
Very Good	37.6	35.1	
Excellent	31.5	26.1	
Own Race/Ethnicity			
Hispanic	--	52.8	
Black	--	30.4	
Asian	--	16.8	
Partner Race/Ethnicity			***
White	96.1	12.0	
Nonwhite	3.9	88.0	
Union Type			***
Married	92.1	90.3	
Cohabiting	7.9	9.7	
Union Duration			***
New Relationship	4.1	4.9	
Existing Relationship	95.9	95.1	
Education			***
Less than High School	6.4	25.6	
High School Degree	28.6	27.7	
Some College	31.2	26.2	
Bachelor's Degree or Higher	33.8	20.4	
Gender			
Male	48.6	49.5	
Female	51.4	50.5	
Age (Mean)	41.8	39.7	***
Year (Mean)	2003.0	2003.7	***
Region			***
Northeast	20.1	14.4	
Midwest	27.8	12.3	
South	34.6	41.6	
West	17.5	31.7	
Total N	223,986	68,425	

Source: SIPP 1996, 2001, 2004, 2008 Panels
±Group differences from chi-squared and t-tests, *** p<0.001, ** p<0.01, * p<0.05, ! p<0.1

Table 3 Cross-sectional OLS Regression of self-rated health among men and women age 18-59 in cohabiting and married relationships, 1996-2011

	Whites						Non-Whites		
	Men	Women	Men v. Women	Men	Women	Men v. Women	Men	Women	Men v. Women
White Partner							0.107***	0.166***	!
							(0.023)	(0.023)	
Non-White Partner	--	--		-0.001	-0.070**	*	--	--	
	--	--		(0.021)	(0.023)		--	--	
Nonwhite Partner race/ethnicity[b]									
Hispanic	0.012	-0.070*	*	--	--		--	--	
	(0.026)	(0.028)		--	--		--	--	
Black	0.024	-0.098*		--	--		--	--	
	(0.067)	(0.044)		--	--		--	--	
Asian	-0.036	-0.001		--	--		--	--	
	(0.037)	(0.062)		--	--		--	--	
	-	-		-	-		-	-	
Age	0.020***	0.015***	***	0.020***	0.015***	***	0.024***	0.023***	
	(0.001)	(0.000)		(0.001)	(0.000)		(0.001)	(0.001)	
	-	-		-	-		-	-	
Age squared[a]	0.017***	0.020***		0.017***	0.020***		0.053***	0.037***	
	(0.004)	(0.004)		(0.004)	(0.004)		(0.007)	(0.007)	
	-	-		-	-		-	-	
Cohabiting	0.177***	0.159***		0.177***	0.159***		0.154***	0.185***	
	(0.019)	(0.017)		(0.019)	(0.017)		(0.027)	(0.027)	
High School	0.373***	0.415***		0.373***	0.415***		0.119***	0.198***	**
	(0.020)	(0.021)		(0.020)	(0.021)		(0.021)	(0.020)	
Some College	0.504***	0.560***	*	0.504***	0.560***	*	0.203***	0.276***	*
	(0.020)	(0.020)		(0.020)	(0.020)		(0.021)	(0.020)	

Bachelor's Degree or Higher	0.830***	0.874***		0.830***	0.874***		0.385***	0.533***	***
	(0.019)	(0.020)		(0.019)	(0.020)		(0.022)	(0.021)	
New Relationship	0.015	-0.031*	*	0.015	-0.031*	*	-0.006	-0.048!	
	(0.016)	(0.016)		(0.016)	(0.016)		(0.027)	(0.026)	
	-	-		-	-				
Midwest	0.061***	0.054***		0.061***	0.054***		-0.028	0.038	!
	(0.012)	(0.011)		(0.012)	(0.011)		(0.029)	(0.027)	
	-	-		-	-				
South	0.101***	0.102***		0.101***	0.102***		-0.006	-0.007	
	(0.012)	(0.011)		(0.012)	(0.011)		(0.024)	(0.022)	
West	-0.022	-0.034*		-0.022!	-0.033*		0.066**	0.053*	
	(0.013)	(0.013)		(0.013)	(0.013)		(0.025)	(0.023)	
	-	-		-	-				
Year (1996)	0.005***	0.006***		0.005***	0.006***		-0.001	0.004**	**
	(0.001)	(0.001)		(0.001)	(0.001)		(0.002)	(0.001)	
Constant	3.594***	3.492***	***	3.595***	3.492***	***	3.733***	3.470***	***
	(0.021)	(0.022)		(0.021)	(0.022)		(0.029)	(0.027)	
Observations	108,512	115,474		108,512	115,474		33,253	35,172	
R-squared	0.110	0.097		0.109	0.097		0.084	0.102	
AIC Statistic	288627.9	310705.3		288626.5	310704.9				
BIC Statistic	288771.8	310850.1		288751.2	310830.4				

Source: 1996, 2001, 2004, 2008 SIPP Panels

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

[a]Coefficient & standard error multipled by 100

[b]Wald tests were conducted for differences between partner race coefficients for White models; no differences were found

Standard errors in parentheses

Table 4 Cross-sectional OLS Regression of Self-rated Health among non-White men and women age 18-59 in cohabiting and married relationships, 1996-2011±

	All Non-Whites			Hispanics			Blacks			Asians		
	Men	Women	M v. W	Men	Women	M v. W	Men	Women	M v. W	Men	Women	M v. W
White Partner	0.107***	0.166***	!	0.080**	0.115***		0.107*	0.134!		0.157*	0.242***	
	(0.023)	(0.023)		(0.030)	(0.033)		(0.046)	(0.069)		(0.066)	(0.039)	
Other Non-White Partner^	--	--		-0.112	0.122!	*	0.029	0.032		0.078	0.087	
	--	--		(0.094)	(0.065)		(0.086)	(0.094)		(0.130)	(0.083)	
Observations	33,253	35,172		16,499	17,054		11,231	11,274		5,523	6,844	
R-squared	0.084	0.102		0.072	0.091		0.106	0.123		0.083	0.094	

Source: 1996, 2001, 2004, 2008 SIPP Panels

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

±All models control for age, age squared, union type, education level, whether the relationship is new, year, and region. Full model results in Appendix Table 2.

^ for Hispanics, either Black or Asian; for Blacks, either Hispanic or Asian; for Asians, either Hispanic or Black

Standard errors in parentheses

Table 5 OLS Regression predicting self-rated health change over a one-year period for men and women aged 18-59 in married and cohabiting relationships, 1996-2011

	Whites			Non-Whites		
	Men	Women	Men v. Women	Men	Women	Men v. Women
Non-White Partner	0.009	-0.044*	*	--	--	
	(0.017)	(0.018)		--	--	
White Partner	--	--		0.075***	0.082***	
	--	--		(0.021)	(0.020)	
Self-Rated Health 1 Year Prior						
Fair	0.685***	0.657***		0.730***	0.625***	
	(0.042)	(0.037)		(0.065)	(0.066)	
Good	1.393***	1.372***		1.287***	1.184***	
	(0.038)	(0.034)		(0.061)	(0.063)	
Very Good	1.837***	1.846***		1.668***	1.520***	
	(0.038)	(0.034)		(0.061)	(0.063)	
Excellent	2.274***	2.289***		1.992***	1.878***	
	(0.039)	(0.035)		(0.062)	(0.064)	
	-	-		-	-	
Age	0.011***	0.008***	***	0.015***	0.014***	
	(0.000)	(0.000)		(0.001)	(0.001)	
Age squared[a]	-0.008*	-0.008*		-0.027*	-0.019**	
	(0.003)	(0.003)		(0.007)	(0.006)	
	-	-			-	
Cohabiting	0.076***	0.051***		-0.062*	0.118***	
	(0.016)	(0.013)		(0.025)	(0.025)	
High School	0.147***	0.188***	!	0.057**	0.097***	
	(0.015)	(0.015)		(0.019)	(0.018)	
Some College	0.210***	0.258***	*	0.073***	0.153***	**
	(0.015)	(0.015)		(0.019)	(0.018)	
Bachelor's Degree or Higher	0.377***	0.404***		0.203***	0.271***	*
	(0.015)	(0.015)		(0.020)	(0.019)	
New Relationship	-0.013	-0.022		0.000	-0.008	
	(0.019)	(0.018)		(0.035)	(0.032)	
	-					
Midwest	0.034***	-0.028**		-0.017	0.032	
	(0.009)	(0.009)		(0.027)	(0.025)	
	-	-				
South	0.051***	0.048***		0.009	-0.006	
	(0.009)	(0.009)		(0.022)	(0.020)	
West	0.002	-0.005		0.068**	0.045*	
	(0.010)	(0.010)		(0.023)	(0.021)	
Year (1996)	-0.001!	-0.002*		-0.000	0.003*	!
	(0.001)	(0.001)		(0.001)	(0.001)	

Constant	1.993***	1.914***	***	2.204***	2.176***	***
	(0.039)	(0.036)		(0.063)	(0.067)	
Observations	65,329	69,874		19,368	20,826	
R-squared	0.340	0.344		0.259	0.259	

Source: 1996, 2001, 2004, 2008 SIPP Panels

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

[a]Coefficient & standard error multipled by 100

Standard errors in parentheses

Appendix Table 1. Partnership Racial Composition by Gender

Frequencies, Married and Cohabiting Relationships among Men and Women Age 18-59

	MEN					WOMEN				
	Partner Race					Partner Race				
	Hispanic	Black	White	Asian	Total	Hispanic	Black	White	Asian	Total
Hispanic	13,922	82	2,398	97	16,499	14,397	222	2,351	84	17,054
Black	211	9,903	1,012	105	11,231	98	10,769	386	21	11,274
White	2,277	360	104,651	1,224	108,512	2,429	1,068	111,512	465	115,474
Asian	84	28	461	4,950	5,523	99	117	1,317	5,311	6,844

Source: 1996, 2001, 2004, 2008 SIPP Panels; observations are person-year

Appendix Table 2. Cross-sectional OLS Regression of Self-rated Health among non-White men and women age 18-59 in cohabiting and married relationships, 1996-2011

	All Non-Whites			Hispanics			Blacks			Asians		
	Men	Women	M v. W	Men	Women	M v. W	Men	Women	M v. W	Men	Women	M v. W
White Partner	0.107***	0.166***	!	0.080**	0.115***		0.107*	0.134!		0.157*	0.242***	
	(0.023)	(0.023)		(0.030)	(0.033)		(0.046)	(0.069)		(0.066)	(0.039)	
Other Non-White Partner^	--	--		-0.112	0.122!	*	0.029	0.032		0.078	0.087	
	--	--		(0.094)	(0.065)		(0.086)	(0.094)		(0.130)	(0.083)	
	-	-		-	-		-	-		-	-	
Age	0.024***	0.023***		0.021***	0.023***		0.027***	0.026***		0.017***	0.017***	
	(0.001)	(0.001)		(0.001)	(0.001)		(0.002)	(0.001)		(0.003)	(0.002)	
	-	-		-	-		-					
Age squared[a]	0.053***	0.037***		0.050***	0.040***		0.058***	-0.032**		-0.051*	-0.040*	
	(0.007)	(0.007)		(0.011)	(0.010)		(0.013)	(0.012)		(0.020)	(0.017)	
	-	-		-	-		-	-				
Cohabiting	0.154***	0.185***		0.142***	0.161***		0.149***	0.175***		-0.130	-0.233**	
	(0.027)	(0.027)		(0.036)	(0.038)		(0.043)	(0.042)		(0.109)	(0.077)	
High School	0.119***	0.198***	**	0.121***	0.183***	!	0.249***	0.353***		0.254**	0.310***	
	(0.021)	(0.020)		(0.026)	(0.025)		(0.050)	(0.050)		(0.083)	(0.061)	
Some College	0.203***	0.276***	*	0.212***	0.250***		0.344***	0.493***	*	0.266**	0.316***	
	(0.021)	(0.020)		(0.028)	(0.027)		(0.051)	(0.049)		(0.084)	(0.062)	
Bachelor's Degree or Higher	0.385***	0.533***	***	0.365***	0.505***	**	0.512***	0.779***	***	0.523***	0.541***	
	(0.022)	(0.021)		(0.037)	(0.034)		(0.056)	(0.051)		(0.075)	(0.056)	
New Relationship	-0.006	-0.048!		0.022	-0.025		-0.056	-0.091*		0.073	0.014	
	(0.027)	(0.026)		(0.038)	(0.036)		(0.043)	(0.043)		(0.069)	(0.066)	
Midwest	-0.028	0.038	!	0.029	0.071		-0.132**	-0.016	!	0.065	0.069	

	(0.029)	(0.027)		(0.046)	(0.044)		(0.048)	(0.044)		(0.059)	(0.051)	
South	-0.006	-0.007		-0.008	0.004		-0.036	-0.050		0.114*	0.098*	
	(0.024)	(0.022)		(0.039)	(0.037)		(0.037)	(0.035)		(0.052)	(0.044)	
West	0.066**	0.053*		0.070!	0.045		-0.021	-0.047		0.037	0.059	
	(0.025)	(0.023)		(0.039)	(0.037)		(0.057)	(0.058)		(0.047)	(0.040)	
Year	-0.001	0.004**	**	-0.006**	0.003	**	0.003	0.003		0.001	0.005!	
	(0.002)	(0.001)		(0.002)	(0.002)		(0.003)	(0.003)		(0.004)	(0.003)	
Constant	3.733***	3.470***	***	3.792***	3.511***	***	3.600***	3.295***	***	3.531***	3.392***	***
	(0.029)	(0.027)		(0.042)	(0.041)		(0.059)	(0.058)		(0.085)	(0.063)	
Observations	33,253	35,172		16,499	17,054		11,231	11,274		5,523	6,844	
R-squared	0.084	0.102		0.072	0.091		0.106	0.123		0.083	0.094	

Source: 1996, 2001, 2004, 2008 SIPP Panels

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

[a]Coefficient & standard error multipled by 100

Standard errors in parentheses

^ for Hispanics, either Black or Asian; for Blacks, either Hispanic or Asian; for Asians, either Hispanic or Black