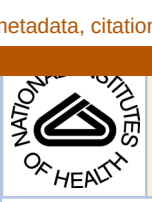

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Entry into Romantic Partnership is Associated with Obesity

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Abstract

Body mass index is highly correlated between spouses; however, less is understood about the underlying mechanism(s) by which the development of obesity in one individual increases the risk of obesity in his/her spouse. The objective of this study is to investigate whether romantic partnership and duration of cohabitation are related to incident obesity and obesity-promoting behaviors. We used two datasets from the National Longitudinal Study of Adolescent Health: 1) 6,949 U.S. adolescents (wave II, 1996) followed into adulthood (wave III, 2001−02) and 2) 1,293 dating, cohabiting, and married romantic couples from wave III, including measured anthropometry and self-report behavior data. In the longitudinal cohort, we used sex-stratified logistic regression models to examine the risk of incident obesity by longitudinal romantic relationship status and duration of time spent living with a romantic partner. In the Couples Sample, we used multinomial logistic regression to predict concordance in outcomes: obesity, moderate-to-vigorous physical activity, and screen time by romantic partnership and duration of time living with a romantic partner. Individuals who transitioned from single/dating to cohabiting or married were more likely to become obese than those who were dating at both waves. Partner concordance for negative, obesity-related behaviors was strongest for married couples and couples who lived together ≥2 years. The shared household environment may increase the likelihood of becoming obese and influence partner concordance and may be an important target for obesity intervention.

Introduction

Marital status is associated with improved health, including lower mortality(1) and decreased cigarette smoking.(2) Conversely, marriage is inconsistently associated with body weight and obesity; some find higher obesity with marriage,(3-5) while others observe the association in one gender,(6, 7) or not at all.(8) Discrepant findings may be due to cross-sectional study designs, inconsistent control for confounding factors, or population differences. Longitudinal studies in older adults suggest that marital transitions significantly influence body weight;(9, 10) however, little is known about how changes in romantic relationships influence obesity in young adults of diverse ethnicities.

Body mass index (BMI) is highly correlated between married spouses,(11-17) and may result from: 1) assortative mating (the propensity for individuals to select romantic partners with similar behaviors and body types) and/or 2) shared household environment.(18-20) However, the complex nature in which assortative mating and shared household environment independently and jointly influence spousal concordance remains poorly understood(19) Examining the effects of marriage duration and cohabitation duration on spousal concordance is a critical component in disentangling the influence of assortative mating and the shared household environment.(18) Increased partner concordance among

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couples who cohabit or are married and/or live together for longer (versus shorter) durations would suggest that common environmental factors play a greater role (relative to assortative mating) in similarities between spouses. Yet, findings are inconsistent(11, 18, 19, 21) and the literature is dominated by data on married couples;(11-18) thus precluding opportunities to effectively tease apart the effects of assortative mating and the shared household environment.

To address these limitations, we used data from a U.S. nationally representative, prospective study to determine whether romantic relationships were related to obesity and obesity-related behaviors. First, we used longitudinal data from the larger cohort to investigate the association of incident obesity with longitudinal changes in romantic relationship and duration of time living with a romantic partner, hypothesizing that entry into (and duration of) a shared (versus non-shared) household would be associated with greater likelihood of incident obesity. Second, we present data on partner concordance of obesity and associated health behaviors in a linked subsample of romantic couples, hypothesizing greater concordance in obesity-related behaviors among married and cohabiting couples and couples with longer duration of living together.

Methods

Study Population

The National Longitudinal Study of Adolescent Health (Add Health) is a prospective, school-based study, representative of school-aged youth (grades 7−12) in 1994−95, augmented with selected subsamples (e.g., romantic couples). Survey procedures have been described elsewhere(22) and approved by the Institutional Review Board at the University of North Carolina at Chapel Hill. Wave I (1994−1995) included 20,745 adolescents and their parents. Wave II (1996, n=14,438) included wave I adolescents who had not graduated from high school, including high school drop-outs. Wave III (2001−2002, n=15,197) followed all wave I respondents, at age 18 to 27 years (regardless of wave II participation) and included a “Couples Sample” in which Add Health respondents recruited their romantic partners to take the same wave III interview.

Study Variables

Outcome Measures

Weight Status: Measured height and weight at waves II and III were collected using standardized procedures. Self-reported height and weight were substituted for those refusing measurement and/or weighing more than the scale capacity (wave II, n=61; wave III, n=232). Obesity during adolescence was classified using International Obesity Task Force (IOTF) BMI≥30 kilograms (kg)/meters (m)^2-equivalent age- and sex-specific cut-points, which provide the comparability across adolescent and adult years,(23) crucial for longitudinal analysis over this period. The adult obesity cut-point (BMI≥30 kg/m^2) was used(24) for respondents >19 years.

Physical Activity/ Sedentary Behavior: Add Health questionnaires included a standard physical activity behavior similar to questionnaires used and validated in large-scale epidemiological studies.(25, 26) Information was elicited on participation in moderate-to-vigorous physical activity (MVPA) (5−8 metabolic equivalents [skating, cycling, exercise and active sports]) in the previous week.(27) In addition, hours and minutes of TV viewing, video viewing, and computer/video game use during the past week was collected. A dichotomous variable represented ≤14 hours of screen time per week based on national recommendations.(28)

Main Exposures: Romantic Relationship Status and Duration of Living Together: Romantic relationship status was self-reported and categorized as single (not in a romantic relationship), dating (in a romantic relationship, but not living together), cohabiting (living with a romantic partner, but not married), and married (and living together). Previously married individuals were categorized according to their current relationship status (n=33). Duration of living together with a romantic partner was self-reported and categorized as not living with a romantic partner (single or dating) and living together 1 day to 1 year; 1 year to 2 years; and ≥2 years.

Covariates: Covariates include self-reported race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, and Asian), age at waves II and III (in tertiles), and wave III education status (<12 years versus ≥12 years). Wave I parental education was self-reported by the parent (<12 years versus ≥12 years).

Longitudinal Cohort Sample and Analyses

The longitudinal cohort included respondents measured at waves II and III (N=11,621), excluding participants who were pregnant (n=416), Native Americans (because of small sample size and high co-linearity with covariates [n=90]), baseline obesity (n=1,601), and those missing weight (n=6), romantic relationship status (n=1,937), duration of living together (n=81) or other covariates (n=541), resulting in an analytic sample of 6,949. Longitudinal romantic relationship status was categorized as single/dating (wave II) to single, dating, cohabiting, or married (wave III).

We used logistic regression to examine the association of incident obesity with longitudinal romantic relationship status and duration of time living with a romantic partner. We examined effect measure modification by sex using interaction terms and likelihood ratio tests (α=0.10) and confounding by an *a priori* change-in-estimate criterion (≥10%) as well as conceptual rationale. Sex-stratified models were adjusted for baseline age, parental education, and race.

Couples Sample and Analyses

The Couples Sample included original respondents and their romantic partners (eligibility based on current romantic relationship with the opposite sex, a relationship lasting ≥3 months, and a romantic partner ≥18 years of age at wave III) randomly selected to complete the full in-home wave III questionnaire (one-third married, one-third cohabiting, and one-third dating). From the original 1,507 couples, we excluded respondents missing data on height (n=71), weight (n=9), duration living together (n=5), and other covariates (n=35), and current pregnancy (n=94), resulting in 1,293 romantic partners (61% non-Hispanic white, 18% non-Hispanic black, 15% Hispanic, and 6% Asian).

We used a t-statistic and f-statistic to test for differences in group means and proportions by romantic partnership status by demographic and behavioral characteristics. We assessed within sex, partnership status differences using the Bonferroni correction, an appropriate multiple testing adjustment for small numbers of comparisons.(29)

We used multinomial logistic regression analyses (instead of ordinal logistic regression models as the proportional odds assumption was not met) to assess whether relationship type and duration of living together were associated with partner concordance (one, both, neither partner share outcome) for three separate outcomes (obesity, MVPA, and sedentary behavior). The “healthy” profile was the referent category (obesity [one, both, versus neither partner obese], screen time [one, neither versus both partners achieved ≤14 hours/week screen time]), and MVPA [one, neither versus both partners achieved ≥2 bouts/week

MVPA, a relaxed criterion in this analysis only, given the few partners concordant on achieving ≥5 bouts/week of MVPA(n=8)]. Main exposures included romantic relationship status (cohabiting and married [versus dating]) and duration of living with together (0.01−0.99 years, 1 −1.99 years, and ≥2 years [versus not living with romantic partner]). For comparability across the models, any confounders (race/ethnicity, education, and age of both partners) of the association between exposure and outcome were included in all models.

All statistical analyses were conducted using Stata (Release 10.0, Stata Corporation, College Station, TX). Longitudinal cohort analysis controlled for survey design effects of multiple-stage cluster sampling and unequal probability of selection to ensure that results were nationally representative with unbiased estimates and standard errors.

Results

Longitudinal Cohort Analyses

Approximately 41% of the nationally representative cohort transitioned from single/dating to dating, where as 29% transitioned to single, 17% transitioned to cohabitation, and 13% transitioned to marriage, with some variation by sex (Table 1).

Men (Odds Ratio [OR]=2.07, 95% Confidence Interval [CI]: 1.333−.25) and women (OR = 2.27, 1.54−3.34) who transitioned from single/dating to married were more likely to become obese than individuals who transitioned from single/dating to dating (Table 2). Women who transitioned from single/dating to single or single/dating to cohabiting were more likely to become obese. While we did not include pregnancy history in our multivariate models since it is on the casual pathway between longitudinal romantic relationship status and obesity, we conducted additional analyses including pregnancy in order to examine the potential biological weight gain effects associated with pregnancy. Results were similar, but slightly attenuated in cohabiting and married women (OR=1.29, 1.05−2.12 and OR =1.91, 1.29−2.84 respectively) [results not shown].

We conducted additional multinomial logistic models (predicting obesity incidence, obesity persistence, and reversal versus persistent non-obesity), to examine the extent to which obesity develops prior to (and after) a romantic relationship. Results were similar to the logistic models for incident obesity and we observed higher likelihood of persistent obesity in women who transitioned from single/dating to single (results not shown).

For women, living with a romantic partner ≥1 years increased the likelihood of incident obesity (Table 2). Men living with a romantic partner for 1.00 to 1.99 years were twice as likely to become obese, compared to men not living with a romantic partner.

Couples Sample Analyses

Married and cohabiting men and women were significantly older and a higher proportion were non-Hispanic white than those who were dating (Table 3). In general, cohabiting and married couples had less healthy profiles for obesity, MVPA, and screen time than dating romantic pairs.

Concordant obesity was over three-fold higher (Prevalence Ratio [PR]=3.30, 1.97−5.55), and discordant obesity two-fold higher (PR=1.90, 1.37−2.63) than concordant non-obesity in married versus dating partners (Figure 1a). Similarly, married couples were more likely to consist of one or two less physically active partners than dating couples (PR=2.00, 1.29−3.12 and PR=2.15, 1.39−3.31, respectively) [Figure 1b], while cohabiting couples were more likely to consist of two sedentary partners (PR=1.98, 1.37−2.87) [Figures 1c]. Males were more likely to be the partner to achieve > 2 bouts/week of MVPA (64% vs.

36%), but were more often the obese partner (54% vs. 46%), while females were more often the partner to meet screen time guidelines (60% vs. 40%) [results not shown]. Duration of relationship was strongly associated with concordant obesity. Romantic partners who lived together ≥2 years were significantly more likely to consist of one or two obese, less physically active, and more sedentary partners (Figures 2a-2c).

Discussion

Taking advantage of a national prospective dataset, with a unique subsample of linked data on romantic pairs, we observed that increased duration of living with a romantic partner was associated obesity and obesity-related behaviors in both the longitudinal and Couples samples, with interesting nuances by sex. For example, men who lived with a romantic partner (1.00−1.99 years) were significantly more likely to become obese. Women living with a romantic partner ≥1 year had an increased odds of obesity. In general, transitioning from single/dating at baseline to cohabitation or marriage at follow-up was associated with increased odds of obesity. In the Couples Sample, concordance in outcomes was highest in romantic partners who lived together for ≥2 years; married couples were more likely to be concordantly obese.

Several studies examining longitudinal changes in romantic relationship status report a differential sex effect of entry into marriage, with greater weight gain in women.(9, 10, 30) Women may be differentially impacted by transitions in romantic relationship status; for example, through increased social obligations encouraging consumption of regular meals(31, 32) and larger portion sizes, (33) resulting in increased energy intake.(30) Further, entry into cohabitation or marriage is associated with decreased physical activity(34) and a decline in desire for to maintain weight for the purpose of attracting a mate.(6) In contrast, obese women may be less likely to marry.(35) Our longitudinal findings suggest that both men and women who enter marriage are more likely to become obese, consistent with findings from another large, racially diverse sample of young adults.(36) Moreover, we found that individuals who lived with romantic partners for a longer duration had higher likelihood of incident obesity suggesting that shared household environmental factors may contribute to changes in obesity.

Building on this work, we used the Couples Sample, which is remarkably underutilized, with only one known publication thus far,(37) to jointly examine partner concordance by three different types of romantic relationships (married, cohabiting, and dating). If assortative mating was the primary mechanism underlying concordance, we would have anticipated similar concordance in behaviors across married, cohabiting, and dating couples. Conversely, if shared household environments were the primary mechanism of concordance, we would have anticipated greater concordance in married and cohabiting versus dating partners. We found strongest obesity concordance in married couples, consistent with findings from studies in older married adults.(13, 16, 38) Yet, we observed weak concordance in behaviors for cohabiting couples who tended to live together for a shorter duration, suggesting a duration effect. In fact, irrespective of the type of romantic relationship, living with a romantic partner more than ≥ 2 years was associated with concordant obesity, inactivity, and sedentary behavior. Our results conflict with other work conducted in racially/ethnically homogenous populations and among older adults, which show an inverse relationship.(18, 21)

Given our finding of associations between longer duration of sharing a household environment with a romantic partner in early adulthood and higher obesity and obesity-promoting behaviors, common environmental influences may play a more significant role in the resemblance of spousal behaviors than assortative mating. However, the complex

manner in which the shared household environment and assortative mating affect these behaviors cannot be fully disentangled. It is possible that environmental factors influence the behavior of one individual, which, in turn affect the behavior of their partner. Nonetheless, romantic partners who transition into a shared household environment may be at increased risk for obesity and negative behaviors, which may be attributed to both common environmental influences and assortative mating.

Our study is not without limitations. First, the Couples Sample is a unique subsample of heterosexual couples in Add Health and therefore is not generalizable to other populations. Second, our sample includes many respondents who are just beginning to cohabitate and enter marriage; hence, we are capturing them at a relatively early period in this lifecycle transition. Given this early adult period, we did not have a large enough comparative sample of individuals who were married or cohabiting at baseline, thus precluding study of the effects of longer durations (>5 years). Further, the young age of individuals in our study may not be representative of all married couples given recent delay in age at marriage(39) and we did not capture between-wave changes relationship status. However, more than 65% of young adults postpone marriage until at least age 25,(39) and less than 5% of the population is expected to undergo multiple changes in less than a 10 year time period.(10, 40) Thus, it is not likely that many individuals in our cohort had multiple entries and exits from marriage. A final limitation of this study is that entry into a romantic partnership may incur changes in many factors (e.g. dietary factors, social obligations, weight control, children in the household) not directly examined in our study. While controlling for pregnancy slightly attenuated our results, they remained significant, suggesting a role of additional factors. Future research should examine specific factors within the romantic relationships that are responsible for increased weight gain.

In conclusion, our findings suggest a positive association between romantic partnership and several obesity-related outcomes. The observed concordance of obesity could increase the likelihood that romantic partners may together pass on high-risk behaviors to their offspring. Targeting the shared household environment may be a promising area of intervention to establish healthy behavior patterns and reduce obesity during young adulthood. Spousal behaviors might be positively used to intervene on each romantic partner to decrease obesity-promoting behaviors.

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References

1. Lund R, Due P, Modvig J, Holstein BE, Damsgaard MT, Andersen PK. Cohabitation and marital status as predictors of mortality--an eight year follow-up study. Soc Sci Med. 2002; 55:673–9. [PubMed: 12188471]
2. Duncan GJ, Wilkerson B, England P. Cleaning up their act: the effects of marriage and cohabitation on licit and illicit drug use. Demography. 2006; 43:691–710. [PubMed: 17236542]
3. Umberson D. Gender, marital status and the social control of health behavior. Soc Sci Med. 1992; 34:907–17. [PubMed: 1604380]
4. Kahn HS, Williamson DF. The contributions of income, education and changing marital status to weight change among US men. Int J Obes. 1990; 14:1057–68. [PubMed: 2086497]
5. Rissanen AM, Heliovaara M, Knekt P, Reunanen A, Aromaa A. Determinants of weight gain and overweight in adult Finns. Eur J Clin Nutr. 1991; 45:419–30. [PubMed: 1959514]
6. Sobal J, Rauschenbach BS, Frongillo EA Jr. Marital status, fatness and obesity. Soc Sci Med. 1992; 35:915–23. [PubMed: 1411692]

7. French SA, Jeffery RW, Forster JL, McGovern PG, Kelder SH, Baxter JE. Predictors of weight change over two years among a population of working adults: the Healthy Worker Project. Int J Obes Relat Metab Disord. 1994; 18:145–54. [PubMed: 8186811]
8. Register CA, Williams DR. Wage effects of obesity among young workers. Social Science Quarterly. 1990; 71:131–41.
9. Rauschenbach B, Sobal J, Frongillo EA Jr. The influence of change in marital status on weight change over one year. Obes Res. 1995; 3:319–27. [PubMed: 8521148]
10. Sobal J, Rauschenbach B, Frongillo EA. Marital status changes and body weight changes: a US longitudinal analysis. Soc Sci Med. 2003; 56:1543–55. [PubMed: 12614704]
11. Inoue K, Sawada T, Suge H, Nao Y, Igarashi M. Spouse concordance of obesity, blood pressures and serum risk factors for atherosclerosis. J Hum Hypertens. 1996; 10:455–9. [PubMed: 8880559]
12. Falba TA, Sindelar JL. Spousal concordance in health behavior change. Health Serv Res. 2008; 43:96–116. [PubMed: 18211520]
13. Jeffery RW, Rick AM. Cross-sectional and longitudinal associations between body mass index and marriage-related factors. Obes Res. 2002; 10:809–15. [PubMed: 12181390]
14. Rotimi C, Cooper R. Familial resemblance for anthropometric measurements and relative fat distribution among African Americans. Int J Obes Relat Metab Disord. 1995; 19:875–80. [PubMed: 8963355]
15. Knuiman MW, Divitini ML, Welborn TA, Bartholomew HC. Familial correlations, cohabitation effects, and heritability for cardiovascular risk factors. Ann Epidemiol. 1996; 6:188–94. [PubMed: 8827153]
16. Macken LC, Yates B, Blancher S. Concordance of risk factors in female spouses of male patients with coronary heart disease. J Cardiopulm Rehabil. 2000; 20:361–8. [PubMed: 11144042]
17. Katzmarzyk PT, Hebebrand J, Bouchard C. Spousal resemblance in the Canadian population: implications for the obesity epidemic. Int J Obes Relat Metab Disord. 2002; 26:241–6. [PubMed: 11850757]
18. Knuiman M, Divitini M, Bartholomew H, Welborn T. Spouse correlations in cardiovascular risk factors and the effect of marriage duration. Am J Epidemiol. 1996; 143:48–53. [PubMed: 8533746]
19. Meyler D, Stimpson J, Peek M. Health concordance within couples: a systematic review. Soc Sci Med. 2007; 64:2297–310. [PubMed: 17374552]
20. Epstein E, Guttman R. Mate selection in man: evidence, theory, and outcome. Soc Biol. 1984; 31:243–78. [PubMed: 6400148]
21. Jacobson P, Torgerson J, Sjöström L, Bouchard C. Spouse resemblance in body mass index: effects on adult obesity prevalence in the offspring generation. Am J Epidemiol. 2007; 165:101–8. [PubMed: 17041131]
22. Popkin BM, Udry JR. Adolescent obesity increases significantly in second and third generation U.S. immigrants: the National Longitudinal Study of Adolescent Health. J Nutr. 1998; 128:701–6. [PubMed: 9521631]
23. Cole TJ, Bellizzi MC, Flegal KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: international survey. Bmj. 2000; 320:1240–3. [PubMed: 10797032]
24. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. World Health Organ Tech Rep Ser. 2000; 894:i–xii. 1–253. [PubMed: 11234459]
25. Pate RR, Heath GW, Dowda M, Trost SG. Associations between physical activity and other health behaviors in a representative sample of US adolescents. Am J Public Health. 1996; 86:1577–81. [PubMed: 8916523]
26. Sallis JF, Buono MJ, Roby JJ, Micale FG, Nelson JA. Seven-day recall and other physical activity self-reports in children and adolescents. Med Sci Sports Exerc. 1993; 25:99–108. [PubMed: 8423762]
27. Ainsworth BE, Haskell WL, Leon AS, et al. Compendium of physical activities: classification of energy costs of human physical activities. Med Sci Sports Exerc. 1993; 25:71–80. [PubMed: 8292105]
28. Children, Adolescents, and Television. Pediatrics. 2001; 107:423. [PubMed: 11158483]

29. Bender R, Lange S. Adjusting for multiple testing--when and how? J Clin Epidemiol. 2001; 54:343–9. [PubMed: 11297884]

30. Burke V, Beilin LJ, Dunbar D, Kevan M. Changes in health-related behaviours and cardiovascular risk factors in young adults: associations with living with a partner. Prev Med. 2004; 39:722–30. [PubMed: 15351538]

31. Sobal J, Bove C, Rauschenbach BS. Commensal careers at entry into marriage: Establising commensal units and managing commensal circles. Sociological Review. 2002; 50:378–97.

32. Marshall DW, Anderson AS. Proper meals in transition: young married couples on the nature of eating together. Appetite. 2002; 39:193–206. [PubMed: 12495693]

33. Worsley A. Co-habitation-gender effects on food consumption. International Jounral of Biosocial Research. 1988; 10:107–22.

34. Bell S, Lee C. Emerging adulthood and patterns of physical activity among young Australian women. Int J Behav Med. 2005; 12:227–35. [PubMed: 16262541]

35. Mukhopadhyay S. Do women value marriage more? The effect of obesity on cohabitation and marriage in the USA. Rev Econ Household. 2008; 6:111–26.

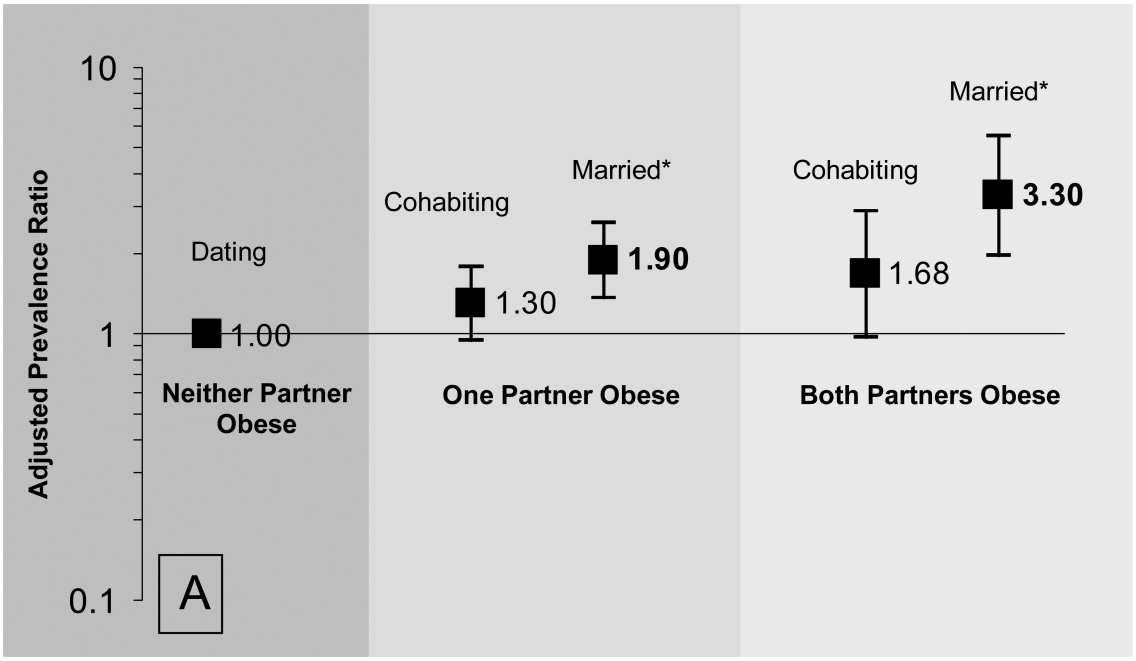
36. Averett SL, Sikora A, Argys LM. For better or worse: relationship status and body mass index. Econ Hum Biol. 2008; 6:330–49. [PubMed: 18753018]

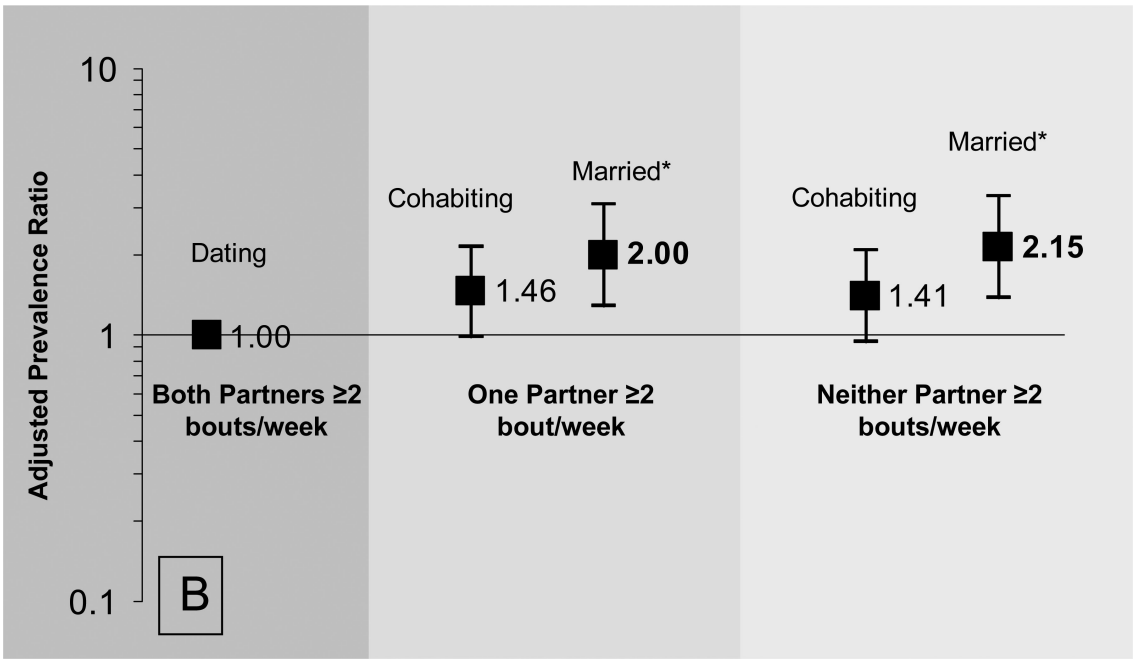
37. Lehrer JA, Buka S, Gortmaker S, Shrier LA. Depressive symptomatology as a predictor of exposure to intimate partner violence among US female adolescents and young adults. Arch Pediatr Adolesc Med. 2006; 160:270–6. [PubMed: 16520446]

38. Bloch KV, Klein CH, de Souza e Silva NA, Nogueira Ada R, Salis LH. Socioeconomic aspects of spousal concordance for hypertension, obesity, and smoking in a community of Rio de Janeiro, Brazil. Arq Bras Cardiol. 2003; 80:179–86. 1–8. [PubMed: 12640511]

39. Bramlett, MD.; Mosher, WD. First marriage dissolution, divorce, and remarriage. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; Hyattsville, Md: 2001.

40. Barrett AE. Marital trajectories and mental health. Journal of Health and Social Behavior. 2000:41.





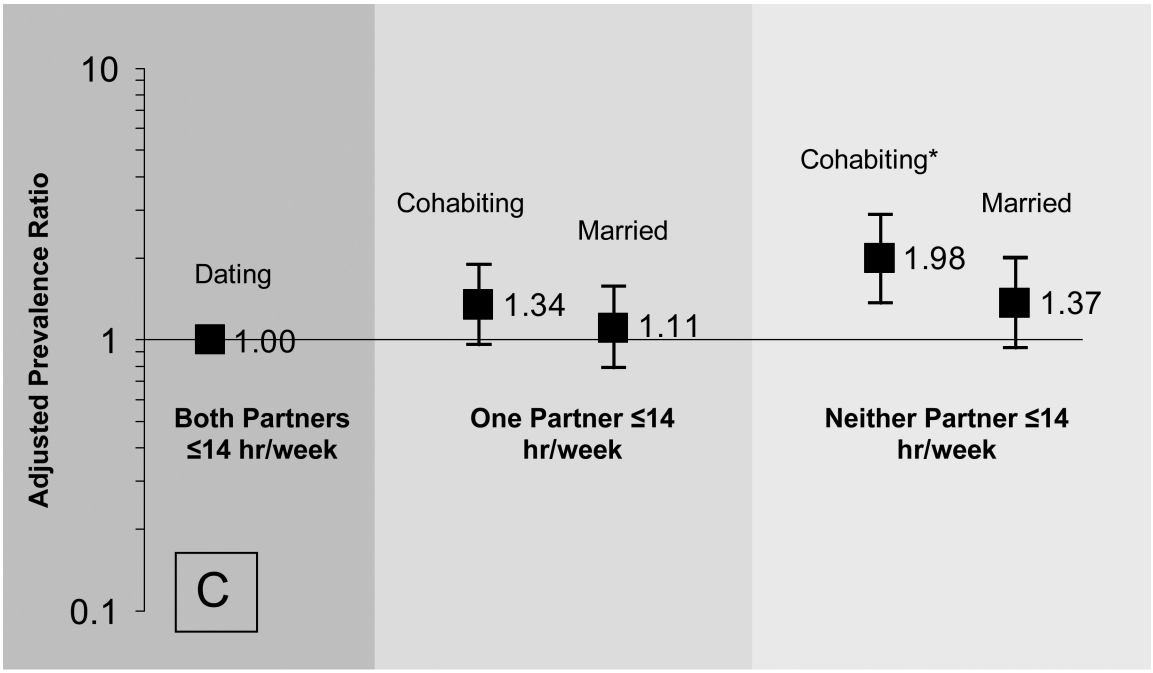
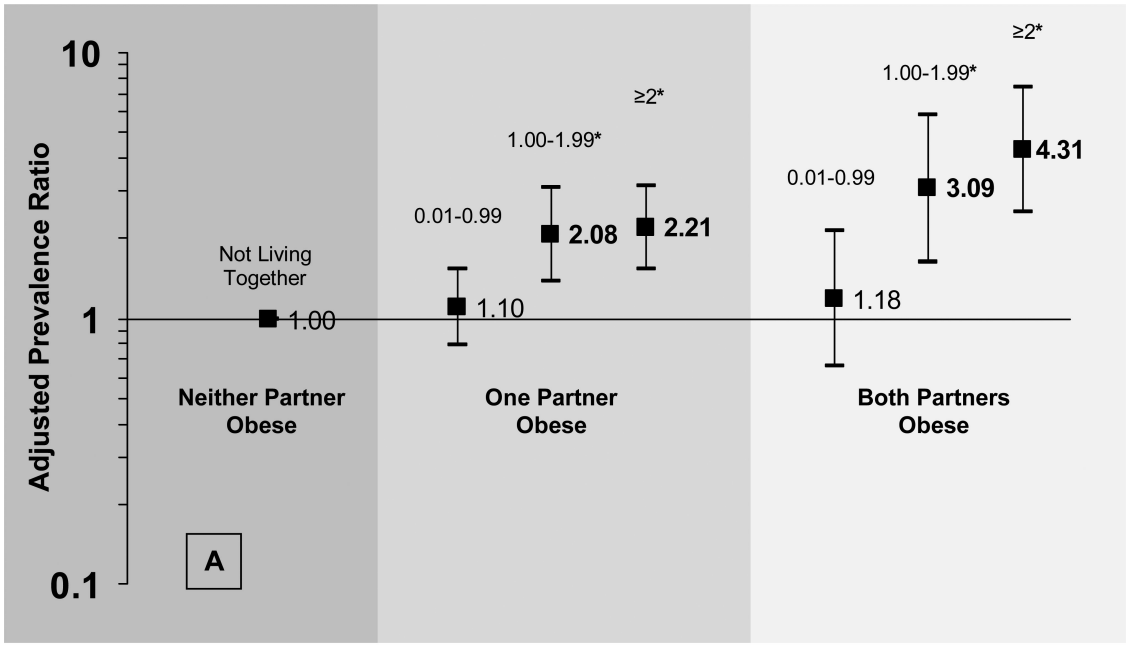
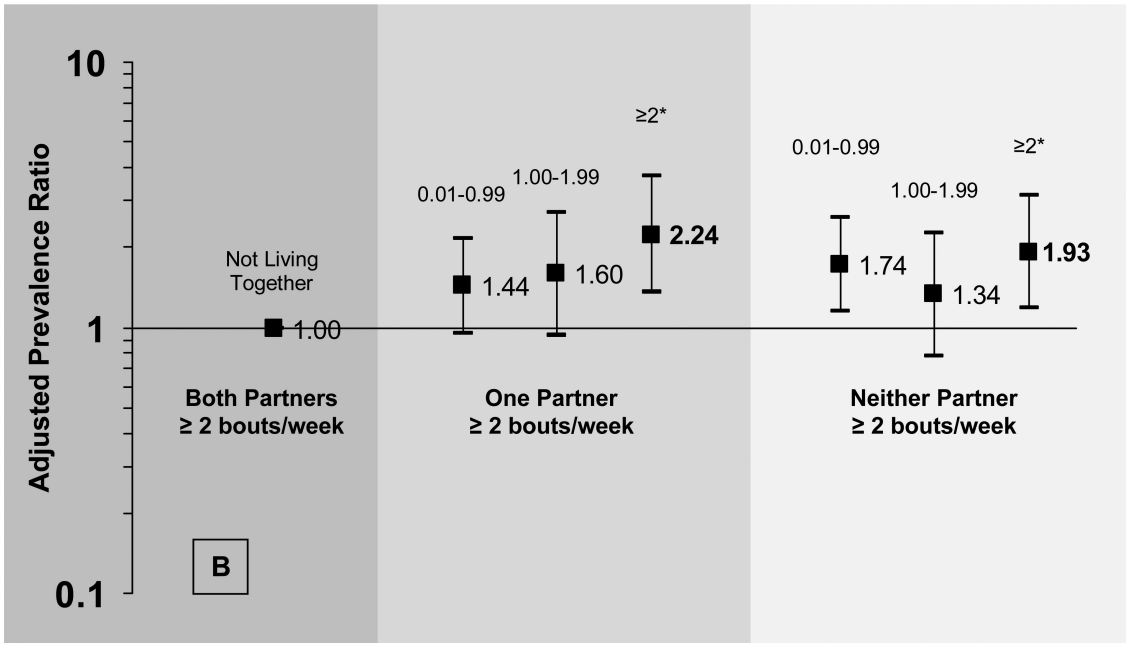


Figure 1.
Relationship type predicting partner concordance of A)obesity, B)MVPA, and C)sedentary behavior, Add Health, Couples Sample (wave III (2001−2002); multinomial logistic regression models adjusted for partners' race (white/white, white/nonwhite, nonwhite/nonwhite), education (≥12 years/≥12 years, ≥12 years/<12 years, <12 years/<12 years) and age (male and difference between male and female)). MVPA, moderate-to-vigorous physical activity.





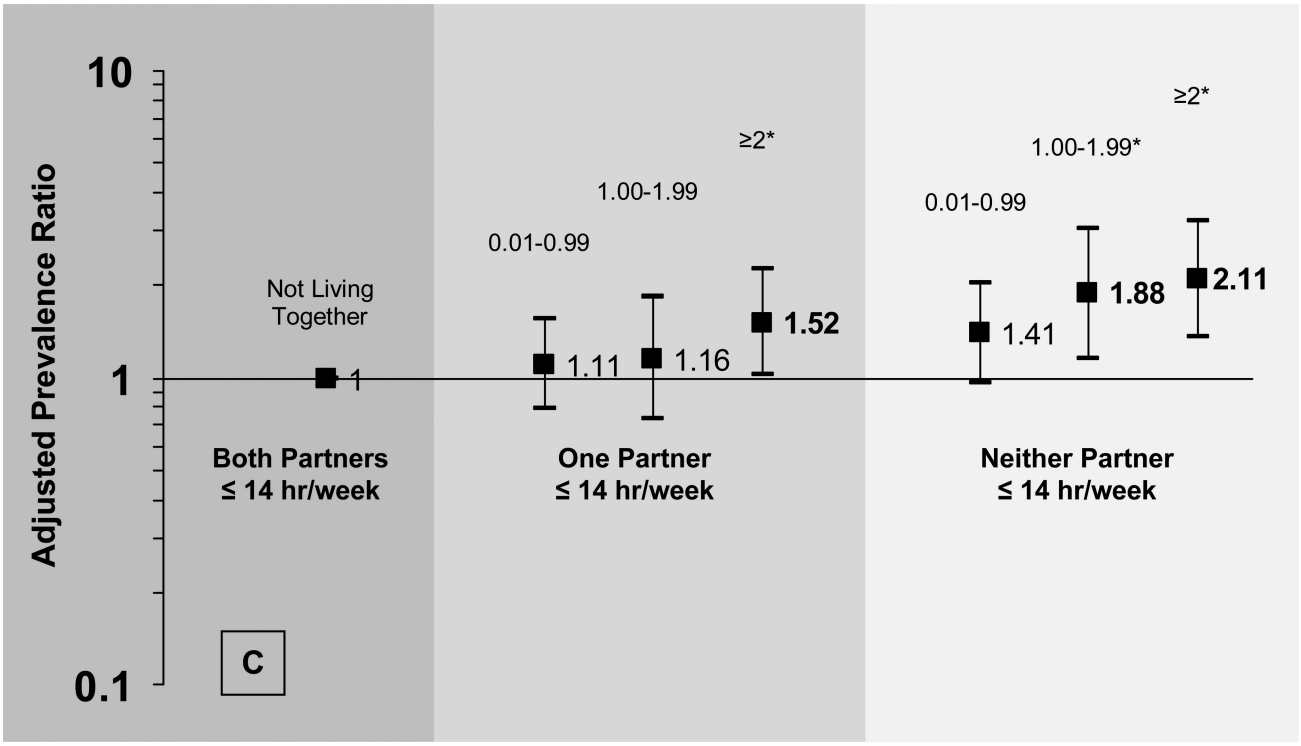


Figure 2.
Duration (in years) living together predicting partner concordance of A)obesity, B)MVPA, C)sedentary behavior, Add Health Couples Sample (wave III (2001−2002); multinomial logistic regression models adjusted for partners' race (white/white, white/non-white, non-white/non-white), education (≥12 years/≥12 years, ≥12 years/<12 years, <12 years/<12years), and age (male age and difference between male and female age)). MVPA, moderate-to-vigorous physical activity.

Table 1

Demographic and descriptive statistics of Add Health wave II and III participants, Longitudinal Cohort

	Single/Dating to Dating	Single/Dating to Single	Single/Dating to Cohabiting	Single/Dating to Married
Men	*n =1,329*	*n =1,151*	*n=467*	*n=374*
Race/Ethnicity [%]				
Non-Hispanic white	38.6 (0.02)	35.6 (0.01)	15.6 (0.01)	10.3 (0.01)
Non-Hispanic black	43.1 (0.03)	31.6 (0.02)	17.1 (0.02)	8.2 (0.01)
Hispanic	41.8 (0.03)	32.0 (0.03)	12.3 (0.02)	13.4 (0.02)
Asian	42.1 (0.07)	43.7 (0.06)	10.2 (0.03)	4.0 (0.02)
Age at Wave III [Mean Years]	20.9 (0.12)	21.2 (0.13)	21.4 (0.14)	21.9 (0.11)
Education at Wave III:<12 years [%]	9.6 (0.01)	13.3 (0.02)	31.0 (0.03)	25.5 (0.03)
Duration of Living Together [Mean Days]	---[a]	---[a]	487.9 (33.10)	863.4 (46.18)
Body Mass Index [Mean]				
Wave II	21.4 (0.13)	21.4 (0.12)	21.5 (0.15)	22.2 (0.20)
Wave III	24.6 (0.15)	24.5 (0.14)	24.8 (0.23)	26.0 (0.31)
Wave III Obesity[b] [%]	9.0 (0.01)	9.0 (0.01)	11.8 (0.02)	17.0 (0.02)
MVPA[e]: ≧5 bouts/wk [%]				
Wave II	48.2 (0.02)	45.7 (0.02)	40.5 (0.03)	37.6 (0.03)
Wave III	10.6 (0.01)	13.7 (0.01)	9.7 (0.02)	8.2 (0.02)
Sedentary behavior: >14 hr/wk [%]				
Wave II	51.4 (0.02)	48.4 (0.02)	54.2 (0.03)	52.7 (0.03)
Wave III	50.2 (0.02)	45.7 (0.02)	60.1 (0.03)	55.6 (0.04)
Women	*n =1,625*	*n =803*	*n=634*	*n=566*
Race/Ethnicity [%]				
Non-Hispanic white	42.1 (0.02)	20.7 (0.01)	21.2 (0.01)	16.1 (0.01)
Non-Hispanic black	52.0 (0.03)	27.3 (0.02)	13.1 (0.02)	7.3 (0.01)
Hispanic	35.9 (0.03)	24.4 (0.02)	18.0 (0.02)	21.8 (0.03)
Asian	44.6 (0.06)	23.7 (0.03)	17.9 (0.04)	13.9 (0.05)
Age at Wave III [Mean Years]	21.0 (0.11)	21.7 (0.12)	22.6 (0.11)	21.7 (0.12)
Education at Wave III:<12 years [%]	6.8 (0.01)	9.7 (0.02)	18.2 (0.02)	16.8 (0.03)
Duration of Living Together [Mean Days]	---[a]	---[a]	547.5 (28.73)	913.6 (35.25)
Body Mass Index [Mean]				
Wave II	21.2 (0.12)	21.7 (0.16)	21.4 (0.13)	21.4 (0.02)
Wave III	23.9 (0.16)	24.5 (0.23)	24.4 (0.23)	25.4 (0.34)
Wave III obesity[b] [%]	9.5 (0.01)	14.1 (0.02)	15.4 (0.02)	20.8 (0.02)
MVPA[e]: ≧5 bouts/wk [%]				
Wave II	31.7 (0.02)	24.3 (0.02)	25.7 (0.03)	19.9 (0.02)
Wave III	6.6 (0.01)	4.2 (0.01)	4.2 (0.01)	4.7 (0.01)

	Single/Dating to Dating	Single/Dating to Single	Single/Dating to Cohabiting	Single/Dating to Married
Sedentary behavior: >14 hr/wk [%]				
Wave II	38.7 (0.02)	39.1 (0.03)	42.1 (0.03)	35.7 (0.03)
Wave III	50.2 (0.02)	45.7 (0.02)	60.8 (0.03)	55.6 (0.04)
Ever Pregnant [%]	13.3 (0.01)	15.7 (0.02)	32.8 (0.03)	57.0 (0.03)

Wave II (1996) and wave III (2001−2002). Standard Errors are in parentheses.

MVPA, moderate-to-vigorous physical activity

[a] Individuals who were dating or single were not living with a romantic partner.

[b] Since our main interest is incident obesity, all individuals were non-obese at baseline.

Table 2

Adjusted Odds Ratios Predicting Incident Obesity, Add Health waves II and III Longitudinal Cohort

	Men		*Women*	
	N	**OR (95% CI)[c]**	**N**	**OR (95% CI)**
Longitudinal Relationship Status (Single/dating at baseline, status at follow-up)				
Dating	1,329	Referent	1,625	Referent
Single	1,151	1.04 (0.72, 1.49)	1,151	1.52 (1.06, 2.19)
Cohabiting	467	1.30 (0.81, 2.09)	467	1.63 (1.14, 2.32)
Married	374	2.07 (1.33, 3.25)	374	2.27 (1.55, 3.34)
Duration of Living with Romantic Partner (years)				
Not Living with a Romantic Partner	2,480	Referent	2,428	Referent
0.01−0.99	422	1.29 (0.84, 1.97)	547	1.21 (0.86, 1.69)
1.00−1.99	176	2.44 (1.37, 4.37)	240	1.70 (1.03, 2.82)
≥2	243	1.43 (0.84, 2.43)	413	2.16 (1.53, 3.05)

Odds ratios are adjusted for race/ethnicity, parental education, age at wave II. Wave II (1996) and wave III (2001−2002).

CI, confidence interval; OR, odds ratio

Table 3

Demographic and descriptive statistics of participants in the Add Health, wave III Couples Sample

	Dating	Cohabiting	Married
Men	*n=440*	*n=429*	*n=424*
Race/Ethnicity [%]			
Non-Hispanic white	56.1 (0.03)	60.9 (0.02)	69.0 (0.02)[ab]
Non-Hispanic black	23.5 (0.02)	19.5 (0.02)	10.0 (0.01)[ab]
Hispanic	14.4 (0.02)	11.6 (0.02)	17.4 (0.02)[ab]
Asian	6.0 (0.01)	8.0 (0.01)	3.7 (0.01)[ab]
Age [Mean Years]	22.4 (0.15)	23.3 (0.15)[c]	24.4 (0.15)[ab]
Education:<12 years [%]	10.4 (0.02)	23.0 (0.02)[c]	19.6 (0.02)[a]
Duration of Living Together [Mean Days]	0 (0)	567.3 (24.05)[c]	1,012.6 (32.75)[ab]
Obese [%]	18.5 (0.02)	24.1 (0.02)	34.7 (0.02)[ab]
MVPA[c]: ≥2 bouts/wk [%]	45.9 (0.02)	40.3 (0.02)	36.6 (0.02)[a]
Sedentary behavior: >14 hr/wk [%]	48.3 (0.03)	62.3 (0.02)[c]	52.5 (0.02)[a]
Women	*n=440*	*n=429*	*n=424*
Race/Ethnicity [%]			
Non-Hispanic white	57.2 (0.03)	62.7 (0.02)	68.9 (0.02)[a]
Non-Hispanic black	20.1 (0.02)	17.3 (0.02)	9.4 (0.01)[ab]
Hispanic	13.6 (0.02)	11.8 (0.02)	17.4 (0.02)
Asian	8.4 (0.01)	8.2 (0.01)	4.3 (0.01)
Age [Mean Years]	21.0 (0.11)	21.7 (0.12)[c]	22.6 (0.11)[ab]
Education:<12 years [%]	10.4 (0.02)	20.2 (0.02)[c]	15.1 (0.02)
Duration of Living Together [Mean Days]	0 (0)	567.3 (24.05)[c]	1,012.6 (32.75)[ab]
Obese [%]	13.6 (0.02)	23.4 (0.02)[c]	31.7 (0.02)[ab]
MVPA[c]: ≥2 bouts/wk [%]	35.0 (0.02)	30.3 (0.02)	25.0 (0.02)[a]
Sedentary behavior: >14 hr/wk [%]	40.4 (0.03)	49.5 (0.02)[c]	48.6 (0.02)
Ever Pregnant [%]	16.4 (0.02)	40.1 (0.02)	60.8 (0.02)

Wave III (2001−2002).Standard errors in parentheses

MVPA, moderate-to-vigorous physical activity

[a]Within-sex, dating and married differences, p≦0.05 (Bonferroni's adjustment).

[b]Within-sex, cohabiting and married differences, p≦0.05 (Bonferroni's adjustment).

[c]Within-sex, dating and cohabiting differences, p≦0.05 (Bonferroni's adjustment).