Published in final edited form as:

J Phys Act Health. 2010 September ; 7(5): 577–583.

Influence of Marriage and Parenthood on Physical Activity: A 2-Year Prospective Analysis

Ethan Edward Hull,

Dept of Physical Education, Slippery Rock University, Slippery Rock, PA.

Dana L. Rofey,

Dept of Pediatrics and the Dept of Psychiatry, University of Pittsburgh, Pittsburgh, PA.

Robert J. Robertson,

Dept of Health & Physical Activity, University of Pittsburgh, Pittsburgh, PA.

Elizabeth F. Nagle,

Dept of Health & Physical Activity, University of Pittsburgh, Pittsburgh, PA.

Amy D. Otto, and

Dept of Health & Physical Activity, University of Pittsburgh, Pittsburgh, PA.

Deborah J. Aaron

Dept of Health & Physical Activity, University of Pittsburgh, Pittsburgh, PA.

Abstract

Background—Physical activity (PA) tends to decrease from adolescence to young adulthood, and factors that have been proposed to contribute to this decrease are life transitions. The focus of this study is to examine life transitions, such as marriage and parenthood, and the impact they may have on the physical activity levels of young adults.

Methods—This 2-year prospective analysis assessed physical activity (hrs/wk) and sociodemographics in young adults ($n = 638$, 48% male, 15% nonwhite, 24 ± 1.1 years old) via questionnaire. PA data were normalized through log transformations and examined using ANCOVAs, controlling for appropriate covariates.

Results—ANCOVA results showed that becoming married did not significantly change PA compared with individuals who stayed single [$F(1,338) = 0.38$, $P = .54$, $d = 0.06$]. Conversely, PA was significantly lower [$F(1,517) = 6.7$, $P = .01$, $d = 0.41$] after having a child, compared with individuals who stayed childless.

Conclusions—These results suggest that marriage does not impact PA in young adults, but having a child significantly decreases PA in parents, and may offer an optimal period of intervention.

Keywords

life transition; adult; child

The positive health effects of physical activity (PA) are well known for adults, but despite these benefits, large percentages of the population are not meeting physical activity recommendations.¹ Understanding the factors that cause PA to decrease is important for planning strategies to improve and promote greater levels of activity in adults. Although research has shown that adults have lower levels of PA than when they were adolescents,^{2–7} the factors that may contribute to this decline have not been well explored. While there are multiple barriers to activity, the top reason given by adults for not being active is a lack of

time.^{8,9} Factors that have been proposed to contribute to a lack of time involve life transitions that increase one's responsibilities and obligations, such as starting or stopping employment or college, acquiring a mortgage, becoming married or having children.^{10,11} These life transitions typically occur between adolescence and adulthood, and could contribute to the decrease in PA observed by tracking studies.²⁻⁷ This study will focus on marriage and parenthood, 2 factors often associated with increased time commitments, and responsibilities.¹²

Current literature is ambiguous as to how marriage impacts PA. The social and domestic responsibilities of marriage¹³ may decrease the available time for activity, but the presence of an active partner may bolster motivation for PA.¹⁴ If these 2 factors negate one another, PA may not change. Since most couples cohabit before marriage,¹⁵ it may be equally important to examine cohabitation as it relates to activity patterns. In an effort to examine both, the current study will explore the effects of marriage and cohabitation on PA levels.

Parenthood appears to have a clearer affect on PA than marriage. New parents have often mentioned feeling overwhelmed and exhausted with the responsibilities of caring for a newborn.¹⁶ This period of adjustment may drastically reduce the time once used for physical activity. Further, the ability to be active may be related to the roles each parent assumes in raising the child. Females may feel that they have fewer opportunities to be active than males because they devote more time caring for their child and performing domestic responsibilities.^{13,17-20} Although females appear to take a greater role in child rearing, the PA of males may also decrease because males typically have higher levels of PA than females.^{21,22} This could result in a greater decrease in the PA of males as a result of parenthood.²³ Although research in this area is limited, several cross-sectional and prospective studies have examined these transitions with respect to activity level.

Cross sectional research has shown negative associations between activity levels and marriage,^{12,24} cohabitation,²⁵ and parenthood,^{12,25,26} but little prospective data exist to help support these findings. The few prospective studies that have examined marriage have found that marriage increased,¹⁴ decreased,^{27,28} or did not change the physical activity levels in adults.²⁹ Comparing the results of these studies is difficult because they used different measures of physical activity and examined demographically different samples. The physical activity assessments varied between one question of overall PA,¹⁴ to 3 questions regarding walking, moderate and vigorous activity,^{27,29} to summing the time spent per week in 10 specific activities.²⁸ Unfortunately, the differences between these measures of PA limit the conclusions that can be drawn between the results of these studies. Further, even though the assessments used by these studies are convenient due to their brevity, they are less sensitive at measuring PA compared with more comprehensive instruments. The current study will collect, in an interview format, the hours per week spent in PA for nearly 30 activities, with the option to add additional activities as needed to create a summative measure of PA.

From a demographic standpoint, the ages of the participants in previous prospective research varied widely. King et al¹⁴ and Eng et al²⁸ examined participants from 25 to 75 years old and 40 to 75 years old, while Brown et al²⁷ and Bell et al²⁹ examined a far narrower age range of 18 to 23 year olds. Further, while King's sample was heterogeneous, Eng only examined male professionals, and Brown and Bell only included females. These differences could have introduced variability in life experiences, coping strategies, and functional capacity to be active, which further clouds comparing their results. With little comparative data, it appears that not enough research exists to understand the association between marriage and physical activity or why previous research is not in agreement.

The prospective studies which have examined parenthood have found that PA decreased²⁷ or did not significantly change^{29,30} subsequent to having a child. Each of these studies only examined females of either Australian^{27,29} or mostly Mexican-American descent.³⁰ Further, the length over which PA was measured varied from 4²⁷ to 6,²⁹ to 7 years,³⁰ which might be too long to see the effects of becoming a parent on PA. Although no data currently exist showing how parental PA changes as the child ages, it is probable that parental PA may change as a child becomes increasingly mobile. Thus, studies that examine parenthood over a 6- or 7-year period will miss the short term effects of having a newborn on activity level. Of note, the only study of the 3 which found a causal relationship between parenthood and activity, examined PA over the shortest time period.²⁷ Nonetheless, with only 3 studies having examined this relationship, more research is needed in this area.

Since previous studies show conflicting results due to methodological differences, and because no research was found exploring the effects of parenthood on males, and very little on European-Americans, greater exploration of PA across transitions is needed.^{14,27} Thus, this study will explore the effects of marriage and parenthood on the PA levels of young adults over 2 years.

Methods

Data were collected through self-report measures at 2 time points: 2000 (baseline) and 2002 (follow-up). The analyses compared change in PA between individuals who stayed single (single at both time points) with those who became married/cohabitating (single at baseline and married/cohabitating at follow-up). Parenthood was examined between individuals who had a first child (no children at baseline and a child at follow-up) with individuals who never had a child (no child at either time point), and between individuals who had a subsequent child (increased the number of children they had by 1 child, starting with at least 1 child at baseline) with individuals who maintained the same number of children over the 2-year period. Sex differences were explored for each analysis. This study was approved by the Institutional Review Board of the University of Pittsburgh and informed consent was obtained from all participants.

Participants

The sample for the following analyses was identified from an ongoing University of Pittsburgh Physical Activity Study (PittPAS) which began in 1990 (n = 1245). Contact with each person was attempted by either phone or mail up to 10 times. If no contact was made, the consent was mailed. If no response occurred after 3 weeks, another 10 attempts were made followed by another mailed consent form. If no contact occurred after these efforts, the individual was considered lost to follow-up. A total of 828 participants completed baseline and, of these, 646 completed follow-up. Of the 646 (78% from baseline) participants who completed follow-up, 638 qualified for the current investigation because they stayed single, stayed childless, became married, had a child, or stayed with the same number of children over the 2-year period. Subjects were excluded (n = 8) from these analyses if they did not fit these criteria (ie, subjects who were married at baseline and separated or divorced at follow-up).

The demographics for the eligible sample (n = 646) were: Mid twenties in age (baseline age = 24.7 ± 1.1 yrs, follow-up age = 26.8 ± 1.0 yrs), 15% minority (African-American), 48% male, and 52% had at least college degree. Of this sample, 432 stayed single (67%), 103 became married/cohabitating (16%), and 90 reported having a child (14%) over the 2-year period. In an effort to examine whether participant drop-out was biased, Table 1 shows the differences between subjects who completed both baseline and follow-up measures (n = 646) and those who were lost to follow-up (n = 182). Differences, as shown in Table 1,

reveal that subjects were more likely to participate in the study if they were educated, white and female.

Instruments

Physical Activity Questionnaire—The Past Year Leisure Time Physical Activity Questionnaire, developed by Aaron et al,³¹ was used at baseline and follow-up. The questionnaire asks participants to report all leisure-time activities in which they participated at least 10 times during the past year. For each activity indicated, participants were asked how many months per year they participated in this activity, how many days per week, and how many minutes per day. A mean physical activity score was calculated in hours per week for each activity. Summing all activities yielded the total mean hours per week of activity. The test-retest reproducibility for 1 month was $r = .79$ and for 1 year was $r = .66$, suggesting that this questionnaire yields a reasonable estimate of a short term and long term PA recall.³¹ Validity of this questionnaire was assessed by comparing the average of 4 1-week questionnaires with the past year questionnaire which was completed before and after the study. The correlation between questionnaires was approximately $r = .80$, which according to Willet,³² provides a conservative estimate of the validity of this measure.

Sociodemographic Questionnaire—Sociodemographic variables that are commonly related to physical activity include age, sex, race, and socioeconomic status (SES). Research has shown that individuals who are younger,³³ male,²¹ white,³⁴ and have higher SES levels³⁵ appear to have higher physical activity compared with those who were either older, female, minorities, or have lower SES levels. The demographic questionnaire used in this study, has been employed elsewhere,^{33,36} and assessed sociodemographics such as age, number of children, sex, marital status (never married, cohabitating, married, separated, divorced, widowed), race (white, black, Hispanic, Asian, other), and educational level (less than a bachelor's degree or at least a bachelor's degree). Self-reported height and weight were used to calculate body mass index (BMI; kg/m^2). No differences in PA were found ($P = .72$) between individuals who became married and those who became cohabitating, so the 2 categories were collapsed into "married/cohabitating." Race was condensed into either "white" or "minority."

Data Analysis

Although physical activity at baseline and follow-up was positively skewed, change in physical activity was normally distributed, thus the data are presented as mean and (standard deviation). The difference in physical activity (hrs/wk) between baseline and follow-up served as the dependent variable, and the independent variables consisted of marital status and number of children. These variables were entered into an analysis of covariance (ANCOVA) with the following covariates: Race, sex, age at follow-up, and educational level at follow-up. Chi-square and independent sample t tests were used to assess differences between participants and subjects lost to follow-up, $\alpha = .05$.

Results

Overall ($n = 638$), PA decreased by 1.1 (7.2) hours per week across the 2-year period, with a significantly greater ($P < .01$) reduction in male PA of 2.0 (7.9) hrs/wk compared with females who lost 0.3 (6.5) hrs/wk. Comparison across the other demographics revealed no differences in PA change across race ($P = .58$), or educational level ($P = .22$). A weak negative association ($P = .03$) was found between age at follow-up and PA change ($r = -0.08$). The impact family transitions have on PA are first described for marriage and then parenthood.

Marriage

Table 2 presents the effect of becoming married on physical activity in all subjects and is separated by males and females. In addition to including sex, age, race, and educational status as covariates, this analysis also controlled for having a child, as this may confound the relation between marriage and physical activity. The results show that subjects who became married/cohabitating changed their PA by 0.7 (6.2) hrs/wk, which was not significantly different [$F(1,361) = 0.15$, $P = .70$, $d = 0.07$] compared with those who remained single (−1.2 (7.6) hrs/wk). After stratification by sex, nonsignificant differences in physical activity change were also found in males ($P = .65$) and females ($P = .62$) who stayed single or transitioned from single to married/cohabitating. A subsequent analysis showed no differences in PA ($P = .72$) between those who stayed single and those who became married or became cohabitating.

Parenthood

After controlling for appropriate covariates (sex, age, race, and education), Table 3 shows that individuals who had a first or subsequent child lost an average of 3.7 (6.0) hrs/wk, which was significantly more [$F(1,517) = 6.7$, $P = .01$, $d = 0.41$] than individuals who stayed childless (−0.8 (7.3) hrs/wk). Individuals who had a *first* child lost 3.9 (5.6) hrs/wk of PA, which was significantly greater [$F(1,465) = 5.4$, $P = .02$, $d = 0.43$] compared with individuals who did not have a child (−0.80 (7.3) hrs/wk). Stratification by sex revealed that males who had a first child significantly decreased [$F(1,240) = 3.8$, $P = .05$, $d = 0.45$] their PA by 5.0 (6.8) hrs/wk compared with males who did not have a child (−1.5 (8.0) hrs/wk). Effect size calculations revealed a moderate effect for physical activity change between males who had a child and those who did not. There was no significant difference in physical activity change ($P = .26$) between females who stayed childless (−0.11 (6.4) hrs/wk) and those who had a first child (−2.4 (3.0) hrs/wk).

Parents who had a *subsequent* child across the 2-year period lost an additional 3.5 (6.4) hrs/wk, which was a significant decrease in physical activity [$F(1,167) = 6.1$, $P = .02$, $d = 0.46$] compared with parents who maintained the same number of children (−0.4 (7.1) hrs/wk). Stratification by sex revealed that females who had a subsequent child significantly decreased [$F(1,117) = 4.7$, $P = .03$, $d = 0.52$] their physical activity by 2.7 (5.3) hrs/wk, compared with females who maintained the same number of children (0.3 (6.8) hrs/wk). This result shows a moderate effect for the change in physical activity in females who had a subsequent child and those who did not. There was no significant difference in physical activity change ($P = 0.27$) between males who had a subsequent child (−5.5 (8.3) hrs/wk) and those who maintained the same number of children (−2.1 (7.5) hrs/wk). Overall, there was no significant difference in physical activity change ($P = .60$) between individuals who had a first child (−3.9 (5.6) hrs/wk), and those who had a subsequent child (−3.5 (6.4) hrs/wk).

Discussion

As national statistics reveal, adults are not meeting physical activity recommendations,¹ and this study shows that PA tends to decrease as young adults age from 24 to 26 years old. The young adults of this study ($n = 638$) decreased their PA by an average of 1.1 hours per week over 2 years. Specific life transitions that may exacerbate PA decline were examined on the premise that they decrease available free time for physical activity. This study found that marriage/cohabitation did not significantly change PA. This result is supported by some,²⁹ but not all previous research,²⁷ that has examined similarly aged young adults. Previous research has not examined how marriage and cohabitation might separately impact PA, and

the current study found no difference between becoming married or cohabitating on PA ($P = .72$).

Even though marriage did not appear to impact PA, the effect of having a child significantly reduced PA ($P = .01$) by nearly 3 hours per week compared with those who stayed childless. Further, this effect still remained for those who had a first or a subsequent child ($P = .02$). These results reveal moderate effect sizes ($d = 0.41$ to 0.45 , respectively), inferring that about 66% of subjects who had a child were below the mean physical activity of individuals who did not have a child. There may be several reasons why having a child decreased the physical activity of young adults. The addition of the child may not only add new responsibilities and time commitments,^{37,38} but may also shift the parent's priorities from self to child.³⁹ Parents may feel that attaining adequate physical activity no longer has the same importance, and with far less available time, physical activity may also become less feasible. Thus, parents who experience decreases in physical activity as a result of having a child do not appear to rebound to their prechild physical activity level, which supports previous research.²⁷

There is very little research that has explored how gender moderates the effect parenthood has on physical activity. The current results show that having a first child significantly decreased the physical activity level of young adult males, and even though the direction of the results were leaning toward a similar conclusion in females, it was not significant ($P = .26$). This difference between males and females may be due to several factors. It is well documented that males have higher levels of physical activity than females.^{21,22} The males and females in this study had baseline physical activity levels of 7.7 hrs/wk and 4.0 hrs/wk, respectively. Thus, males had a comparatively greater amount of physical activity to lose as a result of becoming a parent. It is also possible that females could have been pregnant when physical activity was first measured. If they reported a lower physical activity level because they were pregnant at baseline, the difference in physical activity across the 2 years would be less as a result of the decreased baseline PA (comparing the child's birth date and the date the participant was seen for baseline, it was ascertained that 35% of females were pregnant at baseline). In addition, since females appear to decrease PA less compared with males, a larger sample of females may be needed ($n = 16$) to show a significant decrease in physical activity as a result of having a child.

The effect of having a subsequent child significantly decreased female but not male physical activity levels. Since research has found that females more than double the time males spend caring for and raising a child,¹⁷ an additional child will increase the time and energy commitments for females. Thus the available resources for physical activity would become increasingly scarce for females who are dedicating more of their time to their additional child.⁴⁰ Further, males who lost a substantial amount of physical activity with the first child will have less physical activity to lose as a result of having an additional child. Even though male physical activity did not significantly decrease with a subsequent child ($P = .27$), the results were also in the expected direction. Possibly the few number of males who had a subsequent child ($n = 16$) restricted the likelihood of finding significant differences.

Limitations of this study include self-report physical activity and some restriction in generalizability. The physical activity questionnaire is subject to recall bias and self-report errors, lowering the measure's accuracy. Although seasonal effects may have affected physical activity recall, this bias should have been minimized because the physical activity questionnaire recalled an entire year of physical activity. In addition, self-report PA data can result in inaccurate reporting of the number of activities and time spent in each activity. Even though procedures are in place to reduce under- and over-reporting of PA, they likely contribute to the large standard deviations seen in the results section. For statistical

purposes, the large deviations in the PA scores decrease the likelihood of finding significant differences between groups. In addition, the percent of minorities that were part of these analyses (15%) was lower than the national average (27% minority). Although this type of attrition is expected with follow-up studies,³⁶ it reduces the generalizability of these results. Further, while this sample showed that parenthood decreases PA in young adults ($n = 90$), splitting the sample into males and females, and then again into first and subsequent children, continually decreased the group size. This diminished the likelihood of finding significance in the smallest of the groups ($n = 16$), and highlights an additional area of future research. Other areas of future research include examining the impact life transitions such as starting or stopping employment, college, or purchasing a home could have on physical activity levels.

These results add to the limited research in this area by including young adults, especially males and European-Americans, and examining the effect of having a first versus a subsequent child. This is the first study to examine the effect of marriage and parenthood on physical activity over a 2-year period, and the results provide evidence to warrant future investigations into the factors that parents claim decreased their PA level. This information may glean significance for future preventative and intervention efforts aimed at increasing PA level.

Acknowledgments

This research and the University of Pittsburgh Physical Activity Study (PittPAS) are supported by the National Institutes of Health grants RO1HD35607 and RO1CA109895.

References

1. U.S. Department of Health and Human Services. Atlanta, Georgia: U.S. Department of Health and Human Services; 1996. Physical Activity and Health: A Report of the Surgeon General.
2. Andersen LB, Haraldsdottir J. Tracking of cardiovascular disease risk factors including maximal oxygen uptake and physical activity from late teenage to adulthood. An 8-year follow-up study. *J Intern Med*. 1993; 234(3):309–315. [PubMed: 8354982]
3. Raitakari OT, Porkka KV, Taimela S, Telama R, Rasanen L, Viikari JS. Effects of persistent physical activity and inactivity on coronary risk factors in children and young adults. The Cardiovascular Risk in Young Finns Study. *Am J Epidemiol*. 1994; 140(3):195–205. [PubMed: 8030623]
4. Telama R, Yang X, Viikari J, Valimaki I, Wanne O, Raitakari O. Physical activity from childhood to adulthood: a 21-year tracking study. *Am J Prev Med*. 2005; 28(3):267–273. [PubMed: 15766614]
5. Twisk JW, Kemper HC, van Mechelen W. Tracking of activity and fitness and the relationship with cardiovascular disease risk factors. *Med Sci Sports Exerc*. 2000; 32(8):1455–1461. [PubMed: 10949012]
6. Twisk JW, Kemper HC, van Mechelen W, Post GB. Tracking of risk factors for coronary heart disease over a 14-year period: a comparison between lifestyle and biologic risk factors with data from the Amsterdam Growth and Health Study. *Am J Epidemiol*. 1997; 145(10):888–898. [PubMed: 9149660]
7. Trudeau F, Laurencelle L, Shephard RJ. Tracking of physical activity from childhood to adulthood. *Med Sci Sports Exerc*. 2004; 36(11):1937–1943. [PubMed: 15514510]
8. Sallis JF, Hovell MF. Determinants of exercise behavior. *Exerc Sport Sci Rev*. 1990; 18:307–330. [PubMed: 2192898]
9. Sallis JF, Hovell MF, Hofstetter CR. Predictors of adoption and maintenance of vigorous physical activity in men and women. *Prev Med*. 1992; 21:237–251. [PubMed: 1579558]
10. Malina RM. Tracking of physical activity across the lifespan. *Pres Coun Fitness Sports Res Dig*. 2001; 3:1–8.

11. Yang X, Telama R, Leino M, Viikari J. Factors explaining the physical activity of young adults: the importance of early socialization. *Scand J Med Sci Sports*. 1999; 9(2):120–127. [PubMed: 10220848]
12. Nomaguchi KM, Bianchi SM. Exercise time: gender differences in the effects of marriage, parenthood, and employment. *J Marriage Fam*. 2004 May;66:412–430.
13. Baxter J, Hewitt B, Haynes M. Life course transitions and housework: marriage, parenthood, and time on housework. *J Marriage Fam*. 2008; 70(2):259–272.
14. King AC, Kiernan M, Ahn DK, Wilcox S. The effects of marital transitions on changes in physical activity: results from a 10-year community study. *Ann Behav Med*. 1998; 20(2):64–69. [PubMed: 9989310]
15. Stanley SM, Whitton SW, Markman HJ. Maybe I do: interpersonal commitment and premarital or nonmarital cohabitation. *J Fam Issues*. 2004; 25(4):496–519.
16. Woollett A, Parr M. Psychological tasks for women and men in the post-partum. *J Reprod Infant Psychol*. 1997; 15(2):159–183.
17. Aldous J, Mulligan GM, Bjarnason T. Fathering over time: what makes the difference? *J Marriage Fam*. 1998; 60(4):8009–8820.
18. Laflamme D, Pomerleau A, Malcuit G. A comparison of fathers' and mothers' involvement in childcare and stimulation behaviors during free-play with their infants at 9 and 15 months. *Sex Roles*. 2002; 47(11–12):507–518.
19. Deutsch FM, Lussier JB, Servis LJ. Husbands at home: Predictors of paternal participation in childcare and housework. *J Pers Soc Psychol*. 1993; 65(6):1154–1166.
20. Equal Opportunities Commission. Women and men in Britain: the work-life balance. 2001. Retrieved from EOC website:
http://83.137.212.42/sitearchive/eoc/PDF/wm_work_life_balance.pdf
21. Aaron DJ, Kriska AM, Dearwater SR, et al. The epidemiology of leisure physical activity in an adolescent population. *Med Sci Sports Exerc*. 1993; 25(7):847–853. [PubMed: 8350708]
22. Trost SG, Pate RR, Dowda M, Saunders R, Ward DS, Felton G. Gender differences in physical activity and determinants of physical activity in rural fifth grade children. *J Sch Health*. 1996; 66(4):145–150. [PubMed: 8683949]
23. Dinger MK, Behrens TK. Accelerometer-determined physical activity of free-living college students. *Med Sci Sports Exerc*. 2006; 38(4):774–779. [PubMed: 16679996]
24. Salmon J, Owen N, Bauman A, Schmitz MK, Booth M. Leisure-time, occupational, and household physical activity among professional, skilled, and less-skilled workers and homemakers. *Prev Med*. 2000; 30(3):191–199. [PubMed: 10684742]
25. 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(4):722–730. [PubMed: 15351538]
26. Sternfeld B, Ainsworth BE, Quesenberry CP. Physical activity patterns in a diverse population of women. *Prev Med*. 1999; 28(3):313–323. [PubMed: 10072751]
27. Brown WJ, Trost SG. Life transitions and changing physical activity patterns in young women. *Am J Prev Med*. 2003; 25(2):140–143. [PubMed: 12880882]
28. Eng PM, Kawachi I, Fitzmaurice G, Rimm EB. Effects of marital transitions on changes in dietary and other health behaviours in US male health professionals. *J Epidemiol Community Health*. 2005; 59(1):56–62. [PubMed: 15598728]
29. Bell S, Lee C. Does timing and sequencing of transitions to adulthood make a difference? Stress, smoking, and physical activity among young Australian women. *Int J Behav Med*. 2006; 13(3): 265–274. [PubMed: 17078778]
30. Sallis JF, Greenlee L, McKenzie TL, et al. Changes and tracking of physical activity across seven years in Mexican- American and European-American mothers. *Women Health*. 2001; 34(4):1–14. [PubMed: 11785854]
31. Aaron DJ, Kriska AM, Dearwater SR, Cauley JA, Metz KF, LaPorte RE. Reproducibility and validity of an epidemiologic questionnaire to assess past year physical activity in adolescents. *Am J Epidemiol*. 1995; 142(2):191–201. [PubMed: 7598119]
32. Willet, W. *Nutritional Epidemiology*. New York: Oxford University Press; 1990.

33. Aaron DJ, Jekal Y-S, LaPorte RE. Epidemiology of physical activity from adolescence to young adulthood. *World Rev Nutr Diet.* 2005; 94:36–41. [PubMed: 16145248]
34. Centers for Disease Control and Prevention. Prevalence of fruit and vegetable consumption and physical activity by race/ethnicity—United States, 2005. *MMWR Morb Mortal Wkly Rep.* 2007; 56(13):301–304. [PubMed: 17410082]
35. Humbert ML, Chad KE, Spink KS, et al. Factors that influence physical activity participation among high- and low-SES youth. *Qual Health Res.* 2006; 16(4):467–483. [PubMed: 16513991]
36. Aaron DJ, Storti KL, Robertson RJ, Kriska AM, LaPorte RE. Longitudinal study of the number and choice of leisure time physical activities from mid to late adolescence: implications for school curricula and community recreation programs. *Arch Pediatr Adolesc Med.* 2002; 156(11):1075–1080. [PubMed: 12413332]
37. Brown PR, Brown WJ, Miller YD, Hansen V. Perceived constraints and social support for active leisure among mothers with young children. *Leis Sci.* 2001; 23(3):131–144.
38. Deflandre A, Antonini PR, Lorant J. Perceived benefits and barriers to physical activity among children, adolescents and adults. *Int J Sport Psychol.* 2004; 35(1):23–36.
39. Lewis B, Ridge D. Mothers reframing physical activity: family oriented politicization, transgression and contested expertise in Australia. *Soc Sci Med.* 2005; 60(10):2295–2306. [PubMed: 15748677]
40. Equal Opportunities Commission. Part-time is no crime—so why the penalty?. 2005. Retrieved from EOC website: http://83.137.212.42/sitearchive/eoc/PDF/flexible_working_interim_report.pdf

Table 1

Demographics of Participants Who Completed Both Time Points and Those Who Were Lost to Follow-up

	Completed baseline and follow-up (n = 646)	Lost to follow-up (n = 182)	<i>P</i>
Age at baseline (Yrs, Mean, SD)	24.3 ± 1.1	24.7 ± 1.1	<0.01 ^a
BMI (Mean, SD)	27.3 ± 5.6	28.3 ± 7.3	0.27 ^a
Physical activity at baseline (Hrs/Wk)			
Median	5.5	6.0	0.10 ^a
Minimum	0	0	
Maximum	49.5	43.0	
Sex (%)			
Male	46	54	0.05 ^b
Female	54	46	
Race (%)			
White	85	68	<0.01 ^b
African American (minority)	15	32	
Education (%)			
Less than a college (BS) degree	61	82	<0.01 ^b
At least a college (BS) degree	39	18	

Abbreviations: BMI, body mass index; BS, bachelor of science.

^aIndependent sample *t* tests (physical activity was normalized through natural log transformation).^bChi-square.

Table 2**Physical Activity and Marriage**

	n	PA change mean (SD)	P
All subjects			
Stayed single (never married/cohabitating)	276	−1.2 (7.6)	0.70
Became married/cohabitating	89	−0.7 (6.2)	
Females			
Stayed single (never married/cohabitating)	157	−0.2 (7.7)	0.65
Became married/cohabitating	60	0.1 (4.2)	
Males			
Stayed single (never married/cohabitating)	163	−1.9 (7.6)	0.62
Became married/cohabitating	43	−2.3 (8.0)	

Note. All tests were ANCOVAs, controlling for age, sex, race, and education.

Table 3**Physical Activity and Parenthood**

	n	PA change mean (SD)	P
All subjects			
Stayed childless	432	−0.8 (7.3)	<i>a</i>
Had a child	90	−3.7 (6.0)	0.01
First child	38	−3.9 (5.6)	0.02
Subsequent child	52	−3.5 (6.4)	0.02
Stayed with same number of children	116	−0.4 (7.1)	
Females			
Stayed childless	211	−0.1 (6.4)	<i>a</i>
Had a child	52	−2.6 (4.7)	0.10
First child	16	−2.4 (3.0)	0.26
Subsequent child	36	−2.7 (5.3)	0.03
Stayed with same number of children	82	0.3 (6.8)	
Males			
Stayed childless	221	−1.5 (8.0)	<i>a</i>
Had a child	38	−5.2 (7.3)	0.03
First child	22	−5.0 (6.8)	0.05
Subsequent child	16	−5.5 (8.3)	0.27
Stayed with same number of children	34	−2.0 (7.9)	

Note. All tests were ANCOVAs, controlling for age, sex, race, and education

^aReference comparison for subjects who “had a child” and “first child.”