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Midlife Impacts of Adolescent Parenthood

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Abstract

The present study examined the midlife outcomes of 548 adults who became parents before the age of 20. Participants were from the Wisconsin Longitudinal Study (WLS) and were followed prospectively from age 18 until age 53. Their life course development was compared to sample members who gave birth at the mean age for the WLS. Midlife outcomes were assessed in five domains: educational and occupational attainment, family formation, social participation and support, physical health, and psychological health. Compared to delayed child bearers, early child bearers completed less schooling and in midlife had less prestigious occupations, more unstable marriages, and were less physically healthy. Differences were not evident in appraisals of job and marital satisfaction, social support, and psychological health, revealing areas of positive adaptation as well as areas of vulnerability unique to adolescent parenthood.

Keywords

adolescent mother; midlife; longitudinal

The study of adolescent parenthood and its impacts on the life course has traditionally focused on women living in poverty, often African-American, who tend not to complete high school on time with their peers if at all. The significant impacts of early childbearing on these groups have been well documented, particularly in regards to educational and occupational attainment and patterns of family formation (Whitman, Borkowski, Weed, & Keogh, 2001; Coley & Chase-Lansdale, 1998; Furstenberg, Brooks-Gunn, & Morgan, 1987); however, it is difficult to distinguish the effects of adolescent parenthood from other risk factors (poverty, limited education) common to adolescent mothers. Although some studies have been conducted with samples at lower risk (Brien & Willis, 1997; Geronimus & Korenman, 1992; Hoffman, Foster, & Furstenberg, 1992; Moffitt & E-Risk Study Team, 2002; Rudd, McKenry, & Nah, 1990), there are still many unanswered questions as to the causal role of adolescent parenthood in lifespan development and also regarding the duration of the impacts of early childbearing across the lifespan. The present study, based on a probability sample, sheds light on these issues by focusing on the midlife outcomes of adolescent child bearers who experienced advantage with respect to both education and socio-economic status, relative to most adolescent parent samples.

The life course of early child bearers may be altered by violating societal age norms and constraints for child bearing, regardless of whether other risk factors are present. Neugarten, Hagestad and their colleagues (Hagestad & Neugarten, 1985; Neugarten, Moore, & Lowe, 1965) have offered evidence for the importance of age norms and constraints throughout the life course. Their theory suggests that having a child during adolescence, and therefore breaking the societal age constraints placed on the transition to parenthood, results in increased stress

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that could have life-long implications. Such stress may come from a variety of sources; first, society will view that behavior as inappropriate because it is outside of the age span which has been deemed acceptable (Neugarten et al., 1965). Second, it will be harder for parents who go through the transition to parenthood at a very early age to find a set of peers to provide social support and to validate their experience (Hagestad & Neugarten, 1985). According to this perspective, the stresses resulting from an off-timed transition to parenthood are shared by all adolescent parents – poor or not – and may have long-lasting effects on the life course relative to those who have children on-time with their peers.

One of the most influential studies in the field of adolescent parenthood is the Baltimore Study (Furstenberg et al., 1987). Pregnant adolescents who gave birth between the years of 1966 and 1969 were identified through a Baltimore hospital and assessed during pregnancy; comprehensive follow-up assessments occurred up to 17 years after the birth of the first child (a recent, more preliminary assessment has also followed them up to 30 years; Furstenberg, 2007). At that time, Furstenberg and colleagues (1987) found that former adolescent mothers tended to complete less education relative to their peers who delayed childbearing. They were also less likely to be currently employed, more likely to be receiving welfare assistance, and had lower household incomes. In terms of family formation, early child bearers were less likely to get married than their peers who delayed childbearing, were more likely to divorce, and had given birth to more children on average.

It is important to recognize that adolescent parenthood may not be the causal mechanism in the aforementioned findings; there are a number of self-selection factors and economic/socio-cultural disadvantages that are associated with adolescent parenthood which may exacerbate poor outcomes of teen mothers. Maynard (1997) called these “amplifying factors,” identifying four such disadvantages: poverty, single parenthood, inconsistent father participation, and failure to complete high school. In the Furstenberg et al. (1987) sample, the intersection of these disadvantages was a common occurrence. Nearly all of the adolescent mothers were living at or below the poverty line. Marriages tended to be unstable, and most mothers experienced single parenthood at some point during the 17 years following childbirth. Approximately 75% were unmarried when they gave birth to their first child, over one-third remained unmarried five years later, and two-thirds were unmarried at the 17-year follow-up. Inconsistent father participation was also quite common. Only 16% of the former adolescent mothers were still married to the father of the study child 17 years after giving birth, and less than 40% of fathers saw their child (or children) weekly. Nearly one-half of Furstenberg and colleagues' (1987) sample had not completed high school by the 5-year follow-up, and almost one-third had still not completed high school by 17 years after their first birth; adolescent mothers were over two times more likely not to have graduated high school than other socio-culturally similar groups of women who delayed childbearing (Furstenberg et al., 1987)

The Wisconsin Longitudinal Study (WLS) allows us to examine the long-term effects of adolescent parenthood from a cohort that was selected close to the same time in history as that of Furstenberg and colleagues (1987), but who by and large did not experience the amplifying factors discussed by Maynard (1997). An 18-year follow-up was conducted in 1975 when individuals were in their mid 30s, and a 35-year follow-up was conducted in 1992 when individuals were in their early 50s. First births to adolescent mothers in the WLS occurred between 1956 and 1959, whereas first births in the Furstenberg et al. (1987) study occurred somewhat more recently, between 1966 and 1969; both of these cohorts experienced their first birth prior to the decision of Roe v. Wade, in which abortions became more accessible. In terms of socio-cultural factors, however, participants in the Baltimore study varied greatly from the WLS. Every participant in the WLS (including adolescent parents) graduated from high school, offering the unique opportunity to examine whether adolescent parenthood impacted the life course independent of high school completion. Furthermore, single parenthood was uncommon

among early child bearers in the WLS; 96% of WLS adolescent mothers and 80% of WLS adolescent fathers were married at childbirth. Finally, 60% of adolescent parents in the WLS were living well above the poverty line upon graduating from high school. Therefore, the WLS allows us to examine whether the long-term effects of adolescent parenthood on educational and economic attainment and family formation observed in the Furstenberg and colleagues (1987) sample are common in historically similar but socio-culturally and socio-economically distinct groups.

The WLS allows us to replicate and extend findings from the Baltimore study (Furstenberg, 2007; Furstenberg et al., 1987) in three important directions. First, using the 1992 wave of data collection, we can examine educational, occupational, and financial attainment and patterns of family formation approximately 35 years after the birth of the first child, when former adolescent parents were in their mid-50's. Furstenberg, Brooks-Gunn, and Chase-Lansdale (1989) suggested that the effects of adolescent parenthood become attenuated over the life course. Indeed, between the 5-year and 17-year follow-up, they found that the fertility rates substantially declined, and a number of mothers completed their high school degree and discontinued receipt of welfare services (Furstenberg et al., 1987). They concluded that when examining former adolescent mothers 17 years after giving birth, they looked more similar to peers who delayed childbearing than they had at 5 years after childbirth. Although there was some improvement between the 17-year and 30-year follow-ups (Furstenberg, 2007), most improvements occurred prior to 17 years. The WLS allows us to examine whether the same patterns of improvement are present in this sample.

The WLS also allows us to compare psychological outcomes, physical health, and social participation and support of former adolescent parents to their peers when they were in their mid-50's. The short term impact of adolescent parenthood on each of these domains is under-researched and the findings are mixed; studies suggest that adolescent parenthood likely influences depressive symptoms (Moffitt and the E-Risk Study Team, 2002) but has little effect on social support (Furstenberg, 1980; Kinard, 2003) in the years immediately following childbirth. No study, to date, has examined the long-term effects of adolescent parenthood on health, social, and psychological outcomes by comparing former adolescent parents to their peers who delayed childbearing. One possible mechanism through which early childbearing may impact later physical and psychological health is by its association with multiple and cumulative disadvantages throughout the life course (Ryff, Singer, Love, and Essex 1998). Although early child bearers in the WLS did not have to contend with many of the amplifying factors before and surrounding childbirth (such as poverty or single parenthood), they likely are still susceptible to disadvantages resulting from early childbearing, such as truncated educational attainment, economic struggles, and unstable marriages. These disadvantages may accumulate over time leading to compromised physical and psychological health in midlife. Although the direct impact of early childbearing on educational and financial attainment may attenuate over time (Furstenberg et al. 1987), the effects of financial and educational deprivation after childbirth may accumulate, taking a more pronounced toll on health as time passes.

Finally, the WLS allows us to extend the findings of Furstenberg and colleagues (1987) by comparing the long-term impacts of teen motherhood versus teen fatherhood. Card and Wise (1981) found that 10 years after childbirth, former adolescent fathers seemed to be less affected than mothers in terms of job satisfaction, job prestige, and income. The WLS allows us to examine whether this assertion holds true at 18 years and 35 years after first birth, as well as whether former adolescent fathers are less affected than mothers of terms of family formation, physical health, psychological health, and social support.

Therefore, the present study had four hypotheses. First, I expected that adolescent parents in the WLS would be less negatively affected at the 18-year follow-up than adolescent mothers in the Furstenberg et al. (1987) study due to the absence of amplifying factors. However, I hypothesized that they would still experience truncated educational and occupational attainment and that the stress from an early, off-timed transition to parenthood would be related to less stable family relationships than a comparison group of later child bearers. Second, the effects of adolescent parenthood on educational, occupational, and financial attainment and family formation would not further attenuate between the 18-year and 35-year follow-up; differences between early child bearers and later child bearers would remain constant between these two time points. I hypothesized that most of the delayed educational attainment and birth of additional children would have occurred prior to the 18-year follow-up, and that at 35 years the effects of adolescent parenthood would appear similar to the 18-year assessment. Third, I expected adolescent parenthood to have long-term negative effects on physical health and psychological functioning, because of the accumulation over time of disadvantages resulting from early childbearing (such as truncated educational attainment and unstable marriages) and the stress of an early transition to parenthood. However, as other studies (Furstenberg, 1980; Kinard, 2003) have shown limited impacts of adolescent parenthood on social support, I expected the same pattern of findings in this sample. Finally, I expected that former adolescent fathers would be less affected in all domains than former adolescent mothers.

Methods

Wisconsin Longitudinal Study

The present study was a secondary analysis of data from the WLS (Hauser & Sewell, 1985; Hauser, Sheridan, & Warren, 1998), which began in 1957 with a random sample of one-third of all young men and women who graduated from Wisconsin high schools that year (n = 10,317). The next round of data collection occurred in 1975 when respondents were 36 years old; 9,138 of the surviving original sample (90.1%) completed this telephone interview. In 1992, when respondents were in their early 50s, 8,493 of the surviving participants (87.2%) responded to a third telephone survey. In addition, 80.9% of those who responded to the telephone interview in 1992 (n = 6,875) completed and returned a self-administered survey that was mailed to them. Thus, the present analysis includes three waves of data – 1957, 1975, and 1992.

Sample

Of the original WLS respondents, 128 males and 641 females reported having their first child prior to the age of 20. Age 20 is a common cut point used to distinguish adolescent from adult parents (Furstenberg et al., 1987; Whitman et al., 2001), and was thus chosen as the upper limit for the present study. The age at first childbirth for adolescent parents in the WLS ranged from 12.2 to 19.9 years (M = 19.16, SD = .90) for males, and from 16.6 to 19.9 years (M = 19.25, SD = .52) for females. Because data collected at both 1975 and 1992 (approximately 18 and 35 years after childbirth) were of interest, participants who had both telephone interview and survey data at these time points were included, resulting in 84 males and 464 females. Males and females who were included in the adolescent parent sample did not differ from those who were excluded due to missing data on a number of demographic variables, including mother's and father's education, father's occupational prestige, family of origin income, or age at first birth. However, both male and females who were included in the adolescent parent sample tended to have higher IQs than those with missing data, t (126) = -3.20 for males and t (639) = -4.43 for females, ps < .01. Mean IQ scores for males and females included in the sample were 100.21 and 100.75, respectively; mean IQ scores for excluded males and females were 91.57 and 95.41, respectively.

The mean age of first childbirth for all male WLS participants was 25.20 years (*SD* = 3.68) and 23.10 years (*SD* = 3.29) for females. A comparison group of parents was constructed by selecting men and women who had their first child within .5 standard deviations above or below the mean age of first childbirth for their respective gender in the WLS, resulting in an interval of 1 standard deviation around the gender mean. This interval was chosen to select a representation of peers who experienced normative timing of their first birth for this sample (i.e., 23.4 to 27.0 years for men and 21.4 to 24.6 years for women), resulting in the identification of a comparison group of 1321 males and 1657 females. Participants from this subsample were included in the final comparison sample if they had both telephone interview and survey data collected in 1975 and 1992; 939 males and 1224 females fit this criterion. The mean age at first childbirth was 24.99 years (*SD* = 1.08) for males in this subsample, and 22.81 years (*SD* = .92) for females. Males who were included in the comparison group did not differ from those who were excluded on a number of demographic variables, including mother's and father's education, father's occupational prestige, family of origin income, or age at the birth of the first child. Females who were included in the comparison group tended to have more educated fathers, t (1655) = -2.03, $p < .05$, but were similar to those excluded due to missing data in terms of mother's education, father's job prestige, family of origin income, and age at first birth. Both male and females who were included in the comparison parent sample tended to have higher IQs than those who were excluded, t (1319) = -5.40 for males and t (1655) = -6.65 for females, ps < .01. Mean IQ scores for males and females included in the sample were 102.91 and 101.89, respectively, and mean IQ scores for excluded males and females were 97.99 and 96.70, respectively.

Thus, the adolescent parent sample consisted of 548 participants (84 males, 464 females) and the comparison sample consisted of 2163 participants (939 males, 1224 females), for a total of 2711 participants in the present study. Descriptive information for participants in each sample is presented in Table 1.

Measures

As previously mentioned, data used in these analyses were collected during the 1975 and 1992 interviews. Because age at first birth varied among the adolescent parents, the 1975 assessment occurred anywhere from 16 to 19 years after their first birth, and the 1992 assessment occurred from 33 to 36 years after their first birth. In subsequent analyses and discussion, these time points will be referred to as 18 years and 35 years after the first birth.

Age of respondent at first birth—During the 1975 interview, respondents were asked to provide the following information about each of their children: name, sex, month of birth, and year of birth. By subtracting the month and year of the first child's birth from the month and year of the respondent's birth, the age of the respondent at first birth was obtained.

Family of origin background characteristics in 1957—To characterize the sample in 1957, four measures of family of origin socio-economic status (SES) were obtained. These included data about the number of years of education completed by both parents and the father's occupational SES, as measured by Duncan's Socio-Economic Index (Duncan, 1961; Hauser & Warren, 1997). Data about family income were obtained from federal tax data provided to the WLS by the Wisconsin Department of Revenue for the years 1957 through 1960 and averaged across these 4 years. In addition, income-to-needs ratios were available; families were defined as living in poverty if they had an income-to-needs ratio of less than one.

The Wisconsin Longitudinal Study master file also contains data about sample members' IQ scores, as measured by the Henman-Nelson Test of Mental Ability (Henman & Nelson, 1937), administered in the junior year of high school. The test measures a wide variety of

mental abilities, including verbal, spatial, and numerical knowledge and reasoning, the composite of which reflects generalized intellectual functioning (Henman & Nelson, 1937). This test was normed on a large, geographically diverse sample and shows excellent split-half reliability. The validity data include high concurrent correlations with other measures of scholastic aptitude and academic achievement (Buros, 1940).

Educational, occupational, and financial attainment measures in 1975 and 1992—From the 1975 and 1992 interviews, the following data about the SES of the respondents was obtained: total years of education completed (1 = *less than 12 years*, 2 = *12 years*, 3 = *13 – 15 years*, 4 = *16 years*, 5 = *17 years or more*), current employment status (0 = *not employed*, 1 = *employed*), and the Duncan Socio-Economic Index (SEI; Duncan, 1961; Hauser & Warren, 1997) as a measure of occupational SES of the respondents current/last job. In 1992, a revised version of the Duncan Socio-Economic Index was obtained (TSEI2: Stevens & Featherman, 1981). The SEI/TSEI2 is a weighted average of occupational and educational attainment, and higher scores indicate higher SES (e.g., a score of 75 indicates a professional or technical job, a score of 57 indicates a manager or official, a score of 17 indicates a service worker). Total family income in the previous year was measured at both time points, and information was acquired about job satisfaction (1 = *very dissatisfied* to 4 = *very satisfied*). There were 493 participants (1 male, 492 females) who had never had a job by the 1975 interview, and therefore data relating to job satisfaction and occupational SES were not collected. Similarly, 145 of the respondents (4 males, 141 women) had never had a job between the 1975 and 1992 interviews, and were not asked the job related questions in 1992. The number of respondents in each subgroup for the job-related questions was as follows: in 1975 there were 84 adolescent fathers, 373 adolescent mothers, 938 comparison fathers, and 823 comparison mothers; in 1992 there were 84 adolescent fathers, 427 adolescent mothers, 935 comparison fathers, and 1120 comparison mothers.

Family measures in 1975 and 1992—The following information about respondents' marital status was obtained at both time points: current marital status (0 = *not married*, 1 = *married*), whether they were still married to their first spouse (0 = *not married to first spouse*, 1 = *still married*), and the age at which they married their first spouse. Data were also obtained concerning the number of children born to the respondent previous to the 1975 and 1992 interviews and whether the respondent had a premarital first birth (0 = *no*, 1 = *yes*). In 1992, married respondents rated how close they felt with their current spouse (1 = *not at all close* to 4 = *very close*).

Social participation and support measures in 1992—The measures of social participation included the number of social organizations in which the respondent participated (from a list of 17 organizations, such as charity or welfare organizations, civic groups, neighborhood organizations, sports teams, country clubs), the frequency of attendance at religious meetings in the past year (0 = *never*, 1 = *less then one time a month*, 2 = *at least one time a month but less than one time a week*, 3 = *one time a week*, 4 = *more than one time a week*), and the number of times the respondent had visited with friends and relatives during the 4 weeks previous to the interview. Measures of social support included whether the respondent had a confidant in and outside of the family (0 = *no*, 1 = *yes*), and whether the respondent felt he or she could talk to each of the following people about personal problems: friends, siblings, parents, children, and other relatives (0 = *no*, 1 = *yes*).

Measures of physical health in 1992—Measures of physical health included self-rated health at the present time and current health compared to others who were the same sex and age (1 = *very poor* to 5 = *excellent*), as well as current health compared to 10 years ago (1 = *much worse* to 5 = *much better*). Self-rated health, including ratings of health at the present

time as well as health compared to peers, has been shown to be related to both morbidity and mortality across a variety of populations (including 12 different nationalities); the predictive power of self-rated health remained strong after controlling for known risk factors like socio-demographics, chronic health conditions, and health practices (Idler & Benjamini, 1997). The respondents reported the number of diseases or illnesses ever diagnosed by a medical professional (from a list of 17 illnesses such as cancer, anemia, diabetes, arthritis) as well as their current height and weight, from which a Body Mass Index was calculated. Respondents also reported on whether they had ever regularly smoked and whether they currently regularly smoked (0 = *no*, 1 = *yes*).

Measures of depression and psychological well-being in 1992—Positive well-being was assessed using a modified version of Ryff's Psychological Well-Being measures (Ryff, 1989), which consists of a series of 42 statements, such as “Being happy with myself is more important to me than having others approve of me” and “I do not fit very well with the people and community around me,” to which the participants respond on a scale of 1 to 6 (1 = *agree strongly* to 6 = *disagree strongly*). Items are summed to form 6 dimensions of well-being, each consisting of 7 items. The dimensions are as follows: Self-acceptance, which reflects positive attitudes towards oneself and acceptance of one's past (α = .79); Positive Relations with Others, which captures the ability to love and relate warmly to others (α = .77); Autonomy, which reflects such qualities as self-determination, independence, and internal regulation of behavior (α = .70); Environmental Mastery, which captures an individual's ability to create and/or choose environments that are a suitable fit to his or her personality and psychological characteristics (α = .72); Purpose in Life, which reflects the belief that there is a purpose to and a meaning in life (α = .78); and Personal Growth, reflected by continuing to develop one's potential and growing as a person (α = .76). The Center for Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977) was used to measure the number of depressive symptoms. For each of 20 depressive symptoms, respondents were asked to indicate how many days in the past week the symptom was experienced. The data were recoded into four categories (0 = *never* to 3 = *5 to 7 days*) and summed, consistent with the conventional scoring of the CES-D, α = .89.

Methods of Data Analysis

The primary method of data analysis in the present study was analysis of covariance. The key independent variables were the age of the parent at the birth of the first child (adolescent or comparison) and the respondent's gender. Because gender main effects were not a focus of this paper, they are presented in the tables but not discussed in the text. Gender by age of parent interaction effects, however, are reported and interpreted. Type III sums of squares was chosen as the method for obtaining marginal means; this implies an unweighted average of the cell means and thus insures that adolescent fathers, who have a relatively small sample size (n = 84), will not be weighted less strongly than other groups.

Results

Preliminary Analyses: Family of Origin and Background Characteristics

Family of origin and background characteristics of the sample are presented in Table 2. Analysis of variance indicated that adolescent parents were likely to have mothers with fewer years of education, fathers with less prestigious jobs, and lower family income during their senior year of high school than comparison parents. The relation between adolescent parent status and father's education was dependent on the gender of the respondent. On average, women in the comparison group had fathers who had completed .7 more years of education than fathers of teen mothers, whereas males in the comparison group had fathers who completed about .3 less years of education than fathers of teen fathers. Furthermore, adolescent parents

tended to have lower IQ scores, measured during their junior year of high school, than comparison parents. Using an income-to-needs ratio of less than one as a definition of poverty, significantly more adolescent parents than comparison parents were living in poverty in 1957 (32.2% vs. 23.1%), $\chi^2 = 18.24$, $p < .01$. These differences between adolescent parents and the comparison group are considerably smaller than in past research on adolescent parenting. However, in order to disentangle the life course implications of adolescent parenthood from these background characteristics, statistical controls for family of origin SES, mother's and father's education, father's occupational prestige, family income, and respondent's IQ were included in all subsequent analyses.

Differences in Educational, Occupational, and Financial Attainment and Patterns of Family Formation at the 18-year Follow-up

Educational, occupational, and financial attainment—Prior research (Furstenberg et al., 1987) suggests that having a child during adolescence alters the educational attainment of the young parents, thereby influencing the quality of jobs they are qualified for and subsequent family earnings. Adjusted group means (controlling for family of origin and background characteristics) and analysis of covariance for the educational, occupational, and financial attainment variables are presented in Table 3. At the 18-year follow-up, adolescent child bearers completed less post-secondary education than later child bearers on average. In terms of occupational attainment, adolescent child bearers had less prestigious jobs when they were in their mid-30's. Despite these disparities in education and occupational attainment, adolescent child bearers were similarly likely to be working, were as satisfied with their jobs, and had comparable household incomes to later child bearers.

Patterns of family formation—Adjusted group means and results of analysis of covariance for variables related to patterns of family formation are presented in Table 3. At the 18-year follow-up, former adolescent parents were as likely to be currently married as comparison parents. However, patterns of past marriages differed between the groups. Adolescent child bearers were significantly younger when marrying their first spouses, with a wider age gap for males than for females (4 years versus 2.7 years). Approximately 81% of adolescent parents were still married to their first spouse when they were in their mid-30's, as opposed to 91% of comparison parents. This relation was consistent for early childbearing women and men.

Differential patterns of childbirth were also observed. At the 18-year follow-up, adolescent mothers and fathers had more children, on average, than comparison parents. There was an interaction effect for the percentage who had a premarital first birth; adolescent fathers were approximately 10 times more likely to have had a premarital first birth than comparison fathers, whereas the percentage of premarital first births was similar for mothers (4% of adolescent mothers as opposed to 1% of comparison mothers). In total, these results indicated that having a child prior to the age of 20 was related to altered patterns of family role acquisition.

Differences in Educational, Occupational, and Financial Attainment and Patterns of Family Formation at the 35-year Follow-up

Educational, occupational, and financial attainment—I next examined whether the effects of adolescent parenthood on educational, occupational, and financial attainment and patterns of family formation persisted up to 35 years after first birth. Adjusted group means (controlling for family of origin and background characteristics) and analysis of covariance for these variables are presented in Table 4. In midlife, adolescent child bearers still tended to have completed less post-secondary education than later child bearers and were in less prestigious occupations. Like the 18-year follow-up, former adolescent parents were similarly likely to be employed and satisfied with their jobs compared to later child bearers and had equivalent household incomes.

Patterns of family formation—When adolescent parents were in their mid 50s they were just as likely to be currently married as comparison parents; however, they remained less likely to be married to their first spouse. Approximately 64% of adolescent parents were still married to their first spouse in their early 50s, as opposed to 75% of comparison parents. Although they were less likely to be in their first marriage, adolescent child bearers reported feeling similarly close to their current spouse. In terms of childbearing, adolescent mothers and fathers had more children, on average, than comparison parents. In total, these findings suggest that the impacts of having a child prior to the age of 20 remained stable from 18 years to 35 years after giving birth. That is, the variables that showed no effects of adolescent parenthood at the 18-year follow-up were also unaffected at 35 years (e.g., family income). Alternatively, educational and occupational deficits among the former adolescent parents at the 18-year follow-up did not appear to attenuate, relative to later child bearers, at the 35-year follow-up.

Stability between the 18-year and 35-year follow-up—As a more direct test of the stability of effects between the 18-year and 35-year follow-ups, I conducted a split-plot analysis of covariance for the 8 variables that were collected at both time points. The within-subject factor was the 18-year and 35-year scores of each variable, and the between-subjects variables were adolescent versus adult parent, gender, and the interaction of the two; covariates were the same as those in the preceding analyses. A significant within-person by adolescent parenthood interaction would indicate that one of the child bearing groups (early versus later) changed more between the 18-year and 35-year follow-up than the other group. None of such interactions were statistically significant, meaning that the two groups changed similarly and consequently that the effects were stable between the 18-year and 35-year follow-ups.

Differences in Social, Physical Health, and Psychological Functioning at the 35-year Follow-up

Social support and participation—I next examined the amount of social contact and emotional social support in midlife. Results of these analyses are presented in Table 5. The amount of social contact and participation was measured by the number of visits with friends and relatives over the last month, as well as the number of organizations participated in and frequency of religious attendance over the past year. At the 35-year follow-up, adolescent child bearers reported a similar number of visits with friends and relatives as comparison parents and participated in comparable numbers of organizations. The only difference between adolescent and comparison parents was their frequency of religious participation at midlife; early child bearers were less frequent attendees of religious services than later child bearers.

In regards to emotional social support, I examined the percentage of parents who felt they had a confidant in and outside of their family, as well as the percentage who felt they could talk to friends and family members about personal problems. There were no significant relations between age at first birth and any of the midlife emotional social support variables. These results suggested that patterns of social support and participation at the 35-year follow-up were similar for parents who had children during adolescence and those who had children during adulthood.

Physical health—With respect to physical health at the 35-year follow-up (when participants were in their mid-50s), respondents reported the number of diseases and illnesses they experienced, as well as whether they had ever regularly smoked, whether they currently regularly smoked, and their Body Mass Index. In addition, participants rated their present health, as well as their health compared to others their age/sex and compared to 10 years ago. Results from these analyses are presented in Table 6. Adolescent child bearers reported having significantly more illnesses and diseases and a higher Body Mass Index in midlife than comparison parents. There were not, however, differences in the percentages who currently or

ever smoked. In terms of self-rated health, early child bearers reported poorer present health, poorer health compared to others their same age and sex, and poorer health compared to 10 years ago (when they were in their mid 40s). Thus, it appears that early parenthood is associated with more physical health problems during middle adulthood and a poorer perception of physical health.

To better understand these findings, I conducted follow-up analyses that examined whether the aforementioned differences in physical health could be attributed to the findings that younger parents were likely to have less prestigious jobs, which could have a heavier physical toll. I also explored whether differences in physical health could be explained by adolescent parents having raised more children on average than comparison parents. The analyses presented above were conducted again, adding number of children and occupational SES as covariates in addition to family of origin variables (mother's and father's education, father's occupational SES, family earnings, IQ). In all cases, physical health variables that showed significant effects of adolescent parenthood remained significant after controlling for the number of children and occupational SES, reducing the likelihood that these variables are explanations for the adolescent parenthood-physical health relations.

Psychological well-being and depression—Lastly, I examined the effects of early parenthood on midlife depression and psychological well-being, presented in Table 6. Early child bearers reported similar CES-D depression scores to comparison parents at the 35-year follow-up, and did not differ on any of the midlife well-being measures. In contrast to other domains examined in the present project, adolescent parenthood was not associated with long-term effects on psychological variables in midlife when controlling for family of origin SES.

Adolescent Motherhood vs. Adolescent Fatherhood

The interaction term in the analysis of covariance was used to examine whether adolescent parenthood affected males and females differentially. A significant gender by age at first birth interaction would suggest that the effects of adolescent parenthood depended on the gender of the individual. With the exception of age at first marriage and proportion of respondents with a premarital first birth, the interaction term was not significant for any of the dependent variables. Thus, it appears that the effects of adolescent parenthood at the 18-year and 35-year follow-up assessments were not dependent on the gender of the parent.

Discussion

Separating out the impacts of adolescent parenthood from factors that predispose individuals to become adolescent parents is important from a psychological and an economic standpoint, considering that women who give birth during adolescence are overrepresented among TANF recipients today (Department of Health and Human Services, 2000). The present study aimed to determine whether the pervasive impacts of adolescent parenthood found in the Furstenberg et al. sample (1987) were also present in a sample that was drawn from a historically similar cohort that did not have many of the economic and educational disadvantages common to the Furstenberg et al. (1987) sample.

Although comparing findings from the WLS to a historically similar cohort is instructive, it is important to note that there are three significant differences between the WLS and the Baltimore sample (Furstenberg et al., 1987) that may be responsible for different patterns of findings in adulthood, in addition to the aforementioned amplifying factors. First, adolescent mothers in the Furstenberg et al. (1987) sample were mainly African-American whereas the WLS sample was European-American. The Furstenberg et al. (1987) sample lived in the inner-city of Baltimore. Early child bearers in the WLS, in contrast, were primarily from rural areas; fewer than 20% were from towns with a population of more than 50,000. Finally, the mean age of

adolescent parents in the WLS (*M*=19.2 years) was older than mothers in the Furstenberg et al. (1987) sample (*M*=16.5 years). The many differences between the two samples in terms of socio-cultural and demographic characteristics makes the similarity in patterns of education and family formation that much more striking, providing evidence for the life-long impact of an early, off-timed transition to parenthood even when not accompanied by other disadvantages.

Similar to the Furstenberg and colleagues' (1987) findings, adolescent child bearers in the WLS achieved less education than their peers who delayed childbearing, and had lower status jobs when they were in their mid-30's and mid-50's. In contrast to the Furstenberg et al. (1987) study, there were also strong indications of positive adaptation. Early child bearers in the WLS evidenced similar rates of employment at both time points compared to later child bearers, reported being equally satisfied with their current jobs, and had comparable household incomes. The similarities in the life course of early and later child bearers in this sample may be due, at least in part, to the relative advantage of this adolescent parent sample. Adolescent parents often enter into adulthood with a number of disadvantages in addition to being an early child bearer, such as dropping out of high school, living in poverty, and single parenthood (Maynard, 1997) that aid in explaining their problematic developmental trajectories (Jaffee, 2002). Adolescent parents in the WLS did not have to contend with many of these disadvantages, which may help account for patterns of positive adaptation when they reach midlife compared to samples such as Furstenberg et al. (1987), who had to navigate multiple risk factors in addition to early child bearing.

Other findings from this analysis supported those of the Baltimore study (Furstenberg, 2007; Furstenburg et al., 1987) as well as other studies (Card & Wise, 1981; Whitman et al, 2001) that have suggested that adolescent parents experience more unstable marital relationships throughout the life course. At both the 17-year and 35-year follow-ups in the WLS, fewer former adolescent parents were still married to their first spouses compared to men and women who delayed childbearing. However, when they reached midlife, early child bearers reported being equally close to their current spouse, compared to later child bearers. These positive and negative patterns support Furstenberg et al's (1987) assertion of the attenuating life course effects of adolescent parenthood on development; adolescent parents were likely to marry younger and those first marriages were more likely to end in separation or divorce, however as they reached midlife they tended to remarry, with these later spousal relationships being of equal quality to the relationships of individuals who delayed childbearing.

Because nearly all of the early child bearers in the WLS were married before the birth of their first child, I was unable to explore whether adolescent parenthood was the main contributing factor to the instability of their marriages, relative to the later child bearers. In more general samples, individuals who marry younger tend to have less stable marriages (Bumpass & Sweet, 1972), and it may be early marriages among adolescent parents in the WLS, and not adolescent parenthood itself, that is responsible for their lower likelihood of staying married to their first spouse. Future research should examine adolescent mothers who marry young and those who don't to determine whether early marriage increases marital instability among such parents.

Similar to what was found in Furstenberg's (2007) 30-year follow-up, the relationship between adolescent parenthood and educational and occupational attainment did not seem to attenuate between the 18-year and 35-year follow-up assessments. This does not imply, however, that the influence of adolescent parenthood was constant throughout the entire life course. Educational and occupational attainment could have been markedly impaired for early child bearers immediately after childbirth, and these effects may have attenuated in the first 18 years after childbirth. Because the first follow-up point of data collection in the WLS occurred in 1975, we do not have insights into the years immediately following childbirth. These findings

do suggest that even in a relatively advantaged sample of adolescent parents, the deleterious association of teen parenthood with education and occupational attainment persisted throughout early adulthood and into midlife.

A more nuanced picture of the developmental impact of early childbearing was revealed when examining social support, physical health, and psychological functioning measured at midlife. The most striking patterns of positive adaptation were found in the domains of social support and psychological well-being. At midlife, early child bearers were nearly indistinguishable from later child bearers in these domains, suggesting that the psychological and social impacts of early childbearing observed in existing research (Kinard, 2003; Moffitt & the E-Risk Study Team, 2002) may either attenuate over time or may be due to risk factors associated with adolescent parenthood such as poverty.

Perhaps the most intriguing findings of the present study were related to physical health. Although the effects of adolescent parenthood were relatively small, they were consistent for both subjective and objective measures of midlife health. Furthermore, these findings were still significant after accounting for early child bearers' tendencies toward raising more children or having more physically laborious jobs relative to later child bearers. In the most recent follow-up of the Baltimore project, Furstenberg (2007) also noted elevated physical health problems. More research is clearly needed to explore the relationship between adolescent parenthood and long-term physical health; it may be that stresses experienced by early child bearers in the WLS – such as truncated educational attainment, raising more children, and a greater likelihood of disrupted marital relationships – accumulate over the life course, resulting in declines in physical health at midlife. These same stresses could also make it more difficult for adolescent parents to develop and sustain behaviors that would promote a healthy lifestyle, such as proper nutrition or regular exercise. Another possible contributor to poor physical health could be that adolescent parents, who tend to have less prestigious jobs, may also have inadequate access to health care. Examining the factors that predict physical health within early childbearing samples, both before and after the birth of their first child, may uncover the mechanisms that lead to worse health among these parents.

The present study explored whether adolescent parenthood impacted the life course of mothers and fathers similarly. For nearly every outcome variable, the long-term impact of adolescent parenthood was not dependent on the gender of the parent. Unlike previous studies that suggested adolescent fathers were less affected by early parenthood (Card & Wise, 1981), results from the WLS seem to suggest a similar impact on both genders. Adolescent parenthood likely affects fathers similarly to mothers in this sample because WLS members were more likely to be married at childbirth than most teen parent samples (Card & Wise, 1981; Whitman et al., 2001), leading to greater male involvement in the family and in the life of the child and resulting in lives that look more similar to those of mothers. Future research could test this assertion by comparing adolescent fathers who are married to the mothers of their children versus those who are not. Alternatively, greater likelihood of marriage may have benefited adolescent mothers through the availability of more resources, causing their life course outcomes to look more resilient than many teen mother samples and consequently more similar to adolescent fathers.

The present study, by examining a relatively advantaged group of adolescent child bearers, addresses a number of gaps in the extant literature. It appears that when the impact of adolescent parenthood is isolated from that of childhood poverty and high school dropout, adolescent parents continue to achieve less, have less stable family relationships, and poorer physical health. However, in many domains adolescent parenthood itself was not related to midlife development. This was particularly true for social support, psychological well-being, and appraisals of job and marital success. We do not have insights into the shape of the life course

trajectories from age 18 to 35. It could be that socio-economic and educational advantages are protective factors that buffered the effects of adolescent parenthood on development throughout adulthood; alternatively, psychological well-being and social support could have been markedly impaired for early child bearers immediately after childbirth, and attenuated over time until the earlier deficits are now undetectable in midlife. Future research measuring psychological and social functioning of adolescent mothers across the lifespan is needed to determine the developmental trajectories of these domains.

Although the present study is an analysis of a historical cohort, the findings are relevant to both adolescent parents in the late 1950's and adolescent parents today. Nearly 10% of individuals in the WLS had children prior to the age of 20. This suggests that there are substantial numbers of former adolescent parents who are entering their mid to late 60's, and are likely to be experiencing heightened health problems and may be less prepared for retirement due to the type of employment they have experienced. By studying their life course, we may be able to better identify aging individuals who are in need of services. These findings are also relevant to adolescent parents of today. The cohort of adolescent parents obtained by Furstenberg and colleagues (1987) was gathered nearly 50 years ago, and yet their findings have been replicated by more recent samples of adolescent parents (East and Felice, 1991; Whitman et al., 2001) and are still widely cited. Teenage childbearing among individuals who do not experience socio-economic disadvantage occurs in today's society, just as it did in 1957, and we suspect that the findings from the WLS cohort are relevant to this group of adolescent parents.

There are two main limitations in the present study. First, the generalizability of these findings is limited. All participants in this sample attended high school in the same state and nearly all were European-American. Furthermore, this is a sample of advantaged early child bearers particularly considering that all sample members had a high school diploma; their experiences are likely not generalizeable to adolescent parents as a population. The second limitation is that the comparisons of early and later child bearers were between families. Although family of origin factors were statistically controlled, there are other pre-existing dissimilarities between the early and later child bearers that may contribute to the differences between groups. Examining long term impacts of adolescent childbirth within families, for example when one sister is an early child bearer and another is a later child bearer, would control for many of these possible confounds. Finally, using a between-group design masks heterogeneity within the adolescent parent group; future research will look within the early childbearing group to explore what characteristics of adolescent parents lead to midlife resilience.

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Table 1
Family of origin and background information for adolescent and adult parent sample

Background	Adolescent at first birth		Adult at first birth	
Father's occupation				
Farmer	24.1%		19.3%	
Unskilled laborer	46.0%		37.2%	
Skilled laborer (e.g., craftsman)	8.6%		10.3%	
Professional/white collar	21.3%		33.3%	
Living in poverty	32.2%		23.1%	
Population size, hometown (1957)				
<2500	34.9%		29.5%	
<10,000	22.1%		19.3%	
10,000-49,999	24.3%		27.3%	
>50,000	18.8%		23.9%	
Religion				
Catholic	36.3%		44.7%	
Protestant	60.6%		52.5%	
Other	3.1%		2.8%	
Respondent's birth order				
First born	36.7%		38.7%	
Second born	25.7%		27.5%	
Third or more born	37.6%		33.8%	
Number of living siblings	*M* = 3.40		*M* = 2.97	
	Males	Females	Males	Females
Age at first birth				
< 16	1.2%	0%		
16	0%	.2%		
17	1.2%	1.3%		
18	19.0%	23.7%		
19	78.6%	74.8%		
Premarital first birth	20.2%	4.2%	2.1%	1.2%

Note. Respondents were defined as living in poverty if the income to needs ratio of their family of origin in 1957 was less than one.

Table 2

Analysis of Variance of Family of Origin Characteristics and IQ by Adolescent Parent Status and Gender

	Adolescent at first birth		Adult at first birth		F-value		
Variable	**Female *M***	**Male *M***	**Female *M***	**Male *M***	**Age**	**Gender**	**Age × Gender**
Father's education in years	9.68	10.56	10.37	10.43	2.26	6.29*	4.72*
	(.14)	(.33)	(.09)	(.10)			
Mother's education in years	9.94	10.17	10.31	10.55	4.73*	1.78	.00
	(.13)	(.30)	(.08)	(.09)			
Prestige of father's occupation	27.63	28.62	34.61	3.28	18.29**	.10	1.15
	(.96)	(2.25)	(.59)	(.67)			
Total household income (in hundreds)	53.10	56.94	64.50	68.34	8.84**	1.40	.02
	(2.97)	(6.34)	(1.66)	(1.90)			
Respondent IQ	100.75	100.21	101.89	102.92	4.52*	.07	.75
	(.66)	(1.56)	(.41)	(.47)			

* $p < .05$.

** $p < .01$.

Note. Standard errors of the estimates can be found in parentheses under the estimates.

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Table 3

Analysis of Covariance of 18-year Follow-up (1975) Attainment and Family Formation Variables by Adolescent Parent Status and Gender

	Adolescent at first birth		Adult at first birth		F-value		
Variable	**Female Adjusted *M***	**Male Adjusted *M***	**Female Adjusted *M***	**Male Adjusted *M***	**Age**	**Gender**	**Age × Gender**
Completed education	2.26	2.57	2.50	2.99	46.91**	65.48**	2.02
	(.04)	(.09)	(.02)	(.03)			
Proportion currently employed	.62	.99	.54	.99	3.04	262.08**	2.71
	(.02)	(.04)	(.01)	(.01)			
Prestige of current job	41.05	47.23	44.35	52.88	11.33**	30.77**	.79
	(1.06)	(2.22)	(.71)	(.67)			
Job satisfaction	3.52	3.57	3.50	3.50	1.25	.29	.36
	(.04)	(.07)	(.02)	(.02)			
Total family earnings (in hundreds)	154.56	199.71	160.90	181.03	.89	24.92**	3.66
	(4.83)	(11.30)	(2.96)	(3.38)			
Proportion currently married	.92	.94	.94	.97	3.49	2.93	.02
	(.01)	(.02)	(.01)	(.01)			
Age at first marriage	18.63	19.42	21.37	23.41	1573.47**	279.32**	53.71**
	(.06)	(.15)	(.04)	(.04)			
Proportion married to first spouse	.80	.82	.90	.92	28.25**	1.08	.00
	(.02)	(.03)	(.01)	(.01)			
Number of children	3.77	3.51	3.07	2.79	88.36**	13.27**	.03
	(.06)	(.13)	(.03)	(.04)			
Proportion with a premarital first birth	.04	.20	.01	.02	112.12**	72.79**	58.90**
	(.01)	(.02)	(.00)	(.01)			

* $p < .05$.

** $p < .01$.

Note. Standard errors of the estimates can be found in parentheses under the estimates.

Table 4

Analysis of Covariance of 35-year Follow-up (1992) Attainment and Family Formation Variables by Adolescent Parent Status and Gender

	Adolescent at first birth		Adult at first birth		F-value		
Variable	**Female Adjusted *M***	**Male Adjusted *M***	**Female Adjusted *M***	**Male Adjusted *M***	**Age**	**Gender**	**Age × Gender**
Completed education	2.37	2.61	2.64	3.04	40.56**	34.46**	2.01
	(.04)	(.10)	(.03)	(.03)			
Proportion currently employed	.77	.92	.78	.94	.52	47.13**	.24
	(.02)	(.04)	(.01)	(.01)			
Prestige of current job	35.41	43.11	39.35	45.78	9.23**	42.52**	.35
	(.83)	(1.86)	(.51)	(.56)			
Job satisfaction	3.49	3.37	3.43	3.43	.01	1.62	1.85
	(.03)	(.08)	(.02)	(.02)			
Total family earnings (in hundreds)	541.70	750.24	613.39	784.18	2.45	31.73**	.32
	(24.87)	(58.17)	(15.26)	(17.42)			
Proportion currently married	.84	.88	.86	.90	.55	3.85	.05
	(.02)	(.04)	(.01)	(.01)			
Proportion married to first spouse	.64	.63	.75	.75	18.93**	.06	.03
	(.02)	(.05)	(.01)	(.01)			
Marital satisfaction	3.80	3.81	3.79	3.80	.03	.09	.00
	(.02)	(.05)	(.01)	(.02)			
Number of children	4.08	3.93	3.32	3.09	80.19**	4.53*	.24
	(.07)	(.15)	(.04)	(.05)			

*$p < .05$.

**$p < .01$.

Note. Standard errors of the estimates can be found in parentheses under the estimates.

Table 5

Analysis of Covariance of 35-year Follow-up (1992) Social Variables by Adolescent Parent Status and Gender

	Adolescent at first birth		Adult at first birth		F-value		
Variable	**Female Adjusted *M***	**Male Adjusted *M***	**Female Adjusted *M***	**Male Adjusted *M***	**Age**	**Gender**	**Age × Gender**
Number of visits with friends in last month	4.24	3.96	4.27	3.49	.75	4.30*	.97
	(.19)	(.44)	(.12)	(.13)			
Number of visits with relatives in last month	4.31	3.34	3.92	2.99	2.79	18.03**	.01
	(.17)	(.39)	(.10)	(.12)			
Number of organizations participated in	2.58	3.12	2.80	3.44	3.09	14.95**	.12
	(.11)	(.27)	(.07)	(.08)			
Frequency of religious attendance	2.01	1.73	2.25	1.97	11.25**	15.85**	.00
	(.05)	(.12)	(.03)	(.04)			
Proportion with confidant in family	.90	.83	.88	.87	.40	3.86*	1.74
	(.02)	(.04)	(.01)	(.01)			
Proportion with confidant out of family	.83	.64	.85	.66	.40	54.01**	.00
	(.02)	(.05)	(.01)	(.01)			
Proportion can talk to friends about personal problems	.72	.70	.73	.66	.19	2.59	.77
	(.02)	(.05)	(.01)	(.02)			
Proportion can talk to children about personal problems	.69	.62	.67	.53	3.55	11.90**	1.24
	(.02)	(.05)	(.01)	(.02)			
Proportion can talk to parents about personal problems	.25	.33	.25	.29	.47	3.77	.36
	(.02)	(.05)	(.01)	(.01)			
Proportion can talk to siblings about personal problems	.44	.50	.51	.44	.04	.06	3.55
	(.02)	(.05)	(.01)	(.02)			
Proportion can talk to other relatives personal problems	.17	.24	.17	.20	.65	4.02*	1.13
	(.02)	(.04)	(.01)	(.01)			

* $p < .05$.

** $p < .01$.

Note. Standard errors of the estimates can be found in parentheses under the estimates.

Table 6

Analysis of Covariance of 35-year Follow-up (1992) Health and Psychological Variables by Adolescent Parent Status and Gender

	Adolescent at first birth		Adult at first birth		F-value		
Variable	**Female Adjusted *M***	**Male Adjusted *M***	**Female Adjusted *M***	**Male Adjusted *M***	**Age**	**Gender**	**Age × Gender**
Number of illnesses/diseases	1.30	1.25	1.12	.90	10.98**	2.85	1.09
	(.06)	(.14)	(.04)	(.04)			
Proportion who ever smoked regularly	.52	.69	.47	.62	3.69	26.89**	.06
	(.02)	(.05)	(.01)	(.02)			
Proportion currently smoking regularly	.23	.19	.17	.18	1.96	.15	.91
	(.02)	(.04)	(.01)	(.01)			
Body Mass Index	26.95	28.41	25.81	27.51	13.54**	32.55**	.21
	(.21)	(.48)	(.13)	(.14)			
Self-rated health	4.08	3.99	4.19	4.17	11.79**	1.74	.64
	(.03)	(.07)	(.02)	(.02)			
Health compared to others same sex/age	4.09	4.00	4.17	4.19	8.92**	.49	1.59
	(.03)	(.08)	(.02)	(.02)			
Health compared to 10 years ago	2.83	2.85	2.98	2.93	6.00*	.05	.43
	(.04)	(.09)	(.02)	(.03)			
Well-being							
Autonomy	30.94	31.80	30.58	31.81	.23	8.49**	.26
	(.27)	(.62)	(.16)	(.19)			
Environmental mastery	33.28	33.56	33.82	33.79	1.22	.12	.18
	(.26)	(.60)	(.16)	(.18)			
Personal growth	32.74	32.12	33.43	32.63	2.58	3.68	.06
	(.28)	(.65)	(.17)	(.19)			
Positive relationships	34.36	32.54	34.94	32.98	1.92	26.46**	.04
	(.27)	(.64)	(.17)	(.19)			
Purpose in life	33.18	33.68	33.95	34.06	2.24	.63	.25
	(.28)	(.66)	(.17)	(.20)			
Self-acceptance	32.46	32.96	33.05	33.38	1.58	1.08	.04
	(.30)	(.69)	(.18)	(.21)			
CES-D depression	9.63	7.41	8.94	7.47	.41	14.35**	.59

	Adolescent at first birth		Adult at first birth		F-value		
Variable	Female Adjusted *M*	Male Adjusted *M*	Female Adjusted *M*	Male Adjusted *M*	Age	Gender	Age × Gender
	(.36)	(.84)	(.22)	(.36)			