

PARENTHOOD, LIFE COURSE EXPECTATIONS, AND MENTAL HEALTH

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INTRODUCTION

Studies indicate that those who experience childbirth at young ages or prior to marriage exhibit higher levels of distress and lower psychological well-being than those who have children later in life and following marriage.^{26, 16, 24, 38} These findings suggest that for those who have children prior to marriage and at early ages, parenthood is a distressing experience with significant costs to one's mental health. Nonetheless, observed associations between first birth timing, pre-marital births, and mental health are only statistical averages and may obscure significant variations in mental health outcomes associated with parenthood. To better understand the links between first birth timing, the sequencing of marriage and parenthood, and mental health it is important to identify factors that may condition these associations. One such factor noted to be important to mental health, but which to date has not been examined exhaustively in research on the timing of first births and the sequencing of marriage and parenthood, are individuals' life course expectations.

Expectations are central to the appraisal of life circumstances¹ and the appraisal of circumstances, in turn, strongly shapes their mental health consequences.^{3, 7, 18, 34, 41} Thus, expectations in young adulthood for the timing and sequencing of marriage and parenthood likely condition the mental health outcomes associated with age at first birth and pre-marital first births. Indeed, evidence that unintended and mistimed births are associated with elevated levels of distress, underscore the importance of expectations for parents' mental health.^{9, 13, 19, 27} Nonetheless, previous measures of birth intentionality are problematic in many respects, necessitating a more thorough and exhaustive approach in analyzing the role of expectations.

In identifying the role of expectations in conditioning parents' mental health, it is important to consider race. Research indicates that the importance of the parental role for one's identity may be substantially greater for blacks than for whites.^{11, 20, 42} Furthermore, blacks are more accepting of, and less critical toward, pre-marital births than whites.⁴² These differences suggest that the condition effects of expectations mental health may vary significantly by race.

THEORETICAL FRAMEWORK

The Timing and Sequencing of Parenthood in the Life Course and Mental Health

Generally, those who have children at young ages and prior to marrying have lower levels of psychological well-being than those who enter parenthood later in life or after marriage.^{4, 6, 16, 17, 26, 31} This is because early and pre-marital parenthood exposes parents to stressful conditions (e.g., single parenthood and economic deprivation)^{23, 28, 32} which negatively affect mental health.^{17, 26, 31} Despite the average association of pre-marital and early entry into parenthood with poor psychological well-being, the effects of birth timing and sequencing also likely depend on the extent to which they deviate from or violate prior expectations. This is because violations of timing and sequencing expectations may be seen as a disruption of personal development and the identity a person expected to achieve.

A violation of expectations for first birth timing and sequencing of marriage and parenthood may result in elevated levels of stress, and thus psychological distress, because they pose a threat to one's identity and goals for personal development. The social roles (e.g., single parent; teen mother) people hold, and anticipate holding, form their identities.^{35, 40} According to developmental theory, identity is based in part on current roles, but also on anticipated roles. Because people transition into and out of roles, motivations for the future are a critical component of identity.^{15, 21, 36} According to identity and self-discrepancy theory, discrepancies

between a) hoped for (ideal) identities or should have (ought) identities and b) actual identities produce psychological distress because they result in: a) threat to, or loss of, identity, b) negative self-concept, c) negative feelings regarding one's future self, and d) unanticipated and undesirable adjustments of self and self-concept.^{5, 14, 37} From the viewpoint of personal development, personal expectations for birth timing and sequencing likely determine whether one views his or her entrance into parenthood as an anticipated achievement or as a life course interruption, an interruption of goals for future identity and personal development, and therefore a threat to one's mental health. Thus, earlier and also later than expected first births, as well as unexpected pre-marital births may be problematic for one's mental health because all may necessitate uninvited adjustments of life goals and self-concept. Conversely, one's age at first birth and the occurrence of a pre-marital birth are less likely to negatively affect one's mental health when they are expected.

The importance of expectations for mental health is supported by the many studies which find that unintended, mistimed, or unwanted births negatively affect mental health.^{2, 13, 27, 29} Nonetheless, studies on birth intentions have several limitations.^{12, 19} In the vast majority of studies, timing intentions are reported retrospectively by respondents, measured dichotomously (mistimed or not), and only examined for earlier than expected births. This is problematic because recollections of intentions may be incorrect or altered following birth. Furthermore, crude dichotomous measures likely obscure significant gradations in mental health associated with the degree of mistiming. Additionally, by focusing on early births, studies ignore the possibility that later than expected births may also threaten mental health. Finally, violations of sequencing expectations may also have unique consequences for mental health, but this has not been researched. This study addresses these issues by: 1) measuring first birth expectations

before pregnancy, 2) using a continuous measure of timing expectations, 3) examining the mental health consequences of both earlier and later than expected first births, and 4) examining the both timing and sequencing expectations.

Racial Differences in Timing and Sequencing Expectations

Any examination of the role of expectations in conditioning the mental health consequences of birth timing and sequencing is incomplete without a consideration of race. First, parenthood is more important to blacks compared to whites and this may make deviations from expected birth timing more consequential for blacks' mental health. Compared to whites, blacks' value children more highly, are more desirous of having children, and have a lower ideal age at first birth.^{10, 42} For blacks, especially the impoverished, the parental role is sometimes the only available and achievable marker of adulthood.^{11, 20} This makes parenthood a highly salient source of identity for blacks, and potentially more so than for whites

Not only may the strength of timing expectations differ by race, but so too may the effects of sequencing expectations. The conditioning effects of sequencing expectations are likely weaker for blacks than for whites. Compared to whites, blacks are more personally accepting of non-marital births and see their communities as less critical of unwed mothers.⁴² Furthermore, among adolescent girls of all race/ethnicities only black girls report younger expected ages at first birth than first marriage.^{10, 33} Because pre-marital births are more normative for blacks their occurrence may be less of a threat to identity and mental health.

METHOD

Data comes from the National Longitudinal Survey of Youth 1979, a nationally representative sample of 12,686 U.S. youths age 14-21 in 1979. Each respondent was interviewed annually from 1979 to 1994 and biennially since. At first interview, respondents

were asked a set of questions about their expectations for the timing of marriage and parenthood. Beginning in 1998, respondents who have reached age 40 complete a health module containing a seven-item portion of the CES-D depression scale. Analyses are limited to black and white, young adults (age 16-21) who were childless at baseline and who provided valid responses to questions assessing their expectations for the timing of first birth and marriage. Individuals who expected children after age 40 are also excluded from the analysis. These restrictions result in the analysis of $N = 2240$ blacks and whites 40 years of age who responded to the health module in 1998, 2000, or 2002.

A measure of *logged depressive symptoms* is the primary dependent variable in this study. Respondents completed a 7-item version of the CES-D Depression scale when they turned 40 years of age. Responses to the 7-items are mean scaled ($\alpha = .83$) which requires five valid responses, summed (Range 0-21), and then logged [$\ln(\text{depression score} + 1)$] to adjust for skew.

Two variables from the NLSY79 are used to construct measures of expectations for birth timing and the sequencing of marriage and parenthood. Respondents of the NLSY79 were asked in 1979: “At what age would you like to marry?” and “When do you expect to have your first/next child?” *Age at first birth* is a continuous measure in years of respondent’s age at first birth. *Off-time deviation of first birth* is used to assess the role of expectations in shaping the association between age at first birth and mental health. It is measured as the difference between respondent’s actual and expected age at first birth. Positive values indicate late first births, negative values indicate early first births, and a value of 0 indicates first births that occurred at the age the respondent expected (Range = -20 to 20 years). Because a curvilinear relationship is expected (both earlier and later births should increase depressive symptoms), a squared term is also included in models.

Pre-marital first birth (1 = yes) is a dummy variable indicating whether respondents' reported age of first birth predates their reported age of first marriage. *Expected premarital 1st birth* is a dichotomous variable (1 = yes) used to capture respondents' expectations for the sequencing of marriage and parenthood. In my models the *expected premarital 1st birth* dummy variable is used as an internal moderator. Internal moderators are used in cases when the effect of a variable applies only to members of a particular group (Mirowsky 1999). Because the moderating qualities of expectations for a pre-marital first birth should only affect the mental health of those who experience such a birth an internal moderator is appropriate here. Those who had and expected a pre-marital birth are given a value of 1; those who had a child after marriage and those who had a pre-marital first birth unexpectedly are given a value of 0.

Control variables include: *age in 1979*, *highest grade completed in 1979*, *impoverished 1978-1979* (1 = in poverty per Dept. of HHS guidelines in 1978), *ever been diagnosed with a mental illness prior to 1979* (1 = yes), *gender* (1 = female), and *black* (reference = white).

RESULTS

Descriptive statistics for the analytic sample are shown in Tables 1 and 2. On average, respondents experienced a first birth 2 years later than expected with a standard deviation of ± 5 years. 23% of the sample experienced a pre-marital first birth and a fairly substantial proportion – 44% – of those who had a pre-marital first birth expected to do so. Not surprisingly, the majority of pre-marital births (67%) occur to blacks. Consistent with previous findings, blacks, as shown in Table 2, are more likely to expect and have children at younger ages than whites. Additionally, they are also more likely to expect and have their first child before marriage.

Table 1: Descriptive Statistics – Means, Proportions, and Standard Deviations (in parentheses) for All Variables (N = 2240)

Variables	All Expected Parents at Age 40 (N = 2240)	First Birth Prior to Marriage (N = 517)
	Mean (s. d.)	Mean (s. d.)
Depressive Symptoms (logged)	.995 (.881)	1.151 (.911)
Age at first birth	26.055 (5.041)	23.437 (4.653)
First Birth Prior to Marriage	.231	---
Off-time Deviation of First Birth	2.132 (4.908)	.393 (4.871)
Expects 1 st Birth Prior to Marriage	.222	.437
Ever diagnosed mentally ill (1979)	.003	.002
Female	.500	.462
Black	.350	.807
Age (1979)	18.609 (1.600)	18.267 (1.512)
Impoverished '78 -'79	.191	.404
Highest Grade Completed (1979)	11.520 (1.467)	10.930 (1.374)

Table 2: Descriptive Statistics – Birth Timing and Sequencing by Race/Ethnicity Among Expected Parents (N = 2240)

Variables	All Expected Parents at Age 40 (N = 2240)	White (N = 1457)	Black (N = 783)
	Mean (s. d.)	Mean (s. d.)	Mean (s. d.)
Age at First Birth	26.055 (5.041)	26.807 (4.868)	24.655*** (5.062)
Expected Age at First Birth	23.923 (2.868)	24.284 (2.749)	23.250*** (2.943)
First Birth Prior to Marriage	.231	.069	.533***
Expects 1 st Birth Prior To Marriage	.222	.111	.430***
Had and Expected 1 st Birth Prior to Marriage	.106	.012	.282***

***p < .001 (two-tailed)

Note: p-values derived from comparison of group means using Independent samples t-test

Age at First Birth, Pre-Marital First Births, and Life Course Expectations

Table 3 presents results from the Ordinary Least Squares (OLS) regression analysis of age at first birth, pre-marital first birth, and timing and sequencing expectations on mental health. As shown in the table, I conduct my analysis of first birth timing and sequencing simultaneously in the same models in order to isolate the unique effects of age at first birth and pre-marital births on depressive symptoms, and the unique conditioning effects of expectations. Consistent with previous research, both age at first birth and pre-marital births are significantly related to mental health outcomes. As indicated in model 1, later ages at first birth are associated with decreases in depressive symptoms while those who had their first child prior to marriage exhibit more depressive symptoms than those who had their first child after marriage. Although the effect of pre-marital births persists, the effect of age at first birth on depressive symptoms becomes non-significant in model 2. This finding suggests that the effect of age at first birth may be spurious. Interestingly, after including a measure of off-time deviations in model 3, a significant effect of age at first birth re-emerges. This suggests that timing deviations within every age at first birth may suppress the true effect of age at first birth on depressive symptoms in mid-life. Indeed, holding deviations from expecting timing constant, a one year increase in age at first birth is found to reduce logged depressive symptoms by .020.

As shown in model 3, I find only limited evidence to support my hypothesis that expectations condition the mental health effects of the timing and sequencing of first birth. Rather than a curvilinear, U-shaped relationship between deviations from expected first birth timing and depressive symptoms, I find a marginally significant linear relationship which indicates that early first births are related to decreases in depressive symptoms and later than expected births to increases. This does not conform to the hypothesis that depressive symptoms

Table 3: OLS Regression of Logged Depressive Symptoms on Expectation for First Birth Timing and Sequencing of First Birth, Marital Status, Socioeconomic Status, and Sociodemographic Characteristics Among Parents who Expected Children (n = 2240)

	All (n = 2240)			White (n = 1457)			Black (n = 783)		
	Model 1 B (s.e.)	Model 2 B (s.e.)	Model 3 B (s.e.)	Model 4 B (s.e.)	Model 5 B (s.e.)	Model 6 B (s.e.)	Model 7 B (s.e.)	Model 8 B (s.e.)	Model 9 B (s.e.)
Intercept	1.177 (.108)	1.412 (.241)	1.635 (.259)	1.304 (.133)	1.454 (.292)	1.409 (.316)	.953 (.186)	1.379 (.427)	1.928 (.449)
Age at First Birth	-.009* (.004)	-.003 (.004)	-.020* (.008)	-.013** (.005)	-.007 (.005)	-.013 (.010)	-.001 (.007)	.004 (.007)	-.034* (.014)
1 st Birth Prior to Marriage	.165*** (.048)	.143** (.055)	.185** (.062)	.161† (.093)	.121 (.092)	.061 (.099)	.207** (.070)	.169* (.072)	.272*** (.081)
Ever diagnosed mentally ill (1979)	---	1.160*** (.352)	1.187*** (.351)	---	.998* (.426)	1.020* (.426)	---	1.522* (.627)	1.441* (.623)
Female	---	.268*** (.039)	.255*** (.039)	---	.251*** (.047)	.254*** (.047)	---	.303*** (.068)	.283*** (.068)
Black	---	-.033 (.048)	-.033 (.049)	---	---	---	---	---	---
Age (1979)	---	.023 (.016)	.030† (.016)	---	.025 (.020)	.032 (.020)	---	.018 (.027)	.033 (.028)
Impoverished '78 -'79	---	.060 (.054)	.060 (.054)	---	.127 (.088)	.106 (.088)	---	.012 (.069)	.011 (.070)
Highest Grade Completed (1979)	---	-.083*** (.018)	-.078*** (.018)	---	-.081*** (.023)	-.077*** (.023)	---	-.089** (.029)	-.084** (.030)
Off-time Deviation of First Birth	---	---	.014† (.007)	---	---	-.005 (.009)	---	---	.043** (.012)
Off-time Deviation of First Birth squared	---	---	.001 (.001)	---	---	.002* (.001)	---	---	.000 (.001)
1 st Birth Prior to Marriage X Expected 1 st Birth Prior to Marriage	---	---	-.134† (.078)	---	---	.338 (.230)	---	---	-.245** (.089)
R ²	.011	.049	.053	.009	.044	.050	.014	.058	.079

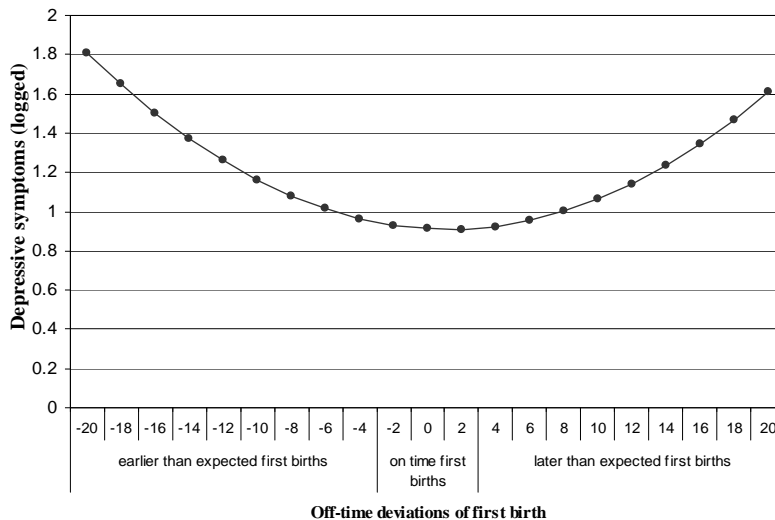
†p < .10; *p < .05, **p < .01, ***p < .001 (two-tailed)

would be lowest when respondents meet their timing expectations. Concerning expectations for pre-marital first births, I again find only marginal evidence that expectations for the sequencing of marriage and parenthood conditions the relationship between pre-marital first births and depressive symptoms. Lack of support for my hypotheses however, are driven by large race differences in the conditioning effects of expectations.

Race, Life Course Expectations, and Mental Health

Analyses reveal significant racial variation in the effect of deviations from timing expectations on depressive symptoms. The effect for whites as noted in model 6 is curvilinear and statistically significant. Furthermore, as Figure 1 illustrates, the highest levels of depressive symptoms are observed for those who had the greatest deviation between actual and expected age at first birth while the lowest levels are observed among those who had their first birth very near their expected age. For whites at least, both earlier and later than expected births are related to increases in depressive symptoms. Interestingly, even after including a measure of timing deviations, there is no effect of age at first birth for whites. This suggests that the relationship

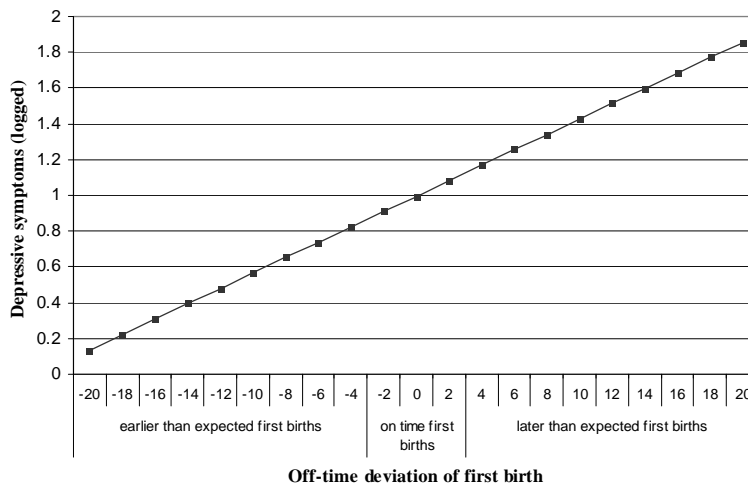
Figure 1: Depressive symptoms (logged) of Whites by deviations from expected timing of first birth



between age at first birth and mental health for whites may indeed be spurious and confounded with one's background characteristics. It appears then for whites at least, it is the violation of expectations rather than age that matters for mental health.

In contrast to whites, timing deviations suppress a significant effect of age at first birth on blacks' mental health, suggesting that variations in deviations from timing expectations mask the true effect of age at first birth. I hypothesized that the relationship between deviations from expected timing of first birth and psychological well-being would be stronger for blacks than whites. Instead, the findings indicate that the relationship is entirely different for them. For blacks, off-time deviations have a significant, positive, linear effect on depressive symptoms (model 9; figure 2), suggesting that earlier than expected births result in less depressive symptoms, while later than expected births result in more. Why exactly this pattern is found is unclear. It is possible that only later than expected deviations have an effect on depressive symptoms. I ran supplemental analyses (not shown) to test this possibility. I found no significant effect of deviations from timing expectations among those who had later than expected births. Rather, for blacks who had earlier than expected births, I found that the earlier the birth occurred

Figure 2: Depressive symptoms (logged) of Blacks by deviation from expected timing of first birth



the lower the respondent's depressive symptoms ($p < .05$). One possible explanation for this finding is that the primary goal for blacks' personal development may be their entrance into parenthood. If this is so, first births at any age signify the achievement of this goal and the earlier this goal is achieved in reference to expectations the better it seems for blacks' mental health.

Lastly, the effect of sequencing expectations on the relationship between pre-marital first births and depressive symptoms also varies across race. Nonetheless, instead of the effect being weaker for blacks as I hypothesized, it appears that expectations matter only for blacks. For whites, expectations for pre-marital childbirth do not condition the relationship between pre-marital first births and depressive symptoms (models 6). For blacks, on the other hand, sequencing expectations do significantly condition the effect of a pre-marital first birth. The significant coefficient for pre-marital first births (model 9) indicates that blacks who had an unexpected pre-marital first birth exhibit significantly higher levels of depressive symptoms than those whose first birth occurred following marriage. The coefficient for the internal moderator term indicates that this difference is significantly smaller for blacks who had an expected pre-marital birth. Thus, for blacks, expecting a pre-marital birth substantially ameliorates the negative effects of a pre-marital birth. Furthermore, there is no statistical difference in depressive symptoms between those who had their first child after marriage and those who had an expected pre-marital first birth ($.272 - .245 = .027$). These findings suggest that pre-marital childbirth, even though it is far more common and culturally acceptable, may be more consequential for the identity of blacks than whites, and that the effect of pre-marital childbearing for blacks is related primarily to violations of identity and personal development.

CONCLUSION

The purpose of this study was to examine the degree to which individual expectations for the timing and sequencing of first births are related to mental health. These analyses revealed that, in most cases, young adults' expectations for first birth in the life course matter for their mental health in mid-life by conditioning the effects of age at first birth and pre-marital first births. Nonetheless, the manner and degree to which expectations matter varies greatly by race -- age at first birth and expectations for pre-marital births matter only for black. Timing deviations matter for both racial groups, but in vastly very different ways.

In all, the findings presented in this paper suggest that although age at first birth and pre-marital births are certainly factors to be considered in assessing parents' mental health, one's life is marked by more than just the timing of role transitions and the order of those transitions, it is also marked by the subjective assessment of the way our lives unfold, which at times may or may not occur in a manner consistent with our own expectations for identity and personal development. That personal expectations regarding the timing and sequencing of parenthood matter for mental health indicates that when life course outcomes are anticipated, individuals' identities, personal development, and mental health are less likely to be threatened, and the negative effects of adverse parenting conditions may be somewhat ameliorated. Furthermore, as it pertains to the effects of expectations for the timing of first births for blacks, results suggest that when expectations are exceeded, individuals are likely to experience gains to mental health.

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