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The Mommy Track: The Consequences of Gender Ideology and Aspirations on Age At First Motherhood

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While there is extensive and compelling evidence that growing up in an impoverished background leads to early fertility, few studies explain why early socioeconomic disadvantage leads to early childbearing. Using data from the National Longitudinal Survey of Youth, I test whether gender ideology, as well as educational and occupational aspirations, mediates the connection between poverty and teen fertility patterns. Traditional gender ideology depresses age at first motherhood. Adolescent aspirations appear to act as protective factors in the production of early pregnancy.

Introduction

Over the past two decades, teenage childbearing has received much scholarly investigation. Among women between the ages of fifteen and nineteen, 7.2% of white women, 15.8% of Hispanic women, and 14.4% of African American women have had one child (Bachu & O'Connell, 2001). Unfortunately, early childbearing has a variety of negative effects on the economic outcomes of both mother and child (Duncan & Hoffman, 1990; Hogan & Kitagawa, 1985; McLanahan, 1988). This research focuses on the processes that lead to teen motherhood.

Previous research has been limited in three important ways. First, the vast majority of studies have examined the teen childbearing patterns of either whites or African Americans (see e.g., Bumpass & McLanahan, 1989; Haveman & Wolfe, 1994; Hogan & Kitagawa, 1985). The inclusion of other racial and ethnic groups

may clarify the processes that contribute to teen fertility patterns. Second, while a few researchers have examined the effects of adolescent self-esteem on childbearing patterns (Nock, 1998; Oates, 1997), most studies emphasize the impact of poverty status and educational attainment on teen fertility. The role of more subjective factors such as perceptions of gender appropriate behaviors in contributing to teen pregnancy have not been widely examined. Third, previous research fails to consider the effect of teen's educational and occupational aspirations on the likelihood of early motherhood (see Eastman, 1998 for an exception). Occupational and educational aspirations may reflect perceptions of opportunity, attitudes about goals, and gender socialization.

The present research adds to the understanding of adolescent fertility patterns. Toward this end, the effect of both structural and individual characteristics on the outcome of age at first motherhood will be examined. Additionally, this study will employ longitudinal data that contains fertility information for three racial groups: African Americans, Mexican Americans, and whites. African Americans and Mexican Americans are the largest minority groups in the United States and research that includes all three racial groups is sorely lacking. Finally, this investigation will explore the impact of young women's personal gender role ideology, as well as educational and occupational aspirations on their fertility patterns.

This research addresses two primary questions. First, what is the impact of gender ideology on age at first motherhood? If young women have traditional attitudes with respect to gender roles, will they become mothers at an earlier age than those whose attitudes about gender roles are more contemporary? Second, can educational and occupational aspirations act as protectants in the process that leads to early pregnancy? Insofar as aspirations indicate planning and intention, it is possible that teens with high aspirations actively seek to avoid becoming mothers at early ages.

Background

Due to the negative effects of teen fertility on the future status attainment of young women and their children, teen childbearing is frequently posited as an instance of deviance. For example,

proponents of the welfare culture model of poverty transmission have argued that welfare encourages premarital fertility through eligibility rules that penalize marriage and increase benefits with the birth of additional children (Murray, 1984). Young women become pregnant, not because they value children, but because they wish to increase the amount of benefits they receive. According to welfare culture theorists, widespread public assistance dependency has rendered the stigma once attached to welfare receipt ineffective (Corcoran, 1995; Mead, 1986; Murray, 1984). Indeed, the perception that welfare rules encouraged single-parenthood is reflected in the Personal Responsibility and Work Reconciliation Act of 1996 and in block grants tied to welfare reform that reward states whose out-of-wedlock birth rates decrease.

Despite the mainstream popularity of welfare culture arguments, there is little evidence that welfare receipt is followed by a change in attitudes or beliefs. To the contrary, Kaplan (1996) finds that the mothers of teens who become pregnant hold mainstream values regarding the timing and circumstances of motherhood and view early childbearing as a threat to those values. Similarly, Wilson (1996) finds that members of the "underclass" are well aware of the labels that mainstream society attaches to them. Finally, Rank (1989) found that the fertility rate of welfare recipients is actually lower than the fertility rate among women not on welfare. Moreover, the duration of welfare dependency has a negative effect on the probability of childbearing (Rank 1989).

Alternative examinations of teen pregnancy focus on the role of factors such as parental economic status and parental marital status in contributing to teen motherhood. For black and white teens, the risk of premarital fertility is greatly reduced if the teen's parents have high school diplomas and if the teen comes from an intact family (Bumpass & McLanahan, 1989). Similarly, Crane (1991) reports that as the number of "high status" neighbors decreases, the rate of teenage fertility increases. Living in highly segregated neighborhoods restricts access to "mainstream" social and economic opportunities and increases the rate of teen childbearing by 50% (Sucoff & Upchurch, 1998).

While factors such as educational and occupational opportunity certainly play a role in the occurrence of teen pregnancy, studies that focus on these factors fail to explain how poverty

and a lack of mainstream educational and occupational opportunities lead to early fertility. In fact, studies that examine the connection between socioeconomic standing and teen childbearing seem to insinuate, similar to the welfare culture theory, that disadvantaged backgrounds produce attitudinal and behavioral deviations from "accepted" paths to status attainment.

There are alternative theories that may be better able to account for variations in maternal age at first birth. Hoffman and Hoffman (1973) contend that children meet the needs of parents. Having children enhances the adult status and social identity of parents. Their theory suggests that children are particularly important for meeting parental needs when parents lack access to other status builders (i.e., occupational prestige). In other words, children may be particularly valuable to those who lack alternative opportunities for status attainment. Hoffman and Hoffman's theory (1973) may potentially account for the observation that teen pregnancy is more frequent among members of lower socioeconomic strata. Indeed, Furstenberg (2000) argues that adolescents increasingly experience difficulty in attempting to "construct adult identities" given recent trends in areas such as youth employment. If motherhood is perceived as a route to adulthood, it would explain why women who are aware of the threat posed by early child bearing to their own economic and educational futures, would place themselves at risk and become young mothers.

Similarly, Geronimus (1997) argues that early childbearing is a "rational choice" for some young women, particularly minority women. Given that minority women do not see the same returns to education as do white women and given that employment options are restricted due to discrimination, early childbearing is not as "costly" for minority women as it might be for white, middle class women. Geronimus (1997) further argues that adolescents raised in economically disadvantaged communities are more mature due to the assumption of adult responsibilities (e.g., caring for younger siblings, contributing to the financial resources of families) at earlier ages than is traditionally true for middle class adolescents. In this instance, motherhood is a logical next step for poor and/or minority youth who already view themselves as adults by virtue of the responsibilities they have assumed.

A final approach applicable to the study of initial maternal age is the General Resources Model (Becker, 1981; Haveman & Wolfe, 1994). The Resources Model examines the effect of economic and interpersonal resources on individual outcomes. According to this argument, impoverished parents lack resources to invest in children. Poor parents and their children are concentrated in neighborhoods with inadequate schools, high crime rates, and substandard housing (Jencks & Mayer, 1990; Massey & Denton, 1993). Impoverished parents may be less capable of parlaying interpersonal resources into human capital (e.g., education) for their children. For example, children raised in poverty do less well on standardized tests of academic ability. As test scores are predictors of future educational and occupational success, children who fare poorly on standardized exams may see their own future opportunities limited. Having children, in this case, may be a mechanism for acquiring adult status and social esteem.

Gender Ideology

Kaplan (1996) argues that teens and their mothers are aware of the barrier to status attainment posed by early childbearing. Why then do adolescents, especially those from disadvantaged backgrounds, bear children in their teens? Kaplan suggests that teens have children for two basic reasons. First, motherhood is perceived as a way for teens to gain control over their lives at a time (adolescence) when life can appear to be very much out of control. Teens expect that their babies will provide them with unconditional love and affection. Unfortunately, teens may underestimate the severe economic burden posed by early motherhood and overestimate the ability of affective bonds with children to alleviate adolescent angst. Second, adolescents who give birth at an early age may simply be modeling a traditionally accepted route to womanhood (Kaplan, 1996). In other words, gender socialization that continues to emphasize women's prominence in the home may be counter to educational and occupational attainment.

Despite the fact that an unprecedented number of women have been incorporated into the labor market, gender socializa-

tion still emphasizes women's prominence in the home (Rosenfield, 1989). Moreover, women remain the primary caretakers of children and home, regardless of their employment status (Bird, 1999). In fact, approximately 55% of women aged 15 to 44 with infant children participate in the labor force (Bachu & O'Connell, 2001). Gender socialization provides young women with information about gender appropriate behavior and reflects prevailing discriminatory attitudes (Marini & Fan, 1997). Conservative ideology continues to blame many societal ills on the absence of women in the home. Even less conservative theorists argue that many social problems could be greatly reduced if men's employment opportunities were improved, thereby increasing their appeal as potential marriage mates (Wilson, 1987). Young women growing up in the past two or three decades may find themselves caught between economic realities which increasingly demand that women work and norms which still advocate motherhood as the most "noble of professions."

Due to the effects of socialization messages that emphasize the primacy of family roles for young women, it is expected that gender ideology will have a direct impact on the age at which young women in this study become mothers. I expect that the more traditional are young women with respect to gender ideology, the earlier their age at first motherhood will be in comparison to those young women who espouse less traditional beliefs.

Adolescent aspirations and Self-Concept

Educational and Occupational Aspirations. Educational aspirations may "protect" teens from early motherhood. Iverson (1995) finds that age at first birth had little effect on the adult incomes of teen mothers. Rather teens who lacked educational aspirations and who had failed to formulate ideas about their future occupational status received relatively less income in adulthood than those who had high aspirations. Iverson (1995) argues that young mothers, who have educational goals for themselves, may delay subsequent childbearing after the birth of the first child. It is reasonable to argue that high aspirations may also delay initial childbearing. Several studies have documented the comparably high aspirations of African American and white students (Mickelson, 1990; Alexander, Entwisle, & Bedinger, 1994). I hypothesize

that teens with high educational aspirations will have a higher age at first motherhood than will teens whose educational aspirations are low.

Occupational aspirations may also be an indication of the extent to which young women aspire to traditional, female-dominated occupational roles. While emphasis on the extent to which individual characteristics vary by race, gender, and social class runs the risk of "blaming the victim" for her own situation, socialization processes certainly affect individuals differentially depending on one's social placement. Individual attitudes and aspirations reflect socialization processes and dominant ideology (Kohn, 1969) and not innate differences between social groups. Marini and Fan (1997) find that 16% of the gap between women and men in earnings at career entry is a reflection of gender role socialization (i.e., women aspire to occupations that are traditionally female-dominated and that are characterized by low wages). In an earlier study, Marini and Brinton (1984) found that 61% of either women or men would have to change their occupational aspirations for the distribution of persons into occupations to be random with respect to gender. Young women with high occupational aspirations may also be willing to postpone motherhood for educational and occupational gains. Occupational aspirations are also likely, however, a reflection of the teen's belief in the viability of achieving that aspiration. I anticipate that young women with high occupational aspirations will have a higher age at the birth of first children than will young women with relatively low occupational aspirations.

Adolescent Self-Esteem. Self-esteem is a global measure that indicates an individual's beliefs about his/her own self-worth (Rosenberg, 1965). The relationship between adolescent self-esteem and early childbearing is far from conclusive. Some scholars have argued that teen fertility is a mechanism for enhancing the self-esteem of young women (Dash, 1986; Freeman & Rickels, 1993; Musick, 1993). While Oates (1997) does not find a beneficial effect of fertility on self-esteem, he acknowledges that teens may anticipate a self-esteem payoff to childbearing. High self-esteem has been found to boost the likelihood of contraceptive use among

adolescents (Holmbeck et. al., 1994). I expect that self-esteem will be inversely related to age at first motherhood.

Personal Sense of Control. Personal sense of control is the belief in one's ability to control individual outcomes (e.g., to complete high school or college). A strong personal sense of control has been linked to individual outcomes such as high educational attainment and good mental health (Mizell, 1999a; Mizell, 1999b; Ross & Van Willigen, 1997). Personal sense of control is affected by social class location (Lewis, Ross, & Mirowsky, 1999; Mizell, 1999b). Middle and upper class parents, by enrolling children in intramural sports, dance classes, providing tutors to improve educational outcomes, are financially better able to provide their children with efficacious experiences than are parents hampered by poverty. Personal sense of control may also impact the likelihood that women in their teens will either postpone sexual activity or use some method of birth control. Kaplan (1996) argues that teen pregnancy may be an attempt to gain control of one's life during adolescence. As a test of Kaplan's argument, I hypothesize that women with a high personal sense of control will have a higher age at first birth than will women with a low personal sense of control.

Background Resources

Region of Origin. The region in which a child grows up contributes to adult outcomes in a myriad of ways. Residents of the South are more likely to hold conservative social and political attitudes that may render them less likely to discuss sex or sexual behavior with their children (Huff-Corzine, Corzine, & Moore, 1991; Wilcox, 1992). Students in the South generally have lower academic achievement scores than do students in other regions of the country (Powell & Steelman, 1996). Southern migrants to other regions of the country also see fewer returns to education than do persons raised outside of the South (Blau & Duncan, 1967). Finally, traditional gender ideology may be more prevalent in the South. I hypothesize that growing up in the South should depress age at first motherhood.

Central City Residence. In recent years, much attention has been devoted to investigating the role played by residence in central

cites in producing negative outcomes. Urban centers that were once arenas of industrial production have undergone dramatic declines in the past few decades (Wilson, 1987; 1996). Given that racial minorities are disproportionately located in central cities, the disappearance of employment opportunities combined with increased rates of poverty and continued residential segregation has disproportionately affected African Americans and other racial minorities (Denton & Massey, 1991; Duncan & Rogers, 1991; Wilson, 1996). White children are also negatively affected by economic residential segregation (Brooks-Gunn, Duncan, Sealander, & Klebanov 1993). Growing up in the central city is associated with higher rates of teen pregnancy and lower rates of high school completion (Bumpass & McLanahan, 1989; Brooks-Gunn et al., 1993; Crane, 1991). Impoverished central city neighborhoods further lead to the production of low levels of personal sense of control among residents (Wilson, 1996). I expect that women who grow up in central cities will have a lower age at first motherhood than those who live outside of central cities.

Number of Siblings. Given that families constitute a micro level economic system, resources in families are limited. The number of siblings one has impacts the scarcity or adequacy of resources within families (Downey, 1995). The number and spacing of siblings has been linked to child's performance on standardized intelligence testing (Steelman & Mercy, 1980), parental willingness to fund the costs of higher education (Steelman & Powell, 1991), and marital happiness (Mizell & Steelman, 2000). Additionally, it has been suggested that children's fertility reflects the fertility of their parents (Rindfuss, et al., 1980). Given the clear linkage between sibship size and resources the number of siblings should have a direct bearing on the age at first motherhood. Due to the effects of sibship size on educational attainment outcomes and the socialization effect of growing up in a large family, it is expected that young women who have a relatively large number of siblings will have their first child at an earlier age than will those who have fewer siblings.

Parental Education and Occupation. Increased parental educational and occupational attainment result in both improved structural outcomes (i.e., education, earnings, and occupational status)

as well as improved self-concept and mental health outcomes (i.e., self-esteem, personal sense of control, and depression). Parental education levels also impact gender ideology. Children raised in homes in which parents hold relatively high levels of education tend to have less traditional gender ideology with respect to the appropriateness of roles assumed by men and women within the home and in labor markets (Haynes, 2000). Both maternal and paternal educational attainment is beneficial for children with respect to their own future educational attainment (Haveman, Wolfe, & Spaulding, 1991). Additionally, home environments in which parents have a relatively high degree of education are beneficial for children's early academic achievement as measured by standardized tests (Parcel & Menaghan, 1994). I expect that young women whose parents have relatively high rates of educational attainment will have a higher age at first motherhood than will young women whose parents have low levels of educational attainment.

Parental occupational status has been linked to a variety of outcomes for children including children's occupational status (Blau & Duncan, 1967), socialization emphases (Kohn, 1969), and risk of teen fertility (Crane, 1991). Parents with material resources can assist their children by giving them money, raising them in safe neighborhoods, and spending more time with them (as a function of increased leisure time). As a result, I anticipate that women from families where parents' occupational status is relatively high, will have their first child at later ages than will women from families disadvantaged by parents' occupational status.

Academic Achievement

Standardized tests provide one measure of academic achievement and have been linked to a variety of attainment outcomes including earnings, years of education completed, and good health (Farkas, England, Vicknair, & Kilbourne, 1997; Schor & Menaghan, 1995; Sewell & Hauser, 1978). Socioeconomic status (Maume, Cancio, & Evans, 1996), educational aspirations (Mickelson, 1990), and race (Farkas, England, Vicknair, & Kilbourne, 1997) are important variables in the prediction of academic achievement. Poor and/or minority women tend to be at a disadvantage with respect

to the emphasis placed on exposure to white, middle class culture by most standardized tests (Maume, Cancio, & Evans, 1996). Furthermore, young women who do not perform well on standardized tests may believe their ability to achieve success with respect to educational and occupational attainment is limited. In this case, motherhood may be viewed as another valid route to status. I expect that young women who have low academic achievement scores will have a lower age at first motherhood.

Race and Ethnicity

Most examinations of adolescent childbearing attribute racial and ethnic differences in rates of teen motherhood to racial and ethnic differences in poverty rates. Other theorists have argued that motherhood may bear special significance for African Americans that may affect fertility trends (Collins, 1990). In the youngest age group (15–19 years), Hispanic women have the highest fertility rates followed by Hispanic and then white women (Bachu & O'Connell, 2001). Hispanic families have the highest proportion of households with seven or more persons while whites are more likely to be two-person households (U.S. Census Bureau, 1992). Hispanics and African Americans are more likely to have households comprised of extended family members (Robles, 1997; Stack, 1974). With respect to family size (e.g. number of children), fertility patterns tend to run in families (Rindfuss et.al., 1980).

If the promise of educational and occupational opportunities act as incentives to actively prevent pregnancy, then racial minorities may adjust fertility plans to match aspirations. African American and Hispanic youth value status attainment just as do white youth (Hanson, 1994; Mickelson, 1990). If minority parents, however, have experienced low attainment either through inadequate returns to education or through frequent spells of unemployment, African American and Hispanic youth may view family as one of the few available routes to status acquisition.

Gender roles vary by race. For example, African American women are more likely than white women to see the role demands of motherhood as compatible with the demands of employment (Collins, 1990). White women's gender ideology is reflective of their mothers' gender role beliefs (Blee & Tickamyer,

1986). For African American women, mothers' employment experiences have a large impact on gender role beliefs (Blee & Tickamyer, 1986). Additionally, while Mexican born women who immigrate to the U.S. tend to espouse a more traditional gender ideology, Mexican American women's gender beliefs are less traditional and are similar to those of white and African American women (Guendelman, Malin, Herr-Harthorn, & Vargas, 2001).

Given the relationships between race and aspirations, opportunities, academic achievement, and gender ideology, I expect that race will predict age at first motherhood. Specifically, I anticipate that Mexican American and African American women will have lower ages at first motherhood than will white women.

Data and Measures

To investigate the process that shapes early childbearing, data are derived from the National Longitudinal Survey of Youth (NLSY). The NLSY is part of a project sponsored by the U.S. Departments of Labor and Defense under a grant to the Center for Human Resource Research at The Ohio State University (Center for Human Resource Research, 1988). The NLSY is a random, multi-stage sample that has followed a cohort of individuals who were between the ages of 14–22 years in 1979. The NLSY oversamples Hispanic, black, and economically disadvantaged whites. In addition to information regarding the labor market experiences of respondents, the NLSY contains detailed information regarding individual perceptions including measures of aspirations, self-concept, and gender ideology. The research presented here analyzes only the young women included in the original 1979 cohort who have had at least one child by 1998 and for whom complete information is available. The sample is further restricted to women between the ages of 14 and 19 in 1979 to compare women at similar stages in the life course. I use 19 waves of this survey, 1979 to 1998. Table 1 provides the means and significance tests for the various subsamples.

Measures

Age at first motherhood is the dependent variable and is measured in 1998. It is mother's reported age when her first child was born. The sample analyzed in this study includes 951 women

Table 1
 Comparison of Proportions and Means for NLSY Subsamples of African American, Mexican American, and White Women with Children

Variable	African American		Mexican American		Whites	
	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Gender Ideology ¹	2.05	.42	2.23	.44****	2.08	.43
Educational Aspirations	14.60	2.14	13.94	2.34***	14.45	2.12
Occupational Aspirations	60.08	20.51	55.07	19.73**	60.23	20.30
Adolescent Self-Esteem ²	3.22	.39	3.08	.37****	3.21	.40
Personal Sense of Control ³	2.74	.54****	2.76	.56****	2.94	.50
<i>Adolescent Background Characteristics (1979)</i>						
Central City Residence	.36	.47****	.23	.40	.10	.29
Region of Origin	.59	.49****	.34	.47	.29	.46
Parental Educational Attainment	10.74	2.62	6.93	3.79****	12.03	2.50
Total Net Family Income (thousands)	12.23	10.46****	12.97	8.63****	22.78	13.33
Academic Achievement	20.79	10.66****	23.27	18.54****	51.49	25.91
<i>Household Composition (1979)</i>						
Two Parent Household (1=yes)	.49	.50****	.75	.43	.79	.42
Single Mother Household (1=yes)	.32	.47****	.14	.34	.08	.29
Alternative Family Arrangement (1=yes)	.20	.40****	.11	.32	.13	.35
Number of Siblings	4.52	2.96****	5.03	3.00****	3.02	1.98
<i>Sexual Activity & Fertility</i>						
Age at First Sexual Intercourse	16.92	1.67****	17.65	1.93*	17.43	1.94
Age at First Birth (1998)	22.03	4.53****	22.09	4.47****	25.03	4.96

Denotes significant differences from mean for white women. * $p < .10$, ** $p < .05$, *** $p < .01$, **** $p < .001$.

Note: NLSY = National Longitudinal Survey of Youth.

¹Scaled from 1 (non-traditional) to 4 (traditional).

²Rosenberg (1965) Self-Esteem Scale scored from 1 (low) to 4 (high).

³Rotter (1966) Scale scored from 1 (low) to 4 (high).

with children who had their first child between 1979 and 1998 and for whom complete information is available. Women who have not given birth as of 1998 are not included in the analysis, nor are women who gave birth prior to 1979. The average age at first birth for African American mothers in this study is 22.03 years which is significantly lower than the age at first birth for white mothers (25.03 years). Mexican American women also have their first child at younger average ages than white women (22.09 years).

Gender Ideology

The gender ideology scale is a composite measure I constructed from eight items that query respondents about their beliefs regarding gender appropriate roles. The items in the scale have been recoded so that high scores (ranging from 1 to 4) represent more traditional views about gender roles. The eight items comprising the scale were measured in 1979 and include the following statements: "A woman's place is in the home", "A wife with a family has no time for other employment", "A working spouse feels more useful", "An employed wife leads to juvenile delinquency", "Inflation necessitates the employment of both parents", "Traditional husband and wife roles are best", "Men should share housework responsibilities", and "Women are happier in traditional roles". Mexican American adolescents had the most traditional gender ideology in 1979. There were no significant differences in the gender ideology of African Americans or whites.

Adolescent Self-Concept and Aspirations

In the NLSY, adolescent self-esteem is measured in 1980 with the Rosenberg self-esteem scale (1965). This well-known and valid scale is a ten-item measure that ranges from 1 (low) to 4 (high). Items in this scale include: "I am a person of worth", "I have a number of good qualities", "I am inclined to think I'm a failure", "I feel that I am as capable as others", "I feel that I do not have much to be proud of", "I have a positive attitude toward myself", "I am satisfied with myself", "I wish I had more respect for myself", "I feel useless at times", and "At times, I feel that I am no good at all". Respondents are asked to rank each statement on a scale of 1 (strongly agree) to 4 (strongly disagree). In this study, African

American and white adolescents have comparable mean levels of self-esteem (3.22 and 3.21 respectively). Mexican American adolescent females have significantly lower levels of self-esteem (3.08).

I measure personal sense of control in 1979 using Rotter's (1966) scale as contained in the NLSY. Each respondent is presented with a set of four paired statements. The respondent is asked to indicate which statement in the pair is closer to his or her opinion. The statements used in the Rotter scale are: "What happens to me is my own doing" versus "Sometimes I feel that I don't have enough control over the direction my life is taking"; "When I make plans, I am almost certain that I can make them work" versus "It is not always wise to plan too far ahead, because many things turn out to be a matter of good or bad fortune anyhow"; "In my case, getting what I want has little or nothing to do with luck" versus "Many times we might as well decide what to do by flipping a coin"; and "Many times I feel that I have little influence over the things that happen to me" versus "It is impossible for me to believe that chance or luck plays an important role in my life". The mean personal sense of control of white adolescent women is the highest, followed by Mexican American, and then African American women (Table1).

Educational aspirations is measured in 1979 and is the number of years of education respondents reported they "... would like to complete." Responses are scored in years (e.g. 11, 12). Occupational aspirations is the respondent's desired occupation at age 35, as reported in 1979. In 1979, the NLSY used 1970 Census codes for occupational classification. These original Census codes have been converted to the Duncan Socioeconomic Index (SEI), which ranges from 0 (low) to 96 (high). All respondents in the sample aspire to an average of some college education. Mexican American women's aspirations are, however, significantly lower than African American or white women.

Adolescent Background

All adolescent background measures are recorded in 1979. Region is a dummy variable coded "1" if the respondent grew up in the southern region of the country and "0" if the respondent lived elsewhere. Over half of African American, 34% of Mexican

American, and 29% of white adolescents lived in the South (Table 1). Central city residence is also a dummy variable coded "1" if the respondent lived in the heart of a Standard Metropolitan Statistical Area (SMSA) and "0" if otherwise. African American women were the most likely to live in the central city.

I include parental educational attainment and total net family income as measures of parental resources. If both parents' educational level is available, this measure is the average of the two. If the educational attainment of only one parent is reported, that parent's information is used. The average level of parental educational attainment is lowest for Mexican American adolescents (6.93 years). African American parents also tend to have lower levels of educational attainment than white parents (10.74 and 12.03 years respectively). Total net family income is significantly higher on average for white families than for African American or Mexican American families (Table 1).

Academic achievement is measured in 1981 and is the respondent's percentile score on the Armed Forces Qualifying Test (AFQT). The AFQT is the summed score of respondent's abilities in four general areas: paragraph comprehension, word knowledge, arithmetic reasoning, and math knowledge (NLSY Documentation 1979–1988, Attachment no. 3, 1990). The average academic achievement score of white adolescents is more than double that of either African American or Mexican American adolescents (Table 1).

Additionally, I constructed two dummy variables representing parental structure. The first is coded "1" if the respondent lived in a single-mother household and "0" otherwise. The second is coded "1" if the respondent lived in an "alternative family arrangement" and "0" otherwise. Alternative family arrangements are those in which children live with non-parental guardians or with grandparents. I have included these measures due to the link between parental structure and outcomes such as early motherhood examined by Bumpass and McLanahan (1989), among others (e.g., Crane 1991). African American women are the most likely to live in single-mother households and in alternative family arrangements compared to white and Mexican American women (Table 1). The final variable capturing household composition

is the number of siblings the respondent has in 1979. Mexican American women come from the largest sibship sizes on average.

I control for age at first intercourse due to the established relationship between early sexual activity and early motherhood (Hogan & Kitagawa, 1985). Adolescents who initiate sexual intercourse at a relatively early age are at increased risk of becoming teen mothers (Hogan & Kitagawa, 1985). Adolescents are less likely than adults to use contraception either effectively or consistently (Glei, 1999; Hogan & Kitagawa, 1985). African American women report an average age at first intercourse of 16.92 years which is significantly lower than the average age reported for white women (17.43). Mexican American women report the highest age at first intercourse (17.65).

Finally, two dummy variables were also constructed to control for the race of the respondent. One is coded "1" if the respondent is African American and "0" otherwise. The other dummy variable is coded "1" if the respondent is Mexican American and "0" otherwise.

Analytical Strategy

For the analysis, I estimate a series of regression models with four blocks of variables. In the first equation, the measures representing gender ideology, aspirations, and self-concept are used to predict age at first motherhood. The second equation examines the effects of adolescent background resources and academic achievement on the dependent variable. Then, I estimate the effects of adolescent household composition on childbearing age. Next, age at first intercourse is used to predict the outcome of interest. Finally, in one full model I enter all of the blocks into the equation, including the controls for race. I have adopted this strategy because it allows me to evaluate the independent effects of blocks of variables (e.g., adolescent background resources, household composition), with and without other pertinent variables, on age at first motherhood.

Results

The gender ideology, aspirations, and self-concept measures are all significant predictors of age at first motherhood (Table 2, Panel 1). As I anticipated, women whose gender ideology was

Table 2

Regression Model of Age at First Motherhood for NLSY Sample of African American, Mexican American, and White Women (N=951).

	Panel 1		Panel 2		Panel 3		Panel 4		Panel 5	
	b	t-statistic	b	t-statistic	b	t-statistic	b	t-statistic	b	t-statistic
Gender Beliefs ¹	-1.071	-2.79***							-.754	-2.11**
Educational Aspirations	.529	6.41****							.277	3.36****
Occupational Aspirations	.162	1.99**							.131	1.76*
Adolescent Self-Esteem ²	.776	2.51**							.007	0.03
Adolescent Personal Sense of Control ³	.960	2.36**							.482	1.28
<i>Adolescent Background Characteristics (1979)</i>										
Central City Residence			-.956	-2.29**					-.978	-2.34**
Region of Origin			-.273	-0.87					-.308	-0.98
Parental Educational Attainment			.237	3.5****					.125	1.75
Total Net Family Income			.064	5.13****					.057	4.55****
Academic Achievement (1981)			.533	8.05****					.234	3.03***
<i>Household Composition (1979)</i>										
Single Parent Home					-1.784	-4.02****			-.325	-0.77
Alternative Family Arrangement					-2.773	-6.14****			-1.473	-3.57****
Number of Siblings					-.344	-4.67****			-.051	-0.72
<i>Sexual Activity</i>										
Age at First Intercourse							.747	8.7****	.418	5.26****
<i>Race</i>										
African American (1=yes)									-.976	-2.15
Mexican American (1=yes)									-2.057	-2.57
R2 (adjusted R2)	.116	(.111)	.220	(.216)	.079	(.077)	.074	(.073)	.287	(.274)

*p<.10, **p<.05, ***p<.01, ****p<.001.

Note: NLSY = National Longitudinal Survey of Youth.

¹Scaled from 1 (non-traditional) to 4 (traditional).

²Rosenberg (1965) Self-Esteem Scale scored from 1 (low) to 4 (high).

³Rotter (1966) Scale scored from 1 (low) to 4 (high).

relatively traditional in 1979 have a lower age at first motherhood than do women whose gender ideology is less traditional. Given that teen motherhood entails risks for the future statuses of both mother and child, traditional gender ideology are harmful insofar as they are associated with a lower age at first motherhood. Gender ideology develops in response to mothers' work and family experiences and reflects early perceptions of socially constructed values of gender roles (Kohn, 1989; Marini & Fan, 1997). It may also be the case that women with traditional gender attitudes aspire to occupations that are poorly compensated. If that is the case, the opportunity costs associated with early childbearing are not as severe as when young women aspire to education and time intensive "careers."

Additionally, educational and occupational aspirations are predictive of a higher age at first birth. This pattern may be an indication that women with a hopeful outlook for their futures may take explicit action to prevent or postpone pregnancy. In part, this finding confirms Kaplan's (1996) finding that adolescents are aware of the barrier to educational and occupational attainment posed by early motherhood. Further suggested is that women will postpone their own fertility if they perceive that have viable alternatives to acquire the status granted mothers. Women with non-traditional gender ideology and high educational and occupational aspirations may view childbearing as a barrier to the attainment of those goals.

Similarly adolescent self-esteem and personal sense of control, I find, are also predictive of age at first motherhood. Adolescent women with high self-esteem and personal sense of control have a later initial childbearing age. As with aspirations, self-concept may affect fertility related behavior. For example, adolescent women with positive self-concepts may believe that they control the timing and conditions of childbearing and therefore take actions that correspond to their perceptions of self. If young women have high self-esteem and a strong personal sense of control, they may be more confident in remaining abstinent or in insisting that their partners practice safe sex.

In Table 2, Panel 2, I used adolescent background characteristics to predict age at first motherhood. With the exception of growing up in the South, all of the measures that capture

adolescent resources and achievement are significantly predictive of mother's age at the birth of her first child. Adolescent women raised in central cities began childbearing at earlier ages than their counterparts raised outside of city centers. Parental resources appear to protect adolescents from early motherhood. Women raised in families where parental educational levels are relatively high have a later initial childbearing age than do women raised in families with lower parental educational attainment. Parental income has a larger effect on the outcome: high parental income levels correspond to older ages at first motherhood. Parental resources could function to delay age at first motherhood in a number of ways. First, adolescents from households with greater resources are more likely to participate in extra-curricular activities such as sports or music. Adolescents who participate in such activities are less likely to experience outcomes such as dropping out or becoming pregnant. Second, parental resources may also proxy for relevant factors such as access to contraception or education regarding sexual activity. Third, parental resources may be a measure of the extent to which adolescent aspirations can be realized.

Academic achievement also plays an important role in determining age at first motherhood. Adolescent women with higher academic achievement scores had higher initial childbearing ages. The emphasis placed on standardized testing in educational settings may influence adolescents' perceptions of their future potential. Early achievement deficits could leave adolescent women with beliefs that educational and occupational goals are not likely to be achieved. Pregnancy prevention may become less of a priority in such an instance.

In Panel 3 of Table 2, the effects of household composition on age at first motherhood are examined. Living in a mother only household or in an alternative family arrangement is associated with a lower age at first birth compared with living in a two-parent household. Adolescent women who have a relatively large sibship size are also more likely than those from smaller sibling sets to have a younger age at first motherhood. The effect of household composition on the outcome of interest is likely through resource availability. Mother only households and, for example, grandparent households are more likely than other household types to experience poverty. If resources can "protect" women from

early pregnancy, then household structures that lack resources will be associated with earlier childbearing. Large households with respect to sibship size are also more vulnerable to resource deprivation (Downey 1995). Alternatively, young women from large families may be more likely to begin childbearing early to accommodate their own desires for larger families.

Age at first intercourse is also a significant predictor of age at first motherhood (Table 2, Panel 4). Younger adolescents who are sexually active are less likely than older adolescents or adults to use contraception consistently and effectively. Inconsistent or ineffective contraceptive use may reflect access (i.e., younger adolescents may have fewer resources or lack information about where to get low cost or free contraception) and/or an incomplete comprehension of the risks of pregnancy.

Finally, the full model including controls for race is presented in Table 2, Panel 5. This model accounts for roughly 29% of the variance in predicting age at first motherhood. In this equation, gender ideology, and educational and occupational aspirations remain significant predictors of age at first motherhood though their significance is reduced. In this model, adolescent self-esteem and personal sense of control are no longer significant predictors of initial maternal age.

In the full model, adolescent background characteristics continue to have direct effects on the age at first motherhood. Interestingly, the negative effect of central city residence has increased in significance. Living in the central city in adolescence depresses initial childbearing age. Parental educational attainment and parental income have a positive effect on age at first birth though their significance as predictors are reduced from the model presented in Panel 2. Additionally, women with high achievement scores are less likely to have children at a relatively early age than are women with low achievement scores. Young women who experience academic success with respect to measured ability may be acquiring status recognition in academic areas and therefore may actively avoid pregnancy. Conversely, women with low scores may be seeking alternative routes to adult status and recognition, one of which is motherhood.

Additionally, in the final model, of the household composition variables, only alternative family arrangements has a significant

relationship to age at first childbirth. Adolescents who lived in non-parental households had a lower age at first motherhood than their counterparts in two parent households. Living in single mother households and sibship size no longer significantly predicts initial childbearing age. These findings provide further support for the contention that it is the resource deprivation associated with single mother households and with large households that produces negative incomes. It does not appear that living in a single mother household reduces the stigma associated with single motherhood.

Age at first sexual intercourse remains a significant predictor of age at first motherhood. Consistent with previous research, an increased age at first sexual activity is also associated with an increased age at first motherhood. Recent research indicates that although the rate of contraceptive use among sexually active teens has risen dramatically since the 1980's, teens are still significantly more likely than older women to be inconsistent in their contraception use (Glei, 1999).

Finally, race influences age at first motherhood. The negative effect of race is slightly more significant for Mexican Americans than for African Americans. White women, in comparison to African American and Mexican American women, have a higher age at first motherhood. Race, in this analysis, may proxy for resources not directly measured. For example, educational segregation and the structure of school funding results in poorer quality schooling for minority children. Schools serving minority-majority student populations are more likely to lack funding for programs such as sex education, art, or athletics. Additionally, minority children who have witnessed the effects of factors such as chronic underemployment or cyclical unemployment on their parents may value children as an alternative means to acquire status in the face of barriers that limit occupational attainment and appropriate returns to education.

Conclusion

What is the impact of gender ideology on teen childbearing patterns? In this study, I find that having non-traditional attitudes with respect to gender roles postpones initial childbearing age.

Even after accounting for factors such as socioeconomic status, self-concept, aspirations, and race, gender ideology directly impacts age at first motherhood. This pattern may be illustrative of the double bind in which modern young women are caught. Trends in the economy, marital patterns, male employment and wage earning increasingly necessitate that women work. Attitudes that continue to emphasize the supremacy of women's roles in the home, may produce confusion for adolescents. Though parenting is an important social role, it does appear that the encouragement of motherhood needs to coincide with the encouragement of alternative roles that precede motherhood such as education and career attainment. If the goal is to encourage young women to postpone motherhood beyond the teen years, then alternative roads to adulthood and to status must be provided. Such measures may be especially vital for minority women who are marginalized by the educational system and who experience discrimination in the labor market (Kilbourne, England, and Beron, 1994).

Can educational and occupational aspirations act as protective factors in the process that leads to teen pregnancy? Having high educational and occupational aspirations has a positive effect on age at first motherhood. It is possible that teens who believe they are capable of acquiring education and a decent job may be more invested in their own futures. Insofar as aspirations represent goals and planning, they are important in delaying childbearing until educational and/or occupational goals have been reached.

Interestingly, I also found that single mother households do not directly contribute to age at first birth. Rather, it is likely the resource deprivation associated with single mother households that depresses age at first motherhood. Conversely, alternative family structures are predictive of decreased age at initial childbearing. Future research should examine why alternative family structures fail children even after accounting for resources.

Additional attention needs to be given to the role of gender ideology on status attainment. If having traditional attitudes is harmful to fertility outcomes, social scientists need to more fully explore the processes that lead to gender ideology formation and what it is about traditional attitudes that are harmful to young

women. Certainly a desire to parent, by itself, is not harmful. Therefore the relationship between attitudes and the timing of fertility must be further explored.

Educational and occupational aspirations, which have been examined largely in the context of educational and occupational attainment, clearly have effects on outcomes other than those traditionally highlighted in the literature. Furthermore, while researchers have investigated the role of self-concept measures such as self-esteem and personal sense of control on fertility, the interaction of aspirations with initial childbearing age have been neglected. Future research needs to further elucidate the connection between aspirations and age at first motherhood.

Finally, the role of race in predicting age at first motherhood needs further inquiry. Perceptions of opportunities that are certainly affected by race play an integral role in the decision to bear children. If adolescent fertility is a major link in the chain of intergenerational poverty, it is imperative that the processes that lead to early childbearing be understood.

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