

## Younger Age at First Childbirth Predicts Mothers' Lower Economic and Psychological Well-Being Later in Life

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**Abstract** Age at first childbirth affects mothers' economic and psychological well-being later in life. Using a gender and power framework, two studies examined the associations among age at first childbirth, employment status, perceived choice, and race/ethnicity as predictors of economic and psychological well-being in a sample of middle class, married mothers (Study 1) and a nationally representative sample of married mothers (Study 2). Results indicated younger age at first childbirth is associated with less choice; lower educational attainment; lower SES; greater household labor; greater perceived chore discrepancy; lower self-esteem; less life, work, and relationship satisfaction; but is unrelated to depression or work stress. There were differences by employment status and minimal differences by race/ethnicity. The findings suggest that negative economic and psychological outcomes later in life are related to having one's first child at a younger age.

**Keywords** Motherhood · Age at first childbirth · Well-being

Motherhood is often scrutinized, both in society and research. The age at which women become mothers, whether intentionally or unintentionally, has long-term consequences for their well-being (Kokko et al. 2009; Mirowsky and Ross 2002; Wolfe 2009). A large body of research on the effects of having a child during one's teenage years has consistently shown negative economic, psychological, and health consequences (see Bonell 2004 for a review; Kirby 2001; Shaw et al. 2006). The economic and psychological consequences include greater risk for poverty and welfare dependence (King et al. 2009; Vicary and Corneal 2001), lower educational attainment (Astone and Upchurch 1994; Anderson et al. 2002; Kirby 2001; Lall 2007), fewer occupational prospects (Kirby 2001; Vicary and Corneal 2001), and greater risk for depression (Hill et al. 2004; Quinlivan et al. 2004).

Negative outcomes for early motherhood are not limited to teenage mothers. Having children after age 18, but early in one's younger adult years, has similar consequences (Hofferth et al. 2001), though significantly less research has examined this population. Likewise, little research has been conducted with older or married mothers. It should not be assumed that marriage and time are sufficient buffers to the long-term consequences of early motherhood. Age is a factor in motherhood that is often ignored or underestimated. Thus, the present studies included local and national samples of married, middle class mothers who had their first child during their teenage, young adult, or older adult years. Two studies examined the associations of age at first childbirth as a continuous variable with the economic and psychological consequences of motherhood.

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## Theoretical Framework

The theoretical framework guiding this analysis of motherhood is gender and power (see Connell 1987). Connell (1987) theorized that gender inequality exists due to three societal and institutional structures including the sexual division of labor, the sexual division of power, and the emotional relationships between women and men. These structures of inequality differentially disadvantage women relative to men based on inequality from other group memberships (e.g., sexuality, race/ethnicity, social class). Other scholars note that structured inequality places women in a lower power position compared to men, and mothers are especially susceptible to lower power, increasing their economic dependence on the fathers or welfare system (Davies and McAlpine 1998; Livermore and Powers 2006). The interactions among the sexual division of labor, power, and relationships make causal inference difficult, but it cannot be denied that the economic and psychological well-being of mothers are impacted by gender and power (Seguino 2007).

The history of gender inequality in U.S. society has been supported by laws and social norms that encourage a gendered power differential that favors men. Such laws have included reserving the right to vote for men and not allowing women to own property. Women's ability to control social capital and material resources increases bargaining power to make changes toward more equitable gender norms (Seguino 2007). Yet, traditional gender roles persist, with women relegated to roles with less social capital and access to fewer material resources (Diekman and Goodfriend 2006; Seguino 2007; Tan 2008). For example, there is a strong social norm, with a long history, that women should be the primary caretakers of children and men should be the primary financial providers (Bernhardt and Goldscheider 2001; Connell 2009; Diekman and Eagly 2000; Press and Fagan 2006; Thébaud 2010). Women tend to have a disproportionate responsibility for unpaid household labor and child care compared to men (for a review, see Lachance-Grzela and Bouchard 2010; Elvin-Nowak and Thomsson 2001; Thébaud 2010; Wallace 2008) and have less control over decision-making and household resources (Mannino and Deutsch 2007). This sexual division of labor affects women's employment (Avellar and Smock 2003; Lothaller et al. 2009; Poeschl 2008; Tan 2008), results in less pay than men for comparable work (Gupta 2007), and encourages hiring discrimination (Budig and England 2001; Correll et al. 2007; Ridgeway and Correll 2004). Whereas gender inequalities are evident in many social institutions (Connell 1987, 2009), the focus of this study is their existence in the family and places of employment, and the implications for mothers' economic and psychological well-being.

## Economic Consequences

The associations among age at first childbirth, unemployment, and lower socioeconomic status (Brooks-Gunn et al. 2000), can be accounted for in part by lower educational attainment limiting occupational mobility and earning potential (Gesthuizen et al. 2011). In a large-scale longitudinal study of urban women, later age at first childbirth was positively associated with greater likelihood of finishing high school (Brooks-Gunn et al. 2000). Mothers with fewer skills and less education are likely to obtain jobs characterized by poorer working conditions, less complexity and mental stimulation, and less job flexibility, which all affect job satisfaction (Casad 2008; Tan 2008; Vicary and Corneal 2001).

Mothers' responsibilities and choices negatively affect their economic status, particularly for racial minority mothers. Women who have children during college or delay their careers for childbirth and then stay at home may have a difficult time entering or rejoining the paid workforce and may face discrimination in promotion and salary (a wage penalty) (Crittenden 2001; LeMaster et al. 2004; Molina and Montuenga 2009; Ridgeway and Correll 2004). Research has shown a lower wage penalty for Black mothers compared to White mothers (Glauber 2007). Budig and England (2001) found that only Latina and Black mothers with three or more children had a lower wage penalty than White mothers, whereas Pandey and Kim (2008) found more dramatic differences between married Black and White mothers than between single Black and White mothers. Regardless of motherhood status, Black and Latina women have lower wages than White women (DeNavas-Walt et al. 2010).

Although younger generations of men are more involved in housework and childcare activities than older generations of men, women still shoulder a disproportionately large amount of the responsibility, especially when they are stay-at-home mothers (Bianchi and Milkie 2010; Lachance-Grzela and Bouchard 2010). This body of research has generated an economic dependence model which posits an inverse relationship between earnings and contribution to domestic labor (Killewald and Gough 2010; Knudsen and Wærness 2008; Mannino and Deutsch 2007). In general, women make less money than men (DeNavas-Walt et al. 2010) and therefore tend to have less bargaining power (Gupta 2007). Having an income can provide mothers with more household bargaining power (DeNavas-Walt et al. 2010, 2003; Knudsen and Wærness 2008), which can include negotiating household distribution of labor (Gupta 2007; Knudsen and Wærness 2008; Lachance-Grzela and Bouchard 2010), deciding how money is spent (Basu 2006), and threatening separation or divorce if one's needs are not met (Cooke 2004). The fact

that women's earnings are usually lower than men's helps explain why women still have the major burden of household labor and childcare responsibilities, even when engaged in full-time employment (Bond et al. 2003; Coltrane 2000; Lachance-Grzela and Bouchard 2010; Tichenor 2005a). Women who earn more than men may take on more household responsibilities to fulfill their feminine gender role (McQuillan et al. 2008; Thébaud 2010; Tichenor 2005a).

### Psychological Consequences

Mothers' variations in household labor, paid employment, power relations (defined here as perceived choice), and race/ethnicity affect their psychological well-being (Boye 2009; Davies and McAlpine 1998). The intersection of these variables affects psychological factors such as risk for depression (Van de Velde et al. 2010), psychological distress (Boye 2009; Davies and McAlpine 1998), and role conflict (Schieman and Glavin 2011). The following is a review of factors examined in the present studies that affect psychological well-being.

#### Employment Status

There are advantages and disadvantages to being employed outside of the home or staying at home with young children (LeMaster et al. 2004). Advantages of maternal employment include greater financial security, a sense of contributing to society, and personal fulfillment (LeMaster et al. 2004; Marcus-Newhall et al. 2008). Disadvantages of maternal employment are role strain (Schieman and Glavin 2011), taking on more housework and child care responsibilities than one's partner (Hewlett 2003; LeMaster et al. 2004; Wallace 2008), and spending less time with one's children (Gauthier et al. 2004; Sanders and Bullen 2005; Zick et al. 2001), though disadvantages may be greater for full-time than part-time employment (Hill et al. 2004). Further, if mothers do not want to be employed or are not satisfied with their jobs, employment can have negative effects (Tan 2008). Advantages of being a stay-at-home mother include more clearly defined roles (LeMaster et al. 2004; Nomaguchi and Brown 2011) and more time with children (Sanders and Bullen 2005). Disadvantages of being a stay-at-home mother include risk of isolation and depression (LeMaster et al. 2004; Mammen et al. 2009; Peskowitz 2005), loss of wages and financial independence (LeMaster et al. 2004; Peskowitz 2005), being responsible for tasks that are often devalued (Sanders and Bullen 2005), and less mental stimulation (Marcus-Newhall et al. 2008; Peskowitz 2005; Sanders and Bullen 2005).

#### Power Through Choice

Power plays an important role in the psychological well-being of mothers. For the purposes of this research, we define power as "...a greater ability to shape [one's] daily [life]" (Davies and McAlpine 1998, p. 370). A related definition is having control over household resources, which is often associated with having higher education and earning power (Jianakoplos and Bernasek 2008). In Study 1, power is measured by a proxy variable, perceived choice regarding employment status, as employment status affects one's daily life and earning power.

The greater number of choices for employment among younger generations of women is a benefit of the women's movement and advances in egalitarian public policies. The idea that women have a "choice" in motherhood and employment is a controversial issue (Crittenden 2001; Peskowitz 2005; Quinn 2006; Shreffler et al. 2010) as societal norms, organizational practices, and economic realities impinge on mothers' choices. The "motherhood mandate" (Russo 1976) describes the societal expectations that good mothers should be constantly available to their children. This is often translated into an expectation that mothers should stay at home, especially with young children (Gottfried and Gottfried 2006). Employers and co-workers may perceive mothers as less committed to their careers and as less competent than women without children (Cuddy et al. 2004). A lack of family friendly work policies, long hours, and rigid schedules may force mothers to quit or seek part-time employment (Hewlett 2003; Quinn 2006; Stone and Lovejoy 2004). Many mothers of young children work out of financial need (Edwards 2005; Marcus-Newhall et al. 2008). Despite the societal, organizational, and economic influences on mothers' choices, many mothers do report having choices in their motherhood and employment decisions (Hewlett 2003; Marcus-Newhall et al. 2008; Strasser Kauffman and Downes Baskin 2005). The effects of mothers' perceptions of choice (or lack thereof) on economic and psychological well-being are examined here, and should be examined in future work such as research on "opting out" (Kuperberg and Stone 2008).

#### Ethnicity

Besides the aforementioned racial differences in wages, Latina and Black mothers face more discrimination in the workplace than White mothers (LeMaster et al. 2004), affecting their choices to seek employment or the types of employment sought. In addition, traditional gender role beliefs and cultural expectations may limit the support for Latinas' paid employment (LeMaster et al. 2004; Marcus-Newhall et al. 2008).

Beyond employment, cultural norms for age at first marriage, number of children, and age of childbirth differ for racial groups within the U.S. (Harnett and McLanahan 2004; Lloyd 2006). Latinas more commonly marry and have more children and at a younger age than Whites, and this pattern is socially sanctioned (Raley et al. 2004). It is also more common for Black women to become mothers earlier than White women (Beutel 2000; Yang and Morgan 2003), but this difference decreases among educated women (Yang and Morgan 2003). The trend for White women is to delay marriage and children to pursue an education and/or financial stability (Beutel 2000; Yang and Morgan 2003). Given these racial differences, the role of ethnicity and age of first-time motherhood in women's economic and psychological well-being is examined.

### The Present Studies

Most previous research examining the effects of age at first childbirth has focused on teenage or single mothers who are at greater risk for negative economic and psychological outcomes (Astone and Upchurch 1994; Bonell 2004; Kirby 2001). Much less research has examined long-term outcomes related to age at first childbirth among married adults. The research question guiding this study is: how does age at first childbirth relate to the long-term economic and psychological well-being of married adult mothers?

To help answer this question, the present studies examined how age at first childbirth interacts with employment status, perceived choice, and race/ethnicity to predict economic and psychological well-being later in life. Economic well-being was defined as high household income, high educational attainment, and equitable distribution of household labor. Psychological well-being was defined by high self-esteem; high coping ability; absence of depression; low work stress; high satisfaction with life, family, work; and high perceived children's satisfaction. Consistent with research on the negative outcomes of teenage motherhood, it was hypothesized that (1) younger age at first childbirth would be related to less power, as defined by less choice (Kirby 2001; Vicary and Corneal 2001); (2) younger age at first childbirth would predict more negative economic outcomes, including lower educational attainment (Astone and Upchurch 1994; Hofferth et al. 2001; Kirby 2001), lower household income (Brooks-Gunn et al. 2000), greater household chores (Bond et al. 2003; Coltrane 2000; Tichenor 2005b), and greater chore discrepancy (Davies and McAlpine 1998); (3) younger age at first childbirth would predict lower psychological well-being including lower self-esteem, fewer coping skills, greater depression, less satisfaction (life, family, work, and children's), and higher work stress (Davies and McAlpine

1998; Van de Velde et al. 2010). Finally, it was hypothesized that (4) a four-way interaction would emerge to predict economic and psychological well-being such that younger age at first childbirth, lack of choice, unemployment, and being Latina or Black would be related to more negative economic and psychological outcomes.

Study 1 tested the hypotheses with a convenience sample obtained in Los Angeles County, California. Study 2 offered a partial replication of Study 1 using a national sample.

### Study 1 Method

#### Participants

A total of 149 mothers participated in the study as part of a larger study on the work-life experiences of employed and stay-at-home mothers in Southern California. The sample consisted of 69 employed mothers, of whom 25% were Black, 32% were Latina, and 43% were White. An additional 80 mothers were unemployed, of whom 9% were Black, 45% were Latina, and 46% were White. Participants ranged in age from 19 to 48 and first became mothers between the ages of 13 and 43. The average number of children was 1.99. The household income ranged from \$5,000 to over \$125,000, with a median income range of \$75,000 to \$100,000.

#### Materials and Procedure

After obtaining approval from the institutional review board, participants were recruited through a multi-phase mixed sampling approach including soliciting participation from shoppers at shopping centers, posting flyers at day-care centers, publishing newspaper advertisements, and mailing invitations to a sample of eligible Los Angeles County residents obtained from a telemarketing list. All participants met the following criteria: (1) employed full-time (35+ hours) outside the home or stayed at home without paid employment; (2) had at least one child under age six living in the home; (3) married; (4) age 18 or older; and (5) Latina, Black, or White. These criteria were set to capture the experiences of the most common family type in the U.S.—the married, heterosexual dual-earner family (Tan 2008; White and Rogers 2000) and the more traditional counterpart involving a stay-at-home mother and male who earns the sole income.

Participants completed a mailed questionnaire consisting of several questions measuring the outcome variables including distribution of household chores, perceived chore discrepancy, work stress, self-esteem, coping, depression, family satisfaction, children's satisfaction, life satisfaction,

and job satisfaction. Scale items were averaged to create an overall mean score for each variable.

Distribution of household chores and perceived chore discrepancy were measured using a modified task sharing scale (Herrera and DelCampo 1995). Participants rated the current distribution of household tasks (e.g., dishes, laundry, shopping, and car repairs) by indicating who does the majority of the task and how the participant would like it to be. The scale also included a six-item subscale measuring help with childcare activities (adapted from Krause and Markides 1985), such as disciplining the children and changing the baby's diapers. A discrepancy score was calculated by computing the total number of chores the mother performed that she wished were jointly shared or performed by her husband. An example chore discrepancy was if the mother reported always doing the dishes, but stated she would prefer help from her husband.

The remaining measures were assessed on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) unless otherwise noted and were recoded so that high values reflect high values of the construct. A three-item measure of work stress ( $\alpha = .82$ ) was adapted from Gooler (1996). The statements were "I feel pressured at work," "I experience recurring frustration in my job," and "I have a very stressful job."

Self-esteem was measured by six items ( $\alpha = .74$ ), with questions like "I have many good qualities" (Rosenberg 1965). Coping was measured with three items ( $\alpha = .64$ ; adapted from Schwarzer and Knoll 2003). A sample item included "I usually find a way to work around obstacles." Depression was assessed by a modified scale based on the Beck Depression Inventory (Beck et al. 1961), which included nine items ( $\alpha = .85$ ). A sample question included "I sometimes can't sleep because I worry about things."

Each of the four satisfaction scales were measured with a seven-point Likert scale ranging from 1 (*very dissatisfied*) to 7 (*very satisfied*). Family satisfaction was measured with seven items ( $\alpha = .81$ ), adapted from Herrera and Del-Campo (1995). An example of a scale item is "Your family doing things together." Children's satisfaction was assessed by having participants rate their perceptions of their child's satisfaction on three items ( $\alpha = .69$ ). Participants rated child's satisfaction with "Time spent with you," "Time spent in daycare," and "Overall family life." Life satisfaction was assessed with three items ( $\alpha = .90$ ) adapted from Pavot and Diener (1993). Sample items included "Living your life close to your ideal" and "Getting the important things you want in life." Job satisfaction was measured by two items ( $r = .58, p < .001$ ) adapted from Gooler (1996). The items were "I am satisfied with my overall career," and "In general, I don't like my job."

After mailing their completed questionnaires, participants were contacted to complete a 30 min phone

interview. One question from the qualitative interview, "Do you feel you had a choice in whether you stayed at home or worked after having a child?," was included in the present analyses. Responses were coded into "Yes" or "No" categories. Five mothers provided mixed responses, which were coded as "Ambivalent" and combined with the "No" category.

## Design

Predictor variables included age at first childbirth, employment status, choice, and ethnicity. Outcome variables included economic (i.e., educational attainment, household income, distribution of household chores, and chore discrepancy) and psychological well-being (i.e., self-esteem, depression, coping skills, life, family, work, and children's satisfaction, and work stress).

## Study 1 Results

### Descriptive Statistics

Demographic profiles of participants are presented in Table 1. There were significant differences in age at first childbirth, number of children, household income, and education variables depending on participants' ethnicity and employment status.

### Analysis

Multiple hierarchical regression was used to assess the unique contribution of each variable's main effects and interactions. Age at first childbirth was centered to reduce multicollinearity (Aiken and West 1991). All main effects were entered into the first model and all higher order interaction terms were entered into subsequent models. The regression results for age at first childbirth are presented in Table 2, which shows the actual median and mean values for mothers having their first child under age 30, or at age 30 or older (ages chosen based on Hofferth et al. 2001).

Consistent with hypothesis 1, a logistic regression showed that age at first childbirth was a significant predictor of choice of employment status,  $\chi^2(1) = 6.72, p = .01, \beta = .074, p = .012$ . Mothers who felt they had more choice were 2.5 years older at first childbirth than those who felt more constrained. As expected, younger first-time mothers reported less choice in their employment status than older first-time mothers.

Hypothesis 2 predicted that younger age at first childbirth would be associated with more negative economic outcomes. In support of hypothesis 2, there was a positive relationship between age at first childbirth and household

**Table 1** Study 1 demographic profiles of mothers by race and employment status

	Black ( <i>n</i> = 17)	Latina ( <i>n</i> = 22)	White ( <i>n</i> = 30)
<b>Employed mothers</b>			
Age at first childbirth ( <i>M</i> , <i>SD</i> )	26.28 (5.84) <sup>ab</sup>	23.67 (5.84) <sup>a</sup>	29.63 (6.26) <sup>b</sup>
Number of children ( <i>M</i> )	2.29 <sup>a</sup>	1.95 <sup>ab</sup>	1.60 <sup>b</sup>
Household income ( <i>Mdn.</i> )	\$100,000–\$124,999	\$87,500–\$112,000	\$125,000+
Educational attainment ( <i>Mdn.</i> )	Some college <sup>ab</sup>	Some college <sup>a</sup>	College graduate <sup>b</sup>
Choice (% Yes)	19%	42%	30%
	Black ( <i>n</i> = 6)	Latina ( <i>n</i> = 35)	White ( <i>n</i> = 35)
<b>Unemployed mothers</b>			
Age at first childbirth ( <i>M</i> , <i>SD</i> )	28.25 (7.10)	26.41 (6.41)	29.29 (5.94)
Number of children ( <i>M</i> )	2.50	2.14	1.97
Household income ( <i>Mdn.</i> )	\$62,500–\$87,000 <sup>ab</sup>	\$50,000–\$74,999 <sup>a</sup>	\$75,000–\$99,999 <sup>b</sup>
Educational attainment ( <i>Mdn.</i> )	College graduate	Some college	College graduate
Choice (% Yes)	83%	53%	81%

Different superscripts designate significant differences at  $p < .05$

**Table 2** Descriptive statistics and regression results for age at first childbirth (Study 1)

Outcome	$\beta$	$R^2$	Younger mothers (<30)	Older mothers ( $\geq 30$ )
Income	.212*	.110**	\$50,000–\$74,999	\$125,000+
Education	.352**	.238**	Some college	College graduate
Household chores	-.255**	.166**	6.52 (2.68)	5.53 (2.41)
Chore discrepancy	-.200 <sup>^</sup>	.147**	4.46 (2.91)	3.82 (2.32)
Coping	.209**	.075 <sup>^</sup>	4.75 (1.19)	5.12 (1.08)
Life satisfaction	.145	.110**	4.66 (1.50)	5.12 (1.18)

<sup>^</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ . Only significant predictors are reported. Means are reported with standard deviations in parentheses, with the exception of income and education for which the median is reported

income,  $R^2 = .110$ ,  $F(5, 117) = 13.69$ ,  $p = .001$ . Age at first childbirth predicted household income, such that after controlling for employment status, mothers who had children at a younger age still had lower household incomes than mothers who had children at older ages (see Table 2). There was a main effect of age at first childbirth on educational attainment,  $R^2 = .238$ ,  $F(5, 123) = 7.69$ ,  $p = .001$ , such that mothers who had children earlier in life had significantly less education than mothers who had children later in life,  $\beta = .352$ ,  $t(123) = 4.21$ ,  $p = .001$ . There was a main effect of age at first childbirth for household chores,  $R^2 = .166$ ,  $F(5, 125) = 4.96$ ,  $p = .001$ , indicating that women who became mothers earlier in life did more household chores than mothers who had children later in life,  $\beta = -.255$ ,  $t(125) = 2.91$ ,  $p = .004$ . Additionally, there was a main effect of age at first childbirth for chore discrepancy,  $R^2 = .147$ ,  $F(5, 125) = 4.32$ ,  $p = .001$ . Specifically, younger first-time mothers reported more chore discrepancy than older first-time mothers,  $\beta = -.200$ ,  $t(125) = 2.26$ ,  $p = .026$ . In sum, younger first-time mothers

had lower SES, less education, did more housework, and perceived a greater discrepancy in the division of household labor than older first-time mothers.

Hypothesis 3 predicted that younger age at first childbirth would predict lower psychological well-being. There was no difference in self-esteem, depression, family, work, or children's satisfaction, or work stress depending on age at first childbirth. There was a marginally significant model for coping,  $R^2 = .075$ ,  $F(5, 123) = 1.99$ ,  $p = .084$ , indicating a main effect of age at first childbirth. Mothers with a younger age at first childbirth had fewer coping skills than mothers with an older age at first childbirth,  $\beta = .209$ ,  $t(123) = 2.25$ ,  $p = .026$  (see Table 2). There was a significant model for overall life satisfaction,  $R^2 = .110$ ,  $F(5, 123) = 3.05$ ,  $p = .012$ . Specifically, there was a marginal main effect of age at first childbirth such that younger first-time mothers reported less life satisfaction than older first-time mothers ( $p = .11$ ). In sum, hypothesis 3 had mixed support, with lower age at first childbirth predicting fewer coping skills and lower life satisfaction receiving marginal

support, but unrelated to self-esteem, depression, other satisfaction (family, work, children’s), and work stress (Table 3).

Hypothesis 4 predicted that younger age, lack of choice, unemployment, and racial minority status would predict more negative economic and psychological outcomes. There was a four-way interaction for household chores,  $F(1, 108) = 4.91, p = .029$ , but the effect was only significant for Latinas compared to Whites,  $\beta = -.847, t(108) = 2.22, p = .029$ . Tests of the simple slopes for Whites showed for all but one group of mothers, older age at first childbirth, was related to doing fewer household chores (see Fig. 1). In contrast, mothers with no choice who stayed at home had more household chores the older their age at first childbirth,  $b = .107, t(72) = 2.01, p = .048$ . Overall, employed mothers with choice reported doing the least household chores, particularly if they were older at first childbirth.

**Study 1 Discussion**

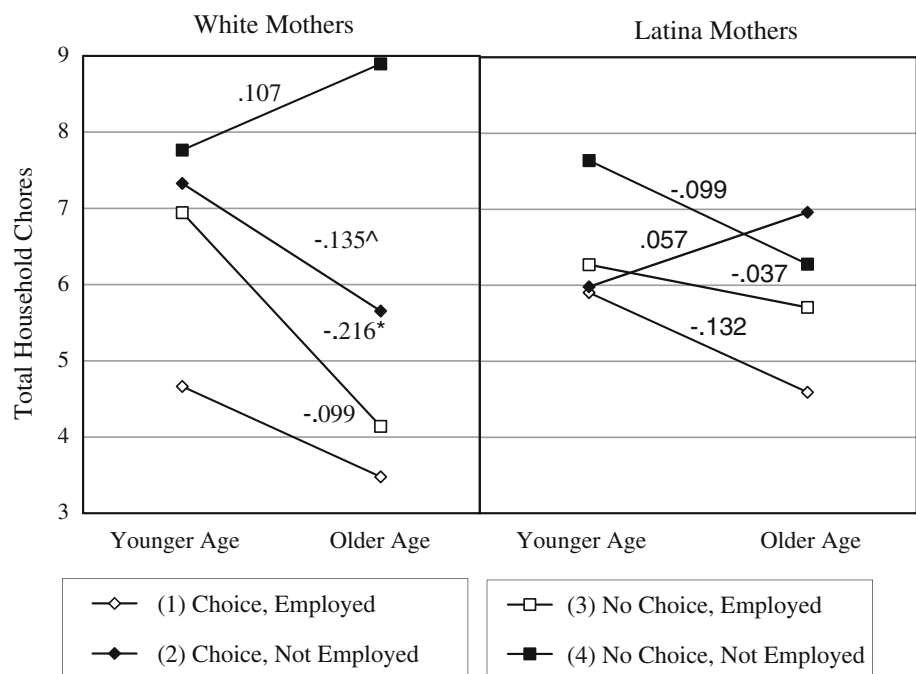
Study 1 provided support for the hypothesis that younger age at first childbirth is related to more negative economic outcomes. Mothers who experienced their first childbirth at a younger age reported having less choice in their post-pregnancy employment than older first-time mothers (hypothesis 1). These women can be conceptualized as having less power as a result of not only lack of choice, but also lower scores on variables shown to be related to power and decision-making ability, including SES and educational attainment (hypothesis 2; Astone and Upchurch 1994; Davies and McAlpine 1998; Harvey et al. 2003). These results are consistent with the literature stating that younger first-time mothers have more constrained choices and lower educational attainment, and therefore may be at greater risk for poverty (Brooks-Gunn et al. 2000; Kirby 2001).

**Table 3** Standardized regression coefficients of age at first childbirth, choice, employment, and race on economic well-being outcomes (Study 1)

Model 1	Income	Education	Household chores	Chore discrepancy
Age at first childbirth	.306***	.352***	-.255**	-.200*
Perceived choice	.322***	.176*	-.167 <sup>^</sup>	-.238**
Employment status	.451***	.129	-.345***	-.006
Latina	-.091	-.176*	-.083	.058
Black	-.025	-.032	.009	.124

<sup>^</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

**Fig. 1** Four-way interaction between age at first childbirth, choice, employment status, and race for total household chores. <sup>^</sup>  $p < .10$ ; \*  $p < .05$



Study 1 also provided some support for the hypothesis that younger age at first childbirth is related to more negative psychological outcomes. Younger age at first childbirth was marginally associated with having fewer coping skills and lower life satisfaction. There were no significant findings for self-esteem, depression, and other types of satisfaction. Based on Study 1, claims related to psychological well-being are tenuous.

Predicting differences by race, choice, employment status, and age at first childbirth, hypothesis 4 was not well supported. There was one difference found between White and Latina mothers, wherein stay-at-home White mothers without choice had more household chores the older their age at first childbirth, whereas other mothers had fewer chores. Although differences among Latina subgroups were not significant, the same pattern as White mothers was found. The only difference was that stay-at-home Latina mothers with choice had more household chores the older their age at first childbirth.

Demographic features of the sample provide an important context for these findings. Other than race, the sample was quite homogeneous regarding education and income. While all participants had at least one child younger than age six, the study did not assess how age at first childbirth might have predicted economic and psychological well-being when the child was born. Instead, the results reflect longer-term outcomes associated with different ages at first childbirth, providing a conservative test of the hypotheses because the sample is older, educated, and middle to upper class.

Given that the sample is not what researchers would characterize as “at-risk” for negative economic and psychological outcomes (e.g., younger, single, uneducated, lower SES), it is informative that associations with age at first childbirth were found. The most striking results are that younger age at first childbirth is related to lower SES and less educational attainment, even among a sample of middle class mothers. Thus, it seems that the economic consequences of having children early in life persist into later adulthood for some mothers, even in a relatively affluent sample. Perhaps this reflects a “cumulative” motherhood wage penalty affecting later adulthood (Edwards 2005).

## Study 2

Given the small sample size and limited generalizability of the findings from Study 1, the study was replicated using a secondary data analysis of a nationally representative sample of mothers. The dataset did not contain all variables measured in Study 1 (e.g., choice), but conceptual replications of similar variables allowed for tests of hypotheses

2, 3, and 4. Differences in what and how variables are measured are common when using secondary data (Crano and Brewer 2002), but the heterogeneity offered by an additional study with a different sample, setting, time, and measures is still useful for improving inferences and investigating the boundaries of generalizability Bernhardt and Goldscheider (2001, 2002).

## Study 2 Method

### Participants

To replicate Study 1, only married heterosexual women who had given birth were included in the sample. It was further restricted to White (76%), Black (9.4%), and Latina (14.6%) women resulting in a sample size of 1,014. Employment status included full-time (35+ hours per week; 44.9%), part-time (17.2%), and unemployed (37.9%), which was composed of women who were retired, in school, homemakers, disabled, or not working for any other reason. The average age was 36 and the average age at first childbirth was 23.6. Mothers had an average of 2.3 children. The median household income was in the \$50,000-\$59,999 category, with a median personal income in the \$10,000-\$19,999 category.

Demographic profiles of the participants are presented in Table 4. There were significant differences in age at first childbirth, number of children, household and personal income, and education depending on participants’ ethnicity and employment status.

### Design and Procedure

The data for Study 2 came from the first wave of the National Survey of Fertility Barriers (NSFB; Johnson and White 2009), a nationally representative telephone survey of 4,712 women ages 25–45, focusing on biomedical fertility barriers. Participants were recruited through random digit dialing. Besides questions about fertility barriers, the data include information on individual pregnancies, social support, health, and mental health, as well as standard demographic information. Black and Latina women were oversampled. The overall response rate to the main interview schedule was 56% for the screener and 37.2% for the full survey, which was found to be in line with similar surveys in recent years (McCarty et al. 2006). The data were subsequently weighted to account for the survey design and be representative of women aged 25 to 45 in the U.S. Population weights were estimated for age, race, geographic region, educational attainment, marital status, and metropolitan residence using the 2005 Current Population Survey March Demographic Supplement (U.S.



**Table 4** Demographic profiles of mothers by race and employment status (Study 2)

	Black (n = 56)	Latina (n = 49)	White (n = 350)
<b>Mothers employed full-time</b>			
Age at first childbirth ( <i>M, SD</i> )	22.25 (5.05) <sup>ab</sup>	20.28 (4.67) <sup>a</sup>	23.85 (5.35) <sup>b</sup>
Number of children ( <i>M</i> )	2.00 <sup>a</sup>	2.63 <sup>b</sup>	2.09 <sup>a</sup>
Household income ( <i>Mdn.</i> )	\$50,000–59,999 <sup>a</sup>	\$50,000–59,999 <sup>a</sup>	\$60,000–74,999 <sup>b</sup>
Personal income ( <i>Mdn.</i> )	\$20,000–29,999 <sup>a</sup>	\$20,000–29,999 <sup>a</sup>	\$30,000–39,999 <sup>b</sup>
Educational attainment ( <i>Mdn.</i> )	14.00 <sup>a</sup>	13.66 <sup>a</sup>	14.00 <sup>b</sup>
	Black (n = 7)	Latina (n = 25)	White (n = 142)
<b>Mothers employed part-time</b>			
Age at first childbirth ( <i>M, SD</i> )	18.95 (5.10) <sup>a</sup>	19.63 (4.46) <sup>a</sup>	26.35 (5.09) <sup>b</sup>
Number of children ( <i>M</i> )	2.58	2.53	2.22
Household income ( <i>Mdn.</i> )	\$40,000–49,999 <sup>a</sup>	\$30,000–39,999 <sup>a</sup>	\$50,000–59,999 <sup>b</sup>
Personal income ( <i>Mdn.</i> )	\$10,000–19,999	\$0–9,999	\$10,000–19,999
Educational attainment ( <i>Mdn.</i> )	12.00 <sup>a</sup>	11.00 <sup>a</sup>	16.00 <sup>b</sup>
	Black (n = 32)	Latina (n = 73)	White (n = 279)
<b>Unemployed mothers</b>			
Age at first childbirth ( <i>M, SD</i> )	21.01 (5.31) <sup>a</sup>	21.68 (4.33) <sup>a</sup>	23.97 (5.94) <sup>b</sup>
Number of children ( <i>M</i> )	3.08 <sup>a</sup>	2.63 <sup>ab</sup>	2.41 <sup>b</sup>
Household income ( <i>Mdn.</i> )	\$20,000–29,999 <sup>a</sup>	\$30,000–39,999 <sup>a</sup>	\$60,000–74,999 <sup>b</sup>
Personal income ( <i>Mdn.</i> )	\$0–9,999	\$0–9,999	\$0–9,999
Educational attainment ( <i>Mdn.</i> )	12.00 <sup>a</sup>	11.00 <sup>a</sup>	13.00 <sup>b</sup>

Different superscripts designate significant differences at  $p < .05$

Census Bureau 2005). A design weight was computed to account for a segment of randomly undersampled women who had children, no fertility problems, and no plans to have more children, and the oversampling of racial and ethnic minority women. A final weight was also computed to adjust for both the design and population weights.

**Measures**

Job satisfaction was measured with a single item, “On the whole, how satisfied are you with this job?” using a four-point Likert scale ranging from 1 (*very satisfied*) to 4 (*very dissatisfied*). Life satisfaction was computed with four items ( $\alpha = .77$ ) using a four-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). A sample question was “In most ways, my life is close to ideal.” Relationship satisfaction was assessed with one item on a three-point Likert scale ranging from 1 (*very happy*) to 3 (*not too happy*) with “Taking all things together, how would you describe your relationship [or marriage]?” The item was recorded so that higher values represented greater satisfaction.

A measure of self-esteem was computed ( $\alpha = .63$ ) using three items rated on a four-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). A sample item

was “I feel that I do not have much to be proud of.” Items were recorded so that higher values represent greater self-esteem.

Educational attainment was assessed with a single item asking “How many years of schooling have you completed?” Responses ranged from 0 to 22. Income was assessed through a series of questions probing both the woman’s personal income and the household’s income as a whole. Income categories for each were ordinal and ranged from under \$5,000 to over \$100,000.

**Study 2 Results**

The analyses from Study 1 were replicated with the available outcome variables. Predictor variables included age at first childbirth, employment status, and ethnicity. Outcome variables included economic (i.e., household income, personal income, and educational attainment) and psychological well-being (i.e., self-esteem, life satisfaction, job satisfaction, and relationship satisfaction). Hypotheses 2, 3, and 4 from Study 1 were tested.

As in Study 1, age at first childbirth significantly predicted household income, personal income, and educational attainment such that younger age at first childbirth

was related to lower household income, lower personal income, and less educational attainment. Thus, hypothesis 2 was fully supported showing younger age at first childbirth was related to more negative economic outcomes (see Table 5).

Hypothesis 3 predicted a positive relationship between age at first childbirth and psychological outcomes including self-esteem, life satisfaction, job satisfaction, and relationship satisfaction. Unlike Study 1, hypothesis 3 was fully supported, with mothers with a younger age at first childbirth reporting lower self-esteem, and less life, job, and relationship satisfaction (see Table 5).

Hypothesis 4 stated that younger age at first childbirth, unemployment, and racial minority status would predict more negative economic and psychological outcomes. A three-way interaction was computed for race, employment status, and age at first childbirth. Although there were no significant interactions with race, there were relevant interactions between age at first childbirth and employment status on personal income (see Fig. 2),  $\Delta R^2 = .017$ ,  $F(1, 940) = 23.96$ ,  $p = .001$ ,  $\beta = .195$ ,  $t(940) = 4.90$ ,  $p = .001$ , and life satisfaction (see Fig. 3),  $\Delta R^2 = .011$ ,  $F(1, 995) = 11.05$ ,  $p = .001$ ,  $\beta = .156$ ,  $t(995) = 3.32$ ,  $p = .001$ . Tests of the simple slopes for personal income showed a significant difference between unemployed mothers and mothers employed full-time (FT) depending on age at first childbirth,  $\beta = -.181$ ,  $t(940) = -4.95$ ,  $p = .001$ . Among unemployed mothers, older age at first childbirth predicted higher personal income than younger age at first childbirth,  $b = .045$ ,  $t(938) = 3.06$ ,  $p = .002$ . The same pattern was significant for mothers employed FT, but the relationship between age at first childbirth and personal income was stronger,  $b = .147$ ,  $t(938) = 10.50$ ,  $p = .001$  (see Fig. 2). There also was a significant difference between being employed part-time (PT) versus FT and age at first childbirth,  $\beta = -.130$ ,  $t(940) = -4.03$ ,  $p = .001$ . For both FT and PT employed mothers, the pattern showed older age at first childbirth was related to higher personal income, but the effect was only significant

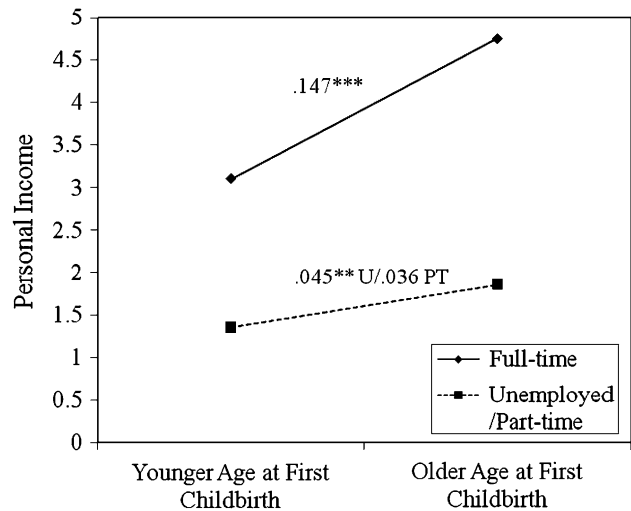


Fig. 2 Employment status and age at first childbirth predict personal income \*\*  $p < .01$ , \*\*\*  $p < .001$ . U Unemployed, PT Part-time

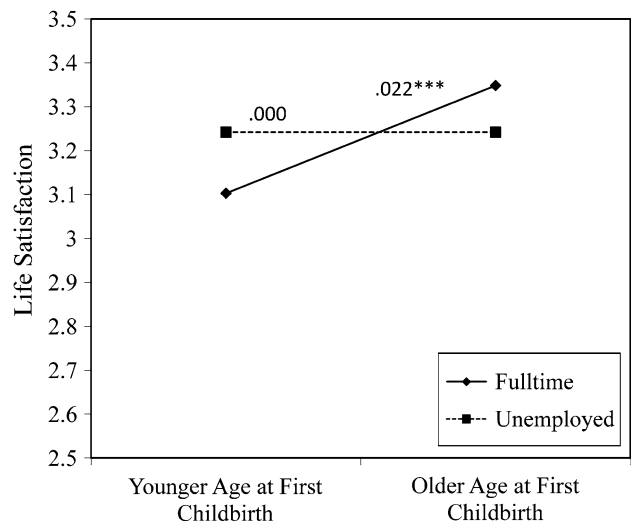


Fig. 3 Employment status and age at first childbirth predict life satisfaction. \*\*\*  $p < .001$

Table 5 Descriptive statistics and regression results for age at first childbirth (Study 2)

Outcome	$\beta$	$R^2$	Younger mothers (<30)	Older mothers ( $\geq 30$ )
Household income	.379**	.144**	\$50,000–\$59,999	\$75,000–\$100,000
Personal income	.226**	.051**	\$10,000–\$19,999	\$20,000–\$29,999
Education (years)	.469**	.220**	13.24 (2.71)	15.62 (2.64)
Self-esteem	.255**	.065**	3.53 (.439)	3.64 (.393)
Life satisfaction	.158**	.025**	3.23 (.529)	3.31 (.490)
Job satisfaction	.122*	.015*	3.32 (.693)	3.45 (.690)
Relationship satisfaction	.091*	.008*	2.54 (.592)	2.59 (.510)

\*  $p < .01$ ; \*\*  $p < .001$ . Means are reported with standard deviations in parentheses, with the exception of household and personal income for which the median is reported

for mothers employed FT,  $b = .147$ ,  $t(938) = 10.50$ ,  $p = .001$  (see Fig. 2). There was no significant difference between mothers employed PT and unemployed mothers.

For life satisfaction, there was a significant difference between being unemployed versus employed FT and age at first childbirth,  $\beta = -.146$ ,  $t(995) = -3.35$ ,  $p = .001$ . Among mothers employed FT, older age at first childbirth predicted higher life satisfaction than younger age at first childbirth,  $b = .022$ ,  $t(993) = 4.40$ ,  $p = .001$  (see Fig. 3). This effect was not replicated among unemployed or PT employed mothers, and there were no significant differences between PT employed mothers and the other groups.

## Study 2 Discussion

Study 2 provided a conceptual replication of Study 1, including all predictor variables (race, employment status, age at first childbirth) except perceived choice. Data from a national sample supported the hypotheses that younger age at first childbirth is related to more negative economic and psychological outcomes. Confirming hypothesis 2, younger age at first childbirth predicted lower household income, personal income, and educational attainment. Confirming hypothesis 3, younger age at first childbirth predicted lower self-esteem, life satisfaction, job satisfaction, and relationship satisfaction. Although no racial differences were found, some support for hypothesis 4 was shown in that among unemployed mothers and mothers employed FT, older age at first childbirth predicted higher personal income. Further, older age at first childbirth was related to higher life satisfaction among mothers employed FT. No differences were found between mothers employed PT and unemployed mothers, or between mothers employed PT and FT.

## Overall Discussion

Taken together, the results from two studies show that mothers' current economic and psychological well-being is predicted by their age at first childbirth. Younger first-time mothers have less perceived choice (Study 1), as well as less economic and human capital resources (Studies 1 and 2) than older first-time mothers. Extra time in the labor force may explain this difference, but the structure of the labor force is not family friendly. Gender segregation in the labor force increases women's entry into lower paying jobs with less mobility and benefits (Davies and McAlpine 1998; England 2005; Tan 2008), but may be flexible to offset those deficiencies and meet the needs of a service economy (Molina 2008). The degree of choice in selecting

these jobs is suspect since the structure of the labor market privileges the ideal worker, whose external responsibilities are taken care of by others (namely a wife; Acker 2006; Correll 2004). Not only do some employers assume that all women are or will become mothers, and therefore are in need of less training or advancement (Cuddy et al. 2004), a motherhood wage penalty results from actual absences, creating missed opportunities for training and advancement, impacting long-term economic well-being (Anderson et al. 2002). The results of both studies are not surprising considering research shows that younger first-time mothers may be at greater risk for poverty (Brooks-Gunn et al. 2000; Kirby 2001).

Choice was not explicit in Study 2, but access to resources in the form of capital (economic, human, social, etc.) is associated with greater options and power within and without the home (Reskin and Maroto 2011; Rothman 2010). The idea of choosing work or parenthood is more complex than gender segregation or family planning. Professional women who have left the workforce cite choice as a primary reason for their change, but give reasons that illustrate the constraints of the workplace for women (Quinn 2006; Stone and Lovejoy 2004). Consistent with Connell's (1987) theory of gender and power, women report their partner's job was more demanding and took precedence over their own career and domestic responsibilities (Quinn 2006; Stone and Lovejoy 2004). Homophily in marriage increases the likelihood of this happening, but those at the higher end of the income spectrum are better able to absorb the loss of one income. As Avellar and Smock (2003) stated, choice is about viability, and the constraints of domestic life and the workplace limit those choices.

Having choice is related to greater power, and previous research has shown an association between lower power and taking on more household labor (Elvin-Nowak and Thomsson 2001; Gupta 2007; Tan 2008). Study 1 results showed that women who became mothers earlier in life took on more household chores and perceived a greater discrepancy in the division of household labor, than do women who became mothers later in life. This finding contradicts previous research that younger generations of mothers tend to have a more equitable division of household labor (Fuligni and Brooks-Gunn 2002; Hewlett 2003). Yet, a distinction should be made between younger generations of mothers and younger first-time mothers. The finding that younger generations of mothers have more equitable divisions of labor is a cohort difference, whereas our finding is an age difference within the same cohort. Thus, the finding that younger first-time mothers were *more* likely to report a household labor discrepancy is consistent with the literature reporting that less power is related to a less equitable division of labor.

Unlike Study 1, Study 2 found that younger age at first childbirth is related to having lower self-esteem. Other psychological well-being indices showed more negative outcomes for earlier age at first childbirth including lower life, job, and relationship satisfaction. These findings among younger first-time mothers are consistent with research that variations in household labor and power relations affect mothers' psychological well-being (Davies and McAlpine 1998). Study 2 also found that the relationship between age at first childbirth and well-being was moderated by employment status. Mothers employed FT showed the strongest relationship between younger age at first childbirth and lower personal income and life satisfaction, followed by unemployed mothers.

### Limitations

There are limitations to this research that should be taken into consideration. First, the correlational nature of the data restricts causal conclusions. For example, it is unclear whether younger age at first childbirth causes constrained choices, or if constrained choices lead to earlier age at first childbirth. As previous research has noted, effects of age at first childbirth are a complex result of a multitude of interacting variables (Seguino 2007). Second, a stronger test of the psychological consequences of earlier childbirth would be possible if mothers were surveyed and interviewed within the first few years of having their first child. However, these studies suggest that associations of age at first childbirth with psychological and economic well-being persist into later adulthood, even after women are married.

Despite these limitations, this research advances our understanding of the role of early childbirth in the economic and psychological well-being of adult women later in life. Even among "low risk" samples of middle class, fairly educated, married mothers, the long-term negative outcomes of early childbirth persist. This research can be used to bolster support for implementing family-friendly work policies that provide more employment options, and potentially improved economic well-being, power, and choice, for mothers.

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