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McQuillan, Julia; Greil, Arthur L.; Wonch Hill, Patricia; Gentzler, Kari C.; and Hathcoat, John D., "Does the Reason Matter? Variations in Childlessness Concerns Among U.S. Women" (2012). *Sociology Department, Faculty Publications*. 596.
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Published in *Journal of Marriage and Family* 74:5 (October 2012), pp 1166–1181.
doi 10.1111/j.1741-3737.2012.01015.x
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Published 24 September 2012.

Does the Reason Matter? Variations in Childlessness Concerns Among U.S. Women

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Abstract

Does the reason why women have no children matter with regard to level of childlessness concerns? Reasons include biomedical barriers, situational barriers, delaying motherhood, and choosing to be childfree. The concept of "childlessness concerns" captures the idea that holidays and family gatherings are difficult because of not having children or feeling left out or sad that others have children. Life course and identity theories guided the structural equation model analyses of a representative sample of 1,180 U.S. women without children from the National Survey of Fertility Barriers. The results indicated that women with the least control over pregnancy, those with biomedical barriers, had the highest

childlessness concerns. As hypothesized, the association between reasons and childlessness concerns was mediated by the identity-relevant measure, importance of motherhood. Contrary to the authors' hypothesis, the association was not mediated by social messages to have children. Thus, it is primarily involuntarily childless women who have high childlessness concerns.

Keywords: identity, infertility, involuntarily childless, life course, reproductive barriers, voluntarily childfree

Does the reason why women have no children matter with regard to childlessness concerns? There are several pathways to adulthood without parenthood (Hagestad & Call, 2007), but less is known about the relevance of different reasons for differences in experiences. There is evidence that childless women with biomedical fertility barriers have higher general distress than childless women without biomedical barriers (McQuillan, Greil, White, & Jacob, 2003), but it is unclear whether women who have no children for reasons other than biomedical barriers (e.g., those who are consciously choosing to be childless, are facing situational barriers, or simply have chosen to not have a child yet) also have concerns related to not having children. In addition, among involuntarily childless women, variations in messages from others about the importance of children or internalized normative expectations (i.e., importance of motherhood) should be associated with variations in childlessness concerns. Even if women do not place a high importance on motherhood as an identity, social messages about the importance of having children could increase concerns.

Much prior research on childless women provides insights from in-depth qualitative interviews with convenience or snowball samples. These studies have revealed concerns that women had about managing a nonnormative adult identity (nonmother) or the social consequences of a nonnormative life course. We measured childlessness concerns using a scale that includes items that asked whether holidays or family gatherings are difficult because of having no children, or whether women compare themselves to those who have children, feel left out if around others with children, or feel sad when friends or family are pregnant. This childless concerns scale therefore captures difficulties dealing with situations that heighten the visibility of adult women without children. Many studies focus on women without children who are beyond reproductive age. In order to analyze social pressure to have children, however, we included women who

may only temporarily have no children as well as those who are beyond reproductive age.

Using the National Survey of Fertility Barriers (NSFB; http://sodapop.pop.psu.edu/datacollections/nsfb), a probability-based sample of American women between the ages of 25 and 45, we assessed childless concerns among women without children who fell into one of four categories: (a) childfree and expected to remain childless, (b) childless with no reason given but intending to have a child, (c) childless with a situational barrier, and (d) childless with a biomedical barrier. Our categories for measuring reasons why women did not have children did not measure permanent statuses but instead captured their current assessment of the reason why they currently had no children. We included identity-relevant mediating factors (perceived social messages from others to have children and internalized norms about the importance of motherhood) and controlled for potential confounding characteristics.

Theoretical Background

Normative Expectations for Motherhood

Most women become mothers, but the proportion of women who remain without children has increased in recent decades to about 20% (Dye, 2008). Despite the increasing proportion of women without children, the cultural expectation to bear and rear children has remained strong in American society. The power of the ''motherhood mandate'' (Hays, 1996) seems to have weakened (Christopher, 2012), but the social identity of women has remained strongly linked to their status as mothers (Koropeckyj-Cox, Romano, & Moras, 2007; Park, 2002). In the United States, the attainment of parenthood has remained central to adult identity and has usually been the most salient identity for parents (Jeffries & Konnert, 2002; Morgan & King, 2001).

Life course theorists (e.g., Elder, Johnson, & Crosnoe, 2003) argue that life paths are constructed within the constraints and opportunities of both historical and biographical time. Social norms establish expected transitions throughout the life course that are tied to age and social status (Elder et al.; MacMillan & Copher, 2005). In the United States, motherhood has been a central life transition that is tied to

other transitions (e.g., marriage; Hagestad & Call, 2007; Thornton & Young-DeMarco, 2001). Life course theorists see cultural schemas and social norms as contributing to the definition of appropriate behavior that influences life paths at the same time that they acknowledge the influence of constraints and social context. In recent decades, the rising cost of raising a child has led some to wonder why people want children (Morgan & King, 2001; Schoen, Kim, Nathanson, Fields, & Astone, 1997). Life course theory thus suggests that one reason American women have children is because of social norm expectations.

If parenthood is regarded as a normative life course transition, it follows that childlessness is viewed as deviant (Gillespie, 2003; Ulrich & Weatherall, 2000). Vignette studies have shown that many people view women without children as more driven, less caring, less emotionally healthy, and lower in warmth than women with children (LeMastro, 2001; Mueller & Yoder, 1997). Because of social pressures to have children, women without children—regardless of the reason—are at risk for childlessness concerns. We know of no survey studies that have specifically focused on childlessness concerns as an outcome. Therefore, in the following paragraphs we summarize prior research on a variety of outcomes associated with not having children. These studies fall roughly into three categories: (a) research on involuntary childlessness due to infertility, (b) research on the transition to parenthood, and (c) research on well-being among midlife and older women.

The many prior studies on involuntary childlessness due to infertility have found that infertile and involuntarily childless women have higher average levels of distress than comparison groups (Greil, Slauson-Blevins, & McQuillan, 2010; Wischmann, Stammer, Scherg, Gerhard, & Verres, 2001). These studies varied, however, in terms of the group with whom involuntarily childless women were being compared. In some studies, involuntarily childless women were compared with other childless women, in others to parents, and in still others to population norms. Furthermore, most of these studies used general measures of distress, although research on infertility (Greil, McQuillan, & Shreffler, 2011; Schmidt, 2009) and pregnancy loss (Shreffler, Greil, & McQuillan, 2011) has indicated that measures specific to reproductive experiences are more sensitive to differences between groups.

Studies of the transition to parenthood have assessed the relative well-being of parents and nonparents (Evenson & Simon, 2005; Nomaguchi & Milkie, 2003). The findings from this line of research have been inconsistent. One possible explanation for the inconsistencies is differences in study design (Holton, Fisher, & Rowe, 2010). A key weakness in studies that have compared women without and with children was the lack of distinction between involuntarily childless and voluntarily childfree women. Prior research has provided strong evidence that women without children are heterogeneous (Abma & Martinez, 2006; Connidis & McMullin, 1993; Hagestad & Call, 2007; Koropeckyj-Cox, 2002; Umberson, Pudrovska, & Reczek, 2010).

In the present study, we focused primarily on women of reproductive age, but many studies of women without children have examined women past reproductive age, or the terminally childless (Bures, Koropeckyj-Cox, & Loree, 2009; Cwikel, Gramonev, & Lee, 2006). These studies have focused on women without children who cannot change their situation. In general, these studies have found that childless older adults do not have significantly lower levels of well-being than their counterparts with children. Connidis and McMullin (2002) found that the childless older adults they studied saw both advantages and disadvantages to childlessness. Older women with incongruent feelings about their childlessness were more likely to be lonely and depressed than mothers (Koropeckyi-Cox, 2002). Jefferies and Konnert (2002) found that feelings of regret and psychological well-being depended on whether someone was involuntarily or voluntarily childless.

Women without children are a diverse group (Bulcroft & Teachman, 2004; Umberson et al., 2010). Among women without children who were aged 35 to 44 in 2002, 42% were childfree, 28% were involuntarily childless, and 30% were postponing but expected to have children in the future (Abma & Martinez, 2006). Few studies of childlessness have included measures of women's childbearing expectations and their ability to bear children (Abma & Martinez), yet Umberson et al. specifically urged researchers to focus on the ''reasons for childlessness as well as the consequences for well-being'' (p. 614). Therefore, we categorized women by the primary current reason that they had no children.

Identity Disruption

Identity theory posits that the salience and importance of role identities and the commitment to particular identities shape individual behavior and experience (Stryker, 1980). Normative life course expectations influence the behavior of women at least in part because they shape commitment to actual and potential identities. Thus, identity serves as a filter through which life course expectations influence individual experience. Identity theory suggests that not being a mother will be an identity-relevant stressor, especially for women who value motherhood (Thoits, 1991). When external situations prevent individuals from achieving or maintaining a valued identity, those individuals experience a failure in identity verification, or an *identity disruption*. Identity disruptions should result in higher identity-specific concerns when the interruption is repeated or severe, when the identity in question is highly salient, and when there is high commitment to the disrupted identity (Burke, 1991; Thoits, 1991).

Thoits (2006) argued that identity-disruptive events involving more choice produce fewer concerns than events involving less choice. Thus, women who chose to have no children (e.g., those who are voluntarily childfree, women who are delaying conception) should have fewer concerns than women who had no choice (i.e., who have an identity disruption that is out of their control). The degree to which motherhood is central to women's sense of self should also be important; women who value motherhood but cannot reach it likely have greater concerns about childlessness than women who value motherhood less (Quinn & Chaudoir, 2009). The reasons why women have no children indicate the degree of choice involved in having no children; therefore, we next discuss how we categorized women on the basis of why they have no children.

Reasons Why Women Have No Children

Women without children are often classified as either voluntarily childless (i.e., childfree) or involuntarily childless (Abma & Martinez, 2006; Koropeckyj-Cox et al., 2007; Mollen, 2006). Bulcroft and Teachman (2004) outlined several problems in defining and categorizing women without children. Each term carries implications about normative categories, social expectations, the value of children, and

the value of motherhood. Even the language used either problematizes (e.g., *childless*) or glorifies (e.g., *childfree)* the situation of not being a mother.

Some researchers have divided voluntarily childless women into ''early articulators'' and ''postponers'' (Houseknecht, 1987; Veevers, 1980). Although some childfree women are early articulators, most women are postponers who revise their fertility intentions downward incrementally throughout the life course (Hagestad & Call, 2007; Hayford, 2009; Maximova & Quesnel-Vallée, 2009). Thus, there is a range of voluntariness among voluntarily childfree women. Ireland (1993) separated childless women into three groups: (a) the *traditional*, who are childless because of infertility; (b) the *transitional*, who are ambivalent and more career oriented; and (c) the *transformative-childfree*, who are strongly committed to childlessness and seek partners and friends who support their choice. Each reason for having no children should have different implications for identity disruption, the importance of motherhood, and childlessness concerns. We therefore categorized women without children into different categories on the basis of the amount of choice they have. We expected that women who chose a childfree life should experience lower childlessness concern than women who did not choose it, because their identity matches their ideal. Women who are childfree (i.e., desire no children) have the most choice; women who have biomedical barriers have the least choice; and women with no biomedical or situational barriers fall between the other two.

There is a great deal of evidence to suggest that childfree women perceive social messages from others that they should have children (Gillespie, 2003). A classic study found that being voluntarily childfree was more stigmatizing than being childless from infertility (Veevers, 1973). The infertile women Miall (1985) studied agreed that a greater cultural stigma is attached to voluntary childlessness than to involuntary childlessness. We are not aware of more recent studies that have assessed whether the voluntary – involuntary distinction is still relevant. Adults without children occupy a socially ambiguous status because it is often not clear whether their situation is voluntary (Park, 2002). LeMastro (2001) found that most people assume childlessness is voluntary. Therefore, if the voluntarily childfree do experience childlessness concerns, it is likely mediated by perceived messages from others.

Involuntary childlessness is typically experienced as beyond one's control. It is usually seen as an unwelcome interruption to those who have counted on parenthood as a central identity and adult activity. Matthews and Martin-Matthews (1986) and McQuillan et al. (2003) have explicitly applied Stryker's (1980) identity theory to involuntary childlessness. Matthews and Martin- Matthews hypothesized that greater commitment to a parent identity should be associated with higher distress, and McQuillan, Greil, Shreffler, and Tichenor (2008) found considerable variation in the importance of motherhood in women's lives. Therefore, we included a measure of importance of motherhood in our models. We also expected that involuntary childlessness should be associated with higher levels of childlessness concerns and that the association should vary with importance of motherhood. Women who are not mothers but who score high on importance of motherhood are likely to experience a gap between their ideal selves and their actual selves and therefore experience more childlessness concerns.

Other factors in addition to reasons for childlessness should also be associated with childlessness concerns. In the life course framework, strong emphasis is placed on contextual, individual, and social factors that affect important life choices. We included race, age, income, education, and relationship status, because they should be related both to reasons for being childless and to childlessness concerns. Of course, we cannot entirely rule out causal ordering that is counter to the theory-guided model we propose. We also included religiosity, because most religious traditions encourage childbearing and emphasize the importance of family during services and other activities. Research indicates that higher religiosity is associated with lower acceptance of childlessness (Koropeckyj-Cox & Pendell, 2007) and higher fertility intentions (Hayford & Morgan, 2008).

Statement of the Problem

On the basis of our integration of life course theory, identity theory, and insights from past research, we proposed the following hypotheses:

1. Women who experience involuntary childlessness will have higher levels of childlessness concerns than women who are voluntarily childfree. Women who are delaying childbearing should

have levels of childlessness concerns that fall between those who chose to be childfree and those who have biomedical barriers.

2. The perceived importance of motherhood should mediate the association between reasons for not having children and childlessness concerns. Women who place a higher value on motherhood values will have higher childlessness concern scores than women who assign lesser importance to motherhood values.
3. Social messages to have children should mediate the association between reasons for having no children and childlessness concerns. Women who report higher levels of social messages to have children will have higher childlessness concern scores than women with fewer sources of social messages to have children.

Method

Sample

We used the NSFB, a national random-digit-dial telephone survey of infertility. Wave 1 of the NSFB includes completed interviews with 4,787 U.S. women 25 to 45 years old, collected between September 2004 and December 2006. For the current analysis, we studied the 1,180 women who reported that they were neither biological nor adoptive parents. The NSFB oversampled racial minority census tracts and women who had experienced infertility through screening questions, and it undersampled women who had never experienced a biomedical barrier and had completed their childbearing. We therefore used a sample design weight variable to adjust the sample to national estimates by age, educational attainment, marital status, metropolitan residence, region of the country, and race/ethnicity based on the 2005 Current Population Survey (CPS; see http://www.census.gov/apsd/techdoc/cps/cpsmar05.pdf) estimates for women age 25 to 45 in households.

The response rates for the NSFB are low (the AAPOR RR4 screener response rate was 53.7%), but they are typical for random-digit-dial telephone surveys conducted during the last several years (e.g., 33.5% for the Center for Disease Control's 2007 Behavioral Risk Factor Survey; see McCarty, House, Harman, & Richards, 2006). Keeter, Kennedy, Dimock, Best, and Craighill (2006) showed that surveys with

relatively low response rates have low levels of bias that are similar to those of studies with higher response rates. To confirm the generalizability of the NSFB, the NSFB research team followed federal (Office of Management and Budget) standards and conducted a number of analyses to assess the survey's validity. Compared with basic demographic statistics for women ages 25 to 45 in the 2005 CPS (a personal survey with a 90% response rate), the NSFB distributions on 22 of 34 demographic characteristics had percentage differences within ±1.5%. The largest difference was for a variable that was included in the weighting, educational attainment; 28.3% of respondents in the CPS had a high school degree, and 20.6% of those in the NSFB had a high school degree. Consistent with NSFB goals and minority area oversampling, the percentage of Black women in the NSFB (18.6%) was higher than in the CPS (14.3%).

To assess possible bias in the fertility-related variables, the NSFB team compared the NSFB with the 2002 National Survey of Family Growth (see, e.g., http://www.cdc.gov/nchs/nsfg.htm), a large U.S. in-person interview of women of childbearing age (under 44) that consequently also has a high response rate (nearly 90%). The 2002 data were the most recent available. The team compared the weighted NSFB data with the weighted National Survey of Family Growth data for women ages 25 to 45. The comparisons showed very similar results for fertility-related and demographic variables and indicated that the NSFB sample is similar to substantially more costly nationally representative personal interview surveys. We therefore were able to take advantage of the unique variables in the NSFB and can be confident that the sample is representative of the target population.

There were several sources of missing data in this study. The least problematic comes from the ''planned missing'' design strategy. This strategy involved randomly assigning two thirds of cases to each scale item. Because scale items have high intercorrelations (over .60), there is considerable information in these data (over 97%). There are additional missing data due to item nonresponse, in particular for the family income variable (n = 60 cases with missing data). Using full information maximum likelihood in the Mplus program (Muthén & Muthén, 2007), we were able to retain all but 12 of the cases in the analysis. Because this is one of the best modern methods for handling missing data (Johnson & Young, 2011), and the amount of listwise missing information was very low (1%),

the results should represent the population of women ages 25 to 45 without children in the United States.

Measures

Outcome. The criterion variable was *childlessness concerns*, a latent variable constructed of five items. All women without children were asked to strongly agree, agree, disagree, or strongly disagree with the following statements: (a) ''The holidays are especially difficult for me because I don't have children''; (b) ''Family gatherings are especially difficult for me because I don't have children''; (c) ''I can't help comparing myself with friends who have children''; (d) ''When I see families with children, I feel left out''; and (e) ''When people I know are pregnant, I feel sad.'' These items were modeled on items from the Fertility Problem Index (Newton, Sherrard, & Glavac 1999) and form a single factor with a high reliability (α = .88).

Reasons for having no children. We classified women without children into one of four categories on the basis of their reason for having no children and their level of ''choice'' in not having children. We classified 148 women as voluntarily childfree because they reported their ideal number of children as zero (''If you yourself could choose exactly the number of children to have in your whole life, how many would you choose?'') and responded ''no'' to the following two questions: (a) ''Would you yourself like to have a baby?'' and (b) ''Do you intend to have a baby?'' We classified 452 women as having biomedical barriers because they reported having an episode of 12 months of regular, unprotected intercourse—the medical definition of infertility—and their desired number of children was greater than zero. We classified 392 women as having situational barriers. We were able to construct the situational-barriers measure out of an open-ended question that women without children were asked regarding their reason for not having children. These open-ended responses were coded into 20 categories. Women who gave responses that indicated a situational barrier to having children (e.g., ''My partner doesn't want kids,'' ''My partner would be a bad parent,'' ''I am not financially ready'') if they did not also have a biomedical barrier. Finally, we classified 188 women as having no barriers. The ''no barriers'' women stated that their ideal number of children was greater than zero, but they gave neither situational

nor biomedical reasons for not having children. We suspect, but have no way to definitively know, that these women were delaying childbearing. We therefore considered them women without children who had no barriers. We expected that these women are similar to the ''temporary'' women without children in Abma and Martinez's (2006) study and that many will change categories in coming years.

Mediating variables. Importance of motherhood was a latent variable consisting of responses to the following four questions, measured on Likert-type scales (*strongly agree* to *strongly disagree*): (a) ''Having children is important to my feeling complete as a woman,'' (b) ''I always thought I would be a parent,'' (c) ''I think my life will be more fulfilling with children,'' and (d) ''It is important for me to have children.'' These items form a single factor with an alpha of .78 for the sample of women with no children, indicating high internal consistency among these items. *Social messages* to have children was assessed via the following two items: (a) ''It is important to my partner that we have children'' and (b) ''It is important to my parents that I have children.'' We coded items so that a higher score indicates more and stronger messages to have a child. We created a scale by calculating the mean of the available items. We included women without parents or partners in the scale by coding them as having no messages from parents or partners. The correlation between these two items was .63. The design of this scale means that women without partners are quite likely to score lower on social messages than women with partners, consistent with evidence that women without partners likely do receive fewer social messages to have children (Burgoyne, 1987).

Background and life course variables. Race/ethnicity was measured using the standard census wording. Dummy variables were constructed for Black and Hispanic women. Women who indicated ''other'' or Asian as their ethnicity were included with White in the reference category because of small cell counts and because our experience with this data set has shown that these groups do not differ significantly from Whites with regard to the variables of interest. *Age* was measured in years, and a squared term was included to model possible nonlinear associations. Because reproductive capacity declines with age, we conducted separate subanalyses on younger (25 – 35) and older (36 – 45) women, but we did not find a substantive difference by age group.

Because many people are uncomfortable answering questions about income, *family income* was first constructed as an ordinal scale ranging from 1 (<$5,000) to 12 ($100,000+). We then substituted the midpoint of each category for the category value in order to convert this into a continuous scale. *Education* was measured in years. Income and education were combined into a latent variable, *socioeconomic status*. *Never married*, *cohabiting*, and *divorced/separated* were dummy variables created to distinguish women in these statuses from currently married women. *Religiosity* was measured with four questions (e.g., ''How often do you attend religious services?''). Because these four items were measured on different scales, they were first combined by standardizing and then taking the mean. These items form a single factor and have an alpha of .73.

Analytic Strategy

To assess whether childlessness concerns, social messages, or the importance of motherhood differ by reason for not having children, we conducted a series of analyses of variance. Because differences between groups on other characteristics (e.g., age, education) could explain these associations, we also compared means and proportions (with chi-square tests) for all of the other variables in the model. We also compared specific differences between groups using Tukey's post hoc test to adjust for multiple comparisons. Next, we used structural equation modeling with maximum likelihood estimation to determine significant pathways to childlessness concerns. Our modeling approach has several advantages over ordinary least squares regression. First, we were able to use full information maximum likelihood estimation to handle the missing data (Muthén & Muthén, 2007). Second, latent variables reduce measurement error and therefore provide better estimates of path coefficients. Third, the model simultaneously estimates direct, indirect, and total effects, providing efficient analyses. We treated the control variables and the reasons for childlessness as exogenous variables. Importance of motherhood and social messages were treated as mediating variables. Childlessness concerns was the criterion variable. Following conventional modeling practices (Muthén & Muthén, 2007), we allowed all exogenous variables to correlate with one another.

Results

Bivariate Analyses

We began our analyses by examining bivariate associations between the focal independent variables, reasons for having no children, and all of the other variables in the model. Means for continuous variables and proportions for categorical variables by the four groups of women without children are displayed in **Table 1**. Means for childlessness concerns were highest for women with biomedical barriers to fertility, lower for childless women with no barriers and with situational barriers, and lowest for voluntarily childfree women. This pattern supports Hypothesis 1. Voluntarily childfree women had the lowest importance of motherhood scores, but there were no significant differences among the means for women in the remaining three groups. Voluntarily childfree women reported more social messages in favor of having children than women in the other categories.

Table 1. Descriptive Statistics by Type of Women Without Children: National Survey of Fertility Barriers, U.S. Women Without Children, Ages 25–45 (*N* = 1,180)

	Biomedical Barrier (n = 452)		*Situational Barrier (n = 392)*		*No Barriers (n = 188)*		*Voluntarily Childfree (n = 148)*	
Outcomes	*M/P*	*SD*	*M/P*	*SD*	*M/P*	*SD*	*M/P*	*SD*
Childlessness concerns	2.17_{c}	0.66	1.85_{b}	0.58	1.85_{b}	0.58	1.49a	0.52
Importance of motherhood	2.88_{b}	0.73	2.90_{b}	0.73	2.81_{b}	0.76	1.64a	0.49
Social messages	3.55_{b}	1.54	2.90_{b}	1.36	3.40_{b}	1.60	4.83a	2.04
Life course/values								
Race/ethnicity								
Hispanic	.13		.09		.10		.05	
Black	.21		.18		.14		.11	
White or other	.66		.73		.76		.84	
Age	34.84_{c}	6.33	31.69_{b}	5.71	32.22_{b}	6.02	38.39_{a}	5.37
Age2								
Total family income (× $10K)	5.68_{b}	3.17	$5.74_{a,b}$	2.87	$6.31_{a,b}$	3.11	6.74_{a}	3.25
Education in years	15.18_{c}	2.72	16.54_{b}	2.21	$16.15_{a,b}$	2.40	15.81_{a}	2.68
Religiosity	$-.18_{b}$	0.90	$-.31_{b}$	0.99	$-.32_{a,b}$	0.97	$-.50_{a}$	0.96
Relationship status								
Cohabiting	.21		.32		.26		.16	
Never married	.34		.65		.44		.37	
Divorced	.18		.15		.09		.19	

Means with different subscripts are significantly different from each other based on Tukey's Honestly Significant Difference Test; consequently, means that share a subscript are not significantly different from each other based on the same test. P = proportion.

The proportion of Hispanic women and proportion of Black women were lowest among the childfree and highest among women with biomedical fertility barriers. The pattern was the opposite for White women. Consistent with the idea that many women commit to a childfree life when they are older, the average age of the voluntarily childfree women was about 4 years older than the average age among childless women with biomedical barriers and about 6 years older, on average, than childless women with or without situational barriers.

Family income was highest among voluntarily childfree women and lowest among women with biomedical barriers. The mean family income for women in these two groups were significantly different from each other, but not from women who had situational or no barriers. Overall, the pattern of descriptive statistics suggests that childless women with no barriers and childless women with situational barriers were quite similar in their attributes. Voluntarily childfree women and childless women with biomedical barriers had more differences in attributes than similarities. These bivariate analyses suggest that the reasons why women have no children should contribute to different experiences of the same social status of not being a mother. Voluntarily childfree women perceived more messages in favor of having children from others, and childless women with biomedical barriers had higher importance-of-motherhood scores and more childlessness concerns. We turn next to the multivariate analyses in which we assessed whether the associations between reasons for having no children and childlessness concerns persisted when control variables were added and whether the association between reasons and childless-specific concerns was direct or indirect through either external social messages or internal importance of motherhood.

Structural Equation Analysis

Fit statistics suggest that our theoretically guided model adequately fit the data. Although the chi-square was significant, the root-mean-square error of approximation was .024, indicating a good model fit (Hu & Bentler, 1999). A comparative fit index of .974 and a Tucker–Lewis Index of .962 also provided evidence of good model fit.

The direct effects of exogenous and mediating variables on childlessness concerns are displayed in **Table 2**.When other variables were included in the model, voluntarily childfree women reported

Table 2. Structural Equation Model of Social Messages, Importance of Motherhood, and Childlessness Concerns Direct Effects: National Survey of Fertility Barriers, U.S. Women Without Children, Ages 25 – 45 (*N* = 1,168).

	Social Messages			Importance of Motherhood			Childlessness Concerns		
Variable	STDYX	*SE*	*p*	STDYX	*SE*	*p*	STDYX	*SE*	*p*
Reasons why no children									
No reason (reference)									
Situational barrier	−.03	0.11	.424	.08	0.06	.041	−.05	0.05	.269
Voluntarily childfree	.22	0.15	.000	−.40	0.07	.000	.00	0.07	.962
Biomedical barrier	−.00	0.12	.932	.11	0.06	.006	.21	0.05	.000
Race/ethnicity									
White (reference)									
Hispanic	.01	0.12	.623	−.05	0.07	.071	.01	0.06	.831
Black	.05	0.10	.036	−.04	0.06	.152	.00	0.05	.969
Life course/values									
Age	.22	0.01	.000	−.29	0.00	.000	.12	0.00	.001
Age^2	.02	0.00	.424	.03	0.00	.271	−.05	0.00	.177
Socioeconomic status	−.05	0.02	.262	.03	0.01	.552	−.08	0.01	.327
Religiosity	−.07	0.04	.004	.11	0.02	.000	−.01	0.02	.763
Relationship status									
Married (reference)									
Cohabiting	.01	0.14	.812	−.03	0.07	.283	−.01	0.06	.764
Never married	−.57	0.09	.000	−.08	0.05	.011	.07	0.06	.163
Divorced or separated	−.38	0.14	.000	−.04	0.09	.146	.01	0.08	.836
Mediating variables									
Social messages							.03	0.02	.577
Importance of motherhood							.49	0.04	.000

Bootstrap iterations = 1,500. Estimator: maximum likelihood. Social messages and importance of motherhood $r = -.500$, $p < .001$. $\chi^2 = 290.633$, $p = .000$; comparative fit index = .974, Tucker–Lewis Index = .962, root-mean-square error of approximation = .024. STDYX = standardized Y and X variables.

perceiving more social messages about having children, but women with situational barriers and women with biomedical barriers were not significantly different from women with no reasons. Black women perceived higher average social messages to have children than White women and women in the ''other'' category. Even though most religions are pronatalist, women who were more religious perceived fewer average social messages supporting having children compared with less religious women.

Consistent with what might be expected on the basis of life course theory, older women perceived more and divorced or never-married women received fewer social messages in favor of having children than did younger and married women, respectively. We did not find

the anticipated nonlinear association. The model accounted for just under half (R^2 = .49) of the variance in perceived social messages to have children.

Women with situational and biomedical barriers attached higher importance and voluntarily childfree women attached lower importance to motherhood than women with no barriers. Each additional year of age was associated with decreased importance of motherhood. As expected, higher religiosity was associated with increased importance of motherhood. Cohabiting and never-married women attached lower importance to motherhood than married women. This model accounted for over one third (R^2 = .37) of the variance in the importance of motherhood.

Several variables were directly associated with childlessness concerns. With regard to reasons for not having children, only women with biomedical barriers had significantly higher average childlessness concerns than women in the reference category. Race/ethnicity was not associated with childlessness concerns. Only the linear measure of age (but not the age-squared term) was associated with higher childlessness concerns. Thus, the relationship between age and childlessness concerns became neither stronger nor weaker with increasing age. None of the other life course and relationship status variables were directly associated with childlessness concerns. Of the two mediating variables with hypothesized associations with childlessness concerns, only importance of motherhood was significantly related to childlessness concerns. Slightly less than one third (R^2 = .30) of the variance in childlessness concerns was explained by these direct associations.

We next explored indirect paths through the measure of social messages from parents or spouses and the latent measure of importance of motherhood, detailed in **Table 3**. Only two categories of women without children—(a) the voluntarily childfree and (b) those with biomedical barriers—had significant total associations with childlessness concerns. The associations were of similar magnitude but in opposite directions. Most of the association for women with biomedical barriers was direct, but most of the association for voluntarily childfree women was indirect. Voluntarily childfree women reported lower childlessness concerns because they reported a lower importance of motherhood. There were no direct or indirect associations between race/ethnicity and childlessness concerns. Although the direct effect

Table 3. Direct, Indirect, and Total Effects on Childlessness Concerns: National Survey of Fertility Barriers, U.S. Women Without Children, Ages 25 – 45 (N = 1,168)

	Direct		Indirect Through Social Messages		Indirect Through Importance of Motherhood		Total Indirect		Total	
Variable	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*
Reason why no children										
Voluntarily childfree	.01	.13	.02	.04	−.59	.08***	−.57	.07***	−.56	.13***
Situational barriers	−.10	.09	−.00	.01	.08	.04*	.08	.04*	−.02	.10
Biomedical barriers	.43	.10***	.00	.01	.11	.04**	.11	.04**	.54	.10***
Race/ethnicity										
Hispanic	.02	.11	.00	.01	−.07	.04†	−.07	.04†	−.05	.12
Black	.00	.09	.00	.01	−.05	.04	−.045	.04	−.04	.09
Life course/values										
Age	.02	.01**	.00	.00	−.02	.00**	−.02	.00***	−.00	.01
Age^2	−.00	.00	.00	.00	.00	.00	.00	.00	−.00	.00
Socioeconomic status	−.08	.08	−.00	.00	.01	.02	.01	.02	−.07	.08
Religiosity	−.01	.04	−.00	.00	.06	.02**	.05	.02**	.04	.04
Relationship status										
Cohabiting	−.03	.11	.00	.01	−.05	.04	−.05	.04	−.08	.12
Never married	.15	.11	−.04	.06	−.08	.03*	−.12	.05	.04	.09
Divorced or separated	.03	.14	−.04	.08	−.08	.05	−.12	.10	−.09	.13

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

of age indicated that concerns were higher among older women without children, this was offset by the tendency for older women to have lower importance-of-motherhood scores. Therefore, there was no total association between age and childlessness concerns. Religiosity was associated with childlessness concerns only indirectly through importance of motherhood. The indirect effect of religiosity on childlessness concerns was substantial and significant; the direct effect of religiosity on childlessness concerns, however, was negative, thus reducing the total effect to nonsignificance.

There was support for our second hypothesis in that the reason for not having children was mediated by the perceived importance of motherhood. There was no support, however, for the hypothesis that social messages about having children would also mediate the association between reasons for not having children and childlessness concerns. Therefore, the meaning of not having children, but not the perception of messages coming from others, contributed to differences in childlessness concerns. Even though life course theory suggests

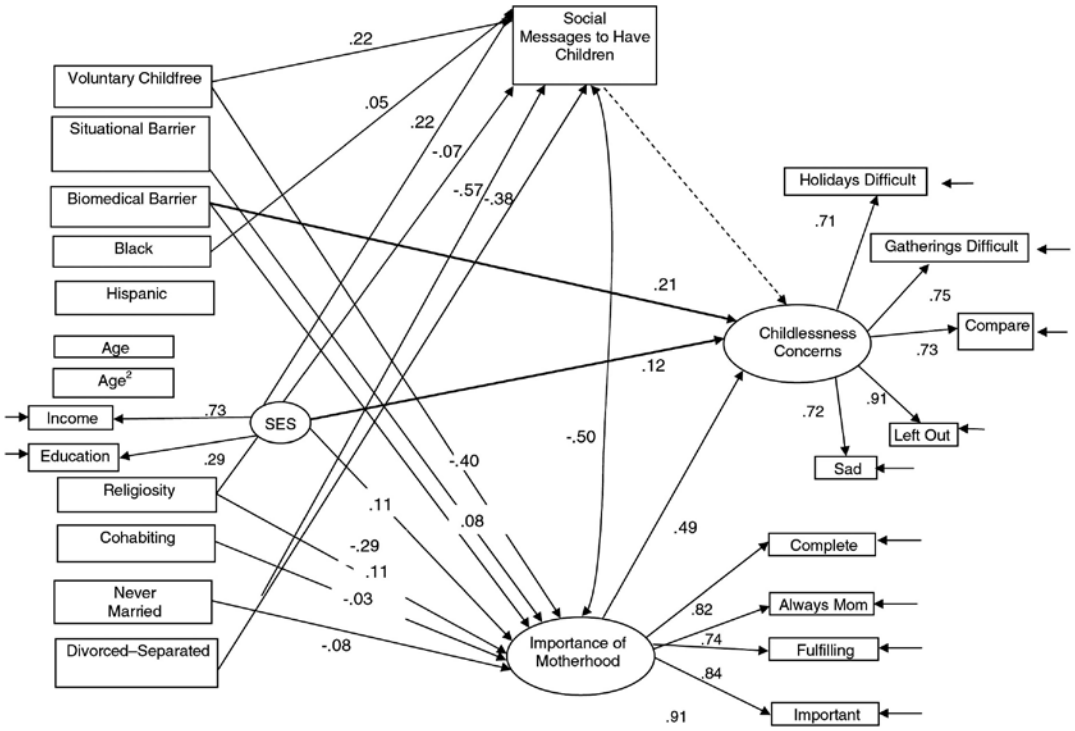

Figure 1. Statistically significant associations in the model of social messages to have children, importance of motherhood, and childless-specific concerns (N = 1,168). All exogenous variables are free to correlate. SES = socioeconomic status.

that women will experience normative messages from others to have children, we did not find evidence that those messages contributed to higher childlessness concerns scores unless they were internalized as higher importance of motherhood. The strong negative correlation between social messages and importance of motherhood suggests that social messages are only indirectly associated with childlessness concerns through importance of motherhood. The significant paths in the model are summarized in **Figure 1.**

Discussion

Historical changes in the United States in the last 40 years, including highly effective birth control, legal abortion, and higher education rates and employment rates for women, have contributed to the fact that more women are delaying having children and that more

end their reproductive years without having children (Abma & Martinez, 2006). Yet the United States is also one of the most pronatalist of industrialized nations, as evidenced by the persistence of replacement level fertility rates (Dye, 2008). Therefore, not having children violates life course norms. Explorations of the experiences of women without children in the American context tend to describe either the voluntarily childfree who challenge gender-based stigma (e.g., Gillespie, 2003) or those with biomedical barriers who are childless and distraught (Parry, 2005). Women without children because they are delaying having them or because they have situational barriers are rarely discussed in the same context as the childfree or those facing biomedical barriers, yet all of these women share the same social status: They are women without children in a pronatalist context (Bulcroft & Teachman, 2004). We therefore explored the following question: Does the reason for not having children matter for childlessness concerns among U.S. women?

We used the life course framework (Elder et al., 2003) and concepts from identity theories (Thoits, 1992) to guide the study of reasons for not having children and childlessness concerns. We expected that women for whom childlessness was not a choice—those with biomedical barriers—would have greater childlessness concerns than those who were voluntarily childfree (Hypothesis 1). The results supported this hypothesis. We further hypothesized that women who were not yet mothers and those who gave no reason for their childlessness would experience levels of childlessness concerns that would fall between those of the voluntarily childfree and those of the involuntarily childless, and this hypothesis was supported as well.

We are not aware of any other studies that have included situational barriers to fertility. Abma and Martinez (2006) separated out the ''temporarily'' childless but did not distinguish between those who identified situational barriers and those who did not, yet a substantial number of women face situational barriers, such as not having a partner or having a job that makes having children difficult. Despite the shared status of involuntary childlessness, the reason for childlessness concerns, biomedical or situational, matters. Because the women with no reason and the women with a situational barrier were similar in most of the models, we suggest that these groups require further exploration. It is likely that all of the women in these two groups simply consider themselves ''not yet pregnant'' (Greil, 1991), but some

can pinpoint a reason and others cannot. We suspect that more concern among women with biomedical barriers, but not among women with situational barriers, has to do with level of perceived control. Medical advances surrounding reproduction may have raised the expectation that fertility should be within one's control more than is yet possible, in particular with many women delaying first pregnancies (Schmidt, 2009).

The simultaneous examination of voluntary, situational, and involuntary childlessness highlights the importance of considering the meaning of social statuses for understanding subjective responses to not having children (Hagestad & Call, 2007). This study shows that the diversity of reasons for not having children does matter. Despite the fact that all childless women occupy the same social status—nonmother—variations in the reason for not having children shape the meaning of childlessness for American women. Consistent with identity theories (Stryker, 1980; Thoits, 1992), one's perceived importance of motherhood mediates the association between reasons for having no children and childlessness concerns, supporting Hypothesis 2. This is an important finding because it highlights that women experience the same status differently depending on the meaning they assign to it.

On the basis of life course theories of parenthood pathways (Hagestad & Call, 2007), we hypothesized that violating social norms would contribute to higher social concerns and therefore that social messages to have children would mediate the association between reasons for having no children and childlessness concerns (Hypothesis 3). Women who were voluntarily childfree did perceive more social messages to have children and had lower importance-of-motherhood scores. Thus, women who were voluntarily childfree had lower childlessness concerns because motherhood was less important to them, not because they faced fewer social messages to have children. Voluntarily childfree women experienced social messages in favor of having children, but only if they also internalized the importance of motherhood did they experience higher childlessness concerns. Even for women who perceived that partners or parents wanted them to have children, not having children was associated with concerns only if the women consider motherhood important. Therefore, being nonnormative and getting that message from significant others was relevant only for women who also agreed that motherhood is important.

As with all research, there are limitations to this study. The cross-sectional nature of the data limits the possibility of strong conclusions about temporal ordering. We know, for example, that a higher perceived importance of motherhood was associated with more childlessness concerns, but we cannot conclude that it leads to more concerns. It is conceivable that women with more concerns about not having children will think more about their inability to achieve a desired goal and thereby come to attribute more importance to motherhood. We anticipate future longitudinal research that can untangle the direction of these paths.

In addition, we had access only to women of childbearing age (25 – 45). The women in our sample were childless at the time of the interview, but it is likely that at least some of them eventually became mothers. Without data on post-reproductive-age women, it is difficult to know whether childlessness concerns differ for those who are permanently childless. In analyses not shown here, we conducted the same analyses on women under and over age 35 and found the same overall patterns for both groups. It is possible that some involuntarily childless women of reproductive age are not as concerned because they continue to view childbearing as a possibility. For these women, concern is likely to be higher once motherhood is no longer an option. On the other hand, another possible pattern is accommodation or acceptance over time; rather than pursuing motherhood, women who shift their focus to other fulfilling activities, such as pets or leisure (Parry, 2005), could experience fewer concerns over time. On the basis of an analysis of the National Longitudinal Survey of Youth (Maximova & Quesnel-Vallée, 2009), many women who have no children because of their situation may revise their intentions and change to being voluntarily childfree at the end of their childbearing years.

Our work shows how life course theory can be combined with identity theory to extend an understanding of the varied experiences of women without children. Because the four types of women without children we propose are ‘‘current’’ and not ‘‘terminal’’ statuses, it is likely that the results would differ if we restricted the sample to only women in their postreproductive years (Connidis & McMullin, 2002). In this research, we make a valuable contribute to the life course framework by demonstrating that, at least for women without children, life course norms shape life choices and outcomes through the filter of identity. Simple demographic characteristics (e.g., education,

relationship status, age) alone are insufficient for explaining why some women experience more childlessness concerns than other women. Life course indicators alone are also inadequate for understanding variations in childlessness concerns. Factors associated with life course markers of readiness for parenthood are associated with childlessness concerns, but this association is indirect through the importance of motherhood. We found that the meaning of having no children for women's identity, as indicated by the importance of motherhood, provides a substantial filter for the effects of more objective characteristics. Without including the identity relevance of motherhood, our understanding of the experience of childlessness is limited.

There is still much work to do to understand the experience of women without children in the United States. As more women choose to forgo having children or slide into their postreproductive years without having children (Hayford, 2009; Maximova & Quesnel-Vallée, 2009), it becomes all the more important to understand the experiences of childfree and childless women. Despite increasing options for fulfilling social roles other than motherhood for American women, cultural expectations of the ''motherhood mandate'' persist (Hays, 1996). In addition, as motherhood comes to occupy a smaller fraction of adult women's lives, it is important to create positive language and identities for adult women other than mother (Bulcroft & Teachman, 2004). Increasing rates of childlessness makes it likely that the meanings of childlessness and of motherhood will continue to change. We urge the continued study of the variations in the experiences of childlessness and of their emotional consequences and benefits for women.

Acknowledgments — This research was supported in part by Grant R01- HD044144, ''Infertility: Pathways and Psychosocial Outcomes,'' funded by the National Institute of Child Health and Human Development (Lynn White and David R. Johnson, Co-Principal Investigators). We are grateful to the Family Interest Group members at the University of Nebraska for useful feedback on a version of this article. A version of this article was presented at the 70th Annual Conference of the National Council on Family Relations, Little Rock, AR, 2008.

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