PATTERNS OF INTENDED AND ACTUAL FERTILITY AMONG SUBGROUPS OF FOREIGN-BORN AND NATIVE-BORN LATINAS

A Thesis

by

BRANDI NICOLE BALLARD

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

May 2004

Major Subject: Sociology

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Approved as to style and content by:

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(Chair of Committee)

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ABSTRACT

Patterns of Intended and Actual Fertility among Subgroups of Foreign-born and Native-born Latinas. (May 2004)

Brandi Nicole Ballard, B.S.A.S., Southwest Texas State University

Chair of Advisory Committee: Dr. Rogelio Saenz

Explanations for Latinas high fertility levels have been centered in terms of current or actual fertility, as measured by children ever born (CEB). However, studies of this nature have failed to utilize methods appropriate for evaluating a count variable, such as CEB. Even fewer analyses have incorporated "ideal" fertility as an explanatory factor of actual fertility, particularly in the case of Latinas. In this thesis, multiple Poisson and zero-inflated Poisson regression models are used to assess the impact of independent factors on ideal and actual fertility among Latinas, as compared to white women. In the comparative analyses of ideal and actual fertility (CEB), the independent variables in demographic composition (marital status), socialization factors (mother's CEB and church attendance), socioeconomic and employment status (education and employment) and fertility history and intentions (abortions) are found to be consistently, significantly related to both ideal and actual fertility. More importantly, women have higher intended than actual fertility. The fact that Mexican women have been able to realize their fertility intentions provides a better understanding of the fertility behavior of Latinas. This means that Latinas actually want the larger numbers of children that they are having.

DEDICATION

For my parents, Debi and Larry,

Without your enduring love, support, encouragement and faith in me, I never would have been able to achieve this goal in my education. Thank You.

And for Brandon,

We can get through all things in life, as long as we have each other. Thanks for your support, understanding and faith in me.

I love you all very much.

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CHAPTER I

INTRODUCTION

The Latino population in the United States has grown tremendously in recent decades. According to recent findings from the 2000 Census, Hispanics have surpassed Blacks as the largest minority population in the U.S. (Cohn 2003). Both fertility and immigration have contributed to the rapid growth of the Latino population in the United States. The Hispanic population represents the largest single national-origin group immigrating to the country over the last 25 years. A large part of Hispanic immigration is due to the close proximity the U.S. shares with Mexico, which has dominated the flow of Latin American immigrants arriving in the U.S. over the last century (Massey, Durand and Malone 2002; Stephen and Bean 1992). Further contributing to the rapid growth of the Latino population in the U.S., numerous analyses have consistently shown Latinos to have fertility levels greater than those of any other racial/ethnic group in the United States at least since 1970 (Bean, Swicegood and Berg 2000; Bean and Swicegood 1985; Bouvier and Grant 1994; Ford 1990; Gurak 1980; Massey and Mullan 1984; Mosher, Johnson and Horn 1986; Stephen and Bean 1992).

The growing number of Latinos in the United States is changing the demographic, cultural and economic structure of the nation (Bouvier and Poston 1993; Massey 1986; Mosher, Johnson and Horn 1986; Murdock et al. 1997). The influences of Latinos are apparent in American preferences for food and music, and also in the types of jobs Americans hold. Large-scale population growth of this kind creates the need for

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This thesis follows the style and format of *American Sociological Review*.

a serious re-evaluation of public policies to accommodate the needs of an increasingly diverse U.S. population, particularly those policies regarding the availability of family planning services, health care and education (Bouvier and Poston 1993; Bouvier 1992; Murdock et al 1997; Rubin-Kurtzman 1987).

Population projections suggest that the Hispanic population will continue to grow rapidly in the upcoming decades (Saenz 2004). If the current fertility trends of the Latino population continue, the future of the United States will largely be dependent on the labor of Latinos, a youthful population that lags behind other racial/ethnic groups in terms of scholastic achievement (Brown, Jewell and Rous 2000; Fry 2003), due to an increasingly elderly white population and a relatively stable black population. Therefore, it is imperative that a study of the fertility patterns of Latinos be conducted to provide a more comprehensive understanding of the gap in Latina-white fertility behavior and the degree of the Latino populations' assimilation into U.S. society (Bean, Swicegood and Berg 2000; Bouvier and Grant 1994).

The volume of literature on the fertility behavior of Latinos has concentrated on comparing the fertility levels of foreign- and native-born groups (Bean, Swicegood and Berg 2000; Bean, et al. 1984), or has compared current and cumulative fertility (Bean, Swicegood and Linsley 1979). Therefore, much of our current understanding of Latino fertility exists in terms of "actual" fertility. Other researchers argue that rather than continuing the trend of comparing the fertility behavior of foreign- and native-born groups, future analyses should emphasize the independent factors that influence fertility behavior (Schoen, et al. 1999; Singley and Landale 1998).

Further, those analyses that have documented the fertility behavior of Latino subgroups have focused primarily on only one subgroup, such as the more dominant groups of Mexican Americans or Puerto Ricans (Bolks, et al. 2000). Others have used aggregate measures of the Latino population to assess fertility assimilation (Goldscheider and Mosher 1991; Mosher, Johnson and Horn 1986). The aggregate approach was utilized after the U.S. Census' use of the pan-ethnic term "Hispanic" in 1980 to encompass ethnic groups whose main commonality is the Spanish language (Saenz 2004). De Vos and Arias (2003: 92) warn against this approach, "What might appear to be little change over time for a composite group might mask significant changes of different kinds among different subgroups." Researchers have increasingly called for analyses disaggregating the Latino populations for a better understanding of the heterogeneity of the Latino population (Bolks, et al. 2000; De Vos and Arias 2003; Hervitz 1985), particularly with regard to fertility differentials occurring among the subgroups.

Further, few analyses have attempted to incorporate Latino respondents' intended, or "ideal number of children", to assess the influences of intended fertility on actual fertility behavior (Cochrane and Bean 1976; Unger and Molina 1997; Uhlenberg 1973). Those analyses that have incorporated intended fertility have often used it as an independent predictor of future behavior (Schoen, et al. 1999), rather than using intended fertility as a dependent variable as compared to actual fertility. A major limitation for conducting an analysis of intended Latino fertility is that there is a lack of data, such as longitudinal data, that are needed to capture women's fertility intentions before and after

migrating to the U.S. Longitudinal data are useful in illustrating how assimilation into the U.S. society may have changed their fertility preferences after living in the United States for some period of time.

A variety of theoretical frameworks in the literature have traditionally been used to evaluate the fertility behavior of immigrant groups. These frameworks primarily include the assimilation and disruption hypotheses, as well as other hypotheses derived from the assimilation perspective. However, the usefulness of each of these frameworks is dependent upon the data being used in the analysis because the patterns of change in fertility behavior differ according to each perspective. The theory in the literature that is generally applied when interpreting the fertility behavior of immigrant groups is the assimilation respective (Bean, Swicegood and Berg 2000; Brown, Jewell and Rous 2000; Singley and Landale 1998). The assimilation perspective presumes that minority group fertility will come to resemble norms apparent in the larger society, either the longer they reside in the country, or across generations (Bean, Swicegood and Berg 2000; Singley and Landale 1998). The remaining differences in fertility levels between the minority group and the majority group will reflect the degree to which the minority population has become acculturated or assimilated into the larger society (Gordon 1964).

The Latino populations in the U.S., except Cubans, have continued to exhibit fertility levels greater than the average for the rest of the U.S. population, particularly greater than those of whites, for the past several decades. The consensus among the findings regarding fertility behavior suggests that these Latino populations have not fully assimilated to American society. Therefore, an analysis emphasizing other independent,

cultural factors that affect each specific subgroup will help explain the differences, or gaps, in fertility levels between these groups.

Given the diversity of Latino populations in the U.S., it is apparent that the fertility behavior of each population will differ depending on the ethnicity of the population because each population will differ in terms of their pathways, or modes of incorporation into U.S. society. Each immigrant Latino population enters the U.S. with different cultural backgrounds and histories. For example, some groups of Latinos have immigrated to the U.S to escape political persecution, while others have come seeking opportunities for economic and social advancement through pursuing the American job market (Saenz 2004). Therefore, socialization factors should be included when assessing the fertility behavior of immigrant Latino groups. Further, each woman will differ in terms of the independent factors that have shaped her fertility behavior (Schoen, et al. 1999; Singley and Landale 1998). Factors that are considered to be unique to each woman that will influence her fertility behavior include demographic factors such as her age, marital status, educational level and employment status.

However, in order to fully evaluate the impact of the fertility behavior of Latinas in the U.S., ethnicity and common correlates of fertility must not be the only factors considered. What is equally important for consideration is the gaps in Latino women's actual *and* intended number of children relative to white women. Unger and Molina (1997) explain that a woman's intention to bear children is one of the most important predictors of childbearing. Yet, as stated before, little research has been conducted in the area of intended fertility of Latinas. Our knowledge about the remaining gaps in

intended and actual fertility of Latino populations compared to white women (when other independent factors are considered) is crucial to provide a starting point for refining policies affecting health care, family planning and education for different Latino populations.

Uhlenberg (1973: 38), urging the analysis of intended Latino fertility, points out that,

> A serious gap in our knowledge of Mexican-American fertility from the absence of any information on desired family size. Without these data we cannot satisfactorily answer the question of how much the high fertility of the lower-class results from their inability to prevent unwanted pregnancies, and how much it results from their desire for large families.

Data from Cycle V of the National Survey of Family Growth (NSFG) contain information regarding "ideal" number of children. Following Uhlenberg's (1973) lead, the interesting question is the degree of the Latina-white gap in children ever born (CEB) versus intended fertility size (Alvirez 1973). If the gap is greater with respect to CEB, this has major policy relevance. This case would signify that Latinas really want lower fertility than the actual fertility they are exhibiting. If the gap is greater with respect to intended fertility, this suggests the potential for continuations in the existing gap in children ever born, meaning that Latinas really desire the larger numbers of children they have.

While this research is guided by previous work based on the assimilation perspective, this analysis differs from previous analyses in several ways. First, the inclusion of ideal fertility as a dependent variable provides a fresh perspective on Latino fertility assessment compared to models concerned only with actual fertility. This study

uses multiple models to assess distributions of ideal fertility and children ever born, as well as, the independent factors that affect fertility behavior across Latino subgroups. Second, the disaggregation of the major Latino subgroups provides a more comprehensive understanding of how these subgroups differ with respect to their fertility behavior (De Vos and Arias 2003). This study uses a comparative approach by conducting parallel analyses using ideal fertility and children ever born (CEB) as the dependent variables for each of two analyses that highlight the ethnicity of Latino subgroups. Each of the two analyses will compare the fertility behavior and intentions of these Latino subgroups with the majority, white, population. Third, this approach will identify the factors that contribute to explaining the Latina-white gap in intended and actual fertility, shedding new light on the topic of Latino fertility compared to traditional approaches, which simply compare the fertility levels of foreign- and native-born groups. These models view fertility behavior and intentions as a product of ethnicity as well as situational and cultural factors including demographic composition, socialization factors, socioeconomic status and employment status, and fertility history and intentions. This approach allows for a more comprehensive understanding of disparities between Latino subgroups and white women. Fourth, this analysis will use Poisson regression models to conduct the analyses, as Poisson models are the most basic models formulated for count, dependent variables, such as ideal number of children and children ever born. To my knowledge, there are no existing analyses in the literature regarding Latino fertility that have used Poisson models to evaluate CEB. Finally, this approach will extend the literature regarding the assessment of the assimilation of Latinas to U.S.

society, as illustrated by fertility behavior, from a perspective that has previously been neglected due to unavailable data. Subsequently, this broad understanding of the independent factors that contribute to actual and intended fertility behavior will allow for policy recommendations that will contribute to the improvement of family planning, health care and education for specific Latino subgroups. Data from Cycle V of the National Survey of Family Growth (NSFG) are used to conduct the analyses.

This thesis contains five chapters. The first chapter presented here provides an overview of the current understanding of fertility behavior of Latino populations and discusses the worth of parallel analyses using multiple models for a better understanding of the intended and actual fertility behavior of several Latino populations. Chapter II presents the theoretical framework appropriate for interpreting fertility behavior of minority populations. Several perspectives are considered according to their incorporation into the models of this thesis – demographic composition, socialization factors, socioeconomic and employment status, and fertility history and intentions. In the first analysis, ideal fertility is the dependent variable in the models. Note that fertility intentions are only evaluated as an independent predictor of CEB in the second analysis. The chapter concludes with a series of hypotheses that will be evaluated. Chapter III presents the methodology used to conduct the analyses. This chapter describes the data, measurement of variables, and statistical procedures used to conduct the analyses. Chapter IV presents the results that specifically address each hypothesis. Chapter V presents an overview of the findings, along with policy recommendations, limitations of this study, and suggestions for future research.

CHAPTER II

THEORETICAL MODEL

Immigrant and ethnic populations undergo a process of incorporation into society after arrival in their country of destination. This process will differ according to each person because of independent factors unique to each individual. However, immigrants from the same sending country can be expected to have been exposed to similar circumstances, or to have similar modes of incorporation into the receiving society that will affect their fertility behavior. Further, the literature has pointed out that four intermediate variables are most important in determining fertility, meaning that several intermediate fertility variables are responsible for most of the variation in fertility levels of populations (Bongaarts 1982). Bongaarts' (1982) analysis found proportion married, contraception, induced abortions and postpartum infecundability to be the four most important determinants of fertility. Three of these intermediate fertility variables -- proportion ever married, use of contraception and induced abortions -- are evaluated in these analyses. The following is a discussion of the perspectives of immigrant and ethnic incorporation to U.S. society, as well as independent factors that may have an impact on this experience.

THEORETICAL PERSPECTIVES

There are many hypotheses that have been evaluated in the literature concerning the fertility behavior of immigrants and their subsequent offspring. The central idea in most of the research concerned with majority-minority fertility differentials is that higher fertility norms from the country of origin may continue to affect fertility behavior in the

United States for some period of time. These hypotheses describe both the expected patterns of immigrant-native fertility differentials and the processes behind these patterns that are dependent on the nature of the changes exhibited in the immigrant groups' fertility behavior (Singley and Landale 1998).

Much of the literature concerning the fertility of Latinos has been developed by the initiative of Frank D. Bean and colleagues (Bean, Swicegood and Berg 2000; Bean and Swicegood 1985; Bean, et al. 1984; Bean and Swicegood 1982; Bean, Swicegood and Linsley 1979; Stephen and Bean 1992). Bean's work has primarily been concerned with the Mexican-origin population. He notes that patterns of higher Mexican fertility are especially apparent when nativity and generational differences between women of Mexican-origin and non-Hispanic white women are examined (Bean, Swicegood and Berg 2000; Bean, et al. 1984; Bean and Swicegood 1982; Bean, Swicegood and Linsley 1979; Stephen and Bean 1992). However, the structure of the pattern is dependent upon factors such as the stage of childbearing, the type of fertility measure that was employed and the period of time under consideration (Bean, Swicegood and Berg 2000; Bean and Swicegood 1985; Bean, et al. 1984; Stephen and Bean 1992; Stephen 1987). Bean's findings largely provide evidence for the assimilation perspective (Bean, Swicegood and Berg 2000; Bean and Swicegood 1985; Bean, et al. 1984; Bean and Swicegood 1982; Stephen and Bean 1992). In light of Bean's findings, the two most addressed hypotheses in the literature concerning the fertility behavior of immigrant women are the assimilation and the disruption hypotheses. The assimilation hypothesis is a useful departure in evaluating Hispanic fertility.

The assimilation perspective originates from the classic work of Robert E. Park in the Chicago School (Park 1950). Park's work on the assimilation perspective was later largely expanded by the work of Milton Gordon (1964) during the 1960's. The main premise of the assimilation perspective is that immigrants are expected to gradually acquire the cultural norms and values of the larger, majority society through a process of cultural assimilation (Bean, Swicegood and Berg 2000; Bean and Swicegood 1985; Bean, et al. 1984; Ford 1990; Goldstein and Goldstein 1983, 1981; Gordon 1964; Hervitz 1985). This process of gradually adopting the norms and values of the larger society is known as acculturation (Ford 1990; Goldstein and Goldstein 1981; Gordon 1964; Stephen and Bean 1992; Stephen 1987).

Gordon (1964) proposed that the more extensive assimilation process occurs mostly through cultural, structural, marital and identificational assimilation. Structural assimilation is divided into primary and secondary assimilation. Within primary assimilation, there develops close, intimate relationships between members of the majority group and the minority group, which leads to a greater propensity for intermarriage (Gordon 1964; Jaffe and Cullen 1975). Secondary structural assimilation is where people of different groups come into contact in a formal setting (such as an institution or an organization). A major point of the assimilation perspective is that the process is irreversible and that the minority and majority groups will become increasingly similar in terms of their norms, values, behaviors, and characteristics as time passes (Bean, Swicegood and Berg 2000; Gordon 1964). However, because the assimilation perspective is based on the experiences of European groups, sociologists

and demographers have debated the extent to which it is applicable to non-European groups (Saenz and Morales 2004). Nonetheless, as Bean's research has demonstrated, the assimilation perspective is useful in understanding the fertility experience of Latinas, especially Mexican Americans.

The implications of the assimilation perspective suggest that the fertility behavior of minority Latino populations and their descendents will become like that of the majority non-Hispanic white population over time, especially among those Latino-origin families that have been residing in the United States the longest, or across generations (Bean, Swicegood and Berg 2000; Bean and Swicegood, 1982; Ford 1990; Singley and Landale 1998; Stephen and Bean 1992). Although, norms and values acquired during childhood are thought to influence adult fertility behavior (Bach 1981; Hervitz 1985). Logically, the latest generations of Latino descendents should exhibit the smallest fertility differences compared to the white population (Uhlenberg 1973), as should those who are first-generation immigrants who migrated as young children and received primary schooling in the U.S. -- the 1.5 generation (Singley and Landale 1998; Stephen 1987).

The assimilation perspective presumes that the minority group will come to desire the fertility norms apparent in the larger society the longer they reside in the country (Bean, Swicegood and Berg 2000; Brown, Jewell and Rous 2000; Gurak 1980; Singley and Landale 1998; Uhlenberg 1973). Therefore, the differences remaining in fertility levels between the minority group after three or more generations and the majority group will reflect, in part, the degree to which the minority population has

become acculturated or integrated into the larger society (Brown, Jewell and Rous 2000; Gordon 1964). Any remaining differences between the two groups after three or more generations could be due to the absence of cultural or structural assimilation. The remaining gaps are most likely due to continued minority-majority gaps in educational attainment and are expected to narrow in subsequent generations (Alvirez 1973; Bean, Swicegood and Berg 2000; Bean, et al. 1984; Bean and Swicegood 1982; Bouvier and Poston 1993; Ford 1990; Gurak 1980; Rubin-Kurtzman 1987; Stephen 1987; Swicegood, et al. 1988; Uhlenberg 1973)[1].

There are several other hypotheses that have been evaluated in the literature concerning the fertility behavior of immigrants and ethnic groups. These perspectives include the social characteristics hypothesis (Bean and Swicegood 1985; Goldstein and Goldstein 1983; Hervitz 1985; Stephen and Bean 1992), the selectivity/selection hypothesis (Bean, et al. 1984; Goldstein and Goldstein 1983, 1981; Hervitz 1985; Singley and Landale 1998), and the minority group status hypothesis (Aneshensel, Fielder and Becerra 1989; Bean and Swicegood 1985, 1982; De Vos and Arias 2003; Gurak 1980; Mosher, Johnson and Horn 1986), all of which derive from the assimilation perspective. However, because the patterns of these hypotheses are often difficult to infer from the cross-sectional data typically used in analyses of immigrant and ethnic fertility behavior, as in this analysis, these perspectives will not be evaluated in this thesis. Nonetheless, it is important to note that the patterns predicted by these

[1] The assimilation hypothesis has also been referred to as the adaptation hypothesis by researchers in several analyses (Goldstein and Goldstein 1983; Hervitz 1985; Singley and Landale 1998; Stephen and Bean 1992).

hypotheses are not mutually exclusive. The processes they represent are more often complementary and can overlap, rather than being competitive. Hence, immigrant and ethnic fertility behavior may reflect preservation, alteration, or rejection of fertility norms from the country of origin, a response to the social and economic structure of the U.S., or some combination of the above (Singley and Landale 1998).

The second major hypothesis in the literature concerning the impact of migration on fertility is the disruption hypothesis. This perspective maintains that the fertility norms acquired in the country of origin are still practiced by immigrant couples, but the migration process itself may interfere with their fertility expectations and desires (Singley and Landale 1998). Thus, the recent immigrant generation will be most greatly affected by the disruptive factors associated with the migration process (Bean and Swicegood 1982; Ford 1990; Goldstein and Goldstein 1983, 1981; Hervitz 1985; Stephen and Bean 1992; Stephen 1987).

In the time period immediately following the change in place of residence, migrants are more likely to exhibit diminished levels of fertility because of disruptive factors associated with the movement of one or both spouses (Hervitz 1985; Singley and Landale 1998). The disruptive factors have been shown to be: 1) stress associated with moving to a new country and 2) spousal separation that often occurs when one spouse has to migrate before the rest of the family (Bean and Swicegood 1982; Ford 1990; Goldstein and Goldstein 1983, 1981; Hervitz 1985; Massey and Mullan 1984; Singley and Landale 1998; Stephen 1987).

Substantial evidence supporting the effects of spousal separation on fertility has been shown in several analyses of seasonal migrants (Bean, et al. 1984; Bongaarts and Potter 1979; Massey and Mullan 1984; Menken 1979). This posited disruption is presumed to be temporary with the exception that the pace of fertility will eventually become more normal, and sometimes even hastened, to compensate for the disruption once the immigrant family has become more accustomed to life in its new environment, or when spouses reunite (Bean, et al. 1984; Ford 1990; Goldstein and Goldstein 1983; Hervitz 1985; Massey and Mullan 1984; Stephen 1989). Unfortunately, because the variables needed to evaluate elements of the disruption hypothesis are lacking in cross-sectional data, the disruption perspective will not be evaluated in this study.

The following sections outline the most prominent explanations for the fertility behavior exhibited by Latino groups relative to whites. The explanations are categorized into those focusing on (1) ethnicity; (2) demographic composition factors such as place of birth, age, and marital status; (3) socialization factors such as mother's educational attainment, mother's number of children ever born, sex education, religious affiliation and church attendance; (4) socioeconomic status, measured by educational attainment, and employment status; and (5) fertility history and intentions measures such as ideal number of children, use of birth control methods and abortions. These five categories are neither mutually exclusive nor collectively exhaustive. For example, independent predictors such as linguistic ability, rural/urban residence, time living in the U.S., and income are not examined. However, the models presented below provide a useful

framework for assessing the factors affecting the actual and intended fertility behavior of foreign- and native-born Latinas compared to white women.

Ethnicity

As mentioned earlier, many researchers have evaluated the fertility behavior of Latino populations overall (Bolks, et al. 2000; Brown, Jewell and Rous 2000). This trend in the literature stems from the U.S. Census' use of the pan-ethnic term "Hispanic" in the 1980 census. The "Hispanic" term was created in 1977 by the U.S. Office of Management and Budget and was intended to encompass all ethnic groups whose main commonality is the Spanish language (Saenz 2004). The aggregate approach has been useful in analyses when there is a statistical need to enlarge what would otherwise be very small ethnic-specific categories (De Vos and Arias 2003; Mosher and Hendershot 1984).

However, due to the diverse backgrounds of the different Latino populations, the aggregate approach for assessing the fertility behavior of Latino subgroups is not ideal. Indeed, De Vos and Arias (2003: 91-92) warn against the aggregate approach,

> Aggregate figures for a diverse minority group may be masking very real changes. What might appear to be little change over time for a composite group might mask significant changes of different kinds among different subgroups. This makes it all the more imperative that we consider different Latino groups separately and try to better understand issues of immigration and acculturation.

Various Latino populations have been documented in the literature to have different fertility behavior (Aneshensel, Fielder and Becerra 1989; Bolks, et al. 2000; Hervitz 1985; Saenz 2004). Aneshensel, Fielder and Becerra (1989), for example, observe that

Mexican-origin women have distinctively higher fertility levels than those of other Latino subgroups, including Puerto Rican and Cuban women.

The literature has documented that cultural norms in Latin countries are pronatalist in nature (Pick, Tellis and Butler 1989). Findings in recent literature reinforce these notions with evidence that recent immigrant populations of Latinos indeed have fertility levels greater than those of white women upon arrival in the U.S. (Saenz 2004). Further, researchers have documented that immigrant Latinas retain their fertility norms after residing in the U.S. for some period of time (Bean, Swicegood and Berg 2000; Singley and Landale 1998), which is regarded as a lack of assimilation. Greater fertility levels of immigrant-generation Latinas have been shown to diminish with subsequent generations (Bean, Swicegood and Berg 2000; Singley and Landale 1998).

Exploring intraethnic differences among various Latino populations will highlight ethnicity as the key predictor of fertility behavior (Aneshensel, Fielder and Becerra 1989). The disaggregated ethnicity variables (Mexicans, Puerto Ricans, other Latinas and whites) are needed to obtain a better understanding of the relationship between ethnicity and fertility. This approach will provide detailed insights into differentials and similarities in actual and intended fertility among the different Latino populations (Bolks, et al. 2000). Therefore, based upon the previous discussion and as an indication of ethnic differences, it is hypothesized that Latino ethnicity positively influences ideal fertility and children ever born.

Demographic Composition

On the whole, fertility literature argues that demographic factors such as nativity, or place of birth, age and marital status are influential predictors of women's current fertility behavior (Bongaarts 1982; Hervitz 1985; Jaffe and Cullen 1975; Mosher, Johnson and Horn 1986; Singley and Landale 1998; Stephen and Bean 1992; Swicegood, et al. 1988; Uhlenberg 1973; Unger and Molina 1997). The following is a discussion of how these factors influence the fertility behavior of Latinas.

Birthplace

Many analyses associate being born outside the United States with having large numbers of children (Jaffe and Cullen 1975; Unger and Molina 1997) because the foreign-born tend to come from less economically-advanced, high-fertility societies (Mosher, Johnson and Horn 1986; Stephen and Bean 1992). Place of birth signifies whether or not the woman is an immigrant herself, born outside the United States (foreign-born), or is a descendant of immigrants in the U.S. (native-born). As mentioned earlier, Bean and colleagues (1984) point out that patterns of higher Mexican-origin fertility usually become apparent when nativity and generational differences between Mexican-origin and non-Hispanic white women are examined (Bean, Swicegood and Berg 2000; Bean, et al. 1984; Bean and Swicegood 1982; Bean, Swicegood and Linsley 1979; Stephen and Bean 1992). Others have found little, if any, evidence of reductions in family size by second and third generations (Bean, Swicegood and Berg 2000; Uhlenberg 1973).

The literature suggests that it is important to compare the levels of fertility of immigrant and native-born populations (Alvirez 1973; Aneshensel, Fielder and Becerra 1989; Mosher, Johnson and Horn 1986; Stephen and Bean 1992). The trend of comparing fertility levels of foreign- and native-born women was established early in the immigrant fertility literature (Singley and Landale 1998). Jaffe and Cullen's (1975) analysis, for example, evaluated the fertility behavior of Puerto Rican women. They found that women born on the island of Puerto Rico had only slightly higher fertility levels that those women born on the U.S. mainland. They found that on average island-born women had about one-tenth of a child more than mainland-born women. However, the fertility differential became much greater for island-born women compared to mainland-born women when education was taken into account (Jaffe and Cullen 1975). In contrast, Uhlenberg's (1973) analysis of the fertility patterns of the Mexican American population around the same time period had different findings. Uhlenberg (1973) found that the size of completed families for Mexican-born women in 1960 was similar to that of native-born white women in the United States in 1910. His findings suggest that at this time, the Mexican American population was lagging 50 years behind the dominant group in terms of fertility behavior.

More recently, many authors have illustrated the importance of influences of generational status on fertility behavior. Research has revealed differences in fertility behavior across generational groups among Mexican-origin women (Bean, Swicegood and Berg 2000; Stephen and Bean 1992). After reviewing the literature, Ford (1990) notes that after 1970, a pattern of intergenerational decline in fertility emerged. It has

been argued that second-generation Latino immigrants have lower fertility levels than those of the immigrant-(first) generation and third/later generations. Bean and Swicegood (1982) reported that first generation Mexican-origin women had higher fertility than later generation women. Accordingly, Stephen and Bean's (1992) analysis had similar findings. In contrast, in a more contemporary analysis, Bean, Swicegood and Berg (2000) showed fertility levels in third-or-later generation Mexican-origin women to be higher than those of non-Hispanic white women and of second-generation Mexican-origin women. These findings provide support for the recent critical perspective that suggests greater rejection of the fertility norms of the dominant group as one reacts to becoming aware of one's groups marginal position (De Vos and Arias 2003).

For the purposes of this analysis, birthplace will be used to differentiate between foreign- and native-born Latinas in the study. Given that the majority of evidence supports foreign-born women having greater fertility levels than native-born women, and as an indication of generational differences, it is hypothesized that being foreign-born will have a positive effect on ideal fertility levels and numbers of CEB of Latina and white women.

Age

Due to older women having been in the childbearing stages for a longer period of time than younger women, the literature consistently associates age with number of children ever born. Therefore, fertility research typically statistically "controls" for age (Hervitz 1985), to account for women at older ages being more likely to have greater

numbers of children (Unger and Molina 1997). The ages of 15-44 typically constitute women of childbearing ages. However, it is common to disaggregate women into different age groups/cohorts (Aneshensel, Fielder and Becerra 1989; Hervitz 1985; Stephen and Bean 1992; Swicegood, et al. 1988). Stephen and Bean (1992) argue that this approach provides a better basis for evaluating the influences of assimilation and disruption factors on both current and cumulative fertility than reliance on results for a single age group or the combination of several age groups alone.

Swicegood and colleagues (1988: 31) make note that, "Effects on fertility tend to cumulate across the childbearing ages, with the largest differentials in number of children ever born appearing at older ages," among foreign- and native-born women compared to white women. Several other analyses have shown similar findings (Bean and Swicegood 1982; Stephen and Bean 1992). Stephen and Bean (1992) found that foreign-born Mexican-origin women over the age of 25 exhibited the highest current fertility levels. However, native-born women of comparative ages did not differ significantly from non-Hispanic white women. Based upon the literature, it is hypothesized that age (for all women, Latina and white) will have a positive effect on ideal fertility and CEB.

Marital Status

The majority of the extant research on fertility has been based on the fertility behavior of married women (Hervitz 1985; Mosher and Hendershot 1984; Mosher, Johnson and Horn 1986; Swicegood, et al. 1988). There is consistent agreement in the literature that being married has a positive influence on fertility behavior because the

majority of fertility behavior does occur within the context of marital unions (Bongaarts 1982; Hervitz 1985; Mosher, Johnson and Horn 1986; Swicegood, et al. 1988)[2]. Mosher, Johnson and Horn (1986) found that the marital fertility of Hispanic women was substantially higher than that of non-Hispanics.

The literature shows that Mexican-Americans have a higher likelihood of being married, even in the case of teens, compared to non-Hispanic whites. Further, the rate of ever having been married is considerably higher among Mexican Americans teens than among whites (Aneshensel, Fielder and Becerra 1989). In contrast, the literature has observed that Puerto Ricans are significantly less likely to be married compared to non-Hispanic whites in the U.S. (Jaffe and Cullen 1975; Singley and Landale 1998). In a recent analysis of how fertility intentions affect fertility behavior, Schoen and colleagues (1999) found that marital status is by far the most important predictor of intended fertility.

While research examining the fertility patterns of immigrants has been based primarily on married women, recent analyses have examined how migration affects the fertility behavior of women who are not in marital or cohabiting unions (Mosher, Johnson and Horn 1986; Singley and Landale 1998). Singley and Landale's (1998) observations are particularly important given the dramatic increases in non-marital fertility in the U.S. They point out that although married women in the U.S. have lower rates of fertility than married women in Puerto Rico, single women in the U.S have higher rates of fertility than single women in Puerto Rico. Marital status will be used in

[2] African Americans represent the exception to the rule, where the majority of their fertility occurs outside marriage (Bouvier and Grant 1994).

this analysis to indicate whether or not the woman has ever been married. Following insights from the literature, it is hypothesized that having been ever married will have a positive effect on ideal and actual fertility behavior of both Latinas and white women.

Socialization Factors

Much of the literature on the fertility behavior of ethnic groups argues that women's current fertility behavior is both a product of the norms and beliefs instilled in the woman from her upbringing, as well as from current situational or structural factors that may enhance or inhibit women's fertility (Rubin-Kurtzman 1987; Weeks 1996). The next several subsections highlight specific socialization factors that are related to the fertility behavior of women.

Mother's Education and Mother's Children Ever Born

In Latino culture, the family is an important element of a person's life (Pick, Tellis and Butler 1989). While young women's attitudes and perceptions are greatly influenced by their mothers, within Latino societies, sex roles are clearly specified. Traditionally, being a wife and a mother are the primary socially approved roles for women and great cultural importance is placed on these roles, where their interest is almost exclusively focused on the family and motherhood (Uhlenberg 1973; Unger and Molina 1997). The literature has noted an association between a woman's mother's socioeconomic status, reflected in her educational attainment, and her own number of children ever born. Lower socioeconomic status is often reflected in mothers having large numbers of children (Singley and Landale 1998).

Typically, compared to their own children, immigrant mothers have lower levels of education and greater numbers of children (Bean and Swicegood 1982). Aneshensel, Fielder and Becerra (1989) remind us that parental education is often more limited among Hispanics and blacks than among whites. Further, research has found that non-Hispanic white parents are more likely than Mexican American parents to have completed high school (Aneshensel, Fielder and Becerra 1989), or to have a college education (Fry 2002). Motivations for migration often include parents wanting to provide a better life (e.g., education and opportunities) for their children (Rubin-Kurtzman 1987), with their desires reflected in more favorable educational outcomes (Fry 2003) and lower fertility levels in their second-generation offspring. However, it is important to note that, at times, structural factors can override mother's desires for fertility; examples of these circumstances include the low fertility of the Depression Era, the high fertility of the Baby Boom Era, or disruptive factors caused by immigration. In this research, mother's educational attainment and number of children ever born will be used to assess women's socialization with regard to socioeconomic status. Based on previous research in the literature, it is hypothesized that mother's educational attainment and number of children ever born will each have a depressant effect on the ideal and actual fertility behavior of both Latinas and white women.

Sex Education

The literature has shown that young Latinas may become pregnant because they have not been educated about, or have any knowledge of, methods of contraception (Aneshensel, Fielder and Becerra 1989; Kinzer 1973; Rubin-Kurtzman 1987).

Education on issues relating to sex and contraception can come from informal instruction in the home from parents or guardians, or from formal instruction at a school, church, or community center. Education about contraception gives women the opportunity to make choices and decisions about family planning (Rubin-Kurtzman 1987; Sander 1992).

Women who have some knowledge of, or access to, methods of birth control are less likely to have, or desire, as many children as women who have not had any sex education instruction (Aneshensel, Fielder and Becerra 1989; Pick, Tellis and Butler 1989; Sander 1992). Aneshensel, Fielder and Becerra (1989) point out that among teens, Mexican-origin youth were the least likely to have discussed sex or contraception with others, or to have heard about or used birth control. Sex education will be incorporated in this analysis as an indication of whether or not women have received any education relating to sexual behavior or contraception. Therefore, based on previous research, it is hypothesized that sex education will have a negative effect on ideal and actual fertility behavior of both Latinas and white women.

Religion

Religious affiliation is commonly incorporated as an explanatory factor of fertility behavior in analyses of Latino populations. The primary reason for this incorporation is that a large portion of Latinos are Catholic (Alvirez 1973; Aneshensel, Fielder and Becerra 1989; Pick, Tellis and Butler 1989). This trend was established early in the literature by relating that the Latino populations' high and rapid birth rates were associated with the Roman Catholic Church's opposition to the use of certain

methods of birth control (Alvirez 1973; Jones and Nortman 1968; Kinzer 1973; Sander 1992). Such research observed that Catholic fertility was typically higher than that of Protestants and Jews (Alvirez 1973; Jones and Nortman 1968).

More recent analyses indicated a convergence between the fertility of non-Catholics and Catholics by the mid-1970's, although this has occurred primarily among non-Hispanic whites (Mosher and Hendershot 1984; Pick, Tellis and Butler 1989; Sander 1992). However, recent findings indicate that a large Catholic-non-Catholic differential persists with respect to Hispanic fertility (Mosher and Hendershot 1984; Mosher, Johnson and Horn 1986). Mosher and Hendershot (1984) found Hispanic Catholics to have fertility levels higher than any other religious group except black Protestants.

Further, affiliation with the Roman Catholic Church may have an effect on the number of children desired. Hispanic Catholics have been shown to have the largest numbers of wanted pregnancies per woman relative to white Catholics and black Protestants (Mosher and Hendershot 1984; Mosher, Johnson and Horn 1986). Mosher, Johnson and Horn (1986) found that Catholic never-married women expect more births than non-Catholic never-married women. Similarly, Sander (1992) observed that Catholic high school students expected larger families than their non-Catholic counterparts.

It is important to realize that the fertility behavior, ideal family size and contraceptive practices of Catholics across the world differ more in comparison to the norms of particular societies than to the doctrines of the church (Jones and Nortman

1968; Kinzer 1973). In underdeveloped countries, for example, universally high fertility norms prevent substantial Catholic-non-Catholic differentials (Jones and Nortman 1968). In Latin American countries, a large number of Catholics have used "forbidden" methods of contraception, including abortion (Alvirez 1973; Jones and Nortman 1968). Over 80 percent of the Mexican American women in Alvirez's (1973) Austin, Texas study had used non-approved methods of contraception. In developed countries, in contrast, universally lower fertility norms provide evidence for convergence of fertility behavior across religious affiliations. Catholics in developed countries practice contraception widely (Goldscheider and Mosher 1991). However, Goldscheider and Mosher (1991) found that non-Hispanic white Catholics have substantially higher rates of use of methods of birth control than Hispanic and black Catholics. Yet, some research indicates that Catholics' use of birth control in developed countries is more a means of birth spacing than fertility control (Singley and Landale 1998). In spite of the conflicting evidence regarding Catholic fertility in the U.S., it is hypothesized that Catholic Church affiliation will positively affect the ideal and actual fertility behavior of Latinas and white women.

Church Attendance

Analyses of women's fertility behavior have also incorporated church attendance to analyses of fertility. The literature has shown that church attendance is positively correlated with fertility among all women, regardless of religious affiliation (Goldscheider and Mosher 1991; Mosher, Johnson and Horn 1986; Sander 1992). Frequency of church attendance is often used as a measure for the degree of religiosity

of women (Jones and Nortman 1968). Alvirez (1973), for example, suggests that religiosity, as measured by church attendance, reflects the total personal religious environment of the individual, which could have a more important impact on fertility patterns than formal religious affiliation.

Several analyses have shown that those persons who attend religious services more regularly actually desire greater numbers of children than those persons who are less fervent practitioners (Kinzer 1973; Mosher, Johnson and Horn 1986; Sander 1992). Goldscheider and Mosher (1991) found greater regular church attendance to be associated with higher rates of abstinence from sexual intercourse among white, black, and Hispanic Protestants and Catholics. Drawing from the literature regarding church attendance, it is hypothesized that more frequent church attendance will positively affect the ideal and actual fertility behavior of both Latinas and white women.

Socioeconomic Status (SES)/Employment Status

The majority of the literature on women's fertility behavior relates both socioeconomic status and employment to fertility behavior. The literature associates both education and employment as indicators of the opportunity costs of childbearing for women (Singley and Landale 1998), signifying the economic and experience costs that mothers forgo when they elect to have a child and exit the labor force for a certain period of time (Rubin-Kurtzman 1987). Educational attainment is often incorporated into analyses of women's fertility behavior as an indicator of SES. Further, employment status of women tends to influence their decisions related to fertility behavior. The

following subsections explain in greater detail how these two factors are related to fertility behavior.

Educational Attainment

The literature suggests that SES is a product of educational outcomes (Singley and Landale 1998). In theory, education influences expectations regarding standard of living, chances for economic improvement and personal goals (Rubin-Kurtzman 1987). Respondent's educational attainment is included in these analyses because a large portion of Hispanic immigrants to the United States, as well as native-born Latinas, are not yet fluent in English and have educational levels lower than the rest of the U.S. population (Bean, Swicegood and Berg 2000; Bouvier and Poston 1993; Ford 1990; Fry 2003; Hervitz 1985; Massey and Espinosa 1997; Murdock, et al. 1997; Rubin-Kurtzman 1987; Stephen 1987; Swicegood, et al. 1988). Uhlenberg (1973) points out that the very low educational achievement of Latinas severely limits their options for roles other than domestic wife and mother.

The literature has shown that greater levels of educational attainment have a depressing effect on fertility, even when controlling for other variables such as age and employment status (Bean and Swicegood 1982; Rubin-Kurtzman 1987; Sander 1992; Singley and Landale 1998; Swicegood, et al. 1988; Uhlenberg 1973; Unger and Molina 1997). The established negative association between increased educational achievement and fertility has been documented in the literature for several decades (Bach 1981; Singley and Landale 1998; Uhlenberg 1973). Early research found that Hispanic women who have completed high school have almost the exact same average number of children

as similarly educated whites (Jaffe and Cullen 1975; Uhlenberg 1973). Further, Latina women with five or more years of university education were found to have fewer children than Latinas with lower levels of education (Kinzer 1973).

Bean and Swicegood (1982) found that cumulative and current Mexican American fertility decreases with rising socioeconomic status, as measured by educational attainment. In accordance with previous studies, Bean and Swicegood (1982) further found the smallest fertility differentials among Mexican American and white women who had completed 12 years of schooling. More recently, Singley and Landale (1998) associated having large numbers of children with low SES.

However, like many other characteristics, Latino subgroups differ in terms of their educational achievement. Mexican-origin immigrant youth have the highest high school dropout rates of any immigrant Latino group and of non-Hispanic whites (Aneshensel, Fielder and Becerra 1989). Among the native-born, Mexican and Puerto Ricans have similar levels in terms of dropout rates, 15 percent and 12 percent, respectively (Fry 2003). In contrast, Cubans have the highest rates of college education and completion over any other Latino subgroup (Fry 2002; Kinzer 1973).

Lower levels of educational attainment have been associated with greater fertility levels, particularly in research related to knowledge of contraception and contraceptive use (Jones and Nortman 1968; Pick, Tellis and Butler 1989; Rubin-Kurtzman 1987; Uhlenberg 1973). As mentioned earlier, many young Latinas may become pregnant because they have not been educated about, or have any knowledge of, methods of contraception (Aneshensel, Fielder and Becerra 1989; Kinzer 1973; Rubin-Kurtzman

1987). Research has shown that education lowers fertility through greater knowledge and utilization of contraceptives (Pick, Tellis and Butler 1989) and the ability to plan family size (Rubin-Kurtzman 1987; Sander 1992).

Uhlenberg (1973) concluded that it is the poorly educated segment of Latinos that is responsible for the group's exceptionally high fertility. However, Bouvier and Grant (1994) argue that few people are aware that fertility is more a function of education and income than of race. Based on the great consistency in the literature regarding the association between educational attainment and fertility, it is hypothesized that education will be negatively associated with the ideal and actual fertility of both Latinas and whites.

Employment Status

Women's current employment is a key predictor of fertility behavior. Studies indicate that employment depresses fertility (Bach 1981; Cochrane and Bean 1976; Kinzer 1973; Poston 2003). Women who are employed usually have lower fertility levels than those women who work at home (Kinzer 1973; Singley and Landale 1998). Early research found that in comparison to island-born Puerto Ricans, mainland-born Puerto Ricans with a high school education were more likely to be employed and to hold white-collar jobs (Jaffe and Cullen 1975). The literature also points out that education lowers fertility through a variety of pathways including employment opportunities outside the household (Pick, Tellis and Butler 1989). More recent analyses conclude that schooling is an important determinant of women's earning abilities, as it increases the opportunity costs of women remaining at home rather than becoming a salaried

worker (Cochrane and Bean 1976; Rubin-Kurtzman 1987; Sander 1992; Singley and Landale 1998).

The literature also shows that the negative association between employment and fertility exists in Latin American countries and among immigrant women. Findings indicate that female employment is an important factor that leads to the depression of fertility in Latin America (Kinzer 1973; Pick, Tellis and Butler 1989). Further, Bach (1981) points out that labor force participation among immigrant wives at place of destination is an indicator of the process of assimilation. Given the consensus in the literature regarding the relationship between women's employment and fertility, it is hypothesized that employment status will have a negative impact on the fertility behavior of both Latinas and white women.

Fertility History and Intentions

Measures of histories and intentions can include the women's ideal number of children, use of birth control methods, and abortions. It is important to assess fertility intentions and fertility history to fully gain an understanding of women's fertility behavior. As mentioned in Chapter I, intended fertility has only briefly been addressed in the literature, while the areas of fertility history, including use of birth control methods and abortions, have been given relatively more attention. The following subsections highlight women's intended fertility and fertility history and how they relate to fertility behavior.

Ideal Number of Children

Information to be considered regarding women's fertility intentions includes the respondents' perceived "ideal number of children". Women's fertility intentions, or "ideal" number of children, will be assessed (see Chapter III) in an attempt to shed some light on the relatively untouched area of ideal fertility among Latinas (Uhlenberg 1973).

Because ideal fertility has been so modestly addressed in the literature, it is difficult to discuss how it has been evaluated. The primary time frame where analyses incorporated "ideal" or "wanted" fertility occurred in the late 1960's and early 1970's, where much of this literature examined the fertility behavior of Catholics. One analysis was found in the literature that specifically addressed "ideal" fertility: Jones and Nortman's (1968) study analyzed Roman Catholic fertility and family planning. They point out that ideal, or wanted number of children, may vary over different stages in the life cycle, which is why longitudinal data, documenting the women's fertility intentions before and after migrating to the U.S., would be most useful. Although more recent literature has been cited on this topic (Morgan 1982; Mosher, Johnson and Horn 1986; Unger and Molina 1997), Jones and Nortman (1968) found that it is in less developed countries that women favor large families. In Latin America, they found no consistent fertility differentials between the educated and the uneducated; yet, in the U.S. those with a high school education wanted fewer children than those with greater or lower levels of education.

Other analyses have incorporated measures in the related areas of "desired" and "intended" fertility. Morgan's (1982) analysis of parity-specific fertility intentions and

uncertainty used the “don’t know” responses from a question regarding women’s intended fertility to assess levels of uncertainty in having another child. It is important when assessing fertility intentions to incorporate the certainty of those intentions (Schoen, et al. 1999). The “don’t know” responses were recoded and reanalyzed and became a rich source of data for Morgan (1982). The results showed that a sharp decline in the likelihood of intending more births at parities 2 through 5 occurred as women halted childbearing and postponed further childbearing. With time, the delayed fertility became fertility about which the woman was “uncertain” and finally, fertility foregone.

A few studies have examined the desirable fertility levels of Mexican Americans. For example, Alvirez (1973) found that Mexican Americans wanted large families and that most Mexican American husbands and wives were in agreement about this desire. Cochrane and Bean’s (1976) research based on separate interviews with spouses found that differences in the husbands’ and wives’ preferences in desired number of children could be attributed to wife’s wages and labor force participation. However, there is agreement within the literature that suggests that husbands and wives have relatively equal influence in resolving disagreements concerning childbearing decisions (Schoen, et al. 1999).

Mosher and Hendershot’s (1984) analysis also incorporated number of “wanted” pregnancies as a dependent variable alongside CEB, to assess the adequacy of religious affiliation in predicting fertility. In their analysis, number of wanted pregnancies was defined as the pregnancies that the mother wanted at the time they were conceived.

They found that Hispanic Catholics had the highest number of wanted pregnancies per woman, followed by white Catholics.

Mosher, Johnson and Horn (1986) also found that white Catholic women expected substantially more children than did white non-Catholic women. Finally, in a more contemporary analysis, Unger and Molina's (1997) study regarding desired family size and son preference indicates that a woman's intention to bear children is one of the most important predictors of childbearing. Others researchers have found that intentions to have or not to have a/another child and the certainty of those intentions for future childbearing are strongly and consistently related to future fertility behavior (Schoen, et al. 1999).

For the purposes of this analysis, ideal number of children will serve as the dependent variable in the first set of analyses. In the second set of analyses, ideal number of children will be incorporated as an independent predictor of CEB. Based on the literature and to assess the gap in intended versus actual fertility, it is hypothesized that ideal fertility will positively affect CEB for Latinas and white women.

Use of Birth Control Methods

Women who have ever used birth control methods have attempted, at some point in time, to control their fertility or to avoid unwanted pregnancies (Goldscheider and Mosher 1991). Therefore, women who are attempting to control their fertility will most likely have lower fertility outcomes than those women who have never used birth control at all (Jones and Nortman 1968). Kinzer (1973: 305) makes the point that, "The use of effective contraceptive methods depends on the level of female education; poorly

educated women have no knowledge of contraceptives," or how to use them. As mentioned earlier, Aneshensel, Fielder and Becerra (1989) found that Mexican American teens were less likely than non-Hispanic white teens to use contraceptives, or to even have knowledge about them. In accordance, Sander (1992: 478) asserts, "Increased education reduces the disutility associated with birth control."

However, research has found that contraception remains a vital national issue in Mexico (Pick, Tellis and Butler 1989). Uhlenberg (1973), reflecting on his findings, suggests that poorly educated and economically disadvantaged Mexican Americans do not have access to effective contraceptives and that public family planning facilities are not readily available. More recent research has estimated that there is an unmet need for family planning services among Hispanic and Anglo women living in four border states in the U.S. (California, Arizona, New Mexico and Texas) (Brown, Jewell and Rous 2000).

Further, in analysis of unwanted fertility in Latin America, Blanc (1982) found that 11 percent of women from the Dominican Republic and 7 percent of women from Peru who say they want no more children use inefficient contraceptive methods. Moreover, sexually active Mexican Americans were found to be less likely than Anglo teens to use contraception (Aneshensel, Fielder and Becerra 1989). This could be due to the fact that, as Bouvier and Grant (1994) articulate, many pro-life advocates equate family planning with abortion. Kinzer (1973) concludes that the need for birth control in Latin America is incontroversible and the desire for family planning is undeniable. Bouvier and Grant (1994) further relate that better access to effective means of birth

control and legal abortion are the best ways to assure that all births are planned. Based on the agreement in the literature regarding the relationship between contraception use and fertility, it is hypothesized that women who have ever used methods of contraception have lower levels of ideal and actual fertility compared to those who have never used contraception.

Abortions

The final measure of women's fertility history is the total number of pregnancies ending in abortion. Research has found that Latin American women of all ages and social classes use abortion as a means of birth control or birth spacing, or as a solution to unwanted pregnancies, in countries lacking readily available contraceptives (Aneshensel, Fielder and Becerra 1989; Brown, Jewell and Rous 2000; Jones and Nortman 1968). Kinzer (1973) found that middle-class women were more likely than lower-class women to have had a greater number of abortions. Interestingly, these same women attended mass more frequently than lower-class women. Kinzer's (1973) research has also observed a positive association between Catholic membership and abortion. Further, women who frequently attended mass were more likely to have an abortion than nonattenders. Kinzer (1973) concludes that Latin America's high abortion rate is a good indication that women want to control the size of their families.

However, Aneshensel, Fielder and Becerra (1989) point out that Hispanics are less likely than whites or blacks to have an abortion. In their analysis comparing Mexican American and white teens, these researchers found that Mexican American teenage pregnancies were much more likely to end in a live birth, while non-Hispanic

whites are more likely to abort. Accordingly, Bolks and colleagues (2000) found that Latinos were more likely to oppose abortions than the general population. Therefore, the high rate of live births among Mexican Americans teens is likely due to their low use of abortion. Their analysis suggests that the same sets of variables that influence abortion attitudes among non-Latinos also influence Latinos. Bolks and colleagues (2000) found that Cubans are significantly more likely than Mexican Americans and Puerto Ricans to be pro-choice, even after controlling for higher education and lower religiosity. They conclude that abortion is not an "ethnic" issue. In this analysis, information regarding abortion will be used to assess whether or not the women have ever had an abortion. Given the information in the literature regarding abortions among Latinas and whites, it is hypothesized that abortion will negatively affect both ideal and actual fertility for both Latina and white women.

HYPOTHESES

The discussion presented above illustrates the importance of incorporating independent factors for comparison, including intended fertility -- rather than approaches that simply compare the fertility levels of foreign- and native-born groups -- for understanding the intended and actual fertility behavior of Latinas relative to white women. Below is a recapitulation of the hypotheses that will be examined in this study.

Ethnicity Hypothesis:

H1: As an indication of ethnic differences, it is predicted that Latino ethnicity positively influences ideal fertility and children ever born.

Demographic Composition Hypotheses:

H2: As an indication of generational differences, it is hypothesized that being foreign-born will have a positive effect on ideal fertility levels and numbers of CEB among Latinas and white women.

H3: It is hypothesized that age will have a positive effect on the ideal fertility and CEB of Latinas and white women.

H4: It is hypothesized that having ever been married will have a positive effect on ideal and actual fertility behavior of Latinas and white women.

Socialization Factors:

H5: It is hypothesized that mother's educational attainment will have a depressant effect on the ideal and actual fertility behavior of Latinas and white women.

H6: It is hypothesized that mother's number of children ever born will be negatively associated with women's ideal and actual fertility behavior.

H7: It is hypothesized that sex education will have a negative effect on ideal and actual fertility behavior of Latinas and white women.

H8: It is hypothesized that being Catholic will positively affect the ideal and actual fertility behavior of Latinas and white women.

H9: It is hypothesized that more frequent church attendance will positively affect the ideal and actual fertility behavior of Latinas and white women.

SES/Employment:

H10: It is hypothesized that education will be negatively associated with ideal and actual fertility of Latinas and white women.

H11: It is hypothesized that employment status will have a negative impact on the fertility behavior of both Latinas and white women.

Fertility History and Intentions:

H12: It is hypothesized that ideal fertility will positively effect CEB for all women.

H13: It is hypothesized that women who have ever used methods of contraception have lower levels of ideal and actual fertility compared to those who have never used contraception.

H14: It is hypothesized that abortion will negatively affect both ideal and actual fertility among Latinas and white women.

CHAPTER III

METHODS

The hypotheses presented in the previous chapter will be examined using data from Cycle V (1995) of the National Survey of Family Growth (NSFG). The NSFG is a random sample that consists of 10,847 female respondents, ages 14 to 45. The data were collected on behalf of the U.S. Centers for Disease Control and the National Center for Health Statistics concerning topics related to women's health and childbearing. Because demographers typically consider ages 15 to 44 to represent the childbearing period, women age 14 and 45 will be excluded from this analysis. The final sample then includes 1,037 self-identified Latina women (620 Mexican-origin, 132 Puerto Rican-origin and 285 "Other" Latina women) and 4,848 non-Hispanic white women. The final samples are based on women having information for all variables used in this analysis.

This data set is appropriate for the analysis for several reasons. First, it allows for the examination of the heterogeneity of the Latino population by identifying the different Latino subgroups. Aneshensel, Fielder and Becerra (1989) point out that Mexican-origin women have distinctively higher fertility levels than those of other Latino subgroups, including Puerto Rican and Cuban women. This illustrates the importance of disaggregating the Latino subgroups to examine the heterogeneity of the Latino population. In addition, Latino groups have distinct histories and modes of incorporation into the United States, which could affect variations in demographic patterns. Thus, it is valuable to conduct analyses of specific subgroups. Second, the data set provides information about women's actual *and* ideal fertility behavior. Hence,

these data allow researchers to gauge the gaps in ideal and actual fertility in a manner different from the traditional approaches, which simply compare the fertility levels of foreign- and native-born groups. Third, the data contain vast amounts of information, which can be incorporated to emphasize independent predictors of fertility behavior. Fourth, the data set is valuable because the information is gathered during the reproductive years, the period when most ethnic differences in terms of ideal fertility behavior are voiced. Indeed, most immigrant women who arrive in the U.S. while still in their reproductive years may change their preferences in fertility ideals and behavior once they have been exposed to the norms and values apparent in U.S. fertility behavior after they have been residing in the U.S. for some period of time (Bean, Swicegood and Berg 2000; Gurak 1980; Singley and Landale 1998; Uhlenberg 1973).

This study uses Poisson regression models to evaluate and identify the determinants of ideal and actual numbers of children among Latinas and white women. The majority of the extant literature has used OLS (Ordinary Least Squares regression) models to evaluate the relationships between independent factors and CEB. As such, OLS regression models are not formulated for predicting distributions of count data, such as IDEAL and CEB, which would have greatly distorted the findings in this analysis had these models been used.

MEASUREMENT OF VARIABLES

Dependent Variables

The dependent variable used in the first analysis in this thesis is “ideal number of children” (IDEAL). The use of ideal number of children as a dependent variable to

evaluate assimilation in fertility behavior is a modestly evaluated area in the literature (Jones and Nortman 1968). From the lack of literature related to ideal fertility, researchers have been unable to satisfactorily answer the question, as Uhlenberg (1973) addressed, concerning how much the higher fertility of Latinos results from their inability to prevent unwanted pregnancies and how much it results from their desire for large families. Although Uhlenberg addressed this paucity in the literature three decades ago, still relatively little research has been conducted since that time in the area of ideal or desired fertility, until the recent effort by Schoen and his colleagues (1999) concerning intended fertility. For this thesis, intended fertility includes the respondents' "ideal" number of children to have. Data for this variable are derived from respondents' answers to the question asking, "If you yourself could choose exactly the number of children to have in your whole life, how many would you choose?" Responses are coded as whole numbers ranging from a low of 0 to a high of 16.

It should be understood that this measure of ideal fertility has some shortcomings. The way in which the question is framed generates information about women's ideal fertility from an abstract point-of-view of the women looking at their whole life. Thus, one can question the actual meaning of this measure. This measure of ideal fertility does not take into account the number of children the woman already has, or the sex of the children she currently has. Perhaps a better measure would be the women's "intended fertility" that takes into account the number and sex of children that the woman already has and the number and sex of children she certainly intends to have in the future. Unfortunately, a measure of intended fertility of this kind was not

available in the NSFG data. However, this measure of ideal fertility will be useful in illustrating the gaps in ideal versus actual fertility among Latinas.

The dependent variable to be used in the second analysis in this thesis is "children ever born" (CEB). The variable CEB has been widely used as a dependent variable in analysis of both current and cumulative fertility behavior (Bach 1981; Bean, Swicegood and Berg 2000; Bean, et al. 1984; Ford 1990; Jaffe and Cullen 1975; Jones and Nortman 1968; Mosher and Hendershot 1984; Pick, Tellis and Butler 1989; Sander 1992; Swicegood, et al. 1988; Uhlenberg 1973). The variable CEB refers to the women's "number of children ever born". The measurement of this variable captures all those children who have been born alive to a woman and includes those children who may have since died after birth or were placed for adoption. The CEB variable for women in the data set is measured in whole numbers ranging from a low of 0 to a high of 11.

Independent Variables

Ethnicity

Ethnicity will be incorporated in the analysis as the primary, or core, set of independent variables to assess ethnic differences in fertility among the different Latino subgroups relative to whites. Ethnicity will be the only factor examined in Model 1 for both analyses to emphasize and illustrate initially which ethnicities are significantly different from whites in terms of intended fertility and CEB when no other independent factors are present. The Latino populations included in the analysis will be three major Latino subgroups: Mexican, Puerto Rican, and a catchall "other" Latino group, for the

remaining Latino populations from the NSFG data. Unfortunately, due to a small sample size, a separate dummy variable for Cubans cannot be constructed. For this analysis, ethnicity is measured by the construction of a series of dummy variables. Based on their ethnic self-identification, Latina women are placed into one of three dummy variables -- Mexican, Puerto Rican, and "other" Latino groups (yes=1; no=0). Non-Hispanic white women represent the comparison group for the analysis.

Demographic Composition

Demographic variables typically used in analyses of women's fertility behavior include nativity, age, marital status (Bongaarts 1982; Brown, Jewell and Rous 2000; Pick, Tellis and Butler 1989). For this analysis, these three variables are utilized as demographic indicators in Model 2, in addition to the ethnicity variables from Model 1. In this thesis, foreign-born status is operationalized as a dummy variable indicating whether or not the woman was born outside the United States (yes=1; no=0). Native-born respondents serve as the comparison group. Unfortunately, the NSFG data do not allow for the identification of third-or-later generations. Respondents born outside the United States represent the first generation (foreign-born) while those born in the United States represent second-or later-generations (native-born).

The second demographic characteristic to be incorporated in Model 2 is age. In order to capture actual and ideal fertility variations by age, a series of dummy variables are created -- 20-24, 25-29, 30-34, 35-39, and 40-44. For this set of dummy variables, women in the 15-19 age group represent the reference category.

Marital status is the final demographic characteristic included in Model 2. A dummy variable for marital status is constructed according to women's responses to a question regarding their current marital status. Women who are currently married, widowed, divorced or separated are coded as "ever married" and given a value of "1". On this variable, "never married" women represent the comparison group.

Socialization Factors

Socialization factors to be incorporated as independent predictors in Model 3 for each of the two analyses are mother's education, mother's CEB, sex education, religious affiliation and church attendance. Note that this set of variables is included in Model 3 alongside those in earlier models. Mother's educational attainment and number of children ever born are included in the model to assess the effects of mother's intergenerational influences. Mother's educational attainment is based on her completed years of schooling. Mother's educational attainment is a continuous variable ranging from 0 to 19. Mother's number of children ever born is measured as a continuous variable ranging from 0 to 20.

Sex education of the respondent is included in Model 3 to assess whether or not having any formal or informal instruction regarding sex and contraception has an effect on the women's fertility behavior. A dummy variable is constructed to indicate whether or not women have had any formal or informal sex education. The variable is constructed from women's reports on whether or not they ever talked with their parents about how pregnancy occurs, methods of birth control, or sexually transmitted diseases, or from the women's indications as to whether or not they have ever had any formal

instruction at school, church, a community center, or some other place about methods of birth control, sexually transmitted diseases, how to prevent AIDS using safe sex practices, or about abstinence. A "yes" response to any of the above will be coded as "1" in the sex education dummy variable. Those women who had "no" responses to all of the above criteria constitute the comparison group.

Respondent's religious affiliation is included in Model 3 to assess the influence of affiliation with the Catholic Church on fertility behavior. A dummy variable is constructed for respondent's religion indicating whether or not the individual is Catholic or not (yes=1; no=0). Non-Catholic women will serve as the comparison group.

The final socialization factor included in Model 3 is church attendance. Church attendance is operationalized as a dummy variable indicating how often women attend religious services. Respondents who indicated they attend church "at least once a week" are given a value of "1" on the church attendance variable. Women who responded that they attend religious services "less than once a week" represent the comparison group. Women who provided a response of "don't know" responses concerning church attendance are excluded from the analysis.

Socioeconomic Status (SES) and Employment Status

Socioeconomic status, as indicated by measures of educational attainment, and current employment factors are included in Model 4 for both analyses. The literature associates both education and employment as indicators of the opportunity costs of childbearing for women (Singley and Landale 1998), signifying the economic cost that mothers pay for leaving their jobs for childbearing and childcare purposes (Rubin-

Kurtzman 1987). Respondents' educational attainment is based on their completed years of schooling. Educational attainment is a continuous variable ranging from 0 (no formal schooling) to 19 (7+ years of college).

Information regarding women's current employment status is also included in Model 4. Women's current employment is a key predictor of fertility behavior because women who are employed usually have lower fertility levels than those women who work at home (Singley and Landale 1998). A dummy variable is constructed from information to a question regarding the women's "employment for pay status" during the week prior to the survey. Women who were employed during the week prior to the survey are assigned a value of "1" on the employment status variable, with unemployed women receiving a value of "0". Unemployed women serve as the comparison group.

Fertility History & Intentions

Fertility history and intention measures incorporated in Model 5 include the women's ideal number of children, use of birth control methods, and abortions. Readers are reminded that women's fertility intentions is included as a predictor of CEB in the second analysis.

Information regarding women's use of birth control is included in Model 5. Women who have ever used birth control have attempted, at some point in time, to control their fertility, or to avoid unwanted pregnancies (Goldscheider and Mosher 1991). Use of birth control is derived from a question regarding whether women have ever used a birth control method. The receipt of birth control variable is operationalized as a dummy variable indicating whether the woman has ever used a birth control method

(yes=1; no=0). Those women who have never used birth control serve as the comparison group.

The final measure of women's fertility history in Model 5 includes the total number of pregnancies ending in abortion. Induced abortions is coded as a dummy variable to indicate whether or not a women has ever had an abortion (yes=1; no=0). Women who have never had an abortion serve as the comparison group.

ANALYSIS

Given that ideal number of children and CEB are count variables, Poisson regression is the statistical procedure used to conduct these analyses. This particular statistical method is the most basic method that is formulated for predicting distributions of count data. In particular, a count refers to the number of times an event occurs (Long and Freese 2001). The distribution of a count variable, such as IDEAL and CEB, is one that is heavily skewed with a long right tail, especially in the cases of low fertility populations. The skewed distribution is due to the observed distribution of data having a very low mean, which reflects many women having children at lower parities and a few women having children at higher parities (Poston 2003), or many women desiring few children and few wanting many children. However, if the mean of the data is high, the distribution will tend to be normal and OLS models are suitable for evaluation.

In the Poisson regression model, "The probability of a count is determined by a Poisson distribution, where the mean of the distribution is a function of the independent variables," (Poston 2003), which, in this case, is based on the characteristics of the individual women. The Poisson regression models, and some alternative models, such

as the zero-inflated Poisson regression model, are based on the univariate Poisson distribution. The shape of the univariate Poisson distribution depends entirely on the value of the mean of the observed distribution[3] and is based on the following formula:

$$\Pr(Y = y) = \frac{\exp(-\mu)\mu^{y}}{y!}, \quad y = 0, 1, 2, \ldots$$

where: μ represents the mean, and $\mathbf{y}$ is an integer indicating the number of times the count has occurred, ranging from 0 to some higher positive integer (Long and Freese 2001; Poston 2003). This purely theoretical distribution was developed by the French mathematician Simeon-Denis Poisson (1781 – 1840) (Poston 2003).

It should be noted that the univariate Poisson distribution should not be expected to perfectly predict the proportions of women at each count of ideal number of children or of children ever born because the Poisson distributions do not take into account the heterogeneity of the women; all women vary in the numbers of children they produce (Long and Freese 2001; Poston 2003). Further, many times data concerning count variables contain many zeros in the data, which the normal Poisson distribution does not take into account. Many women have zero children; thus, one could take the analysis a step further and use the Zero-inflated Poisson regression, (ZIP) model, which accounts for an excess amount of zeros in the data. It will be shown in Chapter IV that in fact Poisson models work satisfactorily for the ideal number of children analysis, but not for CEB. This is because there are many more zeros in the latter analysis than predicted by the Poisson regression model.

[3] The observed IDEAL and CEB distributions come from the women's actual numbers of IDEAL and CEB from the NSFG data.

To ensure that the Poisson models are the most appropriate models for evaluating these data, a negative binomial regression, another method appropriate for evaluating count data, was initially executed to determine if there was any overdispersion in the data. The use of negative binomial modeling was not appropriate because the model indicated that there was no statistically significant overdispersion in the data (alpha = 0; p = .00). The fact that there is no statistically significant overdispersion in these data indicates that the Poisson model is the appropriate method for evaluating these data because when there is no overdispersion in the data, the negative binomial model reduces to the Poisson model.

However, a ZIP model was appropriate for the CEB analysis. The Vuong statistic, which indicates whether the zero-inflated Poisson regression model is preferred over the Poisson regression model, for each ZIP model in the CEB analysis was significant at the p< .000 level. The zero-inflated Poisson model is preferred over the Poisson model for the CEB analysis because the CEB dependent variable has so many observed zeros in the data that the Poisson regression model (PRM) under-predicts the number of observed zeros in the data, which results in a "poor fit of the model to the data" (Poston and McKibben 2003: 16).

Zero-inflated models help resolve the problem of excess zeros "by changing the mean structure to allow zeros to be generated by two distinct processes" (Long and Freese 2001: 250). Zero-inflated regression models are thereby estimated in three steps: 1) By predicting membership in the two latent groups, Group A and Group ~A 2) By estimating the number of counts for persons in Group ~A 3) By computing "the

observed probabilities as a mixture of the probabilities for the two groups" (Long and Freese 2001: 251). To analyze the actual fertility of women from the NSFG, these steps will be followed (for details, see Cameron and Trivedi 1998: 125-127 and 211-215; Long and Freese 2001: 251-252) (Poston and McKibben 2003).

The first analysis presented in the next chapter uses IDEAL as the dependent variable. Five models will be constructed to assess the ethnic gap in ideal fertility as different set of factors are introduced in subsequent models. The first model will examine ethnicity. The second model adds demographic composition measures. The third model adds socialization factors. The fourth model incorporates SES and employment measures. The fifth and final (full) model includes all previous measures and adds the fertility history measures. The second analysis presented below follows the same approach but uses CEB as the dependent variable and includes the fertility intention measure (IDEAL) as an independent variable in the fifth model. Below is an overview of the five models associated with the two analyses.

Model 1: Ethnicity.

Model 2: Ethnicity + Demographic Composition (birthplace, age, marital status).

Model 3: Ethnicity + Demographic Composition + Socialization Factors (mother's education, mother's CEB, sex education, Catholic affiliation, church attendance).

Model 4: Ethnicity + Demographic Composition + Socialization Factors + SES/Employment (education, employment status).

Model 5: Ethnicity + Demographic Composition + Socialization Factors + SES/Employment + Fertility History and Intentions [intentions (only included in CEB analysis), receipt of birth control, abortions].

Multicollinearity was assessed in the models by examining zero-order correlations among the independent variables. This assessment is especially relevant when examining the socialization factors (e.g. the possible association between mother's education and mother's CEB). These variables were only moderately related (r = -.36). In addition, the intercorrelation between mother's education and education represents another cause for concern. These variables are only moderately related (r = .44).

Yet, another relationship that raises some expected concern is the relationship between the age dummy variables. Dummy variables are a special case and high collinearity is expected among these variables as those respondents with low levels on one dummy variable would have high levels on other dummy variables. The tolerance levels for all age groups are slightly over or below the cutoff for an acceptable tolerance of over .35. Therefore, three separate age-specific models for each dependent variable were assessed to handle the collinearity problems encountered when the age dummy variables are included in the given equation. Women were separated into three dummy variables – women ages 15-24, 25-34 and 35-44. Therefore, only one age group will be evaluated in each of three separate analyses for each dependent variable to note any substantive changes in the independent variables when a specific age group is estimated.

CHAPTER IV

FINDINGS

Following the discussion from the previous chapter of the methods to be used in these analyses and the reasons for using zero-inflated Poisson regression models, the discussion now shifts to the results of the analyses. The chapter will begin by outlining the gaps in ideal versus actual fertility. The distributions of ideal and actual fertility for each ethnic group of women will be illustrated using graphs of the Poisson distributions and discussion of the models' accuracy in predicting the counts of these distributions. The focus will then shift to a discussion of the results of the descriptive statistics of each independent variable for each ethnic group. The chapter concludes with a discussion of the results of the Poisson and zero-inflated Poisson regression models.

Table 1 shows the means of ideal and actual numbers of children for Mexicans, Puerto Ricans, Other Latinas and whites. Mexicans have an ideal number of children of 3.17, the highest of any group. The Mexican ideal number of children is followed by the other Latinas, who have an average ideal number of children of 2.88. The other Latinas ideal number of children is followed closely by Puerto Ricans, with an average ideal number of children at 2.85. Whites have the lowest ideal number of children with an average of 2.75. It is apparent that Latinas, as a whole, would ideally like to have more children than whites, especially in the case of Mexicans.

In terms of CEB, Mexicans again have the highest average of any ethnic group. Mexicans have an average CEB of 2.42, followed by Puerto Ricans, with an average CEB of 2.03. Other Latinas have the lowest average CEB with an average of 1.89. The

whites average CEB of 1.93 falls between that of Puerto Ricans and other Latinas. It is apparent that two of the primary Latino groups in the U.S. (Mexicans and Puerto Ricans) actually have larger numbers of children than whites. However, all groups of women, Latinas and whites, would ideally like to have larger numbers of children than they are actually having.

Table 1: Comparison of Ideal and Actual Numbers of Children among Latinas and Whites.

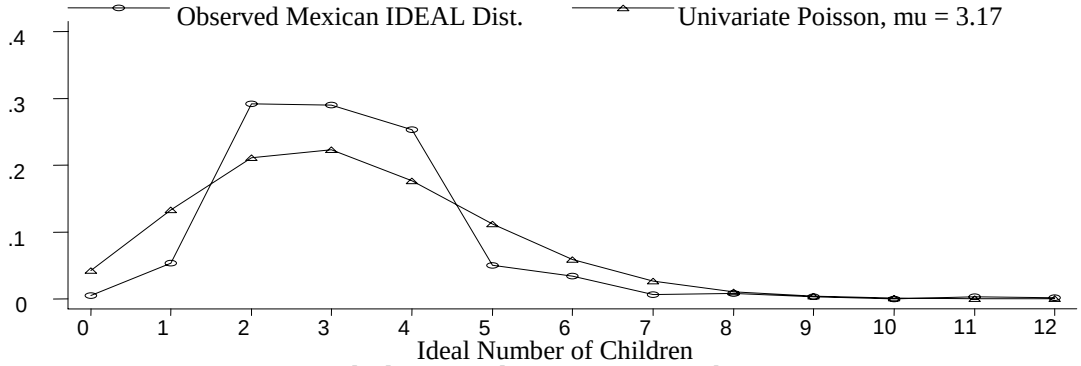
	Average Numbers of Ideal and Actual Number of Children			
Dependent Variable	Mexicans	Puerto Ricans	Other Latinas	Whites
IDEAL	3.17	2.85	2.88	2.75
CEB	2.42	2.03	1.89	1.93
Difference	0.75	0.82	0.99	0.82

GAPS IN IDEAL VERSUS ACTUAL FERTILITY ACROSS ETHNIC GROUPS

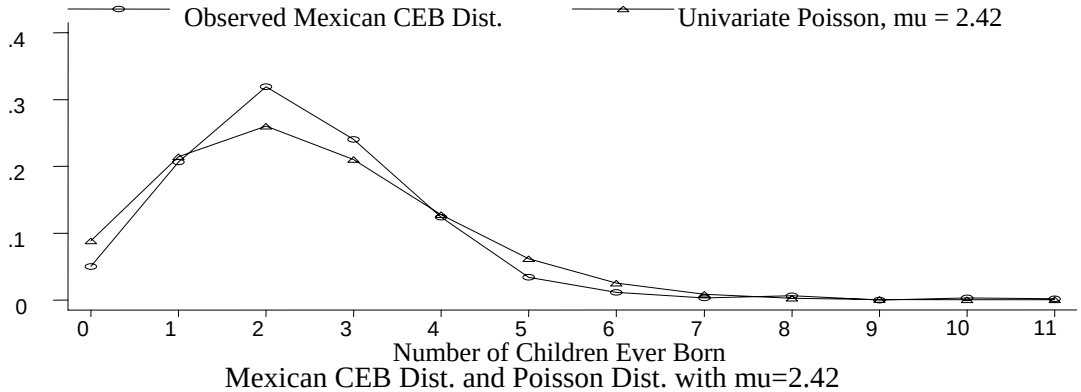
Two interesting patterns are apparent when we compare the intended and actual fertility levels of Latinas to those of white women. First, the Mexican-white gap is slightly larger for intended fertility (3.17 – 2.75 = 0.42) than for CEB (2.42 – 1.93 = 0.49). This suggests that, relative to white women, Mexican women actually have greater numbers of children (0.49) than they intend to have (0.42). This may reflect differences between Mexican and white women in determinants of fertility. Second, relative to white women, Other Latinas intend to have about 0.13 more children (2.88 – 2.75), although they actually have fewer children (1.89 – 1.93). This suggests that the actual fertility level of Other Latinas could potentially be higher, relative to whites, if they realized their fertility intentions.

Figure 1 displays the observed distributions of IDEAL and CEB for Mexican women only. The observed distribution contains the actual numbers of IDEAL and CEB for the Mexican women in my data. The observed distribution is compared to the theoretical/univariate Poisson distributions based on the exact same mean. The average

Figure 1: Observed distributions of IDEAL and CEB for Mexican women only compared to theoretical Poisson distribution



Mexican Ideal Dist. and Poisson Dist. with mu=3.17



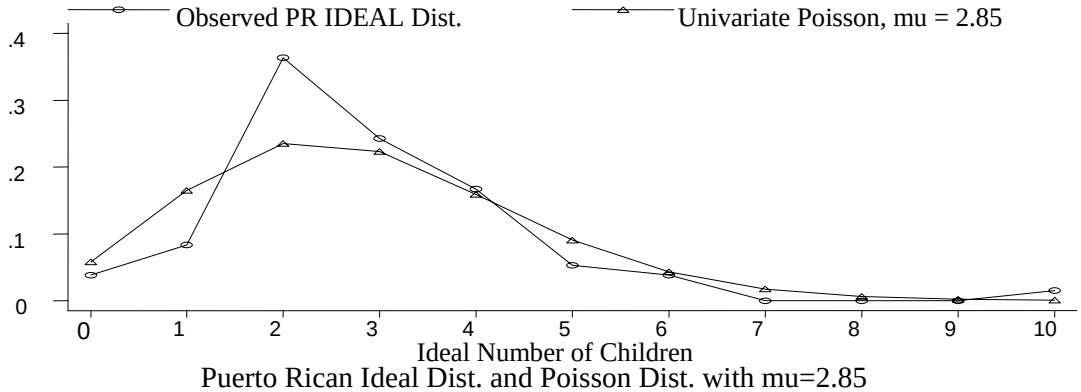
Mexican CEB Dist. and Poisson Dist. with mu=2.42

ideal number of children for Mexican women is 3.17. The Poisson theoretical distribution overpredicts the women's average ideal number of children at counts zero and one, underpredicts counts two through four, and overpredicts counts five through

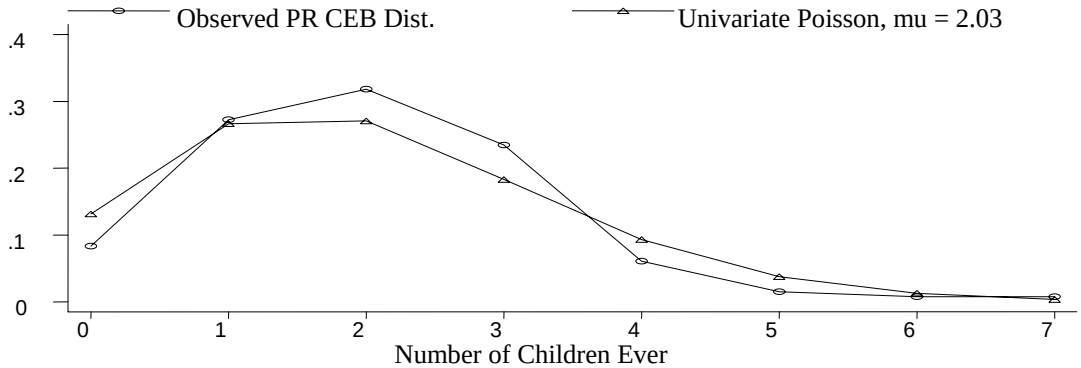
seven until it begins to accurately predict at count eight. The average CEB for Mexican women is 2.42. The Poisson theoretical distribution overpredicts the women's average numbers of CEB at count zero, is very close to accurate at count one, underpredicts counts two and three, is again accurate at count four, overpredicts counts five and six, and begins to accurately predict at count seven.

Figure 2 displays the observed distributions of IDEAL and CEB for Puerto Rican women only. The average ideal number of children for Puerto Rican women is 2.85.

Figure 2: Observed distributions of IDEAL and CEB for Puerto Rican women only compared to theoretical Poisson distribution



Puerto Rican Ideal Dist. and Poisson Dist. with mu=2.85

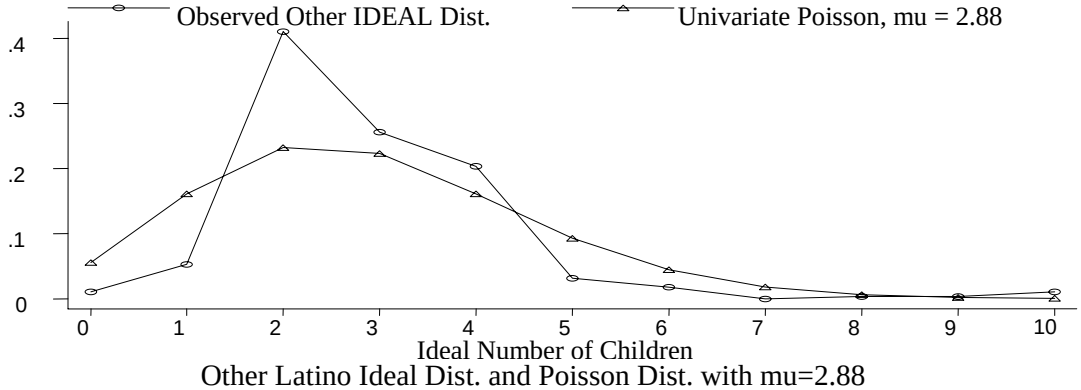


Puerto Rican CEB Dist. and Poisson Dist. with mu=2.03

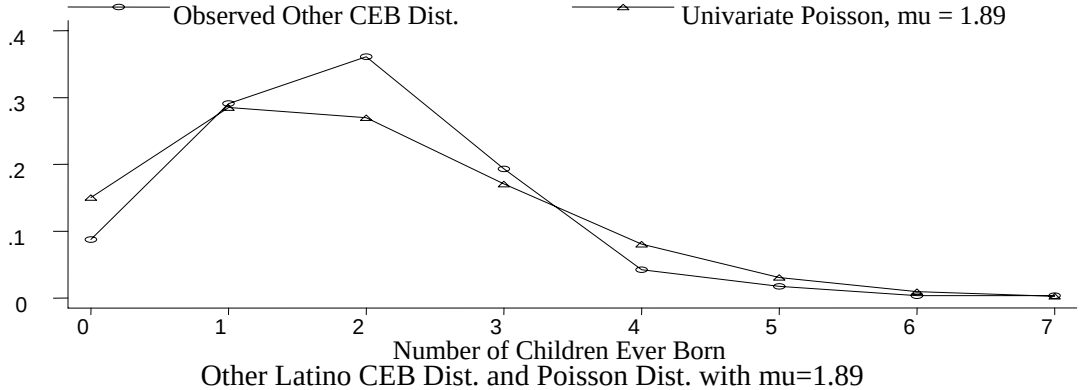
The Poisson theoretical distribution overpredicts the women's average ideal number of children at counts zero and one, significantly underpredicts counts two and three, is very close at count four, underpredicts count five, and begins to accurately predict at about count six. The average CEB for Puerto Rican women is 2.03. The Poisson theoretical distribution overpredicts the women's average CEB at count zero, is very close to accurate at count one, underpredicts counts two and three, overpredicts counts four and five, and begins to predict accurately at count six.

Figure 3 displays the observed distributions of IDEAL and CEB for other Latino women only. The average ideal number of children for other Latina women is 2.88. The Poisson theoretical distribution overpredicts the women's average ideal number of children at counts zero and one, significantly underpredicts counts two through four, overpredicts counts five through seven, and begins to accurately predict at count eight. The average CEB for other Latina women is 1.89. The Poisson theoretical distribution overpredicts the women's average numbers of CEB at count zero, is very close to accurate at count one, underpredicts counts two and three, overpredicts counts four and five, and begins to accurately predict at count six.

Figure 3: Observed distributions of IDEAL and CEB for other Latina women only compared to theoretical Poisson distribution



Other Latino Ideal Dist. and Poisson Dist. with mu=2.88

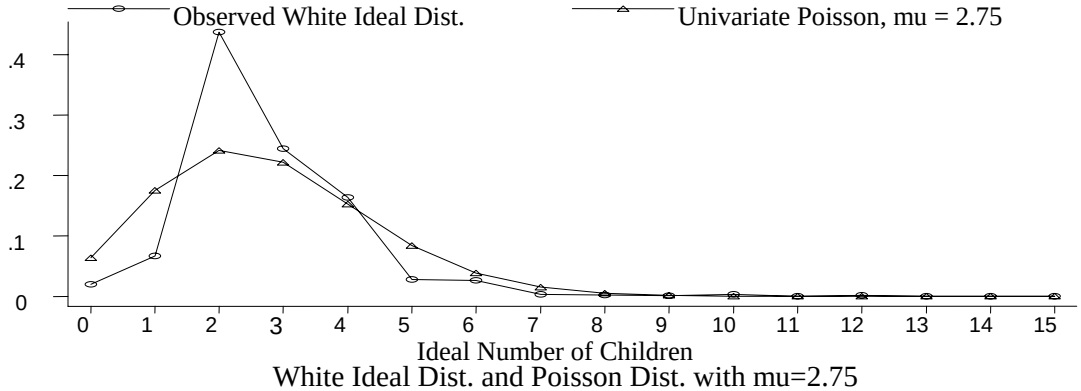


Other Latino CEB Dist. and Poisson Dist. with mu=1.89

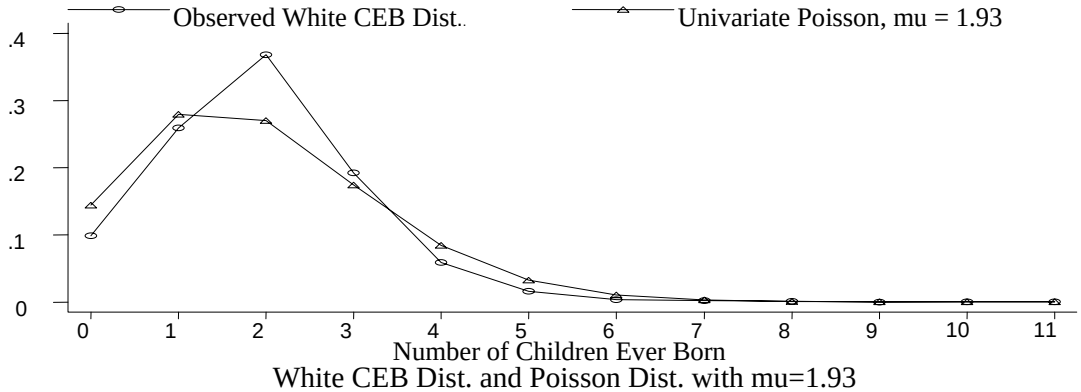
Figure 4 displays the observed distributions of IDEAL and CEB for white women only. The average ideal number of children for white women is 2.75. The Poisson theoretical distribution overpredicts the women's average ideal number of children at counts zero and one, significantly underpredicts counts two and three, is close to accurate at count four, overpredicts count five, and only slightly overpredicts counts six and seven, and begins to accurately predict at count eight. The average CEB of white women is 1.93. The Poisson theoretical distribution overpredicts the women's

average CEB at counts zero and one, underpredicts count two and three, slightly overpredicts counts four and five, and begins to accurately predict at about count six.

Figure 4: Observed distributions of IDEAL and CEB for white women only compared to theoretical Poisson distribution



White Ideal Dist. and Poisson Dist. with mu=2.75



White CEB Dist. and Poisson Dist. with mu=1.93

Overall, the univariate Poisson models do a better job of predicting counts of CEB for the women in these data than for IDEAL. In all of the IDEAL graphs, the univariate Poisson distributions never accurately predict a count before count six in the case of Puerto Ricans; however, for Mexicans, other Latinas, and whites, the univariate Poisson did not accurately predict until count eight. In contrast, in all of the CEB

graphs, the univariate Poisson distributions were accurate or very close to accurate for women of all ethnicities at count one, were again accurate or close to accurate in the cases of whites and Mexicans at counts three and four, respectively, and began to accurately predict much earlier for women of all ethnicities at count six. Readers are reminded that the univariate Poisson models are not expected to perfectly predict because of the heterogeneity of the women. One can conclude from the evaluation of these distributions that the data are Poisson distributed. Thus, the next step will involve estimating the regression models, in which independent variables are introduced, to take into account the observed heterogeneity of the women in the data.

GAPS IN IDEAL VERSUS ACTUAL FERTILITY WITHIN ETHNIC GROUPS

The gaps in ideal versus actual fertility of Latinas and whites have major policy relevance. The fact that all women in the dataset, regardless of ethnicity, would like to have more children than they actually have suggests that the existing gap between Latinas and whites in children ever born may well continue. The largest differential in terms of ideal and actual fertility exists among the other Latinas (a difference of about one child = 0.99). However, this could be due to the ethnic diversity within the "other Latina" group. Other Latinas are followed by both Puerto Ricans and whites, both with differences of 0.82 children. The smallest differential exists among Mexican women, with a difference of 0.75 children. However, because the two largest Latino subgroups, Mexican and Other Latina women, have the potential for tremendous growth in the future, these findings are very important. Mexican women actually have greater

numbers of children than they intend to have and Other Latina women ideally want more children compared to whites.

DESCRIPTIVE STATISTICS

Having identified the existing gaps in ideal versus actual numbers of children among Latinas, the discussion now turns to the descriptive statistics for the independent variables. Table 2 presents the population distribution rates of Latinas and whites in the study. When examining the measures of demographic composition it is apparent that

Table 2: Descriptive Statistics for Variables Used in the Study by Ethnicity: Women from the National Survey of Family Growth, 1995.

	Ethnicity			
	Mexicans	Puerto Ricans	Other Latinas	Whites
Demographic Composition				
Foreign-born	48.39%	0	62.11%	10.97%
Ages 20-24	12.74%	15.15%	10.88%	7.88%
Ages 25-29	22.26%	21.97%	17.54%	15.26%
Ages 30-34	25.16%	19.70%	24.56%	24.36%
Ages 35-39	23.06%	18.18%	25.26%	27.17%
Ages 40-44	13.39%	17.42%	19.65%	23.14%
Ever Married	83.06%	69.70%	82.81%	89.17%
Socialization Factors				
Mother's Education	6.80	8.70	8.77	11.20
Mother's CEB	6.47	4.82	5.05	4.21
Sex Education	61.29%	76.52%	69.47%	79.58%
Catholic	73.87%	64.39%	64.56%	34.84%
Church Attendance	44.84%	40.15%	43.51%	35.15%
SES/Employment Status				
Education	10.47	11.75	12.18	12.85
Employment	53.23%	55.30%	65.61%	69.35%
Fertility History				
Ever Used Birth Control	93.71%	94.70%	95.44%	98.08%
Ever Had An Abortion	15.00%	29.55%	28.42%	22.96%

large portions of Latinas are foreign-born. Indeed, almost half (48.4%) of Mexican women in this study are foreign-born and over half of other Latinas (62.1%) are foreign-born, whereas slightly over one-tenth (11.0%) of white women are foreign-born[4]. The finding that large portions of Latinos are foreign-born, compared to whites, is consistent with the literature (Alvirez 1973; Aneshensel, Fielder and Becerra 1989; Mosher, Johnson and Horn 1986; Stephen and Bean 1992). The data reveal the youthful nature of the Latino population, especially Mexicans and Puerto Ricans. For instance, while half of white women are 35-44 years of age, only 35.6% of Mexicans, 36.5% of Puerto Rican, and 44.9% of Other Latinas are in this age category. In contrast, 45.0% of Mexican women are 20-29 years of age compared to only 23.1% of white women. More than two-thirds of the women of each ethnicity have ever been married, with Mexicans and other Latinas being very similar to whites, each having over 80 percent of their women having ever been married compared to 89 percent of white women. Other Latinas follow closely behind Mexican women with 82.81% having ever been married. Consistent with the literature (Jaffe and Cullen 1975; Singley and Landale 1998), Puerto Ricans (69.7%) have the lowest percentage of women ever married.

Among the socialization factors, differences between Latinas and whites are pronounced, most significantly between Mexicans and whites. Consistent with the literature (Aneshensel, Fielder and Becerra 1989; Bean and Swicegood 1982), Mexican mothers have the lowest levels of educational attainment compared to whites, 6.80 and 11.20 years, respectively. Both Puerto Rican and other Latina mothers are in between,

[4] Data regarding the nativity status of Puerto Ricans were not designated because of Puerto Rico's status as a U.S. territory; by definition, Puerto Ricans are not foreign-born.

with very similar average levels of educational attainment of slightly over eight years (8.70 and 8.77 years, respectively). In terms of mother's CEB, the same pattern is apparent as in mother's education. Differences in mother's CEB are greatest between Mexicans and whites. The Mexican mothers' average CEB was 6.47, whereas white mothers averaged about two children less, with 4.21 children. Again, both Puerto Rican (4.82) and other Latina (5.05) mothers have similar average CEBs that are in between Mexicans and whites.

Consistent with the two previous patterns among the socialization factors, differences in sex education levels are most pronounced between Mexican and white women, with Puerto Rican and other Latinas in between, although percentages were high in all groups, indicating that there was a high level of "yes" responses to the sex education questions. In agreement with Aneshensel, Fielder and Becerra's (1989) findings, Mexican women (61.3%) have the lowest percentage of sex education exposure with white women (79.6%) having the greatest level of exposure to sex education. Puerto Rican women's average sex education levels are second to whites at 76.52%, with other Latinas slightly lower at 69.47%.

Patterns of religious affiliation are as expected and consistent with the literature. The majority of Latinas are Catholic (Aneshensel, Fielder and Becerra 1989; Pick, Tellis and Butler 1989), with close to three-fourths of Mexican women having the highest affiliation with the Catholic Church (73.87%). Again, Puerto Rican (64.4%) and other Latina women (64.6%) are very similar and have levels of religious affiliation with the Catholic Church in between Mexicans and whites. Whites have the lowest percentage of

Catholic affiliation of any group (34.84%). Finally, in terms of church attendance, nearly half (44.84%) of all Mexican women in the study attended religious services at least once a week, the most frequent church attendance of any ethnic group. Mexicans are followed by other Latinas (43.51%) and Puerto Ricans (40.15%) with respect to attendance at this level. Whites (35.2%) have the lowest percentage of church attendance, with slightly over one-third of all women attending religious services at least once week.

In general, women of all ethnicities have greater levels of educational attainment and lower numbers of CEB than their mothers, a finding that is consistent with those of Bean and Swicegood (1982). Again, differences in levels of educational attainment are most pronounced between Mexican and white women. Mexican women average 10.47 years of schooling, while whites average 12.85. These findings indicate that most Mexican women do not have the equivalent of a high school education, while most white women have completed high school and have had at least some college education; these findings are consistent with those of Fry (2003). Again, Puerto Ricans (11.8) and other Latinas (12.2) have levels of education that are in between those of Mexicans and whites. Other Latinas represent the only Latino population in the study with an equivalent of a high school education.

In terms of work, over half of all women of each ethnicity are employed outside the home in the week prior to the study. Mexicans have the lowest portion of women employed at 53.23%, followed by Puerto Ricans at 55.30%. Other Latinas (65.6%) are the most highly employed of any Latino group. Whites have the highest percentage of

women employed of any ethnic group, with over two-thirds (69.35%) employed in the week prior to the survey.

Of the fertility history measures, like the sex education measure, very large portions of women of all ethnic groups have ever used birth control. However, Mexicans have the lowest percentage of women who have ever used birth control of any ethnic group (93.71%), a finding that is consistent with the literature (Aneshensel, Fielder and Becerra 1989; Pick, Tellis and Butler 1989; Uhlenberg 1973), although the percentage is well over 90 percent. Mexicans are followed by Puerto Ricans (94.7%) and other Latinas (95.4%). Whites (98.1%) had the highest percentage of women who have ever used birth control of any ethnic group. In the case of abortion, Mexican women show the lowest percentage of any ethnic group of ever having had an abortion (15.00%), a finding that is consistent with the literature (Aneshensel, Fielder and Becerra 1989; Bolks, et al. 2000). Puerto Ricans (29.6%) showed the highest percentage of abortions among the ethnic groups, followed by Other Latinas (28.4%), and whites (23.0%).

POISSON AND ZERO-INFLATED POISSON REGRESSION MODELS

Table 3 presents the results of the full Poisson and ZIP models (Model 5, where all categories of variables are included simultaneously) for the dependent variables, ideal number of children and children ever born. Appendix B contains the sequential Poisson models leading to the full model for ideal number of children and Appendix C contains the sequential zero-inflated Poisson models leading to the full model for CEB.

There are fourteen hypotheses outlined in Chapter 2. Six are confirmed for both fertility outcomes (marital status, mother's CEB, church attendance, education, employment and abortions). One hypothesis (Catholic) is significant only for ideal number of children, and two of the hypotheses (age and ideal number of children) are significant only for CEB.

SIGNIFICANT RELATIONSHIPS BETWEEN SELECTED INDEPENDENT VARIABLES AND FERTILITY OUTCOMES (IDEAL NUMBER OF CHILDREN AND CHILDREN EVER BORN)

As just noted, factors related to both the ideal number of children and CEB are marital status, mother's CEB, church attendance, education, employment and abortions. Supporting hypothesis four of the demographic composition factors, there is a positive association between marital status and ideal number of children and CEB. In the case of ideal number of children, women who have ever been married have an ideal fertility level that is 9.7 percent higher than women who have never been married, that is, $((e^{.093} = 1.097) - 1) \times 100 = 9.7$ percent. In the case of CEB, women who have ever been married have a CEB level that is 13.3 percent higher compared to women who have never been married.

Among the socialization factors, mother's CEB positively influences women's ideal number of children and CEB. Supporting hypothesis six, for each additional child the woman's mother had, the woman's ideal number of children increases by almost one percent, that is, $((e^{.009} = 1.009) - 1) \times 100 = 0.9$ percent. In the case of CEB, for each additional child the woman's mother had, the woman's mean production of children

increases by 1.6 percent, that is, (($e^{.016}$ = 1.016) – 1) x 100 = 1.6 percent. Church attendance, another socialization indicator, is also related to ideal number of children

Table 3: A Comparison of Unstandardized Coefficients from the Poisson Regression of Ideal Number of Children and Children Ever Born on Mexicans, Puerto Ricans, Other Latinas and Whites: Women from Cycle V (1995) of the National Survey of Family Growth (NSFG).

	IDEAL	CEB
Ethnicity		
Mexican	0.044	0.045
Puerto Rican	-0.000	0.044
Other Latina	0.017	-0.055
Demographic Composition		
Foreign-born	-0.012	-0.052
Ages 20-24	-0.016	0.435***
Ages 25-29	-0.015	0.642***
Ages 30-34	-0.024	0.750***
Ages 35-39	-0.017	0.841***
Ages 40-44	-0.013	0.857***
Ever Married	0.093***	0.125***
Socialization Factors		
Mother's Education	-0.000	-0.002
Mother's CEB	0.009**	0.016***
Sex Education	-0.033	-0.018
Catholic	0.044*	-0.026
Church Attendance	0.097***	0.072***
SES/Employment Status		
Education	-0.014***	-0.037***
Employment	-0.095***	-0.155***
Fertility History & Intentions		
Ideal Number of Children	--------	0.110***
Ever Used Birth Control	-0.053	0.016
Abortions	-0.039*	-0.139***
Pseudo R2	0.010	--------

* Significance at the 0.05 level
** Significance at the 0.01 level
*** Significance at the 0.001 level

and CEB. Supporting hypothesis nine, women who attend church at least once per week have an ideal fertility level that is 10.2 percent higher than the ideal fertility level of women who attend church less than once per week, that is, $((e^{.097} = 1.102) - 1) \times 100 =$ 10.2 percent. In the case of CEB, women who attend church at least once per week have a CEB level that is 7.5 percent higher than the CEB of women who attend church less than once per week, that is, $((e^{.072} = 1.075) - 1) \times 100 = 7.5$ percent.

Among the SES and employment status indicators, supporting hypotheses ten and eleven, both women's education and employment status are negatively related to ideal number of children and CEB. For each additional year of schooling, the woman's ideal number of children decreases by 1.4 percent, that is, $((e^{-.014} = 0.986) - 1) \times 100 =$ -1.4 percent. Similarly, for each additional year of schooling, the women's CEB decreases by 3.6 percent, that is, $((e^{-.037} = 0.964) - 1) \times 100 = -3.6$ percent. In the case of employment, women who were employed during the week prior to the survey have an ideal fertility level that is 9.1 percent lower compared to women who were unemployed during the week prior to the survey, that is, $((e^{-.095} = 0.091) - 1) \times 100 = -9.1$ percent. Further, women who were employed during the week prior to the survey have a CEB level that is 14.4 percent lower compared to women who were not employed during the week prior to the survey, that is, $((e^{-.155} = 0.856) - 1) \times 100 = -14.4$ percent.

Of the fertility history and intention measures, supporting hypothesis fourteen, having ever had an abortion is significantly related to ideal number of children and CEB. In the case of ideal number of children, women who have ever had an abortion have an ideal fertility level that is 3.8 percent lower than women who have never had an

abortion, that is, (($e^{-.039}$ = 0.962) – 1) x 100 = -3.8 percent. In terms of CEB, women who have ever had an abortion have a CEB level that is 13 percent lower than women who have never had an abortion, that is, (($e^{-.139}$ = 0.870) – 1) x 100 = -13.0 percent.

The factor that is only related to ideal number of children is Catholic affiliation. As expected, women who are Catholic have an ideal fertility level that is 4.5 percent higher than women who are not affiliated with the Catholic Church, that is, (($e^{.044}$ = 1.045) – 1) x 100 = 4.5 percent. Therefore, there is support for hypothesis eight, but only in the case of ideal number of children. This means that religious affiliation apparently does not significantly influence women's actual fertility behavior.

Factors that are related only to CEB are age and ideal number of children. In the case of age, each of the age dummy variables is highly related to CEB. As age increases, women's average number of CEB also increases. A woman who is between the ages of 20-24 has a CEB level that is 54.5 percent greater compared to women ages 15-19, that is, (($e^{.435}$ = 1.545) – 1) x 100 = 54.5 percent. A woman who is between the ages of 25-29 has a CEB level that is 90 percent greater compared to women ages 15-19, that is, (($e^{.642}$ = 1.900) – 1) x 100 = 90.0 percent. A woman who is between the ages of 30-34 has a CEB level that is 111.7 percent greater than women ages 15-19, that is, (($e^{.750}$ = 2.117) – 1) x 100 = 111.7 percent. A woman who is between the ages of 35-39 or a woman who is between the ages of 40-44 has a CEB level that is 131.9 percent or 135.6 percent greater compared to women ages 15-19, respectively, that is (($e^{.841}$ = 2.319) – 1) x 100 = 131.9 percent and (($e^{.857}$ = 2.356) – 1) x 100 = 135.6, respectively. Therefore, there is support for hypothesis three, but only in the case of CEB. This means

that age does not significantly influence women's ideal fertility preferences. However, due to the multicollinearity problems with the age dummy variables addressed in Chapter III, the results of the age-specific models will be addressed later in the chapter.

Ideal number of children is also significantly related to CEB. As women's ideal number of children increases, so does her actual number of children ever born. For each additional child a woman ideally desires, her CEB level increases by 11.6 percent, that is, $((e^{.110} = 1.116) - 1) \times 100 = 11.6$ percent. Therefore, support is found for hypotheses twelve and fourteen, but only in the case of CEB.

There was no uniform support across models for hypotheses one (ethnicity), two (foreign-born), five (mother's education), seven (sex education) or thirteen (ever used birth control) in either the IDEAL or the CEB analysis. Although the coefficients for ethnicity were not significant in the final model for either, IDEAL or CEB, ethnicity was significant for some of the subgroups in previous models. Differences in the effects of the ethnicity independent variables will be discussed in greater detail in the next section. Likewise, no statistically significant support was found for birth control use. This could be due to the fact that having "ever used birth control" is such a broad measure that it may not significantly influence either women's ideal or actual fertility behavior.

The independent variable foreign-born was not significant in the final model for either IDEAL or CEB. However, it was significant in Model 2 for CEB (see Appendices B and C). The coefficient for foreign-born was positive and significant at the $p < .05$ level in Model 4 for CEB ($b = .060$). This means that women who are foreign-born have a CEB level that is 6.2 percent higher than women who are native-born, that is, $((e^{.060} =$

1.062) – 1) x 100 = 6.2 percent. However, this finding only provides support for hypothesis two in Model 2 for CEB.

Mother's education obtained statistical significance in both the IDEAL and CEB analyses in Model 3. Mother's education was significant at the $p < .05$ level and in the predicted direction when it was first incorporated in Model 3 in the IDEAL analysis (b= -.006). This means that for each additional year of mother's schooling, the woman's an ideal fertility level decreases by almost one percent, that is, $((e^{-.006} = 0.994) - 1) \times 100 =$ -0.6 percent. Mother's education obtained statistical significance at the $p < .001$ level in the CEB analysis (b= -.018). This means that for each additional year of mother's schooling, the woman's CEB decreases by 1.8 percent, that is, $((e^{-.018} = 0.982) - 1) \times 100$ = -1.8 percent. This provides some support for hypothesis five, but only in Model 3 for IDEAL and CEB. Similarly, sex education follows the same pattern as mother's education. Like mother's education, sex education was significant at the $p < .05$ level and in the predicted direction when first incorporated in Model 3 in the IDEAL and the CEB analyses (b= -.034 and b= -.093, respectively). This means that women who have had some sex education have an ideal fertility level that is 3.3 percent lower than women who have not had any sex education instruction, that is, $((e^{-.034} = 0.967) - 1) \times 100 = -3.3$ percent. Likewise, women who have had some sex education have a CEB level that is 8.9 percent lower than women who have not had any sex education instruction, that is, $((e^{-.093} = 0.911) - 1) \times 100 = -8.9$ percent. This finding provides some support for hypothesis seven, but only in Model 3 for IDEAL and CEB.

DIFFERENCES IN EFFECTS OF THE ETHNICITY INDEPENDENT VARIABLES ON FERTILITY OUTCOMES (IDEAL NUMBER OF CHILDREN AND CHILDREN EVER BORN)

Table 4 presents the results of the Poisson regression analyses by ethnicity for all five models and for both dependent variables. Having identified which variables are significantly related to fertility outcomes among the women in the dataset, attention will now shift to comparing the effects by ethnicity across the models. Although none of the ethnicity dummy variables were significant across all five models, there was some consistent statistical significance of some ethnicities in the early models. In the IDEAL analysis, the only ethnic group that ever obtained any statistical significance was Mexican. In Models 1 and 2, the Mexican coefficient was highly statistically significant and in the predicted direction (b= .161, p< .001 and b= .140, p< .001, respectively). This

Table 4: A Comparison of Unstandardized Coefficients by Ethnicity from the Poisson Regression of Ideal Number of Children and Children Ever Born on Mexicans, Puerto Ricans, Other Latinas and Whites: Women from the National Survey of Family Growth, 1995.

	Ideal Number of Children				
	Model 1	Model 2	Model 3	Model 4	Model 5
Ethnicity					
Mexican	0.161***	0.140***	0.063*	0.044	0.044
Puerto Rican	0.055	0.068	0.008	-0.003	-0.000
Other Latina	0.067	0.039	0.011	0.014	0.017
	Children Ever Born				
	Model 1	Model 2	Model 3	Model 4	Model 5
Ethnicity					
Mexican	0.235***	0.240***	0.171***	0.032	0.045
Puerto Rican	0.058	0.140*	0.099	-0.012	0.044
Other Latina	-0.011	-0.043	-0.049	-0.072	-0.055

means that in Model 1, women who are Mexican have an ideal fertility level that is 17.5 percent greater than white women, that is, $((e^{.161} = 1.175) - 1) \times 100 = 17.5$ percent. In Model 2, women who are Mexican have an ideal fertility level that is 15 percent greater than white women, that is, $((e^{.140} = 1.150) - 1) \times 100 = 15.0$ percent. In Model 3, the coefficient was again significant and in the right direction ($b = .063$, $p < .05$), but had less magnitude. This means that a Mexican woman has an ideal fertility level that is 6.5 percent greater than white women, that is, $((e^{.063} = 1.065) - 1) \times 100 = 6.5$ percent. Hence, it appears that if Mexican women had similar socialization experiences as white women, their fertility preferences would be more similar to those of whites, albeit still statistically significant. Even more importantly, Models 4 and 5 indicate that if Mexican women had the same SES/employment and fertility history profiles as white women, the two groups would not be statistically significant in fertility intentions. These findings indicate that only Mexican ethnicity is statistically different from whites in early models of the IDEAL analysis. Therefore, only Mexican ethnicity can be considered important with regard to determining ideal numbers of children of Latinas compared to whites.

Ethnicity was found to have more consistent statistical significance in the CEB analysis. In the CEB analysis, the only ethnic groups that ever obtained any statistical significance were Mexicans in Models 1 through 3 and Puerto Ricans in Model 2. In Model 1, the Mexican coefficient was highly statistically significant and in the predicted direction ($b = .235$, $p < .001$). This means that a woman who is Mexican has a CEB level that is 26.5 percent higher than white women, that is $((e^{.235} = 1.265) - 1) = 26.5$ percent. This pattern continues for Mexicans in Models 2 and 3. In Model 2, Mexican ethnicity

increases a woman's CEB by 27.1 percent (b= .240, p< .001), compared to white women, that is, (($e^{.240}$ = 1.271) – 1) x 100 = 27.1 percent. In Model 3, Mexican ethnicity increases a woman's CEB by 18.6 percent (b= .171, p< .001), compared to white women, that is, (($e^{.171}$ = 1.186) – 1) x 100 = 18.6 percent. These findings indicate that Mexican women are statistically different from whites in early models of the CEB analysis. In the case of Puerto Ricans, Puerto Rican women are only found to be statistically significant in Model 2 of the CEB analysis. In Model 2, women who are Puerto Rican have a CEB level that is 15 percent greater (b= .140, p< .05) than white women, that is, (($e^{.140}$ = 1.150) – 1) x 100 = 15.0 percent. Therefore, these findings suggest that if Latinas were similar to whites, especially in terms of education, employment and fertility history, the differences in fertility outcomes would disappear.

DIFFERENCES IN EFFECTS OF THE AGE-SPECIFIC MODELS ON THE INDEPENDENT VARIABLES OF FERTILTIY OUTCOMES (IDEAL NUMBER OF CHILDREN AND CHILDREN EVER BORN)

Early intercorrelational analyses revealed high multicollinearity among the age dummy variables used in the analyses. Hence, age-specific models (for ages 15-24, 25-34, and 35-44) were evaluated to help handle the collinearity problems that were encountered with the age dummy variables in the equation. Results of the age-specific models reveal some differences in the coefficients of the independent variables of the full models for both the IDEAL and CEB analyses. In Model 5 of the IDEAL age-specific analysis for women ages 15-24 there was one major difference from Model 5 of the original IDEAL analysis -- the abortion coefficient became insignificant (b= -.005,

p< .887) in Model 5 of the IDEAL analysis for women ages 15-24, whereas in the original analysis, the coefficient was significant at the p< .05 level (b= -.039). In Model 5 of the IDEAL age-specific analysis for women ages 25-34 there were two major differences from Model 5 of the original analysis -- the mother's CEB variable loses its significance (b= .006, p< .220), whereas in the original analysis, the coefficient was significant at the p< .01 level (b= .009); the education variable also becomes insignificant (b= -.010, p< .064), whereas in the original analysis, it is was significant at the p< .001 level (b= -.014). Further, in Model 5 of the IDEAL age-specific analysis for women ages 35-44, there are two major differences from Model 5 of the original analysis -- the Catholic variable loses its significance (b= .004, p< .878), whereas in the original analysis, the coefficient was significant at the p< .05 level (b= .044); finally, the abortion variable too became insignificant (b= -.039, p< .184), whereas in the original analysis the coefficient was significant at the p< .05 level (b= -.039).

The results of the age-specific models for the CEB analysis, again, revealed differences in the independent variables from the original CEB analysis with the age dummy variables included. In Model 5 of the age-specific analysis for women ages 15-24 there were two major differences from the original analysis -- the sex education variable became significant (b= -.093, p< .05), whereas in the original CEB analysis the coefficient for sex education was not statistically significant; the church attendance variable became insignificant (b= .048, p< .172), whereas in the original analysis the coefficient was statistically significant at the p< .001 level (b= .072).

In Model 5 of the age-specific analysis for women ages 25-34 there was one major difference from the original analysis -- the coefficient for Mexican ethnicity variable changed from positive in the original analysis to negative in the age-specific analysis, although neither coefficient obtained statistical significance in Model 5 for either analysis. Finally, in Model 5 of the age-specific analysis for women ages 35-44 there were three major differences from the original analysis -- the coefficients for both the Mexican and Puerto Rican ethnicity variables changed from positive in the original analysis to negative in the age-specific analysis, although none of the variables obtained statistical significance in Model 5 for either analysis; the coefficient for the sex education variable in became significant in Model 5 of the age-specific analysis for women ages 35-44 ($b = -.070$, $p < .05$), whereas in the original analysis the sex education coefficient did not obtain statistical significance. The following chapter discusses the conclusions from these analyses.

CHAPTER V

CONCLUSIONS

This study examined ideal and actual fertility among subgroups of Latinas compared to white women using Poisson regression models consisting of ethnicity, demographic composition factors, socialization factors, SES/employment status and fertility history and intentions. Although numerous analyses have examined the actual fertility of Latinas, using the CEB measure, no studies in the literature thus far have examined fertility behavior of Latinas using Poisson regression models. The Poisson regression models used in this analysis were appropriate for evaluating count variables, such as IDEAL and CEB. The analytic models examined are an attempt to attain a holistic understanding and to distinguish among the factors most significantly related to women's fertility behavior and decisions. In addition, only a limited number of analyses have incorporated ideal, or even intended, fertility to better understand, from the Latinas perspective, why they continue to exhibit fertility levels greater than those of the majority white population. Data from Cycle V (1995) of the NSFG, conducted by the National Center for Health Statistics, were utilized for this study.

SUMMARY OF FINDINGS

Results show general support for the proposed models. Most importantly, the results demonstrate that all women, regardless of ethnicity, would like to have larger numbers of children than they are actually having. Women have higher numbers of intended fertility than actual fertility within all ethnic groups. Across ethnic groups, Mexican women have been able to realize their fertility intentions compared to white

women. The fact that Mexican women are most accurately meeting their goals in ideal fertility, and the knowledge that Other Latinas have the potential for surpassing whites actual fertility levels if their fertility intentions are met, represents the potential for Latino population growth in the U.S. This finding has particular relevance for Latinas, particularly Mexicans. Within ethnic groups, the largest fertility gap exists among white women. This means that white women are not coming close to realizing their "ideal" fertility intentions. However, there is also potential for population growth within this group in the U.S. if their fertility intentions are met. Conversely, the gaps in actual versus ideal fertility within Latino ethnic groups are much smaller, which suggests that Latinas actually do want the larger numbers of children that they are having. Therefore, because the gaps in actual versus ideal fertility are larger with respect to ideal fertility, we can expect continued growth of the Latino populations in the U.S.

The largest difference in ideal and actual fertility exists among the other Latina women. The literature reveals that many of the Latino groups that comprise the "Other Latino" category, such as Cubans and South Americans, typically have higher levels of education (Saenz 2004) and use of contraceptives. Indeed, findings from these analyses confirm that other Latinas were the only Latino subgroup with the equivalent of a high school education, which explains their desire for smaller numbers of children and smaller actual fertility levels. Consistent with findings in the literature (Saenz 2004; Singley and Landale 1998), Puerto Ricans typically fell in between other Latinas and Mexican women or between other Latinas and whites regarding both of the fertility outcomes evaluated here.

Importantly, the smallest fertility gap exists among the Mexican women. Aside from the fact that Mexican women in this study had the highest average numbers for both ideal and actual numbers of children, the small differential within this group means that Mexican women are coming the closest in their levels of CEB to reaching their goals in terms of ideal number of children. Because Mexican women did in fact report the highest average ideal number of children, 3.17, and the highest average CEB, 2.42, this represents the potential for continued growth of the Mexican American population in the U.S. These findings are consistent with those of Bean, Swicegood and Berg (2000: 404) who point out that, "The high fertility of Mexican-origin women may have a significant impact on the future size and ethnic composition of the United States."

Interestingly, when examining the effects of ethnicity on both ideal number of children and children ever born, ethnicity was not found to be a consistent predictor of either ideal fertility or actual fertility (CEB). Although statistical significance was not obtained in the final models for any of the ethnicity dummy variables, the Mexican ethnicity dummy variable was found to be highly statistically significant in the earlier models of both IDEAL and CEB. When examining the effects of the demographic composition factors, marital status was consistently significant as a predictor for both ideal number of children and CEB. These findings confirm the consensus in the literature that marriage is important as an intermediate variable of fertility (Bongaarts 1982) and this it is highly related to both ideal fertility (Jones and Nortman 1968) and to children ever born (Aneshensel, Fielder and Becerra 1989; Hervitz 1985; Mosher, Johnson and Horn 1986; Swicegood, et al. 1988). When examining the socialization

factors, both mother's CEB and church attendance were consistently significantly related to IDEAL and CEB. The Poisson regression models found mother's CEB to be highly statistically related to both CEB and IDEAL. Further, church attendance was also consistently significantly related to both IDEAL and CEB. The finding that church attendance is significantly related to CEB is consistent with previous findings that more frequent attendance of religious services positively influences fertility decisions (Goldscheider and Mosher 1991; Mosher, Johnson and Horn 1986; Sander 1992). However, these findings now extend the literature by revealing that both mother's CEB and church attendance are highly related to both ideal and actual fertility. Ideal fertility, a fertility history and intention factor, was only incorporated as an independent variable in the CEB analysis, where it was found to be strongly related to CEB. These findings extend the literature because ideal fertility is typically not incorporated as an independent predictor of CEB. This means that women's ideal number of children is related to their actual fertility behavior.

The findings presented here reflect the idea that the family is central to Latino culture, which provides further understanding of Latinas' desires for larger numbers of children. Researchers have argued that the proximity of Mexico to the United States increases the likelihood that the factors resulting in higher fertility in Mexico, such as lower educational levels, frequent church attendance and cultural family norms, might continue to exert influence among Mexican-origin women after their resettlement in the U.S. (Massey, Durand and Malone 2002; Stephen and Bean 1992).

Overall, the findings from the descriptive analyses in this thesis show limited support for the assimilation perspective, especially among Mexican-origin women. Latinas have not assimilated in many dimensions evaluated in these analyses, including fertility and the fact that Latinas' educational attainment levels, employment status and birth control use percentages are below those of whites. However, the findings from the Poisson regressions indicate that assimilation seems to be working. The results suggest that if Latinas had similar levels of education, rates of labor force participation, and number of abortions as white women, their fertility levels would be similar to those of white women. This finding has particular relevance for policy implications, which will be addressed later in the chapter.

Gordon (1964) delineates, the process of assimilation is a several-stage process. A major point of his argument is that the process is irreversible and that the immigrant and majority groups will become increasingly similar in terms of their norms, values, behaviors, and characteristics as time passes (Bean, Swicegood and Berg 2000; Gordon 1964). Thus, if Gordon's hypothesis is correct, because Latinos have shown that they are already traveling down the path of assimilation, researchers should expect that Latinos will continue to become increasingly similar, in terms of fertility behavior, to whites in the future. Indeed, the findings associated with Models 4 and 5 for both analyses reveal that Latina women do not differ from white women when SES/employment and fertility history is taken into account.

An important finding from this study worth highlighting is that the Mexican American population lags behind other Latino groups in different dimensions of

assimilation, a finding that supports the observations of Bean, Swicegood and Berg (2000). Evaluation of the descriptive statistics from this study show that although Mexican women are more likely to be native-born (51.7%) compared to other Latinas (37.89%), Mexican women have much lower levels of educational attainment and a much higher average CEB than other Latinas. Further, in the majority of circumstances evaluated in this study, Mexicans represented the extreme opposite when compared to whites, particularly in terms of education and CEB.

CONTRIBUTIONS TO THE LITERATURE

This study makes a contribution to the literature in several ways. First, the use of ideal fertility as both a dependent variable and an independent variable in the CEB analysis was an attempt to shed some light on the modestly addressed area in the literature on ideal fertility. This void in the literature was identified by Uhlenberg (1973) over four decades ago, and since relatively little work has been conducted in the area of ideal, or intended, fertility to gain a better understanding of Latino fertility behavior. The use of ideal fertility as a dependent variable provided a new perspective from the traditional models only concerned with actual fertility. The comparative approach used in this study of conducting parallel analyses of ideal fertility and CEB as the dependent variables for each of two analyses provided an understanding that emphasized the importance of the independent factors that influence ideal and/or actual fertility.

Second, the disaggregation of the major Latino subgroups provided a more comprehensive understanding of how the Mexican, Puerto Rican and other Latino

subgroups differed with respect to their fertility behavior (De Vos and Arias 2003). It was found that ethnicity is not significantly related as a predictor of either ideal or actual fertility. This suggests that once SES/employment and fertility history and intention factors are controlled, there is no difference in the fertility levels of Latino subgroups and whites. Third, this approach identified the factors that contribute to explaining the Latina-white gap in intended and actual fertility (marital status, mother's CEB, education, employment status and abortions), which confirms previous findings for factors related to CEB and sheds new light on the topic of ideal Latino fertility and the independent factors related to ideal fertility. This approach allowed for a more comprehensive understanding of disparities in ideal and actual fertility between Latino subgroups and white women.

Fourth, this analysis used Poisson regression models to conduct the analyses. To my knowledge, there are no existing analyses in the literature regarding Latino fertility that have used Poisson models to evaluate CEB, and especially ideal fertility. This is an important contribution because the Poisson models used in these analyses ensured that the statistical models were the most appropriate methods for evaluating the dependent variables used in these analyses. Finally, this approach has extended the literature regarding the assessment of the assimilation of Latinas into U.S. society, as illustrated by fertility behavior. Overall, limited support is found for the assimilation perspective in terms of the descriptive analyses, however, the perspective is supported in Models 4 and 5 of both Poisson regression analyses.

DELIMITATIONS OF THE STUDY

This study has several delimitations that need to be highlighted. First, the most considerable drawback of this study is the lack of longitudinal data necessary to evaluate the changes in fertility intentions of women before and after migrating to the U.S. Several researchers have identified over the decades that longitudinal data are ideally needed for conducting this type of analysis (Goldstein and Goldstein 1981; Hervitz 1985; Stephen and Bean 1992). Obviously, this form of data is still lacking. Longitudinal data that contain both ideal and actual fertility information both before and after migration would be useful in illustrating how gaps in ideal versus actual fertility may actually vary with length of residence in the U.S.

A second delimitation is the restricted number of socialization and SES variables. The variables examined in these analyses -- ethnicity, demographic composition, socialization, SES/employment status, and fertility history and intentions -- are neither mutually exclusive nor collectively exhaustive. For example, independent predictors such as linguistic ability, income, and rural/urban residence are not examined, factors that are likely to be important in understanding variations in fertility especially among immigrants. Although several socialization factors were included in these analyses, these analyses would have benefited from the inclusion of another important socialization factor – linguistic ability. Many researchers have attributed the lack of assimilation of some Latino populations, particularly Mexicans, to their limited English-speaking ability (Fry 2003; Stephen 1987; Swicegood et al. 1988). Unfortunately, information regarding linguistic ability was not contained in the NSFG study.

Other important independent variables that would have been useful in this analysis as predictors of SES include income and rural/urban residence. A family's income is often used as another indicator of SES. As mentioned earlier, lower socioeconomic status is often reflected in mothers having large numbers of children (Singley and Landale 1998). Many families that have a low income have larger numbers of children simply because they cannot afford birth control. Further, rural residents often have more children than city dwellers (Rubin-Kurtzman 1987). In these analyses, it would have been interesting to assess whether income and rural/urban residence would have been useful in explaining ethnic gaps in ideal and actual fertility. However, their inclusion could have led to unforeseen collinearity problems because the excluded variables are likely related to other independent variables assessed in these analyses, which would have altered the final results of this study.

Another drawback of this study was the inability to designate generational status further than foreign/native-born. The literature commonly evaluates immigrant fertility in terms of first (immigrant), second (immigrant's children) and third-or-later generations (Bean, Swicegood and Berg 2000; Stephen and Bean 1992). Unfortunately, this type of evaluation was not possible with these data. The disaggregation according to generational status would have allowed for comparison of findings in the literature that have shown the highest fertility levels among the immigrant-generation, the lowest fertility levels in the second generation, and the third-or-later generations somewhere in between (Bean, Swicegood and Berg 2000).

Finally, two other key independent variables that would have contributed greatly to explaining the fertility outcomes of the different Latino subgroups would have been information regarding the women's age at first marriage and their history of return migration. Age at first marriage is one of the intermediate variables of fertility and would have been important in explaining the fertility behavior of the women evaluated in these data (Bongaarts 1982). Further, many women have a history of return migration and it is believed that each trip to the United States increases a woman's exposure to U.S. society and therefore might influence her fertility behavior both in her home country or before settling permanently in the U.S. (Massey, Durand and Malone 2002; Massey and Espinosa 1997). Unfortunately, information regarding neither age at first marriage, nor history of return migration was available in the 1995 NSFG data.

POLICY IMPLICATIONS

Because the findings from these analyses clarify the intended and actual fertility behavior of different Latino subgroups, they illustrate the potential for the continued growth of the Latino population. Had the gaps across ethnic groups been greater with respect to CEB, meaning that Latinas really want lower fertility than the actual fertility they are exhibiting, this finding would have had major policy relevance, particularly in terms of health care and family planning.

However, because Latinas really want the larger numbers of children that they are having and ideally desire even larger numbers of children, this has revealed the potential for the growth of the Latino population in the U.S. The realization that subgroups of Latino women would not differ from whites had they similar levels of

education, labor force participation and fertility histories has major policy implications, especially with respect to education. This articulates that remaining gaps in fertility levels are most likely due to continued minority-majority gaps in educational attainment, which according to the literature are expected to narrow in subsequent generations (Alvirez 1973; Bean, Swicegood and Berg 2000; Bean, et al. 1984; Bean and Swicegood 1982; Bouvier and Poston 1993; Ford 1990; Gurak 1980; Rubin-Kurtzman 1987; Stephen 1987; Swicegood, et al. 1988; Uhlenberg 1973). As mentioned earlier, the descriptive statistics show that Mexican and Puerto Rican women's average educational levels are below the equivalent of a high school diploma. In addition, the average CEB for Latinas of all ethnicities examined here are above those of white women. Further, the close proximity of Mexico to the U.S. has facilitated the perpetual flow of Mexican immigrants between the two countries. These factors together provide a realistic picture of the potential growth of the Mexican American population in the U.S.

In the coming years, the nation will become increasingly dependent on the labor of Latinos in the U.S. labor force for several reasons. The most important reason is that overall the Latino population is a relatively youthful population (Saenz 2004). Latinos have a younger median age, larger portions of persons under the age of fifteen and a smaller portion of persons over the age of 65 than both whites and blacks (Saenz 2004). As baby boomers continue to retire in the upcoming decades, the nation will be looking to younger age cohorts to replenish this portion of the labor force. However, the limited educational attainment levels of Latinos, particularly those of Mexican Americans, and the even lower portion of Latinos with a college diploma, make them virtually

unmarketable for many jobs other than blue-collar positions. The important thing to consider here is that relatively low percentages of Mexican and Puerto Rican women, in these data, have a high school diploma, which places Latino families in a constrained position for upward mobility in U.S. society. Further, many of the independent variables used in this analysis are linked to women's education, particularly sex education and use of contraceptives.

When SES/employment and fertility history and intention independent factors in these analyses are controlled, differences between Latinos and whites, in terms of educational and fertility assimilation disappear. Mexican women realizing their ideal fertility and the potential for growth within the Other Latino populations point out that we can expect the Latino populations in the U.S. to continue to expand. Yet, if Latinas were similar to white women in terms of education, we could expect their fertility behavior to be comparable to whites as well. Therefore, policy adjustments in terms of education should focus on an inclusionary, rather than an exclusionary approach. Here, I am referring to the longtime tradition in the U.S. of having newcomers conform to our society's ways. This exclusionary approach marginalizes the minority population until they choose to conform to the ways of the majority group, in order to blend in with the rest of society. An inclusionary approach to education policies would be to, at minimum, meet Latinos in the middle. Because it is clear that Latino influences are increasingly becoming ingrained in U.S. society and culture, an inclusionary approach would be to embrace the norms of these cultures that are increasingly becoming "our own". Providing Mexican-origin and Latina women with greater levels of education, job

experience and sex education may help them become better integrated into the larger society and provide alternatives to the traditional route to motherhood. Further, by increasing the percentage of Spanish-speaking teachers and making Spanish-language a mandatory requirement for all students in U.S. school systems at all levels, these two cultures can merge to produce more favorable educational outcomes for a population that largely represents our nation's future.

SUGGESTIONS FOR FUTURE RESEARCH

Suggestions for future research include further exploring the area of ideal fertility using the Poisson regression models. Future analyses should attempt to incorporate some of the independent factors cited earlier that were not included in these analyses to further explore SES differences and similarities as they related to ideal fertility. It will be interesting to note whether the ethnic differences remain or disappear when factors such as age at first marriage, history of return migration, income, linguistic ability, and rural/urban residence are controlled as well.

Additionally, if longitudinal data become available that contain information regarding women's fertility intentions before and after immigration, research in the area of intended fertility should be pursued given the limited information related to Latinas in this area. Otherwise, future research could consider the undertaking of gathering the longitudinal data necessary to evaluate changes in women's fertility preferences before and after arrival in the U.S., which will extend the literature regarding the assessment of the assimilation perspective.

REFERENCES

Alvirez, David. 1973. “The Effects of Formal Church Affiliation and Religiosity on the Fertility Patterns of Mexican-American Catholics.” *Demography* 10(1):19-36.

Aneshensel, Carol S., Eve P. Fielder and Rosina M. Becerra. 1989. “Fertility and Fertility-Related Behavior among Mexican-American and Non-Hispanic White Females Adolescents.” *Journal of Health and Social Behavior* 30(1): 56-76.

Bach, Robert L. 1981. “Migration and Fertility in Malaysia: A Tale of Two Hypotheses.” *International Migration Review* 15(3):502-521.

Bean, Frank D., C. G. Swicegood and Ruth Berg. 2000. “Mexican-Origin Fertility: New Patterns and Interpretations.” *Social Science Quarterly* 81(1): 404-20.

Bean, Frank D. and C. G. Swicegood. 1985. *Mexican American Fertility Patterns*. Austin: University of Texas Press.

Bean, Frank D., Ruth M. Cullen, Elizabeth H. Stephen and C. G. Swicegood. 1984. “Generational Differences in Fertility among Mexican Americans: Implications for Assessing the Effects of Immigration.” *Social Science Quarterly* 65:573-582.

Bean, Frank D. and C. G. Swicegood. 1982. “Generation, Female Education and Mexican American Fertility.” *Social Science Quarterly* 63(1):131-144.

Bean, Frank D., C. G. Swicegood and Thomas F. Linsley. 1979. *Patterns of Fertility Variation among Mexican Immigrants to the United States*. Austin: Texas Population Research Center.

Blanc, Ann K. 1982. “Unwanted Fertility in Latin America and the Caribbean.” *International Family Planning Perspectives* 8(4):156-62.

Bolks, Sean M., Diana Evans, J.L. Polinard and Robert D. Wrinkle. 2000. “Core Beliefs and Abortion Attitudes: A Look at Latinos.” *Social Science Quarterly* 81(1): 253-260.

Bongaarts, John. 1982. “The Fertility-Inhibiting Effects of the Intermediate Fertility Variables.” *Studies in Family Planning* 13(6/7):179-89.

Bongaarts, John B. and Robert G. Potter. 1979. “Fertility Effect of Seasonal Migration and Seasonal Variation in Fecundability: Test of a Useful Approximation under More General Conditions.” *Demography* 16(3):475-479.

Bouvier, Leon F. and Lindsey Grant. 1994. *How Many Americans? Population, Immigration and the Environment*. San Francisco: Sierra Club Books.

Bouvier, Leon F. and Dudley L. Poston, Jr. 1993. *Thirty Million Texans?* Washington, DC: Center for Immigration Studies.

Bouvier, Leon F. 1992. *Peaceful Invasions: Immigration and Changing America*. New York: University Press of America.

Brown, Robert W., R.T. Jewell and Jeffrey J. Rous. 2000. "Abortion Decisions among Hispanic Women along the Texas-Mexico Border." *Social Science Quarterly* 81(1):236-252.

Cameron, A. Colin and Pravin K. Trivedi. 1998. *Regression Analysis of Count Data*. Cambridge, NY: Cambridge University Press.

Cochrane, Susan H. and Frank D. Bean. 1976. "Husband-Wife Differences in the Demand for Children." *Journal of Marriage and the Family* 38(2):297-307.

Cohn, D'Vera. 2003. "Hispanics Declared Largest Minority: Blacks Overtaken in Census Update." *Washington Post*, June 19.

De Vos, Susan and Elizabeth Arias. 2003. "A Note on the Living Arrangements of Elders 1979-2000, with Special Emphasis on Hispanic Subgroup Differentials." *Population Research and Policy Review* 22(1):97-101.

Ford, Kathleen. 1990. "Duration of Residence in the United States and the Fertility of U.S. Immigrants." *International Migration Review* 24(1):34-68.

Fry, Richard. 2003. "Hispanic Youth Dropping Out of U.S. Schools: Measuring the Challenge." *Pew Hispanic Center Report*, Washington, DC, June 12.

_____. 2002. "Latinos in Higher Education: Many Enroll, Too Few Graduate." *Pew Hispanic Center Report* Washington, DC, September 5.

Goldscheider, Calvin and William D. Mosher. 1991. "Patterns of Contraceptive Use in the United States: The Importance of Religious Factors." *Studies in Family Planning* 22(2):102-115.

Goldstein, S. and Alice Goldstein. 1983. *Migration and Fertility in Peninsular Malaysia: An Analysis Using Life History Data*. Santa Monica, CA: Rand.

_____. 1981. "The Impact of Migration on Fertility: An "Own Children" Analysis for Thailand." *Population Studies* 35(2):265-284.

Gordon, Milton. 1964. *Assimilation in American Life: The Role of Race, Religion and National Origins*. New York: Oxford UP.

Gurak, Douglas. 1980. “Assimilation and Fertility: A Comparison of Mexican American and Japanese American Women.” *Hispanic Journal of Behavioral Sciences* 2(3):219-239.

Hervitz, Hugo M. 1985. “Selectivity, Adaptation, or Disruption? A Comparison of Alternative Hypothesis on the Effects of Migration on Fertility: The Case of Brazil.” *International Migration Review* 19(2):293-317.

Jaffe, A. J. and Ruth M. Cullen. 1975. “Fertility of the Puerto Rican Origin Population-Mainland United States and Puerto Rico: 1970.” *International Migration Review* 9(2):193-209.

Jones, Gavin and Dorothy Nortman. 1968. “Roman Catholic Fertility and Family Planning: A Comparative Review of the Research Literature.” *Studies in Family Planning* 1(34):1-27.

Kinzer, Nora Scott. 1973. “Priests, Machos and Babies: Or, Latin American Women and the Manichaean Heresy.” *Journal of Marriage and the Family* 35(2):300-312.

Long, J. S. and Jeremy Freese. 2001. *Regression Models for Categorical Dependent Variables Using Stata*. College Station, TX: Stata Press.

Manning, Wendy D. and Nancy S. Landale. 1996. “Racial and Ethnic Differences in the Role of Cohabitation in Premarital Childbearing.” *Demography* 58(1):63-77.

Massey, Douglas S., Jorge Durand and Nolan J. Malone. 2002. *Beyond Smoke and Mirrors: Mexican Immigration in an Era of Economic Integration*. New York: Russell Sage Foundation.

Massey, Douglas S. and Kristin E. Espinosa. 1997. “What’s Driving Mexico-U.S. Migration? A Theoretical, Empirical and Policy Analysis.” *American Journal of Sociology* 102(4): 939-99.

Massey, Douglas S. 1986. “The Settlement Process among Mexican Migrants to the United States.” *American Sociological Review* 51(5):670-684.

Massey, Douglas S. and Brendan P. Mullan. 1984. “A Demonstration of the Effect of Seasonal Migration on Fertility.” *Demography* 21(4):501-517.

Menken, Jane. 1979. “Seasonal Migration and Seasonal Variation in Fecundability: Effects on Birth Rates and Birth Intervals.” *Demography* 16(1):103-119.

Morgan, S. P. 1982. “Parity-Specific Fertility Intentions and Uncertainty: The United States, 1970 to 1976.” *Demography* 19(3):315-334.

Mosher, William D., David P. Johnson and Marjorie C. Horn. 1986. “Religion and Fertility in the United States: The Importance of Marriage Patterns and Hispanic Origin.” *Demography* 23(3):367-379.

Mosher, William D. and Gerry E. Hendershot. 1984. “Religious Affiliation and the Fertility of Married Couples.” *Journal of Marriage and the Family* 46(3):671-677.

Murdock, Steve H., Nazrul Hoque, Martha Michael, Steve White and Beverly Pecotte. 1997. *The Texas Challenge: Population Change and the Future of Texas*. College Station, TX: Texas A&M University Press.

Park, Robert E. 1950. *Race and Culture*. Glencoe, NY: The Free Press.

Pick, James B., Glenda L. Tellis and Edgar W. Butler. 1989. “Fertility Determinants in the Oil Region of Mexico.” *Social Biology* 36(1): 45-66.

Poston, Dudley L., Jr. and Sherry L. McKibben. 2003. “Using Zero-inflated Count Regression Models to Estimate the Fertility of U.S. Women.” *Journal of Modern Applied Statistical Methods* 2(2): (Forthcoming).

Poston, Dudley L., Jr. 2002. “The Statistical Modeling of the Fertility of Chinese Women.” *Journal of Modern Applied Statistical Methods* 1(2): 387-396.

Rubin-Kurtzman, Jane R. 1987. *The Socioeconomic Determinants of Fertility in Mexico: Changing Perspectives*. San Diego: Center for U.S.-Mexican Studies.

Saenz, Rogelio. 2004. *Latinos and the Changing Face of American at the Turn of the Century*. Population Reference Bureau, Russell Sage Foundation Census 2000 Publication Series (Forthcoming).

Saenz, Rogelio and Maria Christina Morales. 2004. “Demography Race and Ethnicity.” in D.L. Poston, Jr. and M. Micklin (eds.), *The Handbook of Population*. New York: Academic/Klewers Plenum (Forthcoming).

Sander, William. 1992. “Catholicism and the Economics of Fertility.” *Population Studies* 46(3): 477-489.

Schoen, Robert, Nan M. Astone, Young J. Kim, Constance A. Nathanson, Jason M. Fields. 1999. “Do Fertility Intentions Affect Fertility Behavior?” *Journal of Marriage and the Family* 61(3):790-799.

Singley, Susan G. and Nancy S. Landale. 1998. “Incorporating Origin and Process in Migration-Fertility Frameworks: The Case of Puerto Rican Women.” *Social Forces* 76(4):1437-1464.

Stephen, Elizabeth H. and Frank D. Bean. 1992. “Assimilation, Disruption and the Fertility of Mexican-Origin Women in the United States.” *International Migration Review* 26(1):67-88.

Stephen, Elizabeth H. 1987. *At the Crossroads: Fertility of Mexican-American Women*. New York: Garland Publishing, Inc.

Swicegood, C. G., Frank D. Bean, Elizabeth H. Stephen and Wolfgang Opitz. 1988. “Language-usage and Fertility in the Mexican-Origin Population of the United States.” *Demography* 25(1):17-33.

Uhlenberg, Peter. 1973. “Fertility Patterns within the Mexican American Population.” *Social Biology* 20(1):30-39.

Unger, Jennifer B. and Gregory B. Molina. 1997. “Desired Family Size and Son Preference among Hispanic Women of Low Socioeconomic Status.” *Family Planning Perspectives* 29(6):284-287.

Weeks, John. 1996. *Population: An Introduction to Concepts and Issues*. (Sixth Edition). Belmont, CA: Wadsworth Publishing Co.

APPENDIX A

DESCRIPTIONS OF VARIABLES

Description of Variables to be Used in the Analysis: Women from the National Survey of Family Growth, 1995

Variable	Description	Metric
Fertility Outcome		
Ideal Number of Children	If you yourself could choose exactly the number of children to have in your whole life, how many would you choose?	Continuous variable: 0 to 11.
Children Ever Born	Number of babies born alive to a woman	Continuous variable: 0 to 16.
Ethnicity		
Mexican	Self-identification of Latino subgroup; Are you…?	Equals 1 if Mexican, 0 otherwise.
Puerto Rican		Equals 1 if Puerto Rican, 0 otherwise
Other Latina		Equals 1 if "Other" Latina, 0 otherwise.
White		Equals 1 if White, 0 otherwise.
Demographic Composition		
Birthplace	Were you born outside of the United States?	Equals 1 if the respondent was born outside the United States, 0 if native-born.
Age	Women's current age; How old are you?	Equals 1 if the woman is between the ages 15-19, 0 otherwise. [reference category]
		Equals 1 if the woman is between the ages 20-24, 0 otherwise.
		Equals 1 if the woman is between the ages 25-29, 0 otherwise.
		Equals 1 if the woman is between the ages 30-34, 0 otherwise.
		Equals 1 if the woman is between the ages 35-39, 0 otherwise.
		Equals 1 if the woman is between the ages 40-44, 0 otherwise.

Marital Status	What is your current marital status?	Equals 1 if married, widowed, divorced, or separated, 0 otherwise.
Socialization Factors		
Mother's Education	What is the highest grade of elementary, junior high, high school or regular college your mother ever completed?	Continuous variable: 1st grade=01 to 7+ years of college=19; No formal schooling=00
Mother's CEB No=0	Including yourself, how many children did your mother have who were born alive to her?	Continuous variable 00 to 20 or more
Sex Education	Have you ever talked with a parent or guardian about…How pregnancy occurs? Methods of birth control? Sexually transmitted diseases? OR Have you ever had in formal instruction at school, church, a community center, or some other place about…Methods of birth control? Sexually transmitted diseases? How to prevent AIDS using safe sex practices? Abstinence or how to say NO to sex?	Equals 1 if the respondent answered “Yes” to any of the questions regarding sex education, 0 otherwise.
Catholic	What religion are you now, if any?	Equals 1 if Catholic, 0 otherwise.
Church Attendance	How many times a week to you attend religious services?	Equals 1 if respondent attends church "at least once a week", 0 otherwise.
SES/Employment Status		
Education	What is the highest grade or year of school you have completed?	Continuous variable: 1st grade=01 to 7+ years of college=19; No formal schooling=00
Employment	Did you work for pay last week?	Equals 1 if yes, 0 otherwise.
Fertility History		
Ever Used Birth Control	Have you ever used a birth control method?	Equals 1 if the respondent answered "Yes" to ever having used a birth control method, 0 otherwise.
Abortions	Total number of pregnancies ending in abortion.	Continuous variable: 0 to 11.

Source: Cycle V (1995), National Survey of Family Growth (NSFG).

APPENDIX B

POISSON REGRESSION COEFFICIENTS

Appendix B: A Comparison of Unstandardized Coefficients from the Poisson Regression of Ideal Number of Children and Children Ever Born on Mexicans, Puerto Ricans, Other Latinas and Whites: Women from the National Survey of Family Growth, 1995.

	Ideal Number of Children				
	Model 1	Model 2	Model 3	Model 4	Model 5
Ethnicity					
Mexican	0.161***	0.140***	0.063*	0.044	0.044
Puerto Rican	0.055	0.068	0.008	-0.003	-0.000
Other Latina	0.067	0.039	0.011	0.014	0.017
Demographic Composition					
Foreign-born		0.049	-0.007	-0.011	-0.012
Ages 20-24		-0.040	-0.045	-0.018	-0.016
Ages 25-29		-0.048	-0.063	-0.020	-0.015
Ages 30-34		-0.045	-0.078	-0.029	-0.024
Ages 35-39		-0.037	-0.082	-0.022	-0.017
Ages 40-44		-0.029	-0.085	-0.017	-0.013
Ever Married		0.093***	0.088***	0.100***	0.093***
Socialization Factors					
Mother's Education			-0.005*	-0.001	-0.000
Mother's CEB			0.011***	0.010**	0.009**
Sex Education			-0.048*	-0.034	-0.033
Catholic			0.041*	0.045*	0.044*
Church Attendance			0.100***	0.102***	0.097***
SES/Employment Status					
Education				-0.015**	-0.014***
Employment				-0.097***	-0.095***
Fertility History					-0.053
Ever Used Birth Control					-0.039*
Abortions					
Pseudo R2	0.002	0.000	0.007	0.010	0.010

* Significance at the 0.05 level
** Significance at the 0.01 level
*** Significance at the 0.001 level

APPENDIX C

ZERO-INFLATED POISSON REGRESSION COEFFICIENTS

Appendix C: A Comparison of Unstandardized Coefficients from the Zero-Inflated Poisson Regression of Children Ever Born on Mexicans, Puerto Ricans, Other Latinas and Whites: Women from the National Survey of Family Growth, 1995.

	Children Ever Born				
	Model 1	Model 2	Model 3	Model 4	Model 5
Ethnicity					
Mexican	0.235**	0.240***	0.171***	0.055	0.045
Puerto Rican	* 0.058	0.140*	0.099	-0.012	0.044
Other Latina	-0.011	-0.043	-0.049	-0.070	-0.055
Demographic Composition					
Foreign-born		0.060	-0.002	-0.060	-0.052
Ages 20-24		0.438***	-0.411***	0.446***	0.435***
Ages 25-29		0.612***	-0.559***	-0.634***	0.642***
Ages 30-34		0.750***	-0.663***	-0.746***	0.750***
Ages 35-39		0.840***	0.733***	0.842***	0.841***
Ages 40-44		0.868***	0.748***	0.872***	0.857***
Ever Married		0.154***	0.130***	0.175***	0.125***
Socialization Factors					
Mother's Education			-0.018***	-0.001	-0.000
Mother's CEB			0.025***	0.018***	0.016***
Sex Education			-0.093***	-0.040	-0.018
Catholic			-0.015	-0.007	-0.026
Church Attendance			0.110***	0.121***	0.072***
SES/Employment Status					
Education				-0.046***	-0.037***
Employment				-0.195***	-0.155***
Fertility History & Intentions					
Ideal Number of Children					0.110***
Ever Used Birth Control					0.016
Abortions					-0.139***

* Significance at the 0.05 level
** Significance at the 0.01 level
*** Significance at the 0.001 level

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