The University of Texas at Austin, Department of Sociology Honors Thesis

Disparities in children's health across sociodemographic groups in Chile

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Section I: An introduction to the Second Demographic Transition in Chile and the proposed method of empirical analysis of the concept.

I. Introduction: The sociological insight of demographic concepts.

In this thesis, I measure the mortality of Chilean offspring and the mothers' marital status, education level, and age. I will use the results I gather to gain insight into the demographic changes occurring in Chile, specifically trying to ascertain if the demographic changes in Chile are indicative of a Second Demographic Transition (SDT) in the region. In this chapter, I review the demographic shift in Chile and introduce the SDT concept and place it within the frame of demographic and sociological research. I analyze the major claims and critiques.

One key project of demography is to identity the form of a society. The form is a citation of a visual shape, with its boundaries defined by population characteristics, these can include the age structure, mortality and fertility rates, and other lifestyle habits that produce population changes. This is a key project because the population's form, or shape, reveals trends in society with a quantifiable clarity. Because social trends can impact the form of the population, there can also be an analysis of the population's changing shape to derive and identify social trends. The Second Demographic Transition is a concept that has been used to interpret demographic trends, specifically in Europe. The concept describes a shift in family formation, the timing of marriage and childbirth, using an account of ideational and value changes, which inform the family forming behavior. The main demographic effects of the SDT are delayed and lowered fertility, which are then tied to ideational and value shifts away from traditional family forms. It is presented structural, cultural, and technological changes reflected in family formation behavior, such as an increase in childbearing outside of marriage (Sobotka 2008). In the last several decades, nonmarital childbearing has increased drastically in Chile, with 64.6 percent of children being

born to unmarried mothers in 2008, compared to 15.9 percent in 1960 (Salinas 2010).

I will use data regarding the incidence of dead children and mothers' sociodemographic features in consideration of the Second Demographic Transition and investigate whether it supports a hypothesis suggesting the demographic shift occurring in Chile is indicative of the SDT's presence. When reviewing the literature surrounding the SDT I will discuss its prominent features as well as some of its criticisms.

II. Literature Review: Establishing the concept and contention of the Second Demographic Transition.

The term, Second Demographic Transition, uses a semantic approach to situate itself as the succession to the "Demographic Transition," which refers to the decline in mortality and fertility in the last two centuries, beginning in Western countries and spreading almost globally (Lesthaeghe 2010). Where the Demographic Transition is characterized by decline in mortality and fertility, the SDT is characterized by a further decline and postponement of fertility, as well as a shift away from traditional marriages to form families (Van de Kaa 2002).

Marriage is commonly viewed as a desirable lifestyle choice by individuals and often associated with generally positive health outcomes for children, suggested by research from Europe, the United States, and Canada which finds that infants from unmarried couples suffer higher risks for low birth weight, preterm birth, and death (Sobotka 2008, Buckles, Price 2013, Stipkova 2013). The desirability of marriage is often tied to religious notions of union formation and the perceived security of marriage, while cohabitation became traditionally the domain of the working class and poor (Sobotka 2008). Marriage's status as a desirable and beneficial institution made the rapid expansion of cohabitation and childbearing outside of marriage confounding. Cohabitation, a long term union where partners live together but are not married formally, and nonmarital birth has grown in past decades in Europe, and while the growth is heterogenous between various groups of women (eg the higher and

lower educated) the trend has occurred in a uniform way over time towards a growing number of childbearing outside of marriage (Sobotka 2008). The trend of highly educated women electing to cohabit and bear children outside of marriage is counter to the traditional view of marriage described because the highly educated enjoy a social status and privilege above those with lower education levels, and so the choice to engage in what has been traditionally the realm of the underprivileged is potentially symptomatic of a change in the values and ideas associated with marriage. This changing perception of marriage and trend of cohabitation of and extramarital birth is what is described and explained by the Second Demographic Transition concept as it links the ideational and value changes that are now manifested in a demographic shift away from marriage (Lesthaeghe 2010).

The Second Demographic Transition is made possible by cultural, technological, and structural changes (Sobotka 2008). Structural changes, such as the implementation of state welfare policies or the expansion of higher education, changed the material conditions surrounding family formation. Perhaps the most notable of the technological changes is the expansion of contraception. In Van de Kaa's words, the SDT is a "stage characterized by full control over fertility," due to contraceptive technology (2002 p.2). The cultural changes that are associated with the SDT are centered around ideational and value shifts, such as the value placed on marriage. Family related attitudes have shifted because of a change in values, a shift towards non conformist values. Increasingly, people have aspirations of self-fulfillment and individual autonomy, which begets the "demographic tempo shift" of postponed marriage and first-birth (Lesthaeghe 2010, p. 230). Tomáš Sobotka notes that parenthood is diminished in its role as a necessary prerequisite for self-fulfillment, with individuals reporting an unwillingness to give up leisure activities in order to have children (2008). Lesthaeghe suggests that SDT attitudes can be observed as early as the 1950s in some regions, starting with an increase in divorce rate as tolerance for

divorce rose (2010). People's values have become what has been called postmaterialist (Weaklim 2002), which are based on individualism and self expression, which are the characteristics of the SDT values (Lesgaethe 2010). Education can be viewed as "a proxy for cultural endowment," which is linked to postmaterialist values, such as eschewing conformity to traditional values and a decline in religiosity (Sobotka 2008).

The attitudes and behavior associated with the Second Demographic Transition parallel women's liberation. Women entering the labor force are emancipated from traditional family formation as they no longer require marriage to survive. Nations with high levels of gender equality, especially the Nordic states, are also higher in SDT progression (Sobotka 2008). Higher levels of employed women are linked to SDT outcomes such as higher levels of divorce and cohabitation, and lower marriage rates (Sobotka 2008). Cohabitants without children, as well as those engaged in SDT lifestyles tend to have a greater gender symmetry (Lesthaeghe 2010). With higher levels of education and gender symmetry, SDT lifestyles are framed as modern lifestyles. They are modern in the sense that they are liberated from the constraints of tradition. Women and men are freed from the institution of marriage, pursuing individual goals.

Skeptics of the Second Demographic Transition's utility as a conceptual model argue that it does not have proven validity. Brenda Perelli-Harris finds a weakness in the SDT explanation of cohabitation as the adopted behavior of the highly educated (2011). Instead of the cohabiting population being made up of those with more education, she found the opposite is true in her study of Europe (Perelli-Harris et al. 2011). This is a major challenge for the Second Demographic Transition as a model because it is a model of transition. The idea is that society is becoming more educated, and that education is causing the acceptance and adoption of new behaviors, as the highly educated are

associated with early adoption of the values and behavioral choices associated with the SDT (Sobotka 2008). This is challenged by evidence that cohabitation is the choice of disadvantaged. If the trends exist, but are not due to an adoption of new lifestyles by those emancipated from traditional behavior, then the SDT model is not an accurate description of the demographic changes. Supporters of the SDT model acknowledge this peculiarity, but suggest that in this case what starts from economic advantage in the lower educated can spread to the highly educated, so that in some societies cohabitation becomes practiced more often in a different segment of the population first and then spread, in this case from lower educated to the highly educated (Sobotka 2008).

Another skeptic argues that the SDT is misrepresenting itself (Coleman 2004). The name, Second Demographic Transition, places the transition as second to the first, but Coleman finds this to be disingenuous, arguing that instead of being a second transition, it is a shift which is secondary to the first (2004). Also, the use of the term demographic to describe the phenomenon is not applicable in Coleman's view (2004). It is not a model composed of the same elements that the first demographic transition was, such as aging and mortality; it is more focused on lifestyle changes than demographic factors. Coleman also questions the use of "transition" in the concept's name. The first demographic transition was a genuine transition because it has proven irreversible, the SDT may prove unsettled (Coleman 2004). It is formed largely by state policies governing resources, such as education, medicine, and child-care, which welfare states allocate to promote women's ability to participate in the labor market and promote public health. If welfare states withdrew these resources, family formation might return to the traditional forms because the new forms are dependent on the the current resources. In this way, Coleman questions the utility of conceiving of the ideas within the SDT in a way that it is framed by its label into a "transition narrative," (Sobotka 2008 p. 174).

Responding to Coleman's criticism, Lesthaeghe argues that the idea of raising children has changed to fit the new goal of self-fulfillment (2010). Instead of value being placed on the children, it is placed on how having children fulfills the individual. The new ideational and value system is what makes the SDT distinct from the first demographic transition. Similarly, the SDT incorporates a distinct form of marriage. In the demographic transition, divorce was not a relevant factor, whereas in the SDT, divorce represents a new, possibly utilitarian view of marriage, where the union is weighed according to what the individual gains from it (Lesthaeghe 2010). SDT proponents argue that the influence of postmaterialist values are what establishes the SDT as a transition, rather than a secondary effect.

Viviana Salinas provides a detailed analysis of the Second Demographic Transition in Chile, finding that married mothers hold higher educational attainment, income, and labor force participation (2011). Salinas also finds that among married and unmarried mothers, there is not a large disparity in attitudes and values (2010). The privilege of married couples is made clear in this research, a finding that makes Chile's demographic changes resistant to a SDT explanation. Albert Esteve however has found results which may suggest that demographic changes in Chile and other Latin American nations are evidence of the SDT. More highly educated women in the 25-29 age group have declining marriage rates, electing either to not enter any union or cohabit (Esteve, García-Román, Lesthaeghe 2012). Esteve argues that living in extended households, as opposed to nuclear, are part of the Latin American version of the SDT, and that since there is an increase in cohabitation which is nuclear, the demographic changes can be identified as SDT indicators, but not ones which mirror the European transition completely.

III. Plans for research.

In my research I will try to determine whether population changes in Chile are evidence of the

presence of the Second Demographic Transition, or if this explanation is insufficient. Its nature as a narrative is broad and fluid, one that can resist empirical treatment (Sobotka 2008). It may resist empirical treatment because diverse family formation behaviors may be chosen for a number of reasons, and in the SDT there are specific values which must be found working in demographic changes. In Chile this may be found to be more true, as Esteve suggests that in Latin America, where cohabitation has a long history and is often done when living with extended family, the SDT behaviors exist simultaneously (Esteve, García-Román, Lesthaeghe 2012). If married and unmarried mothers experience similar outcomes for children's health in every sociodemographic group, then the SDT may be a useful concept for framing the demographic changes occurring in Chile. The mother's education level has demonstrated a large and very direct impact on infant mortality rates in Chile (Young, Garcia 1996). By studying infant mortality rates, I am examining one aspect of varying union formations. A lack of disparity between the infant mortality rates of the married and cohabiting may suggest a lack of disparity between education levels. Educated couples electing to cohabit, instead of or delaying marriage, fulfill SDT predictions and indicate postmaterialist values manifesting in demographic change. If unmarried mothers experienced better children's health outcomes than their married counterparts, the result would suggest not only a diminished institution of marriage but one that reflects a social disadvantage. If the opposite is true, and marriage is associated with lower levels of infant mortality, then the married would have a privilege. Privilege for the married questions the SDT's presence in the region, as it indicates that in a society it is the privileged that get married, counter to the SDT concept's description of the unmarried cohabiting as highly educated and empowered.

My research will compare children's health outcomes of mothers by marital status and sociodemographic characteristics, such as age and education level. Any disparities that emerge in these

comparisons will then be studied from the point-of-view attempting to determine the presence of a Second Demographic Transition in Chile.

Section II: Methodology and Data

The microdata used for this research was provided by the Integrated Public Use Microdata Series, International, (IPUMS International), which was provided the underlying census data by the National Institute of Statistics in Chile (IPUMS 2013). The methodology used for collecting the census data was face to face interviews conducted by trained personnel systematically in every tenth dwelling with individuals apparently aged 15 and over in April 2002, with a sample size of 1,513,914 individuals, amounting to a sample fraction of 10%. The IPUMS International microdata was used for this research because the informational content and sample size makes it possible to use large numbers of observations.

The interviews collected individual information about the number of children ever born and surviving children ever born as well as information about sociodemographic characteristics such as region lived-in, educational attainment, marital status, and the status of a potential consensual union which is described as a union that is described as a permanent union similar to a marriage in practice, but one not legally formal.

The mean of children ever born and children surviving is used to obtain a proportion of children dead. This is done for the ages, in 5 year intervals, 15 through 34. Using the variables for children ever born and children surviving, a variable is generated for the number of children dead. This variable is used as the dependent variable in a Poisson regression, with alternating independent variables used. The result coefficients are exponentiated to present the results as incident rate ratios. The independent variables are then focused in scope by specifying urban status, age, marital status, and number of

children born. Where specified, the scope is limited to women with one child within certain age groups because this focuses on an age group which would typically exhibit Second Demographic Transition characteristics in a region where it is occurring. In the first table, the means of children ever born and children surviving are used to create a proportion of surviving children for each age group within certain marital status groups. The mean of these proportions is then combined and put into another column.

Section III: Results

Table 1: Proportion of children surviving for age group, *i*, and marital status.

All mothers irrespective of union status:

Age group, *i*	Number of women	Proportion of children surviving, in age group *i*	Mean of the combined age groups
15-19	62931	0.957389378576702	0.971380351171326
20-24	59861	0.975002957200007	
25-29	60019	0.977430674592082	
30-34	60797	0.975698394316511	
Married:			
15-19	5163	0.96020238198739	0.972663034864752
20-24	19089	0.977225392971099	
25-29	34803	0.977209792976133	
30-34	42994	0.976014571524385	
Consensual Union:			
15-19	2962	0.963419606296289	0.972356545378072
20-24	7693	0.977948854987592	
25-29	8562	0.976374073472286	

30-34	7869	0.971683646756123	
Single:			
15-19	57422	0.970936974687553	0.973906350840758
20-24	40000	0.971046025104603	
25-29	22872	0.977431929527259	
30-34	13903	0.976210474043618	
Separated:			
15-19	118	0.973076940532543	0.986644486508926
20-24	596	0.980209883609998	
25-29	1867	1.02115740079165	
30-34	3071	0.97213372110152	

Table 2: Poisson Regression result coefficients by urban area and age-group.

Urban-Rural Status, Reference group: Rural	**Coefficient (x)**	**$e^{(x)}$**
Urban	-.1451338	0.864906
Age group, Reference group: 15-19	**Coefficient (x)**	**$e^{(x)}$**
20-24	-.5220379	.5933102
25-29	-.6065984	.5452023
30-34	-.5518042	.5759098

Table 3: Poisson Regression result coefficients by marital status, in 20-24 age group.

Marital status, Reference group: Single, never married	**Coefficient (x)**	**$e^{(x)}$**
Married, formally	-.239534	0.7869945
Consensual Union	-.2741881	0.7601891
Separated	-.4448657	0.6409103
Annulled	1.760039	5.812664
Widowed	.35974	1.43296

Table 4: Poisson Regression result coefficients by age group among married.

Age group, Reference group: 15-19	Coefficient (x)	$e^{(x)}$
20-24	-.660083	.5168084
25-29	-.6760928	.5086003
30-34	-.6633392	.5151283

Table 5: Poisson Regression Result coefficients by age group in consensual union.

Age group, Reference group: 15-19	Coefficient (x)	$e^{(x)}$
20-24	-.4548073	.6345702
25-29	-.3298267	.7190483
30-34	-.2109264	.8098337

Table 6: Poisson regression result coefficients by marital status in women age 20 to 24, with an educational attainment of secondary or higher, living in an urban area, and one child born.

Marital Status, Reference group: Single, never married	**Coefficient (x)**	**$e^{(x)}$**
Married	-.5367855	.5846245
Consensual Union	.0306286	1.031102
Separated	-.8342651	.4341935
Annulled	-12.29685	4.57e-06
Widowed	-12.29685	4.57e-06

Table 7: Poisson regression result coefficients by marital status in women age 20 to 29, with an educational attainment of secondary or higher, living in an urban area, and one child born.

Marital Status, Reference group: Single, never married	**Coefficient (x)**	**$e^{(x)}$**
Married	-.3979659	.6716849
Consensual Union	-.199138	.8194368
Separated	-.9639912	.3813677
Annulled	-12.11454	5.48e-06
Widowed	-12.11454	5.48e-06

Table 8: Poisson regression result coefficients by educational attainment in married women ages 20 to 24, living urban areas, and one child born.

Educational attainment, Reference group: Less than primary completed	**Coefficient (x)**	**$e^{(x)}$**
Primary completed	-.2304644	.7941647
Secondary completed	-.6678511	.5128094
University completed	-17.17748	3.47e-08

Table 9: Poisson regression result coefficients by educational attainment in single women ages 20 to 24, living urban areas, and one child born.

Educational attainment, Reference group: Less than primary completed	**Coefficient (x)**	**$e^{(x)}$**
Primary completed	-.5551424	.5739905
Secondary completed	-.4143261	.6607854
University completed	-13.11432	2.02e-06

Results summarized

In Table 1, the proportion of dead children, there is a muted disparity. No group or age range demonstrates significantly different results. Table 2 demonstrates drastic differences in incidence rate ratios for later age groups. In the second age group, containing mothers ages 20 to 24, mothers experience a .59 proportion of incidence of having a child die compared to mothers ages 15 to 19, and the trend follows for each succeeding group in the table, with mothers ages 25 to 29 having the lowest incidence rate ratio, referenced towards mothers ages 15 to 19, the lowest age group in the scope of the table. While later groups experience much lower incidence rate ratios, there is not a large disparity among the groups.

In the results where all mothers are married, age has less of an impact than in the results of mothers who are in consensual unions. Mothers who are married have incidence rate ratios that are very close in value. Mothers in consensual unions have incidence rate ratios which are more varied, and follow a distinct trend of older mothers having higher incidence rate ratio values. As discussed previously, age groups have just subtle disparities when not limiting the scope in other ways.

When age was limited to one group, mothers ages 20 to 24, those in consensual unions experienced a slight benefit, but are close in value to the married mothers in the incidence rate ratios with single, never married mothers as the reference group. When the scope was limited to mothers with one child, have secondary education or higher, live in urban an area, and are in certain age groups, in tables 6 and 7, a larger disparity emerges between married and cohabiting mothers, with those in consensual unions experiencing higher incidence rate ratios. Annulled and widowed mothers have extremely high values in their incidence rate ratios, and their standard errors are also extreme. In this table, there is the first instance of separated mothers having the lowest value in the incidence rate ratios,

compared to single mothers. This is repeated in every comparison of incidence rate ratios with single mothers as the reference group, although the group of separated mothers is considerably smaller than the groups of married and cohabiting.

Section IV: Discussion

The Poisson regression results support existing research which finds certain sociodemographic groups in Chile to be disadvantaged (López and Bréart 2013, Salinas 2011, Young and Garcia 1996). Every group of mothers except for those who are widowed or have annulled marriages experience substantially lower incidence rate ratios for dead children. The other groups which experience high incidence rate ratios are the least-educated and young mothers, below 20 years old. This disadvantage is supported by previous findings that young mothers under 18 experience a higher risk of preterm births than mothers in the age group between 18 and 38 years old, and that the education level of mothers has been found to be a substantial indicator of infant mortality in Chile, standing apart from urbanization (López and Bréart 2013,Young and Garcia 1996).

Previous research that married women are the most advantaged group of mothers in Chile stands out as particularly supportive of the results of the Poisson regressions. The incidence rate ratios for women who fit specific sociodemographic characteristics in tables 6 and 7 demonstrate the disparity between married and cohabiting mothers. When the mothers are selected from sociodemographic groups that should logically be representative of a Second Demographic Transition if one is occurring, which is to say that they are educated, live in an urban area, and have one child. In this test, the mothers in consensual unions experience higher incidence rate ratios than mothers who are married, which is not indicative of a SDT, as the incidence rate ratio would be expected to be approximately equal for mothers in consensual unions and marriages. Another results which compels explanation is the increased

impact of age on the incidence rate ratios of mothers in consensual unions. In tables 4 and 5, the age groups among married and cohabiting mothers are tested, finding that while incidence rate ratios among married mothers remain fairly stable among age groups, there are marked increases for older age groups among cohabiting mothers.

Married mothers exhibit significant privilege over cohabiting mothers, as is outlined in previous research. Viviana Salinas finds that married mothers stand far apart from any other group in terms of educational attainment, income and participation in the labor force (2011). While educational attainment is accounted for in table 6 and 7, the income and labor force participation of the mothers are not, which are factors that could account for the disparities found between cohabiting and married mothers. The lack of disparities found in table 3, which includes a slight disparity in favor of cohabiting mothers is not necessarily explained by the research affirming the privilege of married mothers. In the tests of education, it is clear that education has a large impact, and if one sociodemographic group, ie married mothers, had much higher attainment, then this could be reflected in incidence rate ratios for more general groups, not limited in scope to specific educational attainment levels.

The privilege of married mothers may be demonstrated in table 5, where cohabiting mothers have elevated incidence rate ratios in higher age groups. This may be due to a delay of marriage, but not a shrinking affinity among mothers to get married eventually. Salinas notes that among unmarried mothers in Chile, many maintained an attitude that marriage was desirable, but something they delayed for several reasons (2010). The reasons were not informed by post-materialist values, but by practical thresholds, such as wanting to wait to get married until they had a better job or had bought a house. If mothers in the younger age group satisfy personal requirements for marriage, and go from a cohabiting union to a marriage. Those left in consensual unions may remain due to disadvantages disallowing their

personal graduation to marriage, as value orientations favoring marriage are common in married and cohabiting groups with no great disparity (Salinas 2010). Marriage has diminished practical value, such as access to childbearing and sex, but the symbolic value is retained. The mothers that Salinas researched have prerequisite standards before marriage that are socially informed by the symbol of marriage, standards and goals such as home ownership (Salinas 2010). Table 5's increasing rate ratios by age group may depict the graduation of women who meet these goals to marriage, those left cohabiting in higher age groups may not have met the goals. The goals that Salinas describes are often overcoming economic constraints (2010), constraints that may be associated with worse health outcomes for children.

Reasons for a lack of convergence between may be a selection towards marriage among privileged groups and a lack of social support due to stigma associated with cohabitation. These two factors are the researched hypotheses for a convergence of low birth weight in the Czech Republic, a convergence can be explained by a declining selection of marriage by mothers with more education from better social backgrounds, and an increase in social support as rising levels of unmarried mothers lighten the psychosocial burden (Stipkova 2013). These hypotheses may describe the experience of Chilean mothers, but as there is not a convergence in the health outcomes of children, the experience may be a selection towards marriage by women who are better off and a maintained psychosocial burden for unmarried women, translating into worse outcomes for nonmarital children.

The first hypothesis, a selection bias attracting women from better social backgrounds to marriage, corresponds with Salinas' finding in Chile, where married women experience significant advantage over other groups. Salinas finds that married women in nuclear households have higher income, educational attainment, and labor force participation (2011). This socioeconomic advantage is

also reproduced consistently as women who come from an affluent background have the highest chance of bearing their first child within a married, nuclear household, which can perpetuate the selection towards marriage (Salinas 2011).

The next hypothesis explaining a disparity between health outcomes for marital and non-marital children is the direct effect of marriage. A direct, positive effect of marriage on health outcomes suggests that marriage is a source of psychosocial and economic support that cultivates good health outcomes (Stipkova 2013). The direct impact of marriage on children's health outcomes could explain why married mothers of similar age and education in urban settings have advantages over cohabiting mothers, as there is a higher level of partnership quality and consensual unions are more more likely to be dissolved than marriages, impacting children's health outcomes (Stipkova 2013). Stigma associated with cohabitation may also impact children's health outcomes depending on the mother's marital status (Stipkova 2013). A burdensome stigma forms cohabitation as a deviant act, creating psychosocial pressure on cohabiting women, which is then translated into poorer health outcomes. There is a reported de-stigmatization of cohabitation and non-marital parenthood in Chile, which is an indicator of the Second Demographic Transition as the stigma loosens as cohabitation is more commonly practiced (Esteve, García-Román and Lesthaeghe 2012). There is also a traditional context for cohabitation in Chile, which may affect perceptions that cohabitation is deviant and therefore stigmatized. The hypotheses of convergence of health outcomes of children between married and cohabiting mothers may also explain the disparity in Chile, if the mechanics of convergence, increased social support for cohabiting mothers and a lessening selection towards marriage for the privileged, perpetuate a disparity if they are not changing. This is to say, cohabiting mothers' children in Chile may suffer worse health outcomes due to selection of marriage by women less likely to have adverse health outcomes or their

offspring and the election to cohabit may be stigmatized. Women from affluent social backgrounds selecting to marry, thus limiting cohabiting mothers to a group which is more likely to suffer worse health outcomes for their children, is supported by the existing research in Chile (Salinas 2010, 2011). A potential stigmatization associated with non-marital childbearing seems likely to have been diminished, though, as it has undergone a decline in marriage among the 20 to 29 age group, with about half of the decline being attributed to increases in cohabitation (Esteve, García-Román, Lesthaeghe 2012).

Expansion of nonmarital childbearing may be indicative of a pattern of disadvantage rather than a Second Demographic Transition. In the United States and other nations, expansion of cohabiting parenthood is not tied to a replacement of marriage with cohabitation, but an increase in single motherhood (Perelli-Harris, Gerber 2011). The increase of fertility in cohabitation can be ambiguous, part of a pattern of disadvantage or indicative of the Second Demographic Transition, but there has been an increase of single motherhood in Chile, signalling a pattern of disadvantage (Esteve, García-Román, and Lesthaeghe 2012). There is a high level of premarital sex and relatively low contraceptive use in Chile (Herold, Valenzuela, and Morris 1992), which could be explaining the level of single and cohabiting motherhood. The nonmarital motherhood of the SDT is within the context of a change in the character in cohabitation, as a replacement to marriage, while nonmarital motherhood in Chile doesn't seem to adopt this characteristic. The SDT is in an era where women have total control of their fertility (Van de Kaa 2002), but this is not true for Chile, which has restrictive abortion policies (Molina-Cartes et al. 2013). The structural and cultural changes necessary for a SDT are not clearly present in Chile, many women still desire marriage when cohabiting, suggesting cohabitation has not become a permanent substitution for marriage (Salinas 2010), and traditional views towards sexual relationships remain, lacking norms that are gender symmetrical (Barrientos 2010).

Section V: Conclusion

The disparities in children's health outcomes that emerge between sociodemographic groups adds to existing evidence that the demographic shift occurring is not indicative of a Second Demographic Transition. Cohabitation in Chile, in my results and in previous research, does not appear to take on the approximate character of marriage, as cohabiting mothers do not have identical health outcomes for their offspring. In the context of previous research which indicates that reasons for not marrying held by unmarried mothers are not informed by post-materialist values, instead by economic and emotional constraints, the results for health outcomes of children may demonstrate the disadvantage experienced by unmarried children.

The Second Demographic Transition is dependent on women having control of their fertility and a shift in value, which are then manifested in a change of timing and form of life events. Marriage and childrearing are delayed or avoided as a response to structural changes, such as women's emancipation and access to healthcare, and new norms. Marriage assumes a diminished status practically, due to structural changes, and symbolically, due to cultural changes. The results do not corroborate this vision in Chile, as there is a disparity in health outcomes for the children of unmarried mothers, most severely experienced by children of unpartnered mothers.

Future research of the demographic changes in Chile should address the impact of healthcare on the demographic shifts. Chile has restrictive abortion policies, and the impact of these policies on fertility rates as well as the psychosocial experience of sexual activity can be analyzed to see how decisions are made that accumulate over the society and impact demographic patterns. Since cohabitation has different cultural content across different nations, it is important that a sophisticated typology exists in nations, such as Chile, where there is a plurality of types of cohabitation. There is cohabitation between

the nuclear family as well as the extended family, but an account of couples' experiences can determine a typology by age, education, and income status. This could include a determination of what Second Demographic Transition cohabitation looks like across different sociodemographic groups.

Section VI: Bibliography

Barrientos, Jaime. "Sexual Initiation for Heterosexual Individuals in Northern Chile." *Sexuality Research and Social Policy* 7.1 (2010): 37–44. *link.springer.com.ezproxy.lib.utexas.edu*. Web.

Buckles, Kasey S., and Joseph Price. "Selection and the Marriage Premium for Infant Health." *Demography* 50.4 (2013): 1315–1339. *link.springer.com.ezproxy.lib.utexas.edu*. Web.

Coleman, David. "Why We Don't Have to Believe without Doubting in the 'Second Demographic Transition'—some Agnostic Comments." *Vienna Yearbook of Population Research* 2 (2004): 11–24. Web.

Esteve, Albert, Joan García-Román, and Ron Lesthaeghe. "The Family Context of Cohabitation and Single Motherhood in Latin America." *Population and Development Review* 38.4 (2012): 707–727. *Wiley Online Library*. Web.

Esteve, Albert, Luis Ángel López-Ruiz, and Jeroen Spijker. "Disentangling How Educational Expansion Did Not Increase Women's Age at Union Formation in Latin America from 1970 to 2000." *Demographic Research* 28 (2013): 63–76. *CrossRef*. Web.

Herold, Joan M., Maria Solange Valenzuela, and Leo Morris. "Premarital Sexual Activity and Contraceptive Use in Santiago, Chile." *Studies in Family Planning* 23.2 (1992): 128–136. *JSTOR*. Web.

Kaa, D. J. van de. "Anchored Narratives: The Story and Findings of Half a Century of Research into the Determinants of Fertility." *Population Studies* 50.3 (1996): 389–432. Web.

Kaa, D. J. van de. "The Idea of a Second Demographic Transition in Industrialized Countries." Paper presented at the Sixth Welfare Policy Seminar of the National Institute of Population and Social

Security. Tokyo, Japan, 29 January 2002. http://websv.ipss.go.jp/webj-ad/WebJournal.files/population/2003_4/Kaa.pdf

Lesthaeghe, Ron. "The Unfolding Story of the Second Demographic Transition." *Population and Development Review* 36.2 (2010): 211–251. Web.

López, Paulina O., and Gérard Bréart. "Sociodemographic Characteristics of Mother's Population and Risk of Preterm Birth in Chile." *Reproductive Health* 10.1 (2013): 26. *www.reproductive-health-journal.com*. Web.

Minnesota Population Center. Integrated Public Use Microdata Series, International: Version 6.2 [Machine-readable database]. Minneapolis: University of Minnesota, 2013.

Molina-Cartes, Ramiro et al. "Profile of Abortion in Chile, with Extremely Restrictive Law." *Open Journal of Obstetrics and Gynecology* 03.10 (2013): 732–738. *CrossRef*. Web.

Perelli-Harris, Brienna et al. "The Educational Gradient of Childbearing within Cohabitation in Europe." *Population and Development Review* 36.4 (2010): 775–801. *Wiley Online Library*. Web.

Perelli-Harris, Brienna, and Theodore P. Gerber. "Nonmarital Childbearing in Russia: Second Demographic Transition or Pattern of Disadvantage?" *Demography* 48.1 (2011): 317–342. *link.springer.com.ezproxy.lib.utexas.edu*. Web.

Salinas, Viviana. "Socioeconomic Differences According to Family Arrangements in Chile." *Population Research and Policy Review* 30.5 (2011): 677–699. *link.springer.com.ezproxy.lib.utexas.edu*. Web.

Salinas, Viviana. "The Baby Will Come, the Ring Can Wait: Differences between Married and Unmarried First-Time Mothers in Chile." 2010. Web.

Sobotka, Tomáš. "Overview Chapter 6: The Diverse Faces of the Second Demographic Transition in

Europe." *Demographic Research* 19 (2008): 171–224. *CrossRef*. Web..

Stipkova, Martina. "Declining Health Disadvantage of Non-Marital Children: Explanation of the Trend in the Czech Republic 1990-2010." *Demographic Research* 29 (2013): 663–706. *CrossRef*. Web.

Weakliem, David L. "The Effects of Education on Political Opinions: An International Study." *International Journal of Public Opinion Research* 14.2 (2002): 141–157. *ijpor.oxfordjournals.org*. Web.

Young, Frank W., and Felipe Garcia. "Infant Mortality Decline in Chile: A Replication." *Social Indicators Research* 37.1 (1996): 93–106. *link.springer.com.ezproxy.lib.utexas.edu*. Web.