

# The Decline of Early Marriage and Motherhood in Latin America: Decomposing Second Demographic Transition Characteristics

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## Research article

**Keywords:** Child Early and Forced Marriage, Latin American and Caribbean Demographic Centre-Population Division

**Posted Date:** March 3rd, 2021

**DOI:** <https://doi.org/10.21203/rs.3.rs-285747/v1>

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# Abstract

## Background

Until recently, marriage was nearly universal, and occurred early in life for women in Latin America. A significant proportion of women were both married and mothers before reaching adulthood. Girls married under the age of 18 are victims of Child Early and Forced Marriage, a violation of their human rights. The changes predicted by Second Demographic Transition theory may have reduced the prevalence of early marriage and motherhood as well as decoupled the institution of marriage from motherhood. This article contributes to the understanding of early marriage and motherhood in Latin America by describing the relationship between these characteristics and the emergence the Second Demographic Transition among young women from 1980-2010.

## Methods

I use CEPALSTAT data on marriage and motherhood in Latin America to calculate statistics on marriage and motherhood for young women in the three youngest age groups, those ages 10–14, 15–19, and 20–24. Using these statistics, I assess changes in three classic SDT dimensions (Postponement of Marriage, Postponement of Motherhood, and increased Unmarried Motherhood). I then decompose the Overall Motherhood Prevalence Rate to determine which contributed more to the changes observed, the postponement of marriage, or the postponement of motherhood.

## Results

Sustained decreases in the prevalence of marriage and motherhood were observed for all groups, but also an increase in unmarried mothers. Declines in marriage were largely responsible for declines in motherhood rates for all age groups in all decades. The changes observed in the data correspond to the SDT predictions and indicate that postponement of marriage is driving the postponement of motherhood for young women in Latin America. Reducing the prevalence of CEFM has played a major role in reducing early motherhood during this transition.

## Conclusion

This article provides a novel approach to evaluating the impact of the SDT on early marriage and motherhood. It shows that the prevalence of CEFM declined dramatically during this period, although the absolute numbers of child brides increased. The results provide evidence of postponement of marriage and motherhood, the decoupling of marriage and motherhood, and the potential for sustained fertility decline in Latin America.

## Background

Child, early and forced marriage (CEFM) is any marriage where at least one of the parties is under the age of 18 (1). It is a contributing factor to adolescent fertility and delayed marriage can play a significant role in the reduction of adolescent fertility (2). Because early marriage disproportionately affects young girls rather than boys, and because these girls are exposed to the risks of pregnancy and childbearing they merit the most

attention (3–5). Efevbera and Bhabha recently presented a compelling argument for using the term “girl child marriage” to make the gendered nature of the problem clear in global public health research (6).

When compared to women that are able to delay marriage until adulthood, women who marry before 18 and their children are more likely to experience increased morbidity and mortality, lower educational attainment and economic success, as well as decreased autonomy and social status (5). Poverty and social deprivation have both been identified as causes and consequences of adolescent childbearing, which has also been associated with adverse health and social consequences for the mother and the child (7). This cycle has historically occurred in Latin America. For example, Chiavegatto Filho, and Kawachi (8) found associations between adolescent birth rates with poverty and income inequality across thousands of municipalities in Brazil.

More than a decade ago, Fussell and Palloni (2004) identified marriage as a primary social institution in Latin America and described marriage as relatively unchanged even while the region has experienced consequential economic, social, and political changes. Research since then, indicates fertility has become less related to marriage and increasingly associated with consensual union (10, 11). These changes are indicators of the Second Demographic Transition (SDT) which is characterized by delayed marriage, delayed and reduced fertility, and increased unmarried fertility (12).

According to Lesthaeghe (2014), the SDT includes the systematic postponement of marriage and parenthood, the rise of alternative forms of partnerships, and increased parenthood outside of marriage. The descriptions of this transition by Lesthaeghe and van de Kaa consistently include delaying marriage to older ages, but do not specifically address the issue of CEFM (13). This connection seems apparent but has not been made explicit in the literature. This is an important reason for assessing SDT changes in these age groups and region.

A strong relationship exists between early marriage and early fertility because of the strength of marriage as an institution for childbearing in most societies (4). There are often severe social sanctions for sex and childbearing outside of marriage (3, 4). CEFM is intrinsically linked to adolescent births because it encourages the initiation of sexual activity and creates intense social pressure for girls to prove their fertility within marriages where they often have little autonomy (14). Marriage age is often the main determinant of fertility because the earlier a woman gets married, the longer she will spend exposed to the risk of pregnancy during her fecundity (5, 15). The availability of reliable contraception can change this relationship by allowing for stopping when desired parity is reached or by increasing birth spacing, but it is important to consider that women who marry young still have more exposure, which can (and often does) lead to more children at the end of their reproductive careers (4, 5, 15). Early marriage is likely the cause of at least 75% of early childbearing globally (5).

Because of the large number of increased risks that child brides face, 193 countries have agreed to end CEFM by 2030 (16). Changes to the rate of CEFM have the ability to lower adolescent fertility. Adolescent birth rates have declined globally since the 1990's due to a rising age at marriage along with other factors such as enhanced access to modern contraception and safe abortion for young women (17). Analyzing historical data can show when these changes occurred in Latin America as the SDT shifted the life course of young women.

In this article, I ask the following questions. Is a decline in CEFM the first change observed among SDT behaviors? How much does the declining prevalence of CEFM impact future demographics? I deconstruct the

demographic record to determine if the evidence supports the predictions of the SDT for young Latin American women (including very young adolescents ages 10–14).

## Methods

I use data from the Economic Commission for Latin America and the Caribbean (ECLAC): CELADE (Latin American and Caribbean Demographic Centre-Population Division of ECLAC) that was compiled on the basis of the microdata of national population censuses (18). The data is reported in absolute numbers. The data I use is at the regional level which combines the available country level data. It comes from four different decades during the period of 1980–2010 and is stratified into three age groups; those ages 10–14, 15–19, and 20–24. The original data set is publicly available.

I use basic demographic decomposition to compute statistics on marriage and motherhood from this historical census data. The formulas and code I used are available for reproducing the reported results and figure. I use this data on marriage and motherhood for young women in Latin America to assess changes in three classic SDT dimensions; Postponement of Marriage, Postponement of Motherhood, and increased Unmarried Motherhood. A Microsoft Excel spreadsheet is used to calculate the percentage of married women, the Overall Motherhood Prevalence Rate (OMPR)(i.e. how many women per 1,000 women are mothers), and Motherhood Prevalence Rate (MPR) by marital status. Both a Married Motherhood Prevalence Rate (i.e. how many women per 1,000 married women are mothers) and an Unmarried Motherhood Prevalence Rate (i.e. how many women per 1,000 unmarried women are mothers) for each age group. I also calculate percentages for the Share of Unmarried Among All Mothers. These statistics on marriage and motherhood are shown in Table 1 below.

Table 1  
Marriage and Motherhood in Latin America 1980–2010

<b>1980 Marriage and Motherhood</b>				
<b>Teens Age 15–19</b>	<b># of Mothers</b>	<b># of Women</b>	<b>% of Mothers</b>	<b>% of Women</b>
Married	450,547	793,386	80.70%	11.44%
Unmarried	107,754	6,143,273	19.30%	88.56%
Total	558,301	6,936,659	100%	100%
<b>Young Adults Age 20–24</b>				
Married	2,046,736	2,589,213	89.19%	46.91%
Unmarried	248,195	2,930,051	10.81%	53.09%
Total	2,294,931	5,519,264	100%	100%
<b>1990 Marriage and Motherhood</b>				
<b>Early Adolescents Age 10–14</b>	<b># of Mothers</b>	<b># of Women</b>	<b>% of Mothers</b>	<b>% of Women</b>
Married	13,001	39,181	44.85%	0.71%
Unmarried	15,986	5,483,121	55.15%	99.29%
Total	28,987	5,522,302	100%	100%
<b>Teens Age 15–19</b>				
Married	954,021	1,613,420	67.74%	9.45%
Unmarried	454,431	17,071,311	32.26%	91.37%
Total	1,408,453	18,684,731	100%	100%
<b>Young Adults Age 20–24</b>				
Married	4,670,770	5,894,066	82.92%	40.30%
Unmarried	962,170	8,730,021	17.08%	59.70%
Total	5,632,940	14,624,087	100%	100%
<b>2000 Marriage and Motherhood</b>				
<b>Early Adolescents Age 10–14</b>	<b># of Mothers</b>	<b># of Women</b>	<b>% of Mothers</b>	<b>% of Women</b>
Married	7,050	25,634	20.53%	0.16%
Unmarried	27,288	15,864,411	79.47%	99.84%
Total	34,338	15,890,045	100%	100%
<b>Teens Age 15–19</b>				
Married	711,596	1,197,195	48.21%	5.96%

<b>1980 Marriage and Motherhood</b>				
Unmarried	764,512	20,099,232	51.79%	94.38%
Total	1,476,108	21,296,427	100%	100%
<b>Young Adults Age 20–24</b>				
Married	3,870,995	4,917,598	70.76%	30.46%
Unmarried	1,599,813	11,224,491	29.24%	69.54%
Total	5,470,808	16,142,089	100%	100%
<b>2010 Marriage and Motherhood</b>				
<b>Early Adolescents Age 10–14</b>	<b># of Mothers</b>	<b># of Women</b>	<b>% of Mothers</b>	<b>% of Women</b>
Married	4,057	18,943	14.27%	0.14%
Unmarried	24,370	13,402,761	85.73%	99.86%
Total	28,427	13,421,704		
<b>Teens Age 15–19</b>				
Married	317,342	596,089	34.51%	3.56%
Unmarried	602,138	16,162,779	65.49%	96.44%
Total	919,480	16,758,868	100%	100%
<b>Young Adults Age 20–24</b>				
Married	2,110,786	2,978,427	61.94%	23.50%
Unmarried	1,297,213	9,697,524	38.06%	76.50%
Total	3,407,999	12,675,951	100%	100%
<b>Notes. AR = ARGENTINA BO = BOLIVIA BR = BRAZIL CL = CHILE CO = COLOMBIA CR = COSTA RICA DR = DOMINICAN REPUBLIC EC = ECUADOR SV = EL SALVADOR GT = GUATEMALA</b>				
<b>HN = HONDURAS MX = MEXICO NI = NICARAGUA PA = PANAMA PY = PARAGUAY PE = PERU UY = URUGUAY VE = VENEZUELA</b>				
<b>Countries with Data Available Age 10–14</b>				
<b>1990–2000: AR, SV, GT, MX, NI, PY, PE, VE 2000–2010: AR, BR, CR, EC, HN, MX, PA</b>				
<b>Countries with Data Available Age 15–19</b>				
<b>1980–1990: BR, CL, EC, PY, UY 1990–2000: AR, BO, BR, CL, CO, EC, SV, GT, MX, NI, PA, PY, PE, VE 2000–2010: AR, BO, BR, CL, CR, DR, EC, HN, MX, PA, VE</b>				
<b>Countries with Data Available Age 20–24</b>				
<b>1980–1990: BR, CL, EC, PY, UY 1990–2000: AR, BO, BR, CL, CO, EC, SV, GT, MX, NI, PA, PY, PE, VE 2000–2010: AR, BO, BR, CL, CR, DR, EC, HN, MX, PA, VE</b>				

The overall prevalence of marriage, the Overall Motherhood Prevalence Rate, and the share of unmarried among all mothers are used as indicators of the three dimensions of the SDT (13). They are examined over time to describe their relationships as the SDT occurs. Analyses will describe the region from 1980 through 2010. Results will determine if the data on CEFM indicates that declines are connected to this broader transition and determine the contribution of SDT components to changes in motherhood over time.

Decomposition (19) was used to determine how much married and unmarried women contributed to the change in the Overall Motherhood Prevalence Rate (OMPR) (i.e. the proportion of the female population comprised of mothers). This procedure will indicate which type of postponement contributed more to the changes in OMPR across decades; changes in marriage, or changes in motherhood. This is done for each of the different age groups in each period between decades where data was available.

The decomposition procedure used to examine the changes across decades partitions the change in Overall Motherhood Prevalence Rate into two components. The Contribution of the Distribution of Marriage is used to measure the contribution that changes in the marital status composition of the population (i.e. the proportion of women in each age group who are married versus unmarried) made to changes in the OMPR over the decade. The Contribution of the Rate Schedule is used to measure the contribution that changes in the motherhood prevalence rates within marital status categories (i.e. the changes in the Married MPR and changes in the Unmarried MPR) made to changes in the OMPR over the decade.

This will allow me to describe the changes in relationship between nuptiality and fertility at the youngest age groups in Latin America over the last few decades. Results will determine if the region has experienced increased postponement of marriage, decreased overall motherhood rates, and increased unmarried motherhood rates. These are all classic indicators of the SDT. By decomposing motherhood rates by marital status for these three age groups of young women I can determine which was the most important contributor to declines in the OMPR.

The reason for assessing SDT changes in these particular age groups is to explicitly determine if declines in CEFM occurred along with the broader transition that has been documented in this region (12). Analyzing historical data can show when these changes happened in Latin America and help to determine if the data reveal a connection between the emergence of SDT characteristics and declines in CEFM in the long-term. Decomposition will further expand our understanding of the contribution that reducing CEFM has made on reducing early motherhood.

## Results

Analysis shows that macro level demographic trends such as the SDT can have an effect on the prevalence of CEFM. Declines in the rates and percentages of women in Latin America who married as children are apparent in the data. The decline in CEFM is the first change in behaviors and has the biggest impact on future demographics among components of the SDT. By delaying marriage until later ages these girls were often also delaying motherhood. Fewer girls who are married in the age group 10–14 led to fewer women becoming mothers in that age group and these effects contribute to the declines in both marriage and motherhood in the older age groups observed in the later decades.

The data in Table 1 shows that by 1990 the SDT had already begun in Latin America. There are sustained decreases in the OMPR and in the percentage of married women, but also an increased prevalence of unmarried mothers. These declines in motherhood are directly related to the declines in marriage and are measured in the decomposition procedure (shown below in the table as the Contribution of the Distribution of Marriage to the Change in Overall Motherhood). The increases in unmarried motherhood were not significant enough to sustain the OMPR as marriages declined. This trajectory indicates a potentially sustained fertility decline. These results are robust across all age groups and strongly support the predictions of SDT.

Table 2  
Changes in SDT Characteristics Across Decades

Age Group and Decade	Change in OMPR (per 1,000)	Change in Married MPR (per 1,000)	Change in Unmarried MPR (per 1,000)	Change in % Married	Contribution of the Distribution of Marriage to the Change in OMPR
Young Adults 1980–1990	-30.62	1.97	25.51	-6.61%	149.78%
Young Adults 1990–2000	-46.27	-5.28	32.31	-9.84%	141.09%
Young Adults 2000–2010	-70.06	-78.48	-8.76	-6.97%	61.00%
Teens 1980–1990	-5.11	23.42	9.08	-2.80%	306.03%
Teens 1990–2000	-6.07	3.08	11.42	-3.01%	278.38%
Teens 2000–2010	-14.45	-62.01	-0.78	-2.06%	75.14%
Early Adolescents 1990–2000	-3.09	-56.79	-1.2	-0.55%	53.45%
Early Adolescents 2000–2010	-0.04	-60.86	0.1	-0.02%	114.01%

**Notes.** AR = ARGENTINA BO = BOLIVIA BR = BRAZIL CL = CHILE CO = COLOMBIA CR = COSTA RICA DR = DOMINICAN REPUBLIC EC = ECUADOR SV = EL SALVADOR

GT = GUATEMALA HN = HONDURAS MX = MEXICO NI = NICARAGUA PA = PANAMA PY = PARAGUAY PE = PERU UY = URUGUAY VE = VENEZUELA

Countries with Data Available Age 10–14

1990–2000: AR, SV, GT, MX, NI, PY, PE, VE 2000–2010: AR, BR, CR, EC, HN, MX, PA

Countries with Data Available Age 15–19

**1980–1990:** BR, CL, EC, PY, UY **1990–2000:** AR, BO, BR, CL, CO, EC, SV, GT, MX, NI, PA, PY, PE, VE **2000–2010:** AR, BO, BR, CL, CR, DR, EC, HN, MX, PA, VE  
Countries with Data Available Age 20–24

**1980–1990:** BR, CL, EC, PY, UY **1990–2000:** AR, BO, BR, CL, CO, EC, SV, GT, MX, NI, PA, PY, PE, VE **2000–2010:** AR, BO, BR, CL, CR, DR, EC, HN, MX, PA, VE

To interpret the decomposition results shown in Table 2 percentages between 50.01 and 99.99 indicate that the primary contributor to the decline in the OMPR was the Contribution of the Distribution of Marriage. Percentages between 0.01 and 49.99 would indicate that the primary contributor to the decline in the OMPR was the Contribution of the of Rate Schedule. A percentage of 50.00 would indicate that the Contribution of the Distribution of Marriage and the Contribution of the of Rate Schedule were equally responsible for the decline in the OMPR. A percentage of 100 would indicate that the change in marital status composition was fully responsible for the decline in OMPR. Percentages above 100 indicate that the change in marital status composition was fully responsible for the decline in OMPR, but additionally that the changes in the motherhood prevalence rates within marital status categories (i.e. the changes in the Married Motherhood Prevalence Rate and changes in the Unmarried Motherhood Prevalence Rate) simultaneously increased.

Because the results for all age groups in all decades are 50% or higher this indicates that the changes in the marital status composition, specifically a shift to decreasing proportions of married women (with a historically higher motherhood prevalence) to higher proportions of unmarried women (with a historically lower motherhood prevalence) is mostly responsible for the decline in the OMPR. For the percentages between 50.01 and 99.99 the primary contributor to the decline in the OMPR was the Contribution of the Distribution of Marriage, but the Contribution of the of Rate Schedule also contributes the remainder of 100%. In multiple instances the percentages are higher than 100% indicating that the Contribution of the Distribution of Marriage was fully responsible for the decline in OMPR, but the Contribution of the of Rate Schedule was contributing to an increase in OMPR simultaneously. In these cases, the declines in marriage were substantial enough to overcome increases in the motherhood rates (specifically the Unmarried Motherhood Rates) to produce continual declines in OMPR.

Because motherhood and marriage had previously been closely linked, a data visualization (Fig. 1) of their decoupling during this period is provided to demonstrate how the SDT changed these fundamental aspects of family formation. The results shown in this figure indicate that the contribution of married women to the OMPR has decreased considerably over this time at the regional level. During this time the OMPR decreased for all groups. This is represented in Fig. 1. by the “Decline of OMPR” which shows the OMPR of that decade as a percentage of the previous decade. Because they are all below 100% they all indicate declines. Decreasing percentages of married women is the most significant contributor to the changes in OMPR across decades for all age groups.

## Discussion

The results reported above show the SDT had begun in Latin America by 1990 and that sustained decreases in the percentage of married women resulted in the declining prevalence rate of mothers (OMPR), despite an increased prevalence of unmarried mothers in these age groups. The increases in unmarried motherhood did not fully compensate for declines in marriage and the overall effect was a reduction in the prevalence of young mothers. These reductions in early motherhood can potentially have long-term consequences for the completed fertility of these women. While these results indicate increased postponement, they could also signal an increase in never married women and permanent childlessness if these patterns persist as these cohorts age.

Critically, early adolescents are almost always excluded from analyses of childbearing, but the data show that they are radically different from their older counterparts. Because little is known about this age group, it is important to recognize that they exhibit distinct behaviors in marriage and motherhood. The data shows that they have also experienced important changes, from 1990 through 2010 the OMPR for early adolescents was more than cut in half. This was the most substantial decline observed (in proportion not absolute numbers) and naturally contributes to the declines in later decades as these cohorts grow older. Because Early Adolescents (ages 10–14) have not previously been analyzed, this research is a novel addition to the literature.

It is important to recognize the differences between age groups. The Married Motherhood Prevalence Rate is more than 100 times higher than the Unmarried Motherhood Prevalence Rate for Early Adolescents, about 10 times higher for Teens, and just over 5 times higher for Young Adults. This suggests CEFM had a substantial impact on adolescent births in the region, because the data shows that girls married before age 18 had a much higher prevalence of motherhood than their unmarried counterparts. Marriage is still strongly linked to motherhood at younger ages, even after this tremendous shift towards unmarried motherhood has occurred. This is evidence supporting the need for policies and practices that protect the human rights of young girls. It shows that protecting them from marriage before adulthood reduces the likelihood of them becoming mothers before adulthood. There is abundant evidence that indicate there are increased risks to girls and their children's health, safety, education, as well as social and economic development when they are married or become mothers prior to adulthood (4, 5). Understanding the demographic effects of changes to early marriage and motherhood can help inform policymakers at all levels.

## Conclusions

This article has provided a novel approach to evaluating the impact of the SDT on early marriage and motherhood. It shows that the prevalence rate of CEFM declined dramatically in Latin America during this period, although the absolute numbers of child brides increased. The results provide evidence of postponement of marriage and motherhood, the decoupling of marriage and motherhood, and the potential for sustained fertility decline in Latin America.

Because the emergence of the SDT in Latin America during this period significantly decreased the prevalence rate of CEFM and adolescent motherhood, many young women were not exposed to the numerous associated health risks such as eclampsia, postpartum hemorrhage, sepsis, HIV infections, and obstructed labor (20). The effects of these can be serious, resulting in increased mortality risks, and in some cases lifelong morbidity. In

future research these conditions can be compared to declines in CEFM and adolescent motherhood to determine how much morbidity and mortality were lowered as a result of this demographic shift.

Social restrictions on young women's exercise of their rights does not allow them an equal role in the household or their community (4). Because early marriage is a much more prevalent practice for girls than for boys, and national laws and legal exceptions often allow for girls to be married at younger ages than boys, it perpetuates gender inequality by denying girls their human rights (3, 4, 21, 22). This decline in the practice of CEFM across Latin America likely improved young women's chances to receive education, work in better occupations, achieve economic success, and gain autonomy later in life (16). In future research these changes can also be measured to determine if this demographic shift resulted in increases in human and economic capital.

Delaying marriage and childbearing has multiple demographic benefits: it is effective in reducing population momentum, increasing the human development between generations, lowering desired family size (and the accompanying resource demands), decreasing the age and power differential between partners, and empowering women to meet their fertility goals (4). These benefits extend across communities and generations, so it is in everyone's interests to provide social and economic alternatives to early marriage and childbearing and to support girls who are already married (4, 5). Challenging the harmful practice of early marriage requires strict national and sub-national laws prohibiting it, birth and marriage registration systems that reach everyone, social programs educating girls and informing communities, and systematic action on the national level to move towards gender equality and fostering a culture that respects human rights (3, 4).

## Abbreviations

### **CEFM**

Child Early and Forced Marriage

### **CELADE**

Latin American and Caribbean Demographic Centre-Population Division

### **ECLAC**

Economic Commission for Latin America and the Caribbean

### **OMPR**

Overall Motherhood Prevalence Rate

### **MPR**

Motherhood Prevalence Rate

### **SDT**

Second Demographic Transition

## Declarations

### **Ethics approval and consent to participate**

Not applicable

### **Consent for publication**

Not applicable

## Availability of data and materials

All data generated or analysed during this study are included in this published article and its supplementary information files. Original data was retrieved from [cepalstat-prod.cepal.org](http://cepalstat-prod.cepal.org).

## Competing interests

The author declares that they have no competing interests.

## Funding

No funding for the research reported is declared.

## Authors' contributions

All sections of this article are the work of the corresponding author.

## Acknowledgements

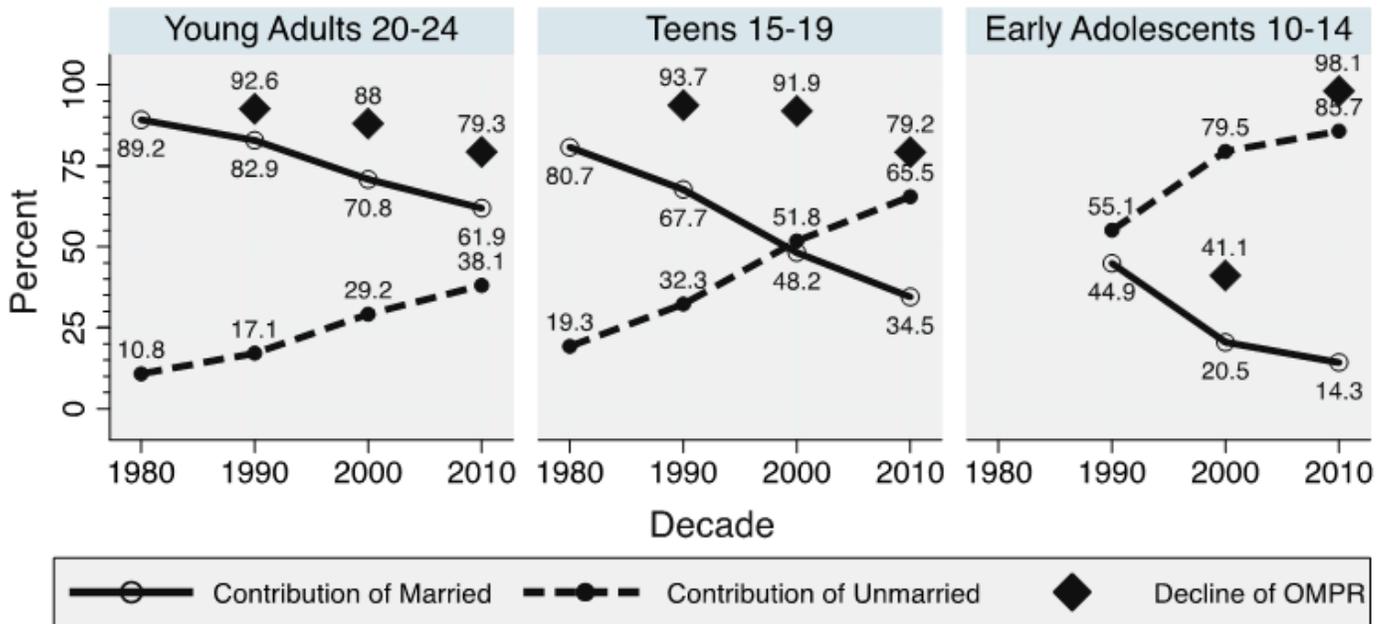
The author would like to thank Caroline Hartnett, Diego F. Leal, Douglas L. Anderton and members of The Carolina Consortium on Health, Inequalities, and Populations (CHIP) for providing helpful comments on earlier versions of this research. Research findings related to this article were presented at the Population Association of America's annual meeting and the annual meeting of the Southern Sociological Association.

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# Figures



Data Source: CEPALSTAT.

Overall Motherhood Prevalence Rate (OMPR) - the proportion of mothers in the female population

Decline of OMPR- % of previous decade's OMPR, <100% represents a decline from previous decade

Figure 1

The Decoupling of Marriage and Motherhood in Latin America: Period Decomposition of OMPR Results Notes. AR = ARGENTINA BO = BOLIVIA BR = BRAZIL CL = CHILE CO = COLOMBIA CR = COSTA RICA DR = DOMINICAN REPUBLIC EC = ECUADOR SV = EL SALVADOR GT = GUATEMALA HN = HONDURAS MX = MEXICO NI = NICARAGUA PA = PANAMA PY = PARAGUAY PE = PERU UY = URUGUAY VE = VENEZUELA Countries with Data Available Age 10-14 1990-2000: AR, SV, GT, MX, NI, PY, PE, VE 2000-2010: AR, BR, CR, EC, HN, MX, PA Countries with Data Available Age 15-19 1980-1990: BR, CL, EC, PY, UY 1990-2000: AR, BO, BR, CL, CO, EC, SV, GT, MX, NI, PA, PY, PE, VE 2000-2010: AR, BO, BR, CL, CR, DR, EC, HN, MX, PA, VE Countries with Data Available Age 20-24 1980-1990: BR, CL, EC, PY, UY 1990-2000: AR, BO, BR, CL, CO, EC, SV, GT, MX, NI, PA, PY, PE, VE 2000-2010: AR, BO, BR, CL, CR, DR, EC, HN, MX, PA, VE

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