



## Religion and Demographic Shifts:

### Analyzing Population Trends Using Durkheim's Theory

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### Abstract

Global population dynamics have undergone significant transformations, with declining fertility rates in developed nations and shifting patterns of religiosity. This study examines the relationship between *religiosity* and *fertility*, exploring whether religiosity is a primary driver of reproductive behavior or a component of broader modernization processes. While previous research has largely focused on demographic changes through cultural, economic, and modernization perspectives, the role of religiosity remains underexplored. The study uses sociological frameworks to analyze religion and modernization, incorporating case studies of three nations—the United States, South Korea, and Nigeria—each with distinct historical trajectories, levels of religiosity, and degrees of modernization. The findings indicate that modernization plays a predominant role in shaping fertility behaviors, with religiosity serving as a moderating influence rather than a primary determinant. As societies modernize to survive in a competitive international arena, traditional sources of legitimacy—religion—weaken, affecting fertility patterns. However, in cases where alternative social structures fail to replace traditional legitimacy, modernization may exacerbate demographic crises as seen in declining fertility rates. The research highlights the necessity of reassessing social cohesion mechanisms in an era of declining religiosity to mitigate the unintended consequences of modernization on population trends.

**Keywords:** *Modernization, Religiosity, Fertility Rates, Social Cohesion, Demographic Transition*

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## 1. Introduction

**M**any so-called “developed” nations are experiencing declining populations, while their “developing” counterparts are witnessing significant population growth. Alongside these demographic shifts, the dynamics of religious populations are also evolving, impacting traditional power structures.

Christianity has historically symbolized Western civilization and served as the predominant religion. However, recent trends suggest that the Muslim population may soon equal or even surpass that of Christians in the coming decades. Do these concurring trends signify a reverse in global power dynamics?

This paper explores the relationship between two interrelated phenomena—*religion* and *population growth*—by building upon observed trends. Specifically, it investigates the causal relationship between religious affiliation and fertility rates while also considering the potential influence of a third variable: *modernization*.

The current study employs sociological concepts to articulate and define “religion.” Many scholars focus on various religious groups and their specific spiritual practices when discussing religion. However, drawing on the ideas of sociologist Émile Durkheim, this paper will approach religion by measuring *religiosity*, irrespective of the religious teachings or groups to which individuals may belong.

The decision to include *modernization* as a third variable is intended to provide a broader perspective on population changes beyond religiosity. Modernization encompasses economic and political development and is often linked to significant social transformations. It is plausible that both demographic and religious population changes are related to how certain societies modernize over time, transitioning towards service-based economies and democratic governance. By examining modernization as a third variable, this work aims to determine whether population changes can be attributed solely to religiosity or are part of a more extensive trend associated with modernization.

**“*Modernization encompasses economic and political development and is often linked to significant social transformations.*”**

## 2. Background

### 2.1 Changes in Global Fertility Rate and Population

In the early 19th century, the world population reached one billion, a milestone influenced by agriculture, medicine, and industrialization advancements. However, the most dramatic population growth occurred in the 20th century, particularly after World War II, when improved healthcare, sanitation, and food supply chains led to longer life expectancies and lower death rates.<sup>1</sup> By 2020, the world population had surpassed 7.8 billion people, with most of the growth concentrated in developing regions, such as Sub-Saharan Africa, South Asia, and parts of Latin America. In contrast, many developed nations, especially Europe, East Asia, and North America have experienced slower population growth or decline due to aging populations and lower birth rates.<sup>2</sup>

A major contributor to the changes in population dynamics has been the global shifts in fertility rates. A *Total Fertility Rate* (TFR) of 2.1 children per woman is required to replace the current generation and to sustain a population without immigration. In many developed countries, fertility rates have fallen below the replacement level of 2.1 children per woman, meaning the population will shrink gradually over time or sustain through other means such as immigration. Meanwhile, some developing nations continue to experience relatively high fertility rates.<sup>3</sup> The population in sub-Saharan Africa is projected to triple by 2050, with the countries with the largest populations being Nigeria, the Democratic Republic of Congo, Ethiopia, Tanzania, Uganda, and Kenya.<sup>4</sup>

### 2.2 Religious Population

Concurrent with the trends, the global religious demographic has also undergone substantial shifts over the past century, particularly concerning the Muslim and Christian populations. Christianity has historically been the largest religion in the world, with its followers spread across continents.

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<sup>1</sup> Hannah Ritchie et al., "Population Growth," *Our World in Data* (2023).

<sup>2</sup> A. M. Hayutin, "Graying of the Global Population," *Public Policy & Aging Report* (2007).

<sup>3</sup> Craig J., "Replacement level fertility and future population growth," *Popul Trends* (1994).

<sup>4</sup> Alex Ezeh et al., "Why Sub-Saharan Africa Might Exceed Its Projected Population Size by 2100," *The Lancet* (2020).

By the early 20th century, Christians comprised about 35% of the global population, bolstered by colonial expansion, missionary activity, and the long-standing cultural influence of predominantly Christian countries in Europe and the Americas.<sup>5</sup> On the other hand, Islam was concentrated mainly in the Middle East, North Africa, and parts of Asia, accounting for around 12% of the global population during the same period.<sup>6</sup> However, the latter half of the 20th and early 21st centuries have radically transformed the religious landscape.

**“A major contributor to the changes in population dynamics has been the global shifts in fertility rates.”**

The Muslim population has been growing at a faster rate than most other religious groups, primarily due to higher fertility rates in Muslim-majority countries and regions, such as Sub-Saharan Africa, the Middle East, and South Asia. According to the *Pew Research Center*, Muslims are expected to increase from 1.6 billion in 2010 to nearly 3 billion by 2060, making Islam the world’s fastest-growing religion.<sup>7</sup> The youthfulness of the Muslim population is also a contributing factor, with a large proportion of Muslims in their reproductive years compared to other religious groups that tend to have older age structures. Although conversion rates to Islam vary, the primary driver of Muslim population growth is a natural increase, as birth rates in many Muslim-majority regions remain above the global average.

In contrast, the Christian population, though still growing, is doing so at a slower pace. Christianity remains the most prominent religion globally, with approximately 2.3 billion adherents, but its growth is uneven across different regions.<sup>8</sup> In Europe and North America, historically the heartlands of Christianity, the religious demographic is either stagnant or in decline due to lower birth rates, aging populations, and increasing secularization. However, Christianity is experiencing robust growth in parts of Sub-Saharan Africa, Latin America, and Asia, where population growth and conversions to Christianity have contributed to its expansion.

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<sup>5</sup> Conrad Hackett and Brian J. Grim, “Global Christianity—A Report on the Size and Distribution of the World’s Christian Population,” *Pew Research Center* (2011).

<sup>6</sup> Brian J. Grim and Mehtab S. Karim, “The Future Global Muslim Population,” *Pew Research Center* (2011).

<sup>7</sup> Benjamin Wormald, “The Future of World Religions: Population Growth Projections, 2010-2050,” *Pew Research Center* (2015).

<sup>8</sup> Hackett and Grim, “Global Christianity.”

**“In *Europe and North America*, historically the heartlands of *Christianity*, the religious demographic is either *stagnant or in decline* due to *lower birth rates, aging populations, and increasing secularization.*”**

By 2060, Sub-Saharan Africa is expected to host a significant share of the global Christian population, shifting the religious demographic center of Christianity from the Global North to the Global South. Other religious groups, except Buddhists, are estimated to grow in number. However, their growth and overall share of the global population would not exceed those of Muslims or Christians. The *unaffiliated* population would increase in its absolute number but decrease in its percentage of the world population in the coming years.<sup>9</sup> While North America and Europe have witnessed a rise of *unaffiliated or religious nones*, their boom is geographically concentrated in regions with low fertility rates.

### **2.3 Literature Review of Demographic Changes**

While various demographic determinants exist, including migration, child mortality, and life expectancy, current research focuses on the *Total Fertility Rate* (TFR), examining drops in TFR in developed countries and increases in developing countries.

There have been different approaches to explain the phenomenon of demographic changes. Becker builds an *economic model*, positing that economic factors of income, wages, and opportunity costs of raising children shape the fertility rate. When income increases, individuals may want to decrease the number of children so that they can invest more in education and well-being. This idea of quality-quantity tradeoff helps to explain why the fertility rate might decline in more advanced economies.<sup>10</sup> Easterlin's *theory of labor market conditions*, also based on economic factors, helps to explain the baby boom and following baby bust phenomena. He argues that when incomes are higher than material expectations framed in childhood, people feel financially secure, which leads to a rise in fertility rates.<sup>11</sup>

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<sup>9</sup> Wormald, “The Future of World Religions.”

<sup>10</sup> Gary Stanley Becker, *A Treatise on the Family* (Harvard University Press, 1998).

<sup>11</sup> Richard A. Easterlin, “Population Change and Farm Settlement in the Northern United States,” *The Journal of Economic History* (1976).

However, economic factors are not the only contributor to the fertility rate. Some approaches focus on women's change in perceptions and priorities that impact decisions on whether and when to have children. The *Preference Theory* suggests different types of women and corresponding features based on the assumption that women have heterogeneous preferences depending on their background, ethnicity, income, and more. One of the groups is home-centered, a minority of women whose life centers around children and family life. There is also a second group, a minority of those who prioritize careers and often remain childless by choice. The majority falls into the ambivalent category, combining paid work and family life. The theory considers different social conditions that provide new options and opportunities for women in the 21st century.<sup>12</sup> The conditions include modern forms of contraception, which have led to the transfer of control over reproduction from men to women, equal opportunities in the workforce, expansion of white collar, and increasing importance of personal preferences and value in lifestyle choices.

**“The *preference theory* suggests different types of women and corresponding features based on the assumption that women have heterogeneous preferences depending on their *background, ethnicity, income, and more.*”**

First introduced by Lesthaeghe and van de Kaa in 1986, the *Second Demographic Transition* (SDT) has become a common approach to studying changes in family structure and fertility in European, Asian, and Latin American countries. It focuses on the cultural shift towards postmodern attitudes and norms, such as individuality and self-actualization. Corresponding features manifest as a weakening of marriage, more pluralistic forms of families, and a shift from preventative to self-fulfilling contraception, which all lead to a decline in fertility. Scholars claim that such an ideational explanation of SDT complements the existing economic models for fully understanding demographic transition.<sup>13</sup> Although SDT does not directly address religiosity, it highlights secularization as a manifestation of individual autonomy, both of which promote values that do not favor high fertility.

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<sup>12</sup> Catherine Hakim, *Work-Lifestyle Choices in the 21st Century: Preference Theory* (Oxford University Press, 2023).

<sup>13</sup> Ron Lesthaeghe and Chris Wilson, “Modes of Production, Secularization and the Pace of the Fertility Decline in Western Europe, 1870-1930,” *The Decline of Fertility in Europe* (1986).

There have been more attempts to compare different regions to evaluate the strength of different factors concerning fertility. Götmark and Andersson measure the strength of five different factors' association with fertility. From strong to weak, TFR correlates negatively with education, *Contraceptive Prevalence Rate* (CPR), and *Gross Domestic Product* (GDP) per capita and positively with religiosity.<sup>14</sup> They also compare six global regions: Eastern Europe, Western Europe, Latin America and the Caribbean, the Arab States, Sub-Saharan Africa, and Asia. TFR is lower with longer average education for females, higher GDP per capita, higher contraceptive prevalence rate, and stronger family planning programs. TFR reports to be higher with stronger religiosity.

The current body of research does not address the *religiosity-fertility relationship* in depth despite observed concurrency in demographic and religious population trends. There is a clear trend in which regions with high religiosity—especially Islam—tend to show a high fertility rate while secular regions exhibit low fertility beyond the replacement level. While many studies have been on economic and social factors for population changes, the relationship between religiosity and fertility requires more investigation. So far, no economic or social theory can explain the observed trend and clarify the causality between religiosity and demographic shift. Due to such a gap in literature, the proposed research aims to explore the relationship through borrowing and combining sociological lenses.

## 3. Sociological Models

### 3.1 “Master Narrative” of Political Development

The study incorporates sociological models, including the “Master Narrative,” to explain demographic changes by incorporating religiosity. It refers to the framework of political development over time. It involves balancing the demands placed on states with the supply of legitimacy, requiring states to address any legitimacy deficit through new forms, such as democracy.<sup>15</sup> This *master narrative* highlights the modern challenge of legitimating authority, which is inevitably influenced by the dynamic nature of states that evolve to optimize limited resources.

<sup>14</sup> Frank Götmark and Malte Andersson, “Human Fertility in Relation to Education, Economy, Religion, Contraception, and Family Planning Programs,” *BMC Public Health* (2020).

<sup>15</sup> Joseph W. Childers and Hentzi Gary, *The Columbia Dictionary of Modern Literary and Cultural Criticism* (ProQuest Information and Learning, 2000).

Two fundamental factors underpin this overarching framework of political development. The first is Max Weber's concept of *legitimacy*, which describes a state wherein the populace perceives the system as just and right. *Traditional legitimacy* derives from aristocracy and religious sanction; *charismatic legitimacy* is based on individual personality; and *rational-legal legitimacy* is grounded in principles that apply universally. Demands encompass what states require from citizens, the expectations people hold toward their states, and general societal challenges.<sup>16</sup>

**“*Traditional legitimacy* derives from *aristocracy* and *religious sanction*; *charismatic legitimacy* is based on *individual personality*; and *rational-legal legitimacy* is grounded in principles that apply *universally*.”**

In their quest for survival in a competitive modern landscape, states often seek to augment and optimize resources. However, their efforts at *modernization* and *rationalization* can lead to increased demands that surpass and undermine existing forms of authority, such as autocracy and religious authority.<sup>17</sup> For example, states can attempt to increase the likelihood of their survival through unified language, education, bureaucracy, and science. However, through that effort, citizens often go through enlightenment, wanting more from states—whether it is the general standard of living, freedom, or more say in decision-making. Such increased demands can weaken the existing authority that the government relied on—the absolute, divine power of the king—making individuals view the system as unjust. This deficit heightens the risk of instability, manifesting in revolutions and emerging ideologies, which in turn necessitate new forms of governance to reconcile demands and restore stability. Weber's concept of legitimacy has been adopted and expanded upon by various political scientists, including Jürgen Habermas, Robert Dahl, and Ronald Cohen, to elucidate different aspects of political development.<sup>18 19 20</sup>

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<sup>16</sup> Max Weber, *Economy and Society*, trans. Wittich Claus (Bedminster Press, 1968).

<sup>17</sup> Calvert W. Jones, “Adviser to The King: Experts, Rationalization, and Legitimacy,” *World Politics* (2018).

<sup>18</sup> Jürgen Habermas, *Legitimation Crisis*, trans. Thomas McCarthy (Heinemann Educational, 1976).

<sup>19</sup> Robert A. Dahl, “Polyarchy: Participation and Opposition,” *American Quarterly* (1972).

<sup>20</sup> Ronald Cohen and Judith D. Toland, *State Formation and Political Legitimacy* (Taylor & Francis, 1988).

### 3.2 Durkheim and Definition of Religion

Religion, to Durkheim, holds different meanings and influences. His main concern as a sociologist revolved around whether society can withstand despite the industrialization and division of labor that pull individuals away from one another. In *The Elementary Forms of the Religious Life*, Durkheim argues that society cannot exist based on rational agreements alone and needs religion as a source of trust and solidarity.

**“...Durkheim focuses more on *religiosity* than being part of *religious groups*.”**

According to him, religion is beyond understanding a particular religious group’s philosophy or supernatural aspects. Its three elements include beliefs and rituals, the creation of sacred and profane, and the collective nature of belief. So, it is “a system of ideas by which individuals imagine the society they are members of and their relations with it.”<sup>21</sup> Religion exists outside of individuals and has stimulating and invigorating effects on individuals—making them approach the world with confidence and a sense of heightened energy. It facilitates an emotional experience of being part of a group, feeling the reality of social and moral feeling and solidarity. The position of God or a higher being is a collective conscience of society put in an understandable form. In other words, Durkheim focuses more on religiosity than being part of religious groups.

### 3.3 Religion’s role in social cohesion

Religion contributes to social cohesion through its unique feature of transcendence. Religion effectively distinguishes between sacred and profane. Sacred refers to something superior in dignity and value, while profane is not sacred. Such distinction between sacred and profane is profound, as shown in the example of the Australian tribal society of Aboriginal people. Their different phases of life correspond to the sacred and the profane. Everyday life, including farming and work, is profane, characterized by mundane and repetitive features with low intensity. A religious ceremony called *corroboree* falls under a sacred section where individuals feel a sense of collective effervescence, experiencing magnified emotions as part of a group.

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<sup>21</sup> Émile Durkheim, *The Elementary Forms of the Religious Life*, (Hollen Street Press, 1915), 227.

They feel “morally bound to one another...have definite obligations of assistance, vengeance, and so on toward each other, and it is these that constitute the kinship.”<sup>22</sup> The tribe members account for such strong feelings by associating them with the clan’s totem and starting to worship it. Durkheim states that being in society and interpreting or believing in the totem create energy, an initial stage of the development of religion. So, religion requires individuals to believe that certain totems have supernatural powers. Without belief in its sacredness and divinity, religion does not have the same influence on people.

**“Religion requires individuals to believe that certain totems have supernatural powers. Without belief in its sacredness and divinity, religion does not have the same influence on people.”**

*Modernization and rationalization* impacted people’s ability to see themselves as part of a group, facilitating the transition from traditional to modern societies. Traditional communities are marked by individuals perceiving themselves as an extension of the group. However, societal transformation disrupted such views, heightening the importance of self and individuals. It is manifested in increased freedom of choice and individual expression. Despite some benefits, modern societies’ emphasis on individualism has some consequences, such as more loosened social ties or cohesion. It is manifested through different social phenomena, including suicide and childbirth.

Although increased suicide during industrialization had been thought to be individual decisions, Durkheim argued that suicide is a product of bigger social phenomena, reflecting group attachment and the “health of societies.”<sup>23</sup> Despite societies’ economic and scientific advances, the suicide rate rose. It shows that what determines “the health of societies” is not economies but social feelings that “promote or discourage life in the group.”<sup>24</sup> He points out that “for a society to feel healthy,...the development of all its functions must be regular, harmonious, and well-proportioned.”<sup>25</sup>

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<sup>22</sup> Durkheim, *The Elementary Forms of the Religious Life*, 5.

<sup>23</sup> Émile Durkheim, *Suicide: A Study in Sociology*, (Alcan Press, 1897), 196.

<sup>24</sup> Durkheim, *Suicide: A Study in Sociology*, 196.

<sup>25</sup> *Ibid.*, 176.

The fertility rate can also serve as an indicator of modernization and following low social attachment. While Durkheim does not explicitly connect childbirth and social cohesion, the connection is implied through his work. Weak domestic solidarity can lead to an increase in the suicide rate and also a decline in the birth rate. So, “any decline in the birth rate implies a decline in the domestic spirit.”<sup>26</sup> The fertility rate indicates the strength of family ties, which also has a protective nature of preventing suicides.<sup>27</sup>

While Durkheim mainly employs childbirth as one of the factors influencing suicides, it can resonate and hold much significance in today’s population dynamics. Because “family lies in the nature of the human organism,” the fertility rate’s reflection of the strength of familial solidarity can also demonstrate weakened social solidarity. Additionally, a low childbirth rate below replacement can be seen as a societal level of suicide—losing the biological will to live through other generations.<sup>28</sup> In other words, both individual suicide and low childbirth—demographic suicide—reflect declining social solidarity as a result of modernization.

Based on Durkheim’s literature, religion and fertility seem to have a higher association. The dominant literature on religious demographics focuses on varying principles of religion and their consequent impact on reproductive choice. However, the proposed research focuses on religiosity and its primary social function of assuring “the equilibrium of society” or solidarity.<sup>29</sup> Traditional societies’ features are high religiosity and a strong sense of solidarity. On the other hand, modern societies have lower religiosity due to modernization, individualism, and secularization, which have resulted in lower solidarity reflected through low childbirth rates.

**“Based on Durkheim’s literature, *religion* and *fertility* seem to have a higher association. The dominant literature on *religious demographics* focuses on varying principles of *religion* and their consequent impact on *reproductive choice*.”**

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<sup>26</sup> Ibid., 195.

<sup>27</sup> Ibid.

<sup>28</sup> Walter Mead, “Secular Europe and Religious America: Implications for Transatlantic Relations,” *Pew Forum* (2005).

<sup>29</sup> Émile Durkheim, *The Division of Labor in Society*, (The Free Press, 1893), 65.

### 3.4 Combining “Master Narrative” and Durkheim

According to the prevailing trend in political development, states must address the legitimacy deficit that arises with modernization and rationalization. This challenge can be met by adopting new forms of authority, such as democracy, essential for maintaining stability. According to the prevailing trend in political development, states must address the legitimacy deficit that arises with modernization and rationalization.

This challenge can be met by adopting new forms of authority, such as democracy, essential for maintaining stability. Consequently, it is typical for modernizing states to experience a decline in religiosity—which serves as a traditional source of legitimacy—while embracing newer forms of legitimacy, such as democratic governance. However, this transformation comes with its own set of consequences.

As Durkheim illustrates, religiosity holds significant power. If the decline of religiosity constitutes a natural part of societal development, it also suggests that communities may lose vital tools that help individuals “constitute the kinship.”<sup>30</sup>

Also, according to him, lower social solidarity can manifest through increased individual suicides and low childbirth. In other words, modernization might act as a driving force behind low religiosity and a decline in the fertility rate. Although modernization has often been viewed positively, adopting sociological frameworks shows backlash. Lowering religiosity might be part of societies’ response to legitimacy deficit and transition into rational-legal authority, such as democracy. However, it is not without its flaws: population drop. The impact of modernization on religiosity and childbirth can be examined through case studies of three countries.

**“...according to [*Durkheim*], lower social solidarity can manifest through *increased individual suicides and low childbirth*. In other words, modernization might act as a driving force behind *low religiosity and a decline in the fertility rate*.”**

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<sup>30</sup> Durkheim, *The Elementary Forms of the Religious Life*, 5.

## 4. Case Studies

### 4.1 World Cultural Map

The Inglehart-Welzel World Cultural Map helps to answer the question of the connection between religiosity and fertility. The central thesis posits that socio-economic development is linked with distinctive value orientations: (1) the *traditional* versus *secular-rational values* dimension and (2) the *survival* versus *self-expression values* dimension. Each dimension reflects two stages of *modernization*, with (1) representing *industrialization* and (2) indicating the change from industrial society to post-industrial society with the embrace of *democracy*.<sup>31</sup>

The *World Cultural Maps*, based on the *World Values Survey*, point out a pattern in which secular-rational societies tend to have *higher self-expressive values* and are considered postmodern states. *Traditional values* refer to the importance of religion, parent-child ties, deference to authority, and traditional family values. Secular-rational values mean less emphasis on religion (more secularized) and traditional family values and authority. The other side of the spectrum includes survival values, which prioritize economic and physical security, and self-expression values, which prioritize individual autonomy and well-being (i.e., environmental protection, high tolerance of foreigners, LGBTQ+, and migrants).<sup>32</sup>

### 4.2 The United States

The United States (U.S.) offers an interesting case study to examine religiosity-fertility rate dynamics. As of 2024, it had the world's sixth-highest per capita GDP.<sup>33</sup> Considered a global hegemony power, however, the U.S. is experiencing a decline in both religiosity and birth rate.

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<sup>31</sup> Ronald Inglehart and Welzel Christian, "Value Change and the Persistence of Cultural Traditions," in *Modernization, Cultural Change, and Democracy: The Human Development Sequence* (Cambridge University Press, 2005).

<sup>32</sup> Inglehart Ronald and Welzel Christian, "Inglehart–Welzel Cultural Map: Findings & Insights," *World Value Survey Database* (March 22, 2025).

<sup>33</sup> International Monetary Fund, *World Economic Outlook: Policy Pivot, Rising Threats* (2024).

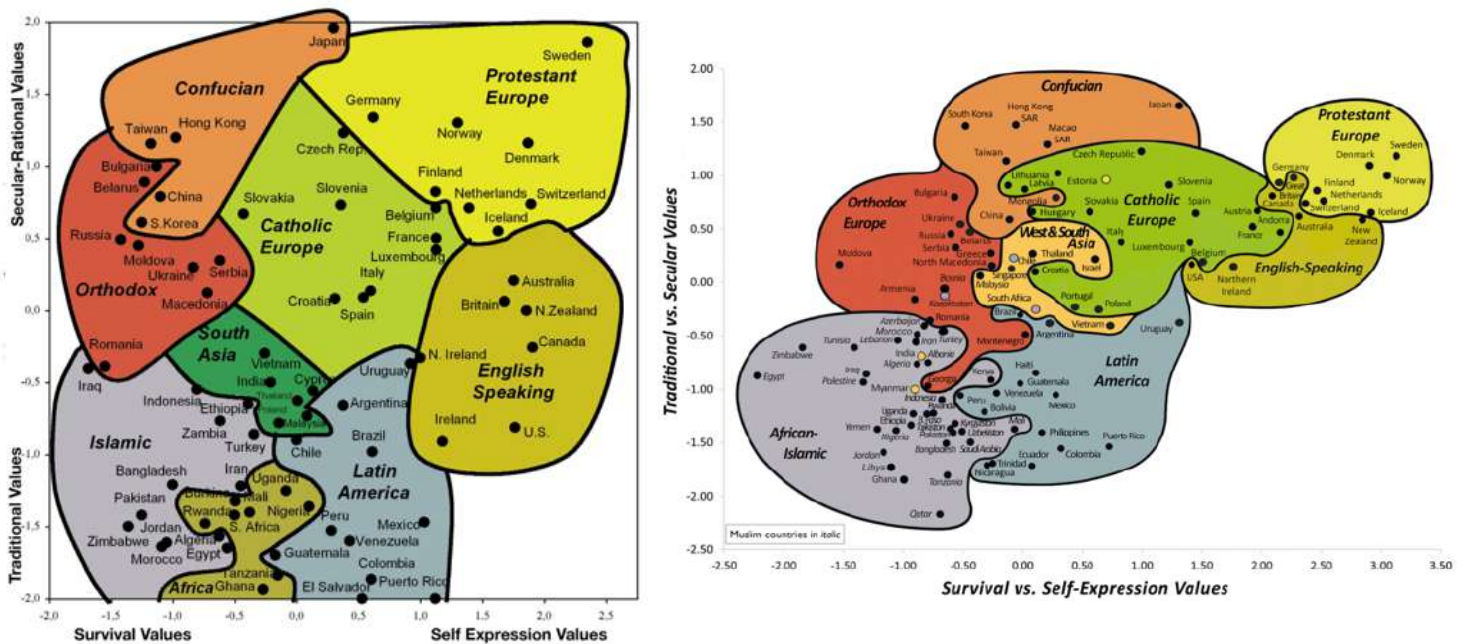


Figure 1. Comparison of World Cultural Maps based on World Values Survey for 2008<sup>34</sup> (left) and 2023<sup>35</sup> (right).

#### 4.2.1 Background

In the late 19th century, the U.S. emerged as a significant industrial power due to its abundant natural resources, technological innovations, and expanding workforce, fueled by domestic and international immigration. By the turn of the 20th century, the U.S. had established itself as an economic powerhouse, surpassing many European nations in industrial output. This economic strength provided the foundation for its global influence, which expanded significantly during and after the two World Wars.

World War I marked a turning point in America's ascent to political hegemony. While initially maintaining a policy of isolationism, the U.S. entered the war in 1917, playing a decisive role in securing the Allied victory. The post-war period saw the U.S. emerge as the world's leading creditor nation, with its economy thriving while European powers faced devastation and debt.

<sup>34</sup> The Inglehart-Welzel World Cultural Map, *World Values Survey-Wave 7* (2023)

<sup>35</sup> The Inglehart-Welzel World Cultural Map, *World Values Survey-Wave 5* (2008).

Although the *Great Depression* temporarily undermined its economic dominance, the U.S. rebounded with massive industrial mobilization during World War II, becoming the “Arsenal of Democracy” and supplying the Allies with critical military resources.<sup>36</sup> Following World War II, the U.S. solidified its hegemony by creating international institutions and alliances that promoted its political and economic interests.<sup>37</sup> The establishment of the *United Nations*, the *Bretton Woods* system, and institutions like the *International Monetary Fund* (IMF) and the *World Bank* reflected America’s leadership in shaping the global order. The *Marshall Plan* further reinforced its influence by aiding the reconstruction of Western Europe and promoting capitalist economies aligned with American interests. Militarily, the U.S. became a superpower through the development of nuclear weapons and the establishment of alliances like NATO, positioning itself as a counterbalance to the Soviet Union during the Cold War.<sup>38</sup>

Despite rising as a global hegemony, the U.S. has faced a drop in fertility and religiosity over time. The fertility rate dropped from 3.5 births per woman in the 60s to 1.73 births per woman in 2018. Its religiosity—the perception of importance in belief in higher beings—has declined over time. The U.S. population also has aged; those above 65 grew from 4.7% of the total population in 1920 to 16.8% in 2020.<sup>39</sup> However, the share of immigrants has increased consistently from 4.7% in 1920 to 14.3% in 2024.<sup>40</sup> The U.S. has become home to one-fifth of the international migrants from all over the world. Despite the aging population, the growing immigrant population has replaced and substituted for the population crisis. According to 2023 Gallup polling, three in four Americans identify with a specific religious faith—68% identifying with a Christianity religion (33% Protestant, 22% Catholic, 13% another Christian religion or simply Christian), 7% as non-Christian (2% Jewish, 1% Muslim, 1% Buddhist). The Christian population also dropped from 87% of the total population in the 1950s, while religious nones increased to 23% from below 5% in the 50s.

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<sup>36</sup> Gregory Hooks and Leonard E. Bloomquist, “The Legacy of World War II for Regional Growth and Decline: The Cumulative Effects of Wartime Investments on U.S. Manufacturing, 1947-1972,” *Social Forces* (1992).

<sup>37</sup> Joseph S. Nye, “The Rise and Fall of American Hegemony from Wilson to Trump,” *International Affairs* (2019).

<sup>38</sup> Burton D. Kristen, “Great Responsibilities and New Global Power,” *The National WWII Museum* (2020).

<sup>39</sup> Zoe Caplan, “U.S. Older Population Grew From 2010 to 2020 at Fastest Rate Since 1880 to 1890,” *The United States Census Bureau* (2023).

<sup>40</sup> Mohamad Moslimani, “Key Findings about U.S. Immigrants,” *Pew Research Center* (2024).

The rise of the unaffiliated also impacted the percentage of individuals viewing religion as “very important in their life”—from 70% in 1965 to 45% in 2023.<sup>41</sup> While the importance of religion among believers barely changed, the increase in unaffiliated shares influenced the overall rate of religiosity in the U.S.

**“While the importance of *religion* among believers barely changed, the increase in *unaffiliated* shares influenced the overall rate of *religiosity* in the U.S.”**

#### 4.2.2 General Social Study Analysis Using STATA

This study uses data from the *General Social Survey* (GSS) collected between 1972 and 2018 to examine how education, religion, and modernization affect family size in the US. The survey uses its robust multi-stage cluster sampling methodology to gather information from various people.

The STATA analysis of the GSS data focuses on two main factors: mothers’ highest years of education and the number of children.<sup>42</sup> <sup>43</sup> The initial assumption held that education does not affect the number of children. However, statistical testing reveals a clear relationship between the two variables. The findings indicate that as mothers’ education levels increase, the number of children they have tends to decrease, demonstrating a strong negative association. On average, for each additional year of education, women have 0.114 fewer children. If a woman has no education, the predicted average number of children would be around 3.1. Nevertheless, education explains only about 6.38% of the variation in family size, suggesting that other factors are also essential to consider.

Another factor is religiosity, measured by how often someone attends religious services. The data shows that people who attend religious services more often tend to have more children. Including religiosity in the analysis slightly reduces the negative effect of education on family size but raises the overall explanatory power to 8.48%.

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<sup>41</sup> Gallup, *How Religious Are Americans?*.

<sup>42</sup> “Highest Year of School Completed,” GSS Data Explorer (accessed March 28, 2025).

<sup>43</sup> “Number of Children,” GSS Data Explorer (accessed March 28, 2025).

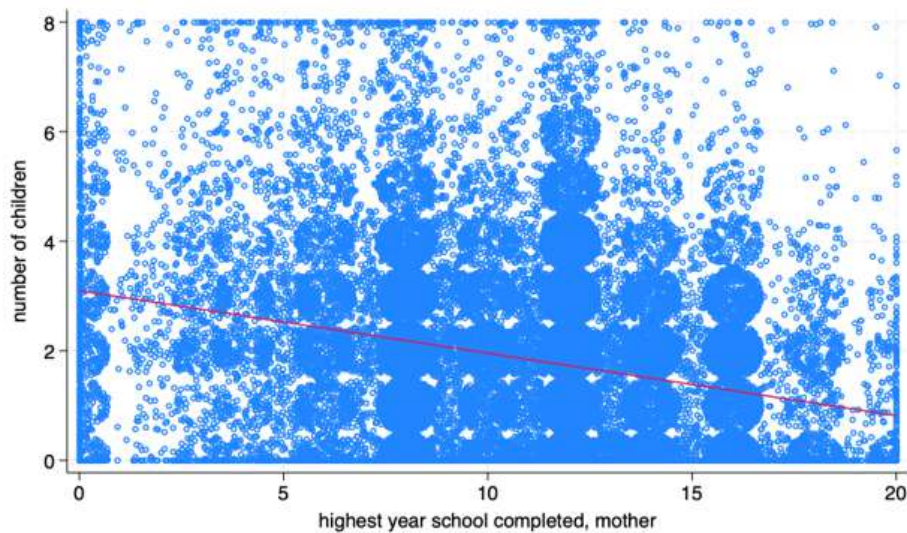


Figure 2. STATA Scatterplot of mother's education and number of children (2018).

The STATA analysis suggests that higher education is associated with having fewer children, while frequent religious attendance correlates to having more. Education appears to have a more decisive influence on family size than religiosity, although both factors are significant in explaining the phenomenon. This indicates that female education, as an indicator of modernization, can influence religious participation and reproductive decisions rather than religiosity being the sole decisive factor affecting reproductive choices.

### 4.2.3 World Cultural Map Analysis

The U.S. used to be a “deviant case” of how highly modernized countries can also be strongly religious. However, the decline in religiosity over time proves the claims that secularization follows modernization. In 2008, the U.S.’s self-expression was 1.75 (3.50 being the most self-expressive), and its traditional value was -0.6 (with -2.50 being the most traditional). In 2023, its survival-self-expression decreased to 1.4, and its traditional secular value increased to 0. For centuries, the dominant religion of Christianity in the U.S. has served as a force for social cohesion, reducing crime and encouraging compliance with the law.

**“Durkheim predicted that as societies become more *modernized and complex, traditional religion* would decline in public influence, transforming into a more private and individualistic form of belief while still maintaining some societal function through a shared *collective consciousness*.”**

Every major religion inculcates some version of the biblical commandments “Thou shalt not steal” and “Thou shalt not kill.”<sup>44</sup> Also, it has encouraged pro-fertility norms through verses such as “be fruitful and increase in number; fill the earth and subdue it.”<sup>45</sup> Especially during the early phase of colonial America, when there were no firm rules and societal structure, religion played a critical role in maintaining order and cohesion.<sup>46</sup> However, religiosity drastically declined in the U.S. from 2007 to 2019. Typically, *modernization* and accompanying technological and economic development bring out *secularization*. While such a process was more delayed in the U.S., it has occurred over time, leading to the prevalence of individual choice norms over group norms (i.e., pro-fertility).

Durkheim predicted that as societies become more modernized and complex, traditional religion would decline in public influence, transforming into a more private and individualistic form of belief while still maintaining some societal function through a shared “collective consciousness.”<sup>47</sup> His prediction holds to a certain extent. Ronald F. Inglehart, creator of the *World Value Survey*, states that “as traditional religiosity declines, an equally strong set of moral norms seems to be emerging to fill the void.”<sup>48</sup> New moral norms to replace traditional authority are self-expression and free choices. While democratic regimes often provide such new norms, the U.S. case study demonstrates that it can not fully replace religion’s function in legitimizing society and bringing social cohesion, especially in familial life and reproduction. If it were to be entirely replaced, the fertility rate should have remained unchanged or similar.

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<sup>44</sup> Revised Standard Version (RSV) of the Bible, *Exodus 20:15-17*, The Division of Christian Education of the National Council of the Churches of Christ in the USA (1946, 1952, and 1971).

<sup>45</sup> RSV of the Bible, *Genesis 1:28*.

<sup>46</sup> Durkheim, *The Elementary Forms of the Religious Life* (1915), 211-216.

<sup>47</sup> *Ibid.*, 223.

<sup>48</sup> Ronald Inglehart, *Religion’s Sudden Decline: What’s Causing It, and What Comes Next?* (Oxford University Press, 2021).

**“Evangelical and fundamentalist Protestants...often maintained a strong pro-family ethos, discouraging contraception and emphasizing the moral and spiritual responsibilities of raising children.”**

However, as religiosity declines, the childbirth rate also shows signs of decline. In other words, new authorities (i.e., democracy) do not have the same power over people that religion had in traditional societies. Emphasis on individual identities over groups implies weaker binding power to uphold norms of reproduction.

#### **4.2.4 Possible Role of Christianity**

Christianity encourages reproduction through various teachings and narratives in the Bible, which highlight the value of procreation as a divine blessing and a central part of God’s plan for humanity. These teachings emphasize the sanctity of marriage, the importance of family, and the idea that children are a gift from God. Several key biblical passages and themes demonstrate how Christianity encourages reproduction.

For instance, God blesses Adam and Eve, saying, “be fruitful and multiply, and fill the earth and subdue it...”<sup>49</sup> This verse establishes procreation as a central purpose of human existence, reflecting God’s desire for humans to populate the earth and steward creation. This command is often interpreted as a divine mandate to value reproduction and the continuation of family life. Reproduction is also encouraged in the Bible to sustain faith across generations. *Deuteronomy 6:6-7* instructs parents to teach God’s commandments to their children, ensuring the continuity of faith: “These commandments that I give you today are to be on your hearts. Impress them on your children. Talk about them when you sit at home and when you walk along the road, when you lie down and when you get up.”<sup>50</sup> This emphasis on passing down faith underscores the importance of having children in Christian communities.

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<sup>49</sup> RSV of the Bible, *Genesis 1:28*.

<sup>50</sup> RSV, *Deuteronomy 6:6-7*.

However, there have been changes and divergences in approaches to reproduction within Christianity. As Protestantism diversified in the 19th and 20th centuries, its influence on fertility became more complex. *Evangelical* and *fundamentalist* Protestants, for example, often maintained a strong pro-family ethos, discouraging contraception and emphasizing the moral and spiritual responsibilities of raising children. This stance has contributed to higher fertility rates in some Protestant communities, particularly among Evangelicals and Pentecostals. Conversely, Protestant denominations, such as Episcopalians, Presbyterians, and Methodists, have generally adopted more progressive views on family planning and individual autonomy, aligning with broader cultural trends prioritizing smaller families.<sup>51</sup> Such a shift reflects the broader *secularization* of American society and the growing influence of economic and educational factors on reproductive decisions.

### 4.3 South Korea

South Korea provides a compelling case study of how *modernization* can reduce both *religiosity* and *fertility rates*, transforming the country's social and cultural landscape over the past several decades. This transformation reflects broader global patterns in developed societies, but the speed and extent of change in South Korea make it a particularly striking example. As of 2024, the country has the 14th largest economy in the world according to its GDP per capita.<sup>52</sup> However, the country has been experiencing a significant decline in both religiosity and fertility rates at a rate faster than the U.S.

#### 4.3.1 Background

South Korea endured harsh Japanese imperial rule from 1910 until the end of World War II in 1945. Subsequently, after a period of governance by the U.S. Army, Rhee Syngman became the first president in 1948, aided by the U.S. government, marking the beginning of democracy in Korea. However, he soon took on a dictatorial role, misusing his power to amend the electoral system and suppress opposition.

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<sup>51</sup> H.N. Sallam and N.H. Sallam , “Religious Aspects of Assisted Reproduction,” *Facts Views Vis Obygn* (2016).

<sup>52</sup> IMF, *World Economic Outlook* (2024).

In the aftermath of the Korean War (1950–53), Park Chung Hee (1963-1979) and Chun Doo-hwan (1980-1988) rose to power through military coups. Ironically, during Park’s authoritarian regime, the South Korean economy experienced significant growth, transforming from an agrarian economy to an industrial one through export-oriented industrialization and reforms.<sup>53</sup>

The South Korean government alternated between partial democracy and autocratic military rule until the late 1980s. The Sixth Republic of Korea was established in 1987 following the June Democratic Struggle that concluded Chun’s authoritarian reign. Thus, South Korea presents a compelling case wherein democracy was initially introduced in a fragile form, eventually followed by economic development and the consolidation of democracy through various democratization movements. Since that time, the country has stabilized into a liberal democracy.

South Korea’s modernization began after the Korean War (1950-1953)—first by adopting the Western model of democracy and accelerating the process through government-led economic development plans in the 1960s. The country transformed from an agrarian economy to a global industrial powerhouse quickly.<sup>54</sup> Although the population has doubled since 1950, age distribution has changed significantly.<sup>55</sup> The percentage of individuals aged 0-14 dropped from 42.9% of the total population to 11.2% in 2023, whereas those above 60 increased from 5.1% to 26.5%.<sup>56</sup> Also, its TFR dropped from 6.0 in 1960 to 0.78 in 2022, the lowest in the world.<sup>57</sup> The numbers suggest a demographic crisis, where older generations exceed the number of younger generations, leading to social dysfunction. It threatens the economy’s maintenance and growth without an active economic workforce. There appears to be a challenge in supporting an increasing number of elders economically and socially. Due to strict immigration policy, the immigration rate has been low but recently increased marginally, which is still insufficient to resolve the demographic crisis.

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<sup>53</sup> Aurel Croissant, “Electoral Politics in South Korea,” *Electoral Politics in Southeast and East Asia* (2002).

<sup>54</sup> Kwan S. Kim, “The Korean Miracle (1962–80) Revisited: Myths and Realities in Strategies and Development,” *Asian Industrialization and Africa* (1991).

<sup>55</sup> United Nations-World Population Prospects, “South Korea Population 1950-2025,” *MacroTrends* (accessed March 22, 2025).

<sup>56</sup> L. Yoon, “South Korea: Population Projection 1960-2072, by age group,” *Statista* (2025).

<sup>57</sup> Jihoon Lee and Cynthia Kim, “In South Korea, World’s Lowest Fertility Rate Plunges Again in 2023,” *Reuters* (2024).

South Korea’s main religion was Buddhism and folk religion (Shamanism), which changed during and after World War II. The presence of Christianity increased through missionaries and churches.<sup>58</sup> As a result, Christians and Buddhists constitute similar shares of the population—respectively, 29% and 23% in 2014.<sup>59</sup> While Christianity and Buddhism remain prominent, the percentage of South Koreans identifying as religious has declined. The religiously unaffiliated population increased from 47% in 2004 to 60% in 2021.<sup>60</sup> Younger generations are increasingly identifying as non-religious. A 2021 study found that nearly 70% of South Koreans in their 20s and 30s claimed no religious affiliation.<sup>61</sup>

**“...[during and after World War II], the presence of *Christianity* increased through *missionaries* and *churches*. As a result, Christians and Buddhists constitute similar shares of the population—respectively, 29% and 23% in 2014.”**

#### 4.3.2 World Cultural Map Analysis

In 2008, South Korea’s survival-self-expression level was -1.25 (3.50 being the most self-expressive), and its traditional-secular value was 0.6 (with -2.50 being the most traditional). In 2023, its survival-self-expression increased to -0.6, and its traditional secular value increased to 1.50. The trend shows that the country has become more secular over time but is leaning towards self-expression, unlike other highly secular societies. While Confucian and Protestant European societies exhibit secular features, the latter group tends to be more self-expressive. Such a difference is reflected in the fertility rate, where Protestant European societies have higher fertility rates than Confucian countries. For instance, Sweden’s TFR is 1.67 children per woman, while South Korea’s TFR is 0.78 per woman. Even among developed nations, there is varying progress and influence of modernization on TFR.

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<sup>58</sup> Sam Hyun Yoo and Victor Agadjanian, “The Paradox of Change: Religion and Fertility Decline in South Korea,” *Demographic Research* (2021).

<sup>59</sup> Phillip Connor, “6 Facts about South Korea’s Growing Christian Population,” *Pew Research Center* (2014).

<sup>60</sup> Gallup Korea, *Religion of Koreans 1984-2021* (2021).

<sup>61</sup> Jonathan Evans, “Religion and Spirituality in East Asian Societies,” *Pew Research Center*, (2024).

South Korea has a high secular value but low self-expression value, which is different from the U.S., which has a somewhat low secular value and high self-expression value. What does this mean, and what contributes to the difference between the two nations?

The country underwent fast-paced industrialization compared to the US, which underwent two stages of the Industrial Revolution. The first occurred from the late 18th century through the first half of the 19th century (1770-1850), and the second phase began after the American Civil War (1861-1865). The South Korean economy underwent fast growth, especially under President (military dictator) Park Chung-Hee, through economic reforms with an iron hand. Its gross national income increased five times from 1960 to 2000, becoming one of the fastest-growing economies from one of the poorest.<sup>62</sup> However, it took more time for the country to democratize—to replace traditional legitimacy with a new form of authority. South Korea was under brutal Japanese imperial rule from 1910 to 1945 until the end of World War II. With the help of the U.S., the country could establish democracy, which turned autocratic under President Rhee Syngman, who turned out to be a dictator. After the Korean War (1950), the South Korean government went through multiple stages of a republic, which went back and forth between democracy and autocratic military regimes until the early 2000s.<sup>63</sup>

**“After the Korean War (1950), the South Korean government went through multiple stages of a *republic*, which went back and forth between *democracy* and *autocratic military* regimes until the early 2000s.”**

As reflected on the World Cultural Map, the country deviated from traditional legitimacy (*autocracy, religion*) with high secular value. However, the country has not fully adopted or implemented rational-legal authority for individuals to perceive the system as just and right, as shown in its low self-expression value compared to other developed countries. It indicates that the country is developed economically but not socially or politically.

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<sup>62</sup> Kim, “The Korean Miracle (1962–80) Revisited.”

<sup>63</sup> Croissant, “Electoral Politics in South Korea.”

They have not implemented democracy or other new social norms (*liberal*) as a new authority to replace religiosity, meaning no authority to bring legitimacy and consequent social cohesion. Their extremely low birth rate shows weakening social cohesion as a result. The low fertility rate in South Korea can be attributed to a general lack of *legitimacy* and *authority*. As indicated in the World Cultural Map, South Korean society is mainly secular, showing a minimal reliance on religion—an element of traditional authority that often brings individuals together. Additionally, there is a noticeable absence of acceptance for post-industrial norms, which is evident in South Koreans' comparatively lower self-expression values than other developed nations. This is especially apparent in the realm of women's rights. Despite having an advanced economy, South Korea struggles with inadequate social support, norms, and policies designed to promote gender equality across various sectors of society.

When examining educational levels and methods, men and women are taught the same way to rise a ladder: through hard work and merits. However, after graduation, women experience different treatments and expectations concerning their careers and childcare responsibilities. Many women do not perceive compelling reasons to have children early in their lives, leading them to postpone or forgo marriage in favor of independence and career pursuits.<sup>64</sup> Although South Korea operates under a democratic framework, it has yet to adopt liberal norms, particularly concerning women's rights entirely. Consequently, the country's birth rate, which falls below the replacement level, signifies a legitimacy crisis.

**“...after graduation, [South Korean] women experience different treatments and expectations concerning their *careers* and *childcare responsibilities*.”**

#### 4.3.3 Possible Role of Buddhism

Buddhism generally encourages detachment from worldly desires and focuses on spiritual growth. However, it does not explicitly discourage having children. Family life is seen as one of the paths where individuals can practice virtues like love, patience, and compassion. It also emphasizes personal efforts and individualistic aspects of life more than other religious teachings.

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<sup>64</sup> Ju-Eun Song et al., “Factors Related to Low Birth Rate Among Married Women in Korea,” *PLOS ONE* (2018).

Reaching Nirvana, liberation from the cycle of suffering and rebirth can be done through personal efforts. It holds an individualistic doctrine of salvation, not relying on God's will in determining an individual's fate.<sup>65</sup> Such individualistic sentiment can be reflected in Buddhism's approach to fertility. Having many children does not necessarily equate to religious commitment, as reproduction is seen as an individual affair.<sup>66</sup> <sup>67</sup> However, it does not mean such Buddhist teachings directly impact low childbirth. Buddhist countries—China, Japan, Thailand, Taiwan, South Korea, and more—have witnessed a decline in fertility rates associated with economic development and urbanization.

**“Having many children, [*in Buddhism*], does not necessarily equate to religious commitment, as *reproduction* is seen as an *individual affair*. However, it does not mean such Buddhist teachings directly impact low childbirth.”**

Modernization involves “the modern state taking over religious institutions in providing basic services such as education, health care, and housing,” decreasing religion's importance in social life.<sup>68</sup> In these countries, fast-paced modernization could have more drastically replaced religious authority, meaning its weak influence on fertility. In other words, Buddhism lost its power over societies due to modernization—enough to impact the reproduction choice.

According to the study of religious differences in fertility behavior in Japan, South Korea, and Singapore, the findings demonstrate that being a Buddhist does not significantly impact the number of children.<sup>69</sup> Although Buddhism does not directly dictate fertility rates, its emphasis on moderation and detachment may subtly influence societal attitudes toward family size.

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<sup>65</sup> Richard Gombrich, “The Buddha's Thought,” *Revue Internationale de Philosophie* (2010).

<sup>66</sup> Bernard Faure, “Chapter Two: The Rhetoric of Subordination,” *The Power of Denial* (2009).

<sup>67</sup> John Knodel et al., “Religion and Reproduction: Muslims in Buddhist Thailand,” *Population Studies* (1999).

<sup>68</sup> Pippa Norris and Ronald Inglehart, *Sacred and Secular: Religion and Politics Worldwide* (Cambridge University Press, 2011).

<sup>69</sup> Hiroshi Kojima, “The Effects of Religion on Fertility-Related Attitudes and Behavior in Japan, South Korea and Singapore,” *Waseda Studies in Social Sciences* (June 2014).

## 4.4 Nigeria

Nigeria, one of the most populous countries in Africa, provides a distinctive perspective for exploring the interplay between modernization, religiosity, and fertility. With a nominal GDP per capita that ranks 167th out of 192 countries, it is classified as a developing nation.<sup>70</sup> Like many other African regions, Nigeria has the potential to emerge as a global power fueled by its rapidly growing young population, abundant natural resources, and ongoing economic development.

### 4.4.1 Background

Portuguese explorers arrived on Nigerian coasts in the late 15th century, initiating trade, including the transatlantic slave trade. The Niger Delta became a hub for slave exportation. Following the abolition of slavery in the 19th century, European powers shifted focus to trade in palm oil and other commodities. By the mid-19th century, Britain increased its influence in the region, establishing the Lagos Colony in 1861. The British gradually extended control over Nigeria's territories through military conquest and treaties. In 1914, they forced the northern and southern protectorates into a single colony, creating modern Nigeria.<sup>71</sup> Such amalgamation combined diverse ethnic, linguistic, and religious groups under one administration.

**“In 1914, [*the British*] forced the northern and southern protectorates into a single colony, creating modern Nigeria, [*which*] combined diverse *ethnic, linguistic, and religious groups* under one administration.”**

Nigeria gained independence from Britain on October 1, 1960, adopting a parliamentary system with Azikiwe as its first Governor-General and later President. Political instability, ethnic tensions, and economic challenges characterized its early post-independence years. These culminated in the Nigerian Civil War (1967–1970), also known as the Biafran War, when the southeastern region attempted to secede as the Republic of Biafra.

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<sup>70</sup> IMF, *World Economic Outlook* (2024).

<sup>71</sup> Michael Crowder and John M. Carland, “The Colonial Office and Nigeria, 1898-1914,” *The International Journal of African Historical Studies* (1987).

The war ended with the reintegration of Biafra into Nigeria but left lasting scars. From 1966 to 1999, Nigeria experienced a series of military coups and periods of military rule by brief civilian governments. Leaders like Yakubu Gowon, Murtala Mohammed, and Olusegun Obasanjo played pivotal roles during these years. Nigeria transitioned to democratic rule in 1999, with Obasanjo elected as the civilian president.<sup>72</sup> This marked the beginning of the Fourth Republic, characterized by regular elections and a multiparty system. However, challenges of corruption, ethnic conflicts, and regional insurgencies have persisted. One example is the Boko Haram insurgency (2009–present), in which the terrorist group based in Nigeria seeks to overthrow the Nigerian government and replace it with a regime based on its interpretation of Islamic law, seizing control over parts of the country’s northern region in the process.<sup>73</sup>

Despite officially being a democracy, Nigeria has not fully implemented industrialization and economic development that can sustain democracy. Agriculture was the main component of its GDP during its independence and in the following decades. The oil and gas sector still plays a critical role in the economy, accounting for over 95% of export earnings and 85% of government revenue between 2011 and 2012.<sup>74</sup> On the other hand, its industrial sector—mining, manufacturing, utilities—remains limited despite multiple attempts at industrialization.

**“Despite officially being a *democracy*, Nigeria has not fully implemented *industrialization* and *economic development* that can sustain democracy.”**

The cumulative population of Nigeria has increased more than 6 times since 1950, reaching above 200 million—334 million in the U.S. and 52 million in South Korea.<sup>75</sup> TFR has decreased marginally in the last few decades but remains around 5.14, notably higher than the U.S. and South Korea.

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<sup>72</sup> David Williams, “Nigeria on the Eve of Independence,” *The World Today* (1960).

<sup>73</sup> Center for Preventive Action, “Violent Extremism in the Sahel,” *Council on Foreign Relations*, (2024).

<sup>74</sup> Louis N. Chete et al., “Industrial Development and Growth in Nigeria: Lessons and Challenges,” *Brookings Africa Growth Initiative* (2014).

<sup>75</sup> Country Profile, “Fertility Rate - Nigeria,” *World Bank Open Data* (2025).

Nigeria's population is also younger than the other two aging societies. Those under 15 constitute around 41.6% of the population, and those above 65 comprise only 3.6%.<sup>76</sup> Due to high childbirth rates, its population is projected to grow to over 377 million individuals by 2050, almost near or possibly exceeding that of the projected U.S. population.<sup>77</sup>

There are three main religious groups—Muslims (50%), Christians (48.1%), and indigenous religions (0.6%). Nigeria provides a hub to 371 diverse ethnic groups, mainly Hausa, Yorubas, and Igbos.<sup>78</sup> Types of religious groups also divide on the ethnic and regional lines within the country. Hausa individuals' historically established religion is Sunni Islam, which is populated in the North. The Yoruba are traditionally religious individuals and today exhibit a pluralistic approach to their beliefs, primarily residing in the South.

Many Yoruba individuals practice Christianity, with Anglicanism prominent, while others adhere to Islam, primarily following Sunni Islam. In addition to these faiths, many Yoruba continue to practice their traditional religion, West African Orisa or Isele. The Igbo people's traditional religion used to be Odinani, but they were introduced to Christianity during colonization (1861-1960). They are now the ethnic group with the most prominent Christians in the Southeastern region.<sup>79</sup>

#### 4.4.2 World Cultural Map Analysis

In 2008, Nigeria's survival-self-expression value stood at 0.1, while its traditional secular value was at -1.4. By 2023, both values experienced a decline: the survival-self-expression value dropped to -1.1, and the traditional-secular value fell to -1.5. This indicates a shift towards survival and tradition over the decades, suggesting that the nation has come to resemble a traditional society rather than a postmodern one. Such trends on the *World Cultural Map* reflect a societal acceptance of traditional values, particularly the significance of religion and traditional legitimacy.

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<sup>76</sup> Country Profile, "Fertility Rate - Nigeria."

<sup>77</sup> Department of Economic and Social Affairs, Population Division, "World Population Prospects: The 2017 Revision," *United Nations* (2017).

<sup>78</sup> Ayo Adebawale and Martin Palamuleni, "Religion and Ethnicity Interaction as a Predictor of Male Fertility in Nigeria: Evidence from a National Representative Sample," *PLOS ONE* (2024).

<sup>79</sup> CANVAS, "Ethnicity in Nigeria," *PBS News Hour* (2007).



Figure 3. Map of Nigeria-based on linguistic groups.<sup>80</sup>

In contrast to the two other case studies—South Korea and the U.S.—where postmodern norms are either partially or fully embraced, Nigeria strongly relies on traditional authority for legitimacy. This connection is further exemplified by Nigeria’s relatively high *Total Fertility Rate* of 5.14, compared to the other two case studies.<sup>81</sup>

While the *World Cultural Map* demonstrates the modernization process or stage based on two dimensions, Nigeria is located in the bottom left, with high traditional and survival values. Many African-Islamic nations form a cluster in the bottom left, either during or not yet in the impactful modernization phase, economically or politically. Why do they deviate from other societies like South Korea and the U.S.?

<sup>80</sup> Oluyemi Toyinbo, Map of Nigeria Showing Some Major Ethnic Groups, ResearchGate (2018).

<sup>81</sup> Country Profile, “Fertility Rate - Nigeria,” *World Bank Open Data*.

The legacy of Western colonization and the cultural characteristics of Nigeria and other African-Islamic nations contribute to the varying rates of modernization experienced in these regions compared to other countries. Even after gaining independence, the UK remained a key source of export earnings for Nigeria, establishing a core-periphery dynamic. Subsequently, the U.S. emerged as the core nation, with Nigeria becoming the second-largest oil supplier next to Saudi Arabia by 1980. During this period, 46% of Nigeria's oil exports were directed to the U.S.<sup>82</sup> This contributed to the de-industrialization of the U.S. and its shift towards shareholder capitalism. While Nigeria supported core nations by exporting raw materials, it became constrained in its economic growth as a peripheral nation. Although economic development often facilitates political progress and fosters democracy, the lingering effects of colonialism and Nigeria's peripheral status continue to pose significant challenges to *industrialization*. One significant obstacle to *modernization* is the challenge of *rationalization* and *democracy*, mainly due to the presence of diverse ethnic groups. Rationalization, essential for modernization, involves unifying measurement, language, and culture to enhance control over resources. Historical efforts in this direction can be seen in Europe, where measures such as establishing permanent last names, using military force, and promoting nationalism under Napoleon in France were employed. However, Nigeria's extensive ethnic and linguistic diversity, coupled with ongoing internal conflicts along ethnic and religious lines, complicates the process of rationalization.

#### 4.4.3 Possible Role of Islam

The Quran and Hadith (sayings of Prophet Muhammad) encourage marriage and having children, often framing children as a source of joy, legacy, and societal contribution. For example, the Quran refers to children as a "comfort to the eyes" and describes them as a source of wealth and strength.<sup>83</sup> <sup>84</sup> Additionally, Prophet Muhammad is reported to have said, "Marry the one who is fertile and loving, for I will boast of your great numbers."<sup>85</sup>

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<sup>82</sup> John A. Ayam, "The Development of Nigeria-U.S. Relations," *Journal of Third World Studies* (2008).

<sup>83</sup> Abdullah Yusuf Ali, trans., *The Holy Qur'an* (Ware, 2000), 25:74.

<sup>84</sup> Ali, *The Holy Qur'an*, 18:46.

<sup>85</sup> Abu Dawud b. al-Asat al-Siyistani, *Sunan Abi Dawud* (Dar al-Dayyan, 1988).

**“[By 1980s], 46% of Nigeria’s oil exports were directed to the U.S. This contributed to the *de-industrialization* of the US and its shift towards *shareholder capitalism*.”**

Islamic teachings, while not mandating high fertility, generally promote family life and reproduction, considering children a blessing. For this reason, historically higher than global averages, the fertility rate has often been attributed to religious and cultural norms emphasizing the value of large families.

The connection between Islam and fertility rates varies significantly among Muslim-majority countries. For example, countries like Iran and Turkey have experienced substantial declines in fertility rates attributed to urbanization, increased female education, and government-sponsored family planning initiatives.<sup>86</sup>

It illustrates the impact of socioeconomic development alongside religious values. In Nigeria, Muslims exhibit a higher *Total Fertility Rate* (TFR) than Christians. However, this difference is influenced by more than just religious teachings that encourage childbearing. Most Christian groups are located in the South, which is more modernized than the Muslim-majority northern regions. Southern Nigeria is home to urban centers like Lagos and Port Harcourt, offering better education, infrastructure, and electricity access. Consequently, Southern Christians are further along in the demographic transition process, with TFR declining from 6.1 to 4.5 between 1990 and 2013.<sup>87</sup>

In contrast, Northern Muslims are still in an earlier demographic transition stage, remaining less urbanized and modernized, with their TFR rising slightly from 6.4 to 6.8.<sup>88</sup> Ultimately, the relationship between Islam and fertility is shaped by a complex interplay of cultural practices and structural factors. It highlights the importance of analyzing individual contexts rather than making generalized assumptions across diverse societies.

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<sup>86</sup> Aboulghasem Pourreza et al., “Contributing Factors to the Total Fertility Rate Declining Trend in the Middle East and North Africa: A Systemic Review,” *Journal of Health, Population and Nutrition* (2021).

<sup>87</sup> Marcin Stonawski et al., “The Changing Religious Composition of Nigeria: Causes and Implications of Demographic Divergence,” *The Journal of Modern African Studies* (2016).

<sup>88</sup> Stonawski et al., “The Changing Religious Composition of Nigeria.”

## 4.5 Implications of the Case Studies

The case studies of the three nations suggest that modernization, rather than religiosity alone, plays a more significant role in shaping fertility trends. The variation in fertility rates among Christian populations in different countries suggests that religious teachings alone do not determine reproductive choices. If religiosity were the sole factor, fertility rates among Christians across the three countries would be more consistent. Instead, TFR appears to align more closely with each country's stage of modernization. Countries with higher economic and political levels—the U.S. and South Korea—exhibit lower fertility rates.

**“If *religiosity* were the sole factor, *fertility rates* among Christians across the three countries would be more consistent. Instead, TFR [*Total Fertility Rate*] appears to align more closely with each country's stage of *modernization*. ”**

In contrast, Nigeria, still in the earlier stages of modernization, maintains a high fertility rate. It aligns with the demographic transition model, where societies initially experience population growth before fertility rates decline as modernization progresses. While the Muslim population is projected to grow at a higher rate, this is partly because many Muslim-majority states are either at or before the stages of modernization, still experiencing population growth before entering a natural decline. However, some Muslim countries show a decline in their TFR as their economies advance. For instance, Nigeria, which has a significant Muslim population, has experienced a drop in TFR from 6.8 in 1978 to 5.1 in 2022, coinciding with economic growth of over 7 percent per annum between 2005 and 2014.<sup>89 90</sup>

While modernization is frequently linked to progress, it also brings unintended consequences, such as erosion of traditional social structures and declining fertility rates. Durkheim highlights that religion is crucial in social cohesion, reinforcing collective identity and promoting pro-reproductive norms.

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<sup>89</sup> Country Profile, “Fertility Rate - Nigeria,” *World Bank Open Data*.

<sup>90</sup> Prince Adeyemi Adeniran, “National Gross Domestic Product Q1 2024,” *Reports | National Bureau of Statistics* (2024).

As societies undergo *modernization* and *secularization*, it becomes essential to establish alternative sources of legitimacy—such as democracy, human rights, and self-expression—to replace religious authority and ensure social stability. The inability to create a cohesive framework in a post-religious context could worsen the demographic crisis, as evidenced by South Korea, where secularization has not been paired with robust alternative social structures. Similarly, the experience of the U.S. demonstrates that adopting democratic norms alone does not fully compensate for the influence of religiosity on individuals.

**“As societies undergo *modernization* and *secularization*, it becomes essential to establish alternative sources of *legitimacy*—such as democracy, human rights, and self-expression—to replace *religious authority* and ensure *social stability*.”**

Despite the challenges posed by modernization in terms of demographics, avoiding them is not a viable solution. Societies that often cling to traditional values and legitimacy exhibit high fertility rates, but this comes at a cost. Nigeria’s elevated fertility rate aligns with its strong religious identity and a less advanced stage of modernization. However, this high level of religiosity and fertility does not necessarily reflect a “healthier” society.<sup>91</sup> Nigeria grapples with significant socio-political challenges, including ethnic and religious conflicts, limited gender equality, and governance issues. The country’s designation as “partially free” by Freedom House indicates that while religiosity may promote high fertility and social cohesion, it does not automatically ensure social stability.<sup>92</sup>

Additionally, such stability cannot be taken for granted. As states strive to develop and optimize resources in a competitive environment, modernization—through education, technology, and industrialization—becomes inevitable. This shift leads to an increasing demand for improved decision-making processes and a better quality of life within society. Consequently, for developing states to enhance their chances of survival and prevent a domestic uprising, it is essential to adopt a new system that can replace previous legitimacy authority.

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<sup>91</sup> Durkheim, *Suicide*, 196.

<sup>92</sup> Country Profile, “Nigeria,” *Freedom House* (accessed March 24, 2025).

## 5. Conclusion

This study reaffirms that *fertility rates* are more closely tied to *modernization* stages than *religiosity* alone. Although religious cohesion historically supported higher fertility, modernization has gradually replaced traditional structures with individualistic values, contributing to population decline. The case studies of the U.S., South Korea, and Nigeria illustrate varying degrees of modernization and their corresponding impacts on fertility and religiosity. Once an outlier sustaining high religiosity alongside modernization, the U.S. now experiences a decline in both. South Korea, undergoing rapid modernization, has seen fertility rates plummet due to a lack of alternative social structures to support family formation. In an earlier stage of modernisation, Nigeria continues to exhibit high fertility rates reinforced by strong religious adherence and traditional legitimacy.

The findings underscore that while modernization is often viewed as positive socioeconomic progress, it also presents challenges, especially in maintaining societal cohesion and demographic stability. In societies where alternative legitimacy structures do not complement modernization, demographic crises may intensify, as seen in the case of South Korea. While religious traditions have historically provided social cohesion, societies may face not only declining fertility but also broader social fragmentation. Thus, future research should investigate potential institutional and cultural mechanisms that could serve as new sources of legitimacy, ensuring both demographic sustainability and social cohesion.

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## **About the Author**

Jungyeon Lee is a junior attending the Georgetown University's College of Arts, majoring in Government and Sociology. She is a dedicated researcher and advocate with a passion for social justice, legal studies, and community engagement, who actively explores issues related to policy, immigrant rights, and media representation. Her research experience includes an internship at JK Law Firm in Seoul, where she conducted extensive legal research on sex-related offenses and produced over 30 comparative analysis reports, earning a certificate of excellence. She also undertook an independent study with Dr. Jonathan Tan, Professor of Catholic Studies at Case Western Reserve University (CWRU), examining Asian American media representation and immigration policies. Additionally, her capstone project on Asian immigrants in American literature contributed to the introduction of a new Asian American Literature course at Northfield Mount Hermon High School. Beyond research, Jungyeon has demonstrated strong leadership and service through roles such as Outreach Chair for Case Western Reserve Habitat for Humanity, where she led awareness campaigns and increased volunteer participation. As a student staff member at HOME Georgetown Ministry Center, she assists in supporting unhoused individuals, further strengthening her communication and problem-solving skills. With a background in research, community service, and advocacy, Jungyeon remains committed to fostering meaningful dialogue and policy change in the fields of law, immigration, and social justice.

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