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Conceptualizing socio-hydrological drought processes: The case of the Maya
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Descriptive Finding

The future size of religiously affiliated and unaffiliated populations

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The future size of religiously affiliated and unaffiliated populations

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Abstract

BACKGROUND

People who are religiously unaffiliated (including self-identifying atheists and agnostics, as well as those who say their religion is “nothing in particular”) made up 16.4% of the world's population in 2010. Unaffiliated populations have been growing in North America and Europe, leading some to expect that this group will grow as a share of the world's population. However, such forecasts overlook the impact of demographic factors, such as fertility and the large, aging unaffiliated population in Asia.

OBJECTIVE

We project the future size of religiously affiliated and unaffiliated populations around the world.

METHODS

We use multistate cohort-component methods to project the size of religiously affiliated and unaffiliated populations. Projection inputs such as religious composition, differential fertility, and age structure data, as well as religious switching patterns, are based on the best available census and survey data for each country. This research is based on an analysis of more than 2,500 data sources.

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RESULTS

Taking demographic factors into account, we project that the unaffiliated will make up 13.2% of the world's population in 2050. The median age of religiously affiliated women is six years younger than unaffiliated women. The 2010–15 Total Fertility Rate for those with a religious affiliation is 2.59 children per woman, nearly a full child higher than the rate for the unaffiliated (1.65 children per woman).

CONCLUSION

The religiously unaffiliated are projected to decline as a share of the world's population in the decades ahead because their net growth through religious switching will be more than offset by higher childbearing among the younger affiliated population.

1. Introduction

Social scientists have a long history of predicting the demise of religion. Auguste Comte, Emile Durkheim, Sigmund Freud, and Karl Marx envisioned the decline of organized religion and the rise of the religiously unaffiliated. More recently the idea that the unaffiliated population will increase has been promoted using mathematical models of social group competition (Abrams, Yaple et al. 2011) and assumptions that growing economic development will lead to evolution away from religion (Barber 2012). But these predictions did not take demography into account – specifically, that patterns in global population growth favor those who have religious affiliation (Norris and Inglehart 2004; Kaufmann 2010). Our new demographic analysis finds that affiliated women have more children than unaffiliated women – nearly a full child more per woman, on average, worldwide. In addition, the global median age of affiliated women is six years younger than unaffiliated women, so they have more potential years of childbearing and living ahead. We project these demographic characteristics will result in a more religiously affiliated global population in coming decades. Although current patterns of religious switching favor the unaffiliated, they are insufficient at the global level to offset the demographic advantages of the affiliated.

Demographic projections of affiliated and unaffiliated populations were not possible in the past because scholars had not collected the worldwide data necessary to make them. We assembled a database of religious composition and demographic characteristics, based on more than 2,500 censuses, surveys, and population registers for 198 countries and territories that make up 99.98% of the world's population. Using this database, we made demographic projections of religiously affiliated and unaffiliated populations for the period from 2010 to 2050. Our global projections assume the continuation of recent switching patterns that strongly favor the unaffiliated,

particularly in North America, Europe, and Latin America, where we project the unaffiliated will grow as a share of those regions' populations. But if current trends continue, the religiously unaffiliated will decline as a percentage of the world's overall population, from 16.4% in 2010 to 13.2% in 2050. Even when we model a 50% increase in current rates of switching, tilting even more in favor of religious disaffiliation, the unaffiliated share of the world's population would still be expected to decline, falling to 14.3% in 2050.

2. Defining the religiously affiliated and unaffiliated

The religiously unaffiliated include atheists, agnostics, and people who do not identify with any particular religion in surveys and censuses. We estimate that 1.1 billion people were religiously unaffiliated in 2010, including more than 700 million in China, home to 62% of the world's religiously unaffiliated people. Some who state "no religion" in surveys do maintain a mix of religious beliefs and practices (Hout and Fischer 2002, Baker and Smith 2009). Nonetheless, based on the absence of self-identified religious affiliation, we classify them as unaffiliated (Hackett, Grim et al. 2012).

The majority of the population in China, the Czech Republic, Estonia, Hong Kong, Japan, and North Korea are religiously unaffiliated. The unaffiliated populations in these countries are considerably older than the rest of the world's population. By contrast, in the United States, Australia, New Zealand and many European countries, unaffiliated minorities have been growing in recent years, with growth often concentrated among young adults.

The religiously affiliated include, in order of 2010 population size, Christians, Muslims, Hindus, Buddhists, people who practice folk or traditional religions, adherents of other religions, and Jews (Hackett, Grim et al. 2012). In this context, religious affiliation is measured by identification with one of these groups on a census or survey. It does not necessarily connote formal institutional membership. This measure of identity is distinct from religious commitment. Each group includes people with a range of religious beliefs and practices. Nonetheless, on average, the unaffiliated rank far below the affiliated on measures of religious commitment such as self-reported importance of religion, worship attendance, prayer, and belief in God (Funk and Smith 2012).

3. Data and methods

We estimate the size of the religiously affiliated and unaffiliated populations of each country as of 2010, as well as the age structure and fertility of each group, using the best available sources for each country. We rely on religious self-identity as measured in nationally representative censuses, surveys, and population registers. Recognizing that answers to religion measures may vary depending on question wording and context, we sought the most comparable and consistent measures of religious identity across countries (Hackett 2014). For 70 countries, data were available to measure recent patterns of religious switching using information about change between respondents' childhood and adult religious affiliation. We model sex-specific patterns of switching from being affiliated to becoming unaffiliated, as well as switching from being unaffiliated to becoming affiliated.

Using multistate demographic models, we project future populations based on differences in the age structure, fertility patterns, and religious switching of the affiliated and unaffiliated (Skirbekk, Kaufmann et al. 2010). The models assume that religious identity is passed from mother to child and that, as children enter their young adult years, they are susceptible to religious switching at rates observed among recent cohorts (in countries with available data).

Here we report on scenarios with three different switching patterns. In the main switching rate scenario, recent rates of switching between affiliated and unaffiliated status are applied to new cohorts of young adults through the year 2050. As described below, the net impact of these rates is religious disaffiliation. In a second scenario we impose a 50% increase on recent rates of switching from affiliated status to unaffiliated status as well as on rates of retaining unaffiliated status, which further favors the unaffiliated. In a third scenario, recent rates of switching from unaffiliated status to affiliated status and rates of retaining affiliated status increase by 50%, which are more favorable toward the religiously affiliated.

At the country level, fertility rates match the U.N.'s medium variant scenario throughout the projection period (United Nations 2011). Within countries, we model fertility variation for the affiliated and unaffiliated based on differential data gathered from censuses and surveys using direct and indirect fertility rate estimation methods. Our central projection retains initial fertility differences between unaffiliated and affiliated women in a country, while allowing for gradual convergence by 2110 (100 years after the projections begin) based on the assumption that as education levels rise throughout the world, fertility differences will attenuate.

Little research has been conducted on cross-national differences in mortality between the affiliated and the unaffiliated. Due to lack of available data, we assume the same mortality patterns within each country for the affiliated and the unaffiliated. Each

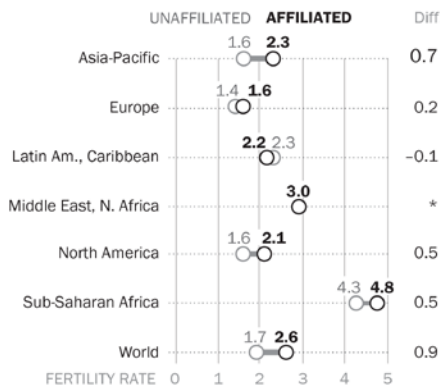
country's projected mortality patterns are based on U.N. mortality tables for the country. At the global level, mortality rates for each group reflect differences between the countries in which the affiliated and unaffiliated are concentrated. Stable population theory suggests differential fertility between the affiliated and unaffiliated will be more consequential than potential differences in mortality. However, the studies currently available (Ellison and Hummer 2010) find that the communal religious activity of the affiliated has beneficial effects on mortality and morbidity. If this pattern obtains globally, we would expect a slight additional demographic advantage for the religiously affiliated.

4. Demographic characteristics of the religiously unaffiliated

Previous country-level studies have found that on average the unaffiliated begin having their children at an older age than the affiliated and have fewer children (Mosher, Williams et al. 1992, Skirbekk, Kaufmann et al. 2010). Using data aggregated from each country, we estimate that the global 2010–15 Total Fertility Rate (TFR) for unaffiliated women is 1.65 children per woman, nearly a full child less than the rate for religiously affiliated women of 2.59 children per woman.

Figure 1: The religiously unaffiliated have fewer children, on average, than the affiliated

Total Fertility Rates (children per woman) by region, 2010-2015



Note: These fertility gaps between the unaffiliated and the affiliated reflect within-country differences as well as the concentration of the unaffiliated in countries where both groups have relatively low fertility. Insufficient data are available for reliably estimating unaffiliated fertility in the Middle East and North Africa.

The unaffiliated are considerably older, at the global level, than the affiliated, and thus more likely to be past their prime childbearing years. Among all women in 2010 the global median age was 29, the median age for the unaffiliated population was 34, and the median age for the religiously affiliated was 28. In the Asia-Pacific region, where 76% of the unaffiliated lived in 2010, the median age of unaffiliated women was 35, compared with 28 for the affiliated. However, the 2010 median age of unaffiliated women was lower than for the affiliated in Europe (38 vs. 43), Latin America (24 vs. 29), and North America (30 vs. 40). Globally, people who identify with a religious group will benefit from population momentum as a large share of that population enters its childbearing years.

While fertility and age patterns favor the affiliated, current religious switching patterns favor the unaffiliated. Over the four-decade projection period, 36 million people are expected to leave the ranks of the unaffiliated and 97 million are expected to switch into the unaffiliated category, a net gain of 61 million people for the unaffiliated. People who grew up as Christians are expected to make up the overwhelming majority of those who switch into the unaffiliated group. Additional details on the methods and data used to assess religious switching are available at <http://www.pewforum.org/2015/04/02/religious-projections-methodology/>.

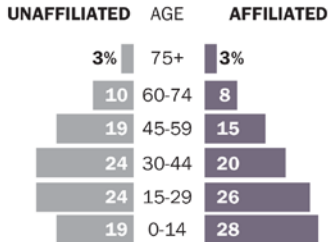
5. Findings

By 2050, the unaffiliated share of the world population is projected to decrease because the unaffiliated population has the twin demographic disadvantages of low fertility and an old age structure (Figure 2). Current demographic trends suggest that the religiously affiliated share of the world's population will increase unless there is significant change in the fertility patterns of the unaffiliated or a major change in switching patterns.

In our main scenario, the unaffiliated are projected to increase in absolute numbers by nearly 100 million people (9% growth between 2010 and 2050). However, the world's overall population is expected to grow much faster (35% between 2010 and 2050), adding 2.4 billion people during the 40-year period. Because that growth is driven disproportionately by births to affiliated women, the unaffiliated share of the world's population is projected to decline from 16.4% in 2010 to 13.2% in 2050 (Table 1). Even in the scenario with an additional 50% increase in switching patterns favoring the unaffiliated, the unaffiliated share of the world's population would still decline to 14.3%. If switching patterns favoring the affiliated increase by 50%, the unaffiliated share of the world would decline even further, to 12.2%.

Figure 2: The religiously unaffiliated are older, on average, than the affiliated

Age distribution, 2010



Note: Men and women are included in each category. Figures may not add up to 100% because of rounding.

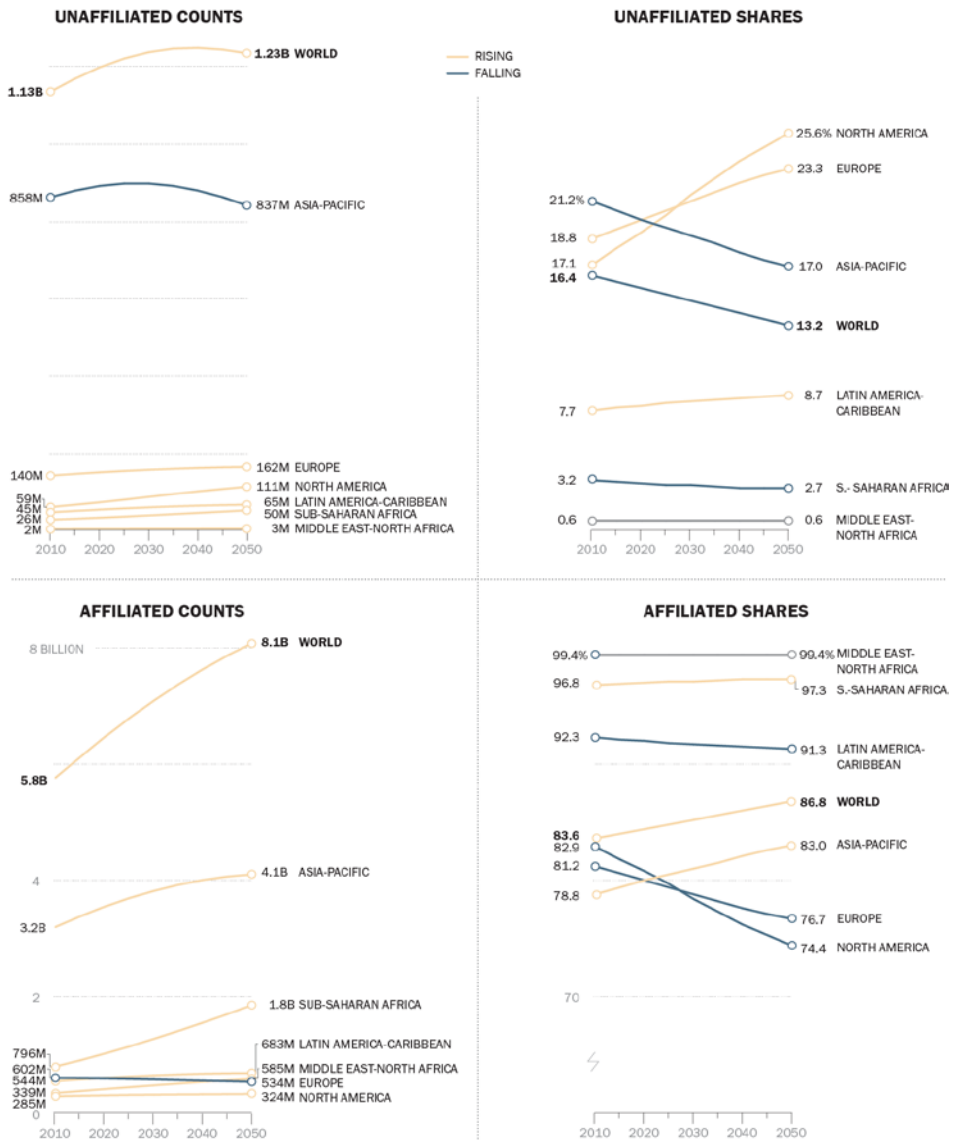
Table 1: Projected change in unaffiliated share of global population, 2010–2050

Scenario	Unaffiliated share of global population
2010: Base population	16.4%
2050: Current switching rates, which favor the unaffiliated, continue	13.2%
2050: Switching rates change 50% in favor of the unaffiliated	14.3%
2050: Switching rates change 50% in favor of the affiliated	12.2%

Note: These projection results are for 198 countries that made up 99.98% of the world's population in 2010

The expected trajectory of the religiously unaffiliated varies by region (Figure 3). In Europe and North America the religiously unaffiliated are young, relative to the rest of the population, and religious switching is adding to the size of this group. The number of unaffiliated people in Europe is projected to increase from 140 million in 2010 to 162 million in 2050. In North America the unaffiliated are projected to increase from 59 million in 2010 to 111 million in 2050.

Figure 3: Projected change in religiously unaffiliated and affiliated populations, 2010–2050



Note: These projection results are for 198 countries that made up 99.98% of the world's population in 2010.

In the Asia-Pacific region, by contrast, the unaffiliated population is expected to decline from 858 million in 2010 to 838 million in 2050, due to its advanced age structure, low fertility, and absence of discernible increase through switching.

These projections do not model any switching in China, where reliable information about switching patterns is unavailable. However, observers such as Fenggang Yang (2015) believe religious groups, including Christians, are growing in China because of switching. China is home to the majority of the world's unaffiliated population (62% in 2010), so if religious switching enlarges China's affiliated population in coming decades this could lead to an even greater decline in the unaffiliated share of the world's population.

No other region's total population is expected to grow more – or more rapidly – in coming decades than that of sub-Saharan Africa, where the 2010 population of 823 million is projected to increase to 1.9 billion in 2050. The region's unaffiliated population is expected to grow from 26 million in 2010 to 50 million in 2050, but will decrease slightly as a share of the regional population.

The unaffiliated populations are projected to grow in number between 2010 and 2050 in both Latin America (from 45 million to 65 million) and the Middle East-North Africa region (from 2 million to 3 million).

6. Discussion

Changes in religious identity can have important consequences for individuals and societies. For example, the affiliated and unaffiliated vary in patterns of family formation, educational attainment, civic engagement, and health outcomes (Zuckerman 2009, Ellison and Hummer 2010, Funk and Smith 2012). They also vary in science knowledge and attitudes (Sherkat 2011). At the societal level, changes in the unaffiliated share of populations could influence political elections as well as how science and religion are taught in schools.

Our projections show a growing divergence between highly affiliated, rapidly growing regions (sub-Saharan Africa and the Middle East-North Africa) and increasingly unaffiliated regions with more modest population change (Europe and the Americas). The divergence in religious affiliation between these regions may make communication across cultures more difficult and heighten geopolitical tensions as the unaffiliated and affiliated struggle to understand one another's worldview.

These projections clarify how demographic advantages of the affiliated may lead to the group's growth as a share of the world's population. However, there are important limitations to this study (Hackett, Connor et al. 2015). It does not attempt to model how religious switching patterns may change in the future as countries

experience changes in education, urbanization, political governance, and economic development. The impact of economic development on religious identity is difficult to predict. Development may be accompanied by increasing rates of religious disaffiliation in countries that currently show little movement toward disaffiliation. However, it should not be taken for granted that all countries will follow a European pattern in which religious disaffiliation increases following advanced economic development. There is currently no precedent for this sequence in a Muslim-majority country. In Hindu-majority India, religious affiliation remains almost universal even as the country is experiencing major social changes. And while it is difficult to measure religion in China, religious identification seems to have increased as the country has developed economically.

Another limitation of this study is that current patterns of religious switching are only available for 70 countries, which constitute 43% of the world's population. The most consequential omissions are China and India. While there is no adequate data to directly measure individual change in religious identity in India, cohort-based analysis of Indian census and survey data does not provide evidence that switching per se is leading to net change in the size of religious groups. In China, the absence of switching data may lead to underestimates of global movement toward higher levels of religious affiliation.

Additionally, these projections assume that current demographic trends and patterns of religious switching will continue. However, many developments could alter current patterns, including political and environmental crises or other shocks that might influence religious identity. Furthermore, this study does not model any switching activity in countries that lack data on current patterns of religious switching.

Previous studies have only attempted to model religious switching for single country population projections. Future studies should continue to project how switching, along with standard demographic processes, may change the religious landscape of countries, regions, and the world.

7. Acknowledgments

Our related Pew Research Center report *The Future of World Religions: Population Growth Projections, 2010-2050* provides additional description of our projections for seven religious groups as well as the unaffiliated. The report and complete country and regional data are available at <http://www.pewforum.org/2015/04/02/religious-projections-2010-2050/>. Funding for this research was provided by The Pew Charitable Trusts, the John Templeton Foundation and the European Research Council. At the Pew Research Center, Alan Cooperman, D'Vera Cohn, Caryle Murphy, Greg Smith, and Sandra Stencel provided helpful suggestions for this manuscript and Bill Webster created the graphics. We are also grateful to David McClendon, Chaeyoon Lim, David Voas, Robert Wuthnow, and anonymous reviewers for their suggestions. These projections were possible thanks to research contributions from Guy Abel, Phillip Connor, Noble Kuriakose, Juan Carlos Esparza Ochoa, and Anne Fengyan Shi.

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