

Religion Affects Birth Rate: An Overview of Religiosity, with Focus on Africa

Frank Götmark
Nicola Turner

Abstract

The global human population is projected to grow by more than 2 billion in the next 60 years, according to the latest population projections prepared by the United Nations. Birth rates are high in some parts of the world, leading to continued population growth. This paper argues that in Africa and parts of Asia, and within Muslim countries and communities, religiosity promotes high birth rates. However, this role of religion could potentially be reversed. In this paper, we discuss theories about religiosity and the role of Islam and other religions in the context of fertility and population growth in Africa and elsewhere.

Introduction

Religious immigrants to the West have high birth rates, the British political scientist Kaufmann (2010) concluded. Two years later, the psychologist Jonathan Haidt published a book on "The Righteous Mind" (Haidt, 2012). He and Kaufmann have argued that religion is hard to eliminate through rational arguments, as evolutionary biologist Richard Dawkins and many others have tried (Dawkins, 2006). According to Haidt, religiosity is part of inherited behaviour that reinforces social cooperation among competing groups of *Homo Sapiens*.

In this paper, religion refers to the belief in supernatural power, including spirituality and spirits that influence our attitudes and actions. Animism long dominated among hunters and gatherers via souls and spirits (deceased people, parts of nature, and the like). As agriculture evolved globally, larger hierarchical communities adopted gods who modelled forms of hierarchical leadership. Monotheism proved successful in building loyal followings and has branched into several religious traditions.

The American researcher Stephen Prothero attempted to characterise major religions of the world (Prothero, 2010). For Buddhism he suggests "the problem is suffering - the solution is awakening", for Christianity "the problem is sin, the solution is salvation", and for Islam "the problem is pride, the solution is submission". He found Confucianism and Hinduism harder to characterise. Prothero refers to them, respectively, as "the way of propriety" and "the way of devotion."

Muslims Give Birth to More Children

In the 1960s and 1970s, many scholars in the Western world believed that religions would fade away and developing countries would become secular (Hekmatpour, 2020; Norris and Inglehart, 2011). This has, however, not happened. For example, the Gallup surveys carried out during 2005-2010 in Africa south of Sahara, and in Arab countries revealed that, on average, 90 per cent of the respondents answered "Yes" to the question, "Is religion an important part of everyday life?". Moreover, the Pew Research Center has reported that Islam is the fastest growing religion in the world and has forecasted that Muslims will give birth to more children than Christians by the year 2035 (Pew Research Center, 2017).

These observations are supported by the World Values Survey, carried out in 57 countries of the world. The survey showed that Muslims give birth to more children than other religions (Halimatusa'diyah and Toyibah, 2021). Immigrants to Europe from Muslim countries also appear to have higher birth rate than other immigrants and the host population (Blekesaune 2020). This is explained by higher religiosity in Muslims, and the Muslim family norms that favour large families (Berhman and Erman, 2019). This study also reported that differences in socioeconomic status and migration status are less important determinants of Muslim family sizes than religious preferences. In west and central Africa, it is found that girls aged 15-19 years having either incomplete primary or no formal education were three times more likely to have married, and twice as likely to have given birth compared with those having at least primary education (Sagalova et al, 2021). This study also found that the prevalence of adolescent marriage was higher among Muslims than all other religious groups.

Population growth is strong today in parts of Western Asia (for example, Indonesia, Pakistan, and Afghanistan) and in Africa, especially, Africa south of Sahara. The latest population projections prepared by the United Nations estimated that Africa's population is likely to increase dramatically, from 1.4 billion in 2024 to 3.8 billion in 2100 (United Nations, 2024). This massive increase in the population will be due to high birth rates and the momentum for growth built in the young age structure of the population, which means that large fractions of young age classes in the African countries will be forming families in the future. The total fertility rate in Africa is currently estimated to be around 4.2 children per woman of reproductive age (United Nations, 2024). The consequences of such a rapid population growth will be serious from the perspectives of economic development and environmental sustainability. For instance, the Food and Agricultural Organization of the United Nations has reported increased undernutrition in Africa and other parts of the world, (FAO et al, 2024).

Meanwhile, the popular media and environmental organisations are silent on the role of future population growth for social and economic development, and environmental sustainability, in Africa. Valuable studies attempting to compare the relative role of population growth and climate change for food security have not been reported by the popular media. One such global study has concluded that "although climate change scenarios had an effect on future crop yields, population growth appeared to be the dominant driver on the change in undernourishment" (Molotoks et al, 2020).

Is Religiosity Declining?

In recent years, there are reports that religiosity is decreasing around the world. This observation is based primarily on the analysis of the data available from the World Values Survey (Inglehart, 2021). Declining religiosity may be true for USA and some other countries but seems unlikely for Africa where the World Values Survey covered only a few countries. There is evidence that in many African countries, highly religious communities are rapidly growing (Pew Research Center, 2025).

It is also important to carefully interpret the meaning of the world "religious". Some respondents in the World Values Survey have indicated that they do not belong to a congregation or organised religion, and they are categorised as "none," i.e., not belonging to any religion. A new survey conducted by the Pew Research Centre shows that the "none" response in the World Value Survey increased from 16 per cent to as high as 30 per cent in USA. Most of these respondents believed in a god or some higher power, even though very few of them regularly attended religious services (Pew Research Centre, 2024). They might therefore be classified as religious. In addition, concepts like spirituality and belief in spirits is difficult to capture in surveys like the World Values Survey.

The British African specialist Stephen Ellis and his Dutch colleague Gerrie ter Haar have described the importance of spirits in Africa (Ellis and ter Haar, 2004). The belief in spirits permeate culture and politics among the poor and the rich as well as in urban and in rural populations. They are omnipresent, even in communities that identify themselves as Christian or Muslim. Spiritual religious "mentors" often influence or control political leaders. President Kenneth Kaunda of Zambia, for example, was strongly influenced by two Indian gurus "who recognised him from his shamanistic journeys in the spiritual world," and they were given access to the power. Quite frequently, assassinations of political rivals are arranged with reference to spirits and gods. Some women who are seen as witches or women possessing evil spirits, have been found to be displaced and relegated to special villages. A recent book, *Religions in Contemporary Africa*, gives prominent place to the work of Ellis and ter Haar (Grillo et al, 2019).

African forms of religiosity have also been found to encourage fatalism. According to a BBC report from north-east Nigeria, in response to skyrocketing food prices, poverty and security concerns, the Governor of the region called for "divine intervention", and asked citizens to pray and fast (BBC, 2024). The Governor could, more usefully, have called for lowering birth rates so that there would be fewer mouths to feed but he preferred the spiritual route.

Spirits and minor gods still exist in close-to-nature animism, where much is considered animate. However, monotheism with a single, anthropomorphic ruling god (usually or often assumed to be male) predominates today also in Africa and in many other countries. How did we get there? The development can partly be explained by autocrats exploiting religion. An analysis of pre-modern societies and data from today has found that rulers with "divine legitimacy" contributed to religious laws. Societies that have followed this path are today more autocratic, and their populations are more religious than those in democratic societies (Bentzen and Gokmen, 2022).

The Dynamic Development of Congregations

How do individual churches and congregations develop? The sociologists Rodney Stark and Roger Finke and the economist Laurence Iannacone have argued for a kind of economic market model where believing individuals act rationally based on inherent needs and choose congregations based on so-called *tension*, i.e., degree of "distinctiveness, separation, and antagonism" (Stark and Finke, 2000; Iannacone, 1994). Stark and Finke have described their ideas in an original book, *Acts of Faith: Explaining the Human Side of Religion*. Strong faith and experiences in congregations (linked to high *tension*) give social cohesion, with more separated, contained congregations where the priest is financed by members who demand distinctive, strong experiences.

The social position of long-standing congregations and their priests can, however, be challenged by new congregations that provide alternative experiences. Christian charismatic churches (such as "speaking in tongues", ecstasy) are examples of rapidly increasing movements, at the expense of others, first in the United States, then, among other places in South America, and nowadays in parts of Africa (e.g., Grillo et al. 2019). This would be an example of the religious market in action, where the price extracted from members is rewarded by new intense experiences.

In traditional churches, belonging and faith are lower but cheaper. In highly secular Sweden, it costs little to remain in a congregation of the Church of Sweden, but religious beliefs are weak. In contrast, charismatic churches that provide high *tension* demand time and money and exclude free riders. There are studies from Africa that relate to ideas of religious market, but a recent one from Ghana gives some support (Yalley, 2025). Yalley has analysed factors influencing continued church membership, using a questionnaire in a range of denominational Christian groups, including Catholic, Protestant, Pentecostal, Charismatic, and "Others." Charismatic leadership, religious experience, message credibility, and willingness to donate, contributed to continued church membership, among others. Corporate social responsibility has strengthened church membership. Among Christian, Pentecostal and Charismatic denominations are increasing in Ghana (Yalley, 2025).

Rodney Stark, who died in 2022, had argued that religion and religiosity were not going away (Stark, 1999). Some scholars are critical of the ideas of religious market and congregational dynamics. Additions to the model may be needed. For instance, in secularised countries, religiosity may, in general, be latent but may increase rapidly, because of crises such as wars (Henrich et al, 2019) and pandemics (Bentzen, 2021).

More surprisingly, a new study covering about 100 countries has suggested that three social conditions typical for modernity and secularity – high existential security, education and urbanicity – do not decrease religiosity (Roberts, 2024). The author studied the degree of religiosity during 1989-2020 and has reported that the three social conditions neither exert independent, negative effects on the religiosity in general, nor predict the decrease in religiosity. Roberts argues that when a country is facing extreme poverty and low levels of education, influences of religion on fertility may not be as strong as certain socioeconomic factors. When economic constraints and education levels are not as dire, religion may more strongly influence fertility.

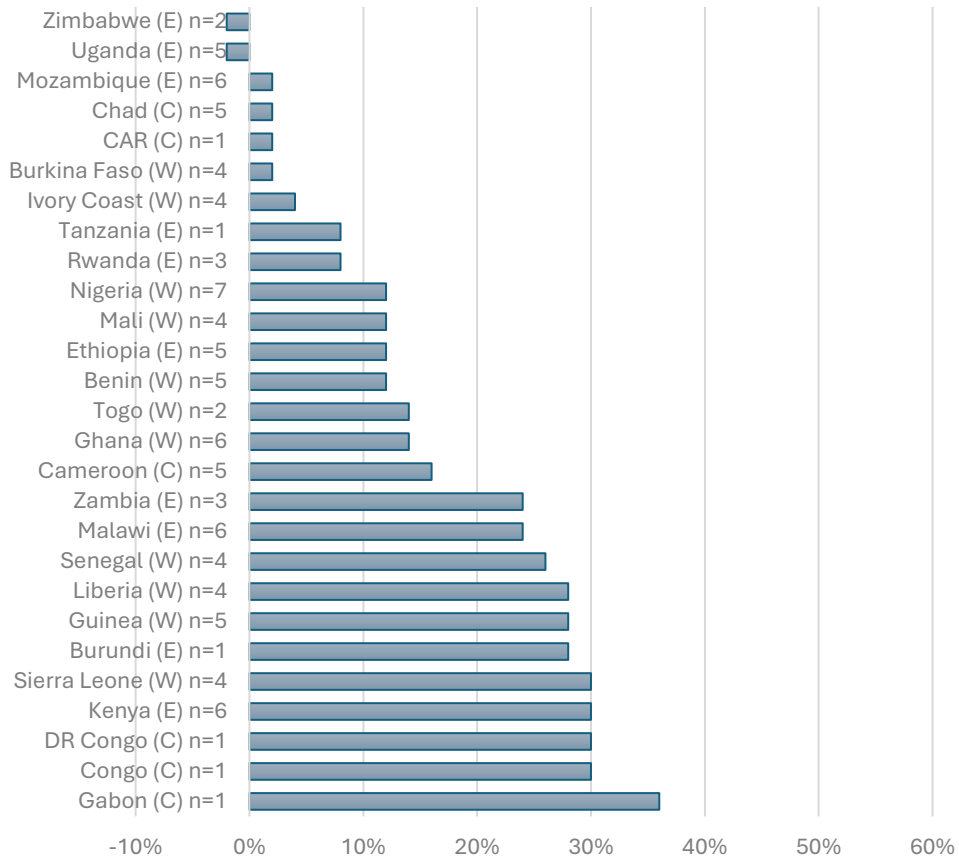


Figure 1: Mean fertility differences between Muslims and Christians in selected countries of Africa.

Remarks: Countries where Muslims had higher fertility than Christians is presented to the right; countries where Christians had higher fertility than Muslims is presented to the left. Source: Turner and Götmark (2023), where original data for calculations can be found.

Different Religions have Different Family Size Norms

We have recently reviewed studies from sub-Saharan Africa to see if major religions in the region differ in birth rates and thus potentially in relative future population growth and population size (Turner and Götmark, 2023). We were surprised to find that so much information existed, including good research by many African scientists. Much of the valuable information was also found in various reports and low-ranked journals. Our study, and other studies (such as Westoff and Bietsch, 2015), suggest that, in general, high

religiosity in Africa contributes to large family size, although other factors such as patriarchal culture also contribute to high fertility rates. Our findings are also consistent with a global study of fertility and religiosity, where fertility is positively associated with degree of religiosity in six world regions, and where the regions Sub-Saharan Africa and Arab States had highest religiosity (see Götmark and Andersson, 2020).

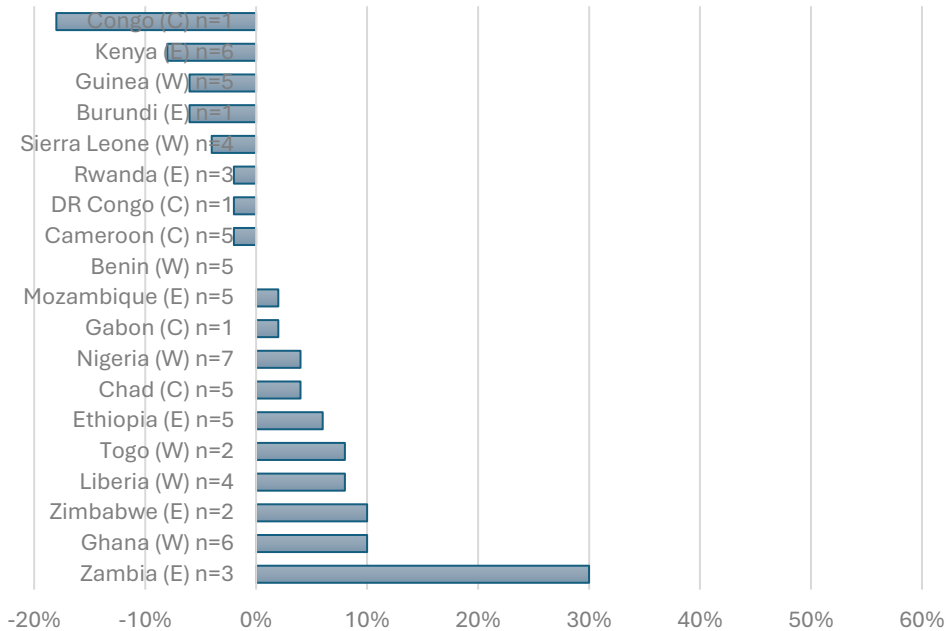


Figure 2: Fertility differences between Muslims and African Indigenous Religions (AIR) in selected African countries.

Remarks: Countries where AIR had higher fertility than Muslims is presented to the right; countries where Muslims had higher fertility than AIR is presented to the left.

Source: Turner and Götmark (2023), where original data for calculations can be found.

Turner and Götmark (2023) also found that Muslim families had birth rates 2–36 per cent higher than birth rates of Christian families, except in two countries, Zimbabwe and Uganda, where birth rate in Muslim families was around 2 per cent lower than that in Christian families. Although not significantly higher than Muslims, followers of older, Indigenous African religions had 4–58 per cent higher birth rates than those of Christian families, depending on the country (Turner and Götmark, 2023). Among Christians, Catholics and Protestants hardly differed in birth rate (their average birth rates were approximately similar across countries). Figures 1 through 3 show the results for individual countries in Sub-Saharan Africa.

Interestingly, there is evidence to suggest that Indigenous religions in Africa have higher paternity certainty than Islam and Christianity (Straussman et al, 2012), The Indigenous practices involved strong regulation of female sexuality. Such Indigenous

religions, where followers identify as believers (without Christian or Muslim influences), were probably important for group cohesion and survival (Haidt, 2012). Currently, these religions are small minorities; monotheism with a single ruling god has largely “won” in Africa.

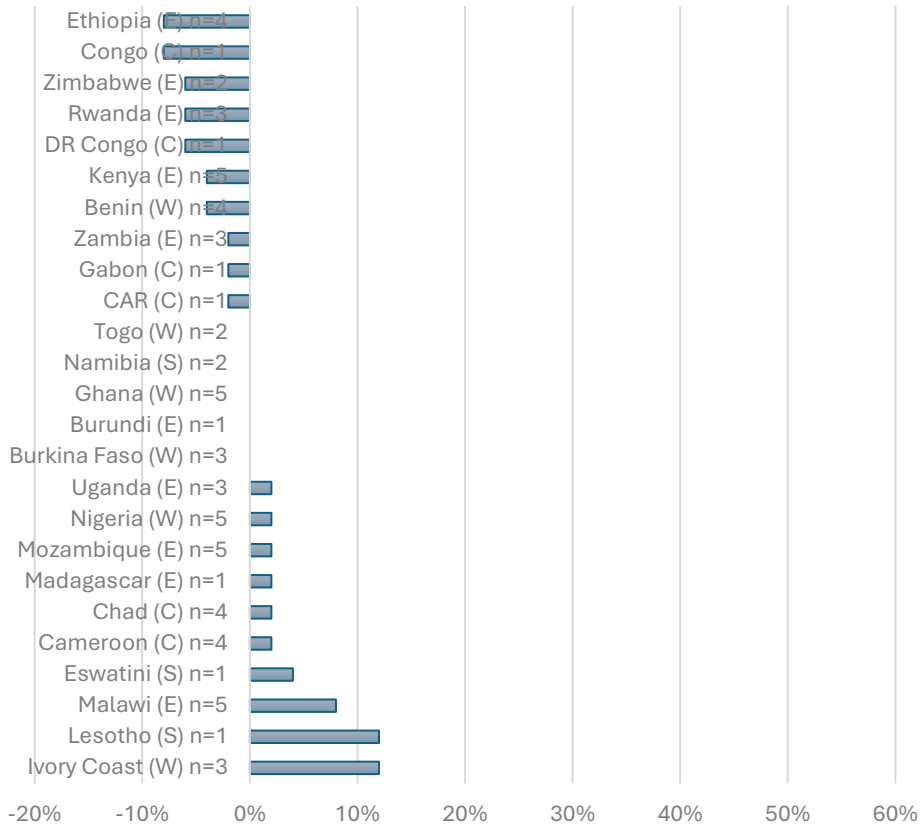


Figure 3. Fertility differences between Protestants and Catholics in selected African countries.

Remarks: Countries where Catholics had higher fertility than Protestants is presented to the right; countries where Protestants had higher fertility than Catholics is presented to the left.

Source: Turner and Götmark (2023), where original data for calculations can be found.

Beside religiosity, high fertility in Africa might be related to rural communities tending to have more traditional lifestyles, with low access to education, health services, and contraception. Yet, in focus group discussion and interview papers, the role of religion was often mentioned. The most frequent themes for “increasing fertility” were related to religion (11 cases) and polygamy (11), whereas the most frequent themes for “limiting births” were financial constraints (7) and quality of life (5) (Turner and Götmark, 2023).

Due to more rapid reproduction, Islam is now gaining ground in Africa. It is also expanding in other countries via migration, where Muslim migrants tend to have more children than the host community. In a survey of 15 European countries, immigration by Muslims was unpopular, irrespective of age, education, income, and political ideology of the respondents (Bansak et al, 2016). Covering clothing for women (Ahmed, 2012; Pazhoohi and Kingstone, 2020), gender segregation, Sharia law or sympathy for such, terrorist groups (Agbiboa, 2013; Choi, 2021), and high birth rates probably have contributed to make Islam unpopular in large parts of Europe. High birth rates contrast with the earlier history of Islam, with successful family planning programs in Muslim countries such as Indonesia, Iran, and Tunisia (The Overpopulation Project, 2025). Ahmed (2012) described how secular culture of Egypt changed through influence of the Muslim Brotherhood during late twentieth century.

Although not the focus of our overview, some studies have examined the relationships of Hinduism and Buddhism to fertility. One study compared cohort fertility among Hindu and Muslim women in India (Pasupuleti et al, 2017). Their results suggest higher fertility among Muslims – a gap of more than 1.3 children per woman between those Muslim and Hindu women who ended/will end their reproductive period in the calendar years 1993 to 2025. Socioeconomic differences, and higher demand for children among Muslims, were suggested as causes. On the other hand, Buddhism was reported to have negative or no association with childbearing, and Buddhist affiliation or devotion was unrelated to elevated fertility across diverse cultural settings (Skirbekk et al, 2015).

Possible Measures against Unsustainable Population Growth

It is often emphasised that more years of education can lower birth rates in developing countries, but the importance of the *content* of the education has not or rarely been investigated. Religious schools are common in Africa and supported through extensive international aid. Do these schools contribute to reducing the high birth rates in Africa, or do they maintain, or even encourage high fertility? Schoumaker and Sánchez-Páez (2024) reviewed the stall in fertility in some African countries and called for more research on its causes in educational groups, especially less-educated women, to understand the stall.

In the early 1990s, the United States, a major donor, changed its policy to allow governmental aid to Africa through Christian organisations, which was supported by both Republicans and Democrats (Stambach, 2009). At the same time, many countries in Africa allowed private schools, paid for by e.g., the United States, Arab states, or other donors. Do these schools provide education in sexuality and family planning?

More international aid for family planning could favour people, the environment, and wildlife in Africa and elsewhere. Bongaarts and Hodgson (2022) stated that a major investment in voluntary family planning could halve the remaining population growth in Africa from 2 to 1 billion in the future. Aid to those countries in Africa which reported policy to lower fertility (United Nations, 2017), and those countries which invest in family planning out of their own resources, should be given a high priority.

Advocates for family planning point out that male allies are essential for women who wish to adopt modern contraception methods, and religious leaders, often men, are

particularly valuable in this context (Gates, 2019). Priests have the potential to positively influence their congregation, media, and government policies. In Costa Rica (Dérer, 2019) and Indonesia, religious leaders positively influenced family planning uptake (Dodson, 2019). Today, total fertility rate is 1.5 in Costa Rica, and 2.1 in Indonesia. Political leaders in sub-Saharan Africa who advocate for family planning are relatively few, but those who advocate family planning need support. Turner and Götmark (2023) reviewed the evidence that outreach by Church leaders overcame barriers to the uptake of family planning, including opposition by male partners, and it was compatible with religious faith. This demonstrates the potentially strong influence of religious leaders on communities, and the possibilities to raise contraceptive prevalence and reduce fertility. In addition, the 'greening of religion,' taking environmental matters into the account, also offers some hope (Chaplin, 2016).

Religions and faith are present in many contexts, from terror to quiet prayer and wise advice. To slow population growth and address the many negative effects of rapid population growth in Africa and elsewhere, wise religious leaders should be supported as advocates for change. For an overview of African religious leaders that might be supported, by grants and or in other ways, see Turner and Götmark (2022).

Acknowledgements

We thank Malte Andersson, Philip Cafaro, and especially Jane O'Sullivan for helpful comments and suggestions on the manuscript. Part of this paper is based on the Master's Thesis by Nicola Turner (2021).

References

- Agbiboa D (2013) The on-going campaign of terror in Nigeria: Boko Haram versus the State. *Stability: International Journal of Security and Development* 52: 1-18.
- Ahmed L (2012) *A Quiet Revolution. The Veil's Resurgence, from the Middle East to America*. Yale University Press.
- Bansak K, Hainmueller J, Hangartner D (2016) How economic, humanitarian, and religious concerns shape European attitudes toward asylum seekers. *Science* 354: 217-222.
- BBC (2024) 'Divine intervention': Nigerians fast over steep food prices. 11 February. https://www.bbc.com/news/live/world-africa-68192925?ns_mchannel=social&ns_source=twitter&ns_campaign=bbc_live&ns_linkname=65d314b157478648da6f9356%26%27Divine%20intervention%27%3A%20Nigerians%20fast%20over%20rocketing%20food%20prices%262024-02-19T10%3A24%
- Behrman JA, Ehrman J (2019) An exploration of differences in ideal family size between Muslim and non-Muslim women in France. *Demographic Research* 41: 617-648.

GÖTMARK AND TURNER; IJPD 5(1): 43-59

- Bentzen JS (2021) In crisis, we pray: religiosity and the COVID-19 pandemic. *Journal of Economic Behavior and Organisation* 192: 541-583.
- Bentzen JS, Gokmen G (2022) The power of religion. *Journal of Economic Growth* 28: 45-78.
- Blekesaune M (2020) The fertility of female immigrants to Europe from Christian and Muslim countries. *Journal of Religion and Demography* 7(2): 222-237.
- Bongaarts J, Hodgson J (2022) *Fertility Transition in the Developing World*. New Yor, Springer.
- Chaplin J (2016) The global greening of religion. *Palgrave Communications* 2: 16-47.
- Choi S-W (2021) Terrorist campaigns and the growth of the Muslim population. *Japanese Journal of Political Science* 22: 40–56.
- Dawkins R (2006) *The God Delusion*. Boston, MA: Houghton Mifflin Harcourt.
- Dérer P (2019) Family planning for forests and people – the success story of Costa Rica. *The Overpopulation Project*. <https://overpopulation-project.com/family-planning-for-forests-and-people-the-success-story-of-costa-rica/>
- Dodson J (2019) “Two Children Are Enough” – “Dua Anak Cukup”. *The Overpopulation Project*, <https://overpopulation-project.com/two-children-are-enough-dua-anak-cukup-indonesia-population-policy-case-study-1/>
- Ellis S, ter Haar G (2004) *Worlds of Power: Religious Thought and Political Practice in Africa*. London, Hurst, and Company.
- FAO, IFAD, UNICEF, WFP and WHO (2024) *The State of Food Security and Nutrition in the World 2024. Financing to end hunger, food insecurity and malnutrition in all its forms*. Gates M (2019) *The Moment of Lift: How Empowering Women Changes the World*. Rome, Food and Agriculture Organization.
- Gates M (2019) *The Moment of Lift: How Empowering Women Changes the World*. Flatiron Books, New York.
- Götmark F, Andersson M (2020) Human fertility in relation to education, economy, religion, contraception, and family planning programs. *BMC Public Health*, Article number 265.
- Grillo L, van Klinken A, Ndzovu HJ (2019) *Religions in Contemporary Africa*. Routledge, New York.
- Haidt J (2012) *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. New York, Pantheon Books.
- Halimatusa’diyah I, Toyibah D (2021) Do religious people have more children? The effect of religious affiliation and religiosity on fertility. *Journal of Population and Social Studies* 29: 479-499.
- Hekmatpour P (2020) Inequality and religiosity in a global context: different secularization paths for developed and developing nations. *International Journal of Sociology* 50(4): 286–309.

- Henrich J, Bauer M, Cassar A, Chytilová J, Purzycki BG (2019). War increases religiosity. *Nature Human Behaviour* 3: 129-135.
- Inglehart R (2021) *Religion's Sudden Decline*. Oxford, Oxford University Press.
- Iannaccone LR (1994) Why strict churches are strong. *American Journal of Sociology* 99(5): 1180-1211.
- Kaufmann E (2010) *Shall the Religious Inherit the Earth?* London, Profile Books.
- Molotoks A (2020) Impacts of land use, population, and climate change on global food security. *Food and Energy Security* 10(1): e261.
- Norris P, Inglehart R (2011) *Sacred and Secular: Religion and Politics Worldwide*. Cambridge, Cambridge University Press.
- Pasupuleti SSR, Pathak P, Jatrana S (2017) Hindu-Muslim fertility differential in India: a cohort approach. *Journal of Biosocial Science* 49: 147–172.
- Pazhoochi F, Kingstone A (2020) Sex difference on the importance of veiling: a cross-cultural investigation. *Cross-cultural Research* 54: 486–501.
- Pew Research Center (2017) *The Changing Global Religious Landscape*. Washington, Pew Research Center. <https://www.pewresearch.org/religion/2017/04/05/the-changing-global-religious-landscape/>
- Pew Research Center (2024) *Religious 'Nones' in America: Who They Are and What They Believe*. Washington, Pew Research Center. <https://www.pewresearch.org/religion/2024/01/24/religious-nones-in-america-who-they-are-and-what-they-believe/>
- Pew Research Center (2025) *How the Global Religious Landscape Changed From 2010 to 2020*. Washington, Pew Research Center.
- Prothero S (2010) *God is Not One*. San Francisco, HarperOne.
- Roberts LL (2024) Do the three modern social conditions – high existential security, education, and urbanicity – really make people less religious? A worldwide analysis, 1989–2020. *Journal for the Scientific Study of Religion* 63(4):888–916.
- Sagalova V, Garcia J, Kapeu AS, Ntambi J, Zagre NM, Vollmer S (2021) Socio-economic predictors of adolescent marriage and maternity in West and Central Africa between 1986 and 2017. *Journal of Global Health* 11: 13002.
- Schoumaker BD, Sánchez DA (2024) Disruptions in educational progress and fertility dynamics by educational level: unravelling the link between education and fertility stalls in Sub-Saharan Africa. *Population and Development Review* 50(1): 59-85.
- Skirbekk V, Stonawski M, Fukuda S, Spoorenberg T, Hackett C, Muttarak R (2015) Is Buddhism the low fertility religion of Asia? *Demographic Research* 32: Article 1.
- Stambach A (2009) *Faith in Schools. Religion, Education and American Evangelicals in East Africa*. Redwood City, CA, Stanford University Press.

GÖTMARK AND TURNER; IJPD 5(1): 43-59

Stark R, Finke R (2000) *Acts of Faith: Explaining the Human Side of Religion*. Oakland, CA, University of California Press.

Stark R (1999) Secularization, R.I.P. *Sociology of Religion* 60(3): 249–273.

Strassman BI, Kurapati NT, Hug BF, Burke EE, Gillespie BW, Karafet TM, Hammer MF (2012) Religion as a means to assure paternity. *PNAS* 109: 9781-9785.

The Overpopulation Project, 2025. Family planning success stories, <https://overpopulation-project.com/family-planning-success-stories/>

Turner N (2021) Influence of religion and religiosity on fertility and contraceptive use in continental Sub-Saharan Africa: A comprehensive review [Master thesis]. Göteborg, University of Gothenburg. <https://thesiscommons.org/sezdg>

Turner N, Götmark F (2022) Religion, fertility and contraceptive use in Sub-Saharan Africa, Part 6: progressive religious organisations. *The Overpopulation Project*. <https://overpopulation-project.com/religion-fertility-contraceptive-use-sub-saharan-africa-6-progressive-religious-organisations/>

Turner N, Götmark F (2023) Human fertility and religions in sub-Saharan Africa: a comprehensive review of publications and data, 2010-2020. *African Journal of Reproductive Health* 27: 119-171.

United Nations (2017) Governmental policies to raise or lower the fertility level. *UN Population Facts No. 2017/10*. New York, United Nations.

United Nations (2024). World Population Prospects. New York, United Nations, Department of Economic and Social Affairs, Population Division. <https://population.un.org/wpp/>

Yalley A (2025) Correlates of continued church membership intention: An empirical study of religion in Ghana. *Journal for the Scientific Study of Religion* 64(2): 123-147.