

# Exploring Long-Run Cultural and Economic Impacts of Religious Development Organizations within Affiliated Populous

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## Abstract

Religious aid and development charities are quite numerous in the United States. However, it is unclear what the long-run economic and cultural impacts of religious philanthropy are within the recipient nation's affiliated population. I explore this question through descriptive methods by examining educational outcomes among Protestants in South Korea, following a 50-year effort by Protestant missionaries to establish formalized schools throughout the Korean peninsula. Using modern data, I find a persistent, positive relationship between identifying as a Protestant and years of education across two datasets following South Koreans in different age cohorts. This relationship holds over the creation of the highly centralized South Korean education system, and the average years of education doubling over age cohorts in my sample. The higher levels of education translate into Korean Protestants being more likely to hold office or professional jobs but do not translate into higher household incomes. Furthermore, I find a cultural tie between current Korean Protestants and missionary aid based on the nation to which Korean Protestants feel closest to. Much of the observed economic relationship can be explained through religious attendance; however, the cultural missionary tie appears to be driven by Protestant affiliation.

Keywords: International Nonprofits, Protestant Missions, Persistence, Development

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# 1 Introduction and Literature Review

What are the long-run impacts of conversionary religious aid and development charities, particularly on the converted communities they help create? This question is crucial to understand program impact and program evaluation for many nonprofit organizations in the United States. Giving USA (2021) estimates that approximately 75% of all charitable giving dollars go to religiously affiliated organizations. While churches, mosques, and synagogues receive 29% of charitable giving dollars, the remainder of this figure is spread across religiously affiliated 501(c)(3) organizations that are tax-exempt for purposes outside of their religious affiliation.

The second most numerous type of non-church, religiously affiliated charity organizations in the United States are relief and development organizations (Schietle, 2010). While not all religious, or even all Christian, charities in the United States have evangelizing or conversion as part of their organizational mission, a large share do (Thaut, 2009). As of 2004, 48% of all religious private, voluntary organizations engaged in relief and development are evangelical Christian in nature, which emphasizes evangelism and conversion by doctrine (McCleary and Barro, 2008; Thaut, 2009). In addition to the missionary aid provided, evangelical relief and development organizations have created flourishing communities of evangelical Christians throughout the world, such as on the Ivory Coast in Africa (Richelieu and Korai, 2012).

As such, natural questions arise regarding the economic and cultural impacts of conversionary development charities. While Bryan et. al. (2021) find short-term, positive impacts of Protestant evangelism on economic outcomes, limited research exists on the ties between religious evangelistic aid on economic or cultural outcomes. Specifically, this paper seeks to determine if we see any differences in the religious community with conversionary roots, such as in educational attainment, the types of jobs held by members, and in household incomes? Furthermore, can cultural differences in beliefs be tracked in survey data?

In the context of modern 501(c)(3) charity organizations, these questions can be quite difficult to answer. Therefore, to explore the impact of conversionary religious aid and development organizations, I examine the modern outcomes in modern Protestant respondents whose communities

have roots in Protestant conversionary missions who provided educational and medical aid during the 19th and early 20th centuries. I focus my results on South Korean Protestants, whose Protestant churches represent one of the longest-lasting and most successful conversionary mission efforts of the 19th and 20th centuries. These efforts largely stem from the establishment of mission hospitals and 796 mission schools, representing 25% of all schools in the Korean Peninsula in 1910 (Lee, 1989; Matsutani, 2012; McCleary, 2013).<sup>1</sup> While the Protestant community largely began with Protestant missions, it was naturally grown by the South Korean people. In 1945 the Protestant population was only 2% after missionaries had left, by 2000 this number grew to 18% (Baker, 2006; The Economist, 2014).

In this paper, I contribute to nonprofit program evaluation and management literature studying international nonprofit organizations, the public economics literature studying international voluntary organizations, along with development economics literature examining missionary persistence by examining how South Korean Protestants economic and cultural outcomes differ from non-Protestant respondents. My research contributes to a robust literature demonstrating positive relationships between missions providing educational and health aid and lasting, modern outcomes including higher rates of human capital (Woodberry, 2004; Becker and Woessemann, 2009; Gallego and Woodberry, 2010; Nunn et. al., 2014, Meier zu Selhausen, 2014; Castello-Climent et. al., 2017; Waldinger, 2017; Valencia Caicedo, 2018; Calvi, 2020), positive health outcomes (Bai and Kung, 2015; Calvi and Mantovanelli, 2018), and cultural changes (Nunn, 2010; Rink, 2018; Mattingly and Chen, 2022).<sup>2</sup> My results demonstrate the importance of considering long-run implications when participating in and evaluating conversionary religious philanthropy, along with

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<sup>1</sup>This number represents the peak of mission school share, as pressure from the Japanese Imperial Government beginning after the annexation of Korea in 1910 caused some mission schools to close prior to the eventual closure of all missions in 1940 (Matsutani, 2012). However, the establishment of mission schools has left lasting impacts on South Korea today, as three of the top five educational institutions in South Korea today were established by Protestant missions (Grayson, 2002).

<sup>2</sup>In the context of South Korea, Becker and Kim (2021) find a positive relationship between the presence of Protestants and literacy rate in 1930s census data. However, these results do not hold in the present context when comparing areas receiving a larger share of missionary aid to those receiving less (Oxley, 2021). However, when examining modern day South Korean Protestants, Hong and Paik (2021) find that Protestants are likely to vote more conservatively and have more negative views toward North Korea, stemming from the group's historical persecution in North Korea during the Korean War.

any philanthropic organization with the goal of community building.

## 2 Data

The main data used in this paper comes from the 2006-2012 waves of the Korean General Social Survey (KGSS). Conducted in a manner similar to the US counterpart the General Social Survey, the KGSS collects both demographic and opinionated survey data on a variety of beliefs and behaviors from a representative cross-section of South Korea (Kim, 2012). Combined, the 2006-2012 waves of the KGSS create a stacked cross-section dataset of 10,618 observations. The data as constructed allow me to observe contemporary correlations between Protestant religious affiliation and economic and cultural outcomes in South Korea.

However, I will not be able to distinguish between the lasting impact of Protestant missions and the impact and culture surrounding the modern South Korean Protestant church. Korean Protestantism largely culturally stems from Protestant missions; however, Korean Protestantism quickly morphed into its own cultural identity even during the times of Protestant missions.<sup>3</sup> The KGSS was collected well after missions ended in 1940, and there is no variable detailing how a respondent became affiliated with their religion. As such, my analysis will only be able to identify South Koreans who identify as Protestant, not specifically those who were converted by missionaries or are the decedents of missionary converts. Despite this, these results will still provide instructive insights into the lasting cultural and economic impacts of religiously based philanthropy in situations where winning converts and creating a religious community is an additional goal of an organization on top of aid-based philanthropy.

As educational attainment is a category variable in the KGSS, I create a variable called “years of education” by mapping the educational attainment category based on the years of schooling required in the South Korean education system. South Korea uses a “6-3-3” system, with six years in elementary school, three years in middle school, and three years in high school. For post-

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<sup>3</sup>A full breakdown of the history of Protestantism in South Korea is available in Appendix C.

secondary education, associate degree work takes two years, undergraduate work takes four years for undergraduate, master's level work takes two additional years after undergraduate work, and finally doctoral work requires an additional five years after undergraduate work (Republic of Korea Ministry of Education, 2019; National Center on Education and the Economy, 2019). Additionally, I invert the pride in South Korea categorical variable, with four representing the being very proud of being South Korean and one representing no pride at all in being South Korean, along with a reorganizing of the attendance variable so that it flows in chronological order from most attendance to least. I use these variables to create indicators for having pride in South Korea and at least monthly religious attendance, respectively. In all cases where data is coded as unsure, other, or refused to respond, the data are treated as missing.

Summary statistics are included in Table 1 and are broken down by Protestant respondents and non-Protestant respondents. In the raw data, South Korean Protestants on average earn 0.528 years more education than their non-Protestant counterparts. Additionally, they are 10.5 percentage points more likely to be female, 0.802 years younger, 4.3 percentage points to identify the United States as the nation most like South Korea, 3.8 percentage points more likely to hold a professional job<sup>4</sup>, 6 percentage points more likely to hold an office job<sup>5</sup>. Finally, the raw data indicate that South Korean Protestants view themselves as 1% higher in social rank<sup>6</sup>, attend religious services at a higher rate, and are more likely to indicate pride in South Korea.

### 3 Empirical Strategy

To explore the relationship between Protestant Christians in South Korea and a variety of economic and cultural variables, I utilize a fixed effects regression on a stacked cross-sectional dataset. The results of this regression are unlikely to be causal, as the causal assumptions are unlikely to be met. Using an example from the summary statistics, it is not possible to determine if Protestant af-

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<sup>4</sup>Constructed by having an occupation variable response of 3000 or lower

<sup>5</sup>Constructed by having an occupation variable response of 4000 or lower

<sup>6</sup>Constructed by the KGSS as a subjective response variable bounded between 1 and 10

filiation causes individuals to obtain higher levels of education, or if individuals with backgrounds likely to be correlated with receiving a higher level of education are also more likely to be Protestant in South Korea. Despite this example of simultaneity bias, well-specified descriptive results from correlation analysis can still provide useful insights into behaviors associated with Protestant Christianity, which can culturally claim roots to 19<sup>th</sup> and 20<sup>th</sup> century philanthropic mission efforts in South Korea.

In all cases, a fixed effects OLS model is utilized. Doing so results in the employment of a linear probability model for binary outcome variables. Although the linear probability model's constant marginal effects can result in probabilities greater than 1 and less than 0, particularly when applying the marginal effects to outcomes at the tails of the sample distribution for control variables, marginal effects in a logit or probit model with fixed effects generally are not reliable due to the estimates being dependent upon the values of the fixed effects (Wooldridge, 2010; Kemp and Silva, 2016).

The model takes the following form:

$$y_{it} = \alpha_i + \beta Protestant_{it} + \gamma_t + \phi_d + X_{it}\Theta + u_{it}$$

where  $y_{it}$  represent economic outcomes including years of schooling, household income, and holding either a professional or office job, along with cultural outcomes including viewing the United States as the nation South Korea is most similar to, having pride in South Korea, and the respondent's social rank. As education is a variable that will not decrease over time, I separate respondents being born before and after the United States Military Government was established in South Korea. This dividing line helps illustrate the initial and lasting impact of the Protestant missionary schools, the initial development aid of interest.

The variable *Protestant* is an indicator variable indicating that respondent  $i$  in time period  $t$  identifies as a Protestant Christian. The vector  $X_{it}$  represents a vector of control variables including gender, marital status, household population, and respondent age. The model includes two

sets of fixed effects specifications for time ( $\gamma_t$ ) and location, measured by respondent municipal district ( $\phi_d$ ). These are included to capture overall differences in time, along with underlying, time-invariant differences in location. Finally,  $u_{it}$  represent idiosyncratic errors that are robust to heteroskedasticity and clustered at the municipal district level. For each regression, the coefficient of interest is  $\beta$ , representing the difference between Protestant respondents and non-Protestant respondents for each outcome variable of interest.

Due to the model specification used, it is entirely possible for omitted variable bias in unobserved variation to be present in my results. To measure the sensitivity of my results to unobserved variation, I employ the Oster (2019)  $\delta$  test on all results, as this statistical test determines the strength of unobserved variation required to render results statistically insignificant from zero. For values of  $\delta \geq 1$ , the strength of the unobserved variation within the outcome variables of interest must be greater than the observed covariation between Protestant affiliation and the outcome variable of interest.

## 4 Results

Economic results are listed in Table 2, along with a measure of sensitivity of the estimates to omitted variable bias for all results using the Oster (2019)  $\delta$  coefficient. I find that South Korean Protestants as a whole attain 0.497 years of education more than their non-Protestant counterparts. This result would require omitted variable bias through unobserved variation 7.950 the magnitude of the covariation between Protestant affiliation and educational attainment to render the effect statistically indistinguishable from zero. Breaking the result into cohorts born prior to 1946 and those born in 1946 onward, I find that Protestant respondents born prior to the creation of South Korea attained 0.865 years of education more than their non-Protestant counterparts, a result that would require nearly the same magnitude of unobserved variation as the covariation between Protestant affiliation and educational attainment. Conversely, even after the Korean public school system was created in a highly centralized structure, South Korean Protestants born after 1946 attain 0.455

years more education than their non-Protestant counterparts, a result robust to unobserved variation 2.275 greater in magnitude than the observed effect.

Further breaking down educational attainment, Figure 1 plots educational attainment by Protestants over 10 year birth cohorts.<sup>7</sup> Protestants born during the operation of missions, along with the following two 10-year cohorts attained approximately 1.5 years more education than their non-Protestant counterparts. For those born after the Korean War ended, this number shrinks to nearly 0.5 years; however, the number persists in the most recent birth cohort of respondents.

Returning to the economic results in in Table 2, I find that the higher levels of education translate into a higher likelihood of holding professional and office jobs, but not into higher levels of household income. South Korean Protestants are 3.9 percentage points more likely to hold a professional job at the mean, an effect that is robust to unobserved variation 11.050 times the magnitude of the observed covariation. Additionally, they are 4.8 percentage points more likely to hold an office job, although this finding could easily be rendered statistically insignificant with unobserved variation. However, household income is not statistically different from zero.

Focusing on cultural results listed in Table 3, South Korean Protestants are 6.2 percentage points more likely to identify the United States as the nation to which South Korea is closest to. This result is in line with Hong and Paik's (2021) results studying the same variable; however, the result is not statistically robust to unobserved variation. The United States was the only option on the KGSS out of nations that sent Protestant missions to South Korea, demonstrating a cultural tie that has been strengthened through the United States diplomatic and military ties to South Korea. Furthermore, South Korean Protestants are 4.2 percentage points more likely to state that they are either proud or very proud of South Korea. Again, this result has cultural ties to the time of Protestant missions in the 1919 March for Independence movement and the beginnings of Korean nationalism (Matsutani, 2012). However, this result is also not robust to unobserved variation. Finally, South Korean Protestants view their social rank as being 1.05 percentile higher at the mean than non-Protestant counterparts, a result that is robust to unobserved variation 1.116 times

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<sup>7</sup>Due to small sample size and wide standard errors, I do not include the cohort born before 1927. Alternate specifications including this cohort are included in Appendix A, with quantitatively similar results.



the covariation magnitude.

## 5 Education Result Robustness

While the main analysis provides compelling evidence that Protestant affiliation is associated with higher levels of education in modern South Korea, it provides less compelling evidence that this affiliation extends back to the time of Protestant missions and the immediate following birth cohorts due to small sample size. This relationship was much less robust to unobserved variation than either the subgroup of South Koreans born from 1946 onward and the full pool of all respondents in the KGSS. To explore this relationship further, I use a different dataset consisting of Koreans born closer to mission times, the 2006 wave of the Korean Longitudinal Study of Aging (KLoSA).<sup>8</sup> These data expand my mission era observations from 1,715 to 5,266, with an additional 4,979 observations for the birth cohorts immediately following the creation of the South Korean school system. Regression specifications are similar to my previous specification, with the main change including province level fixed effects rather than municipal district. As a result, my cluster count decreases from 205 to 15. As small numbers of clusters can result in Type 1 errors, I include wild bootstrapped standard errors in addition to correct for the small number of clusters (Roodman et al., 2019).

The results analyzing KLoSA data are included in Table 4. I find that in pooling all respondents, South Korean Protestants attained 0.910 more years of educational attainment compared to their non-Protestant counterparts, a result that would require unobserved variation 45.489 the magnitude of covariation to render statistically insignificant. When broken down into the age sub cohorts, I do find a similar decrease across generational cohorts with the Protestant cohort born prior to the establishment of South Korea attaining 0.949 more years of education compared to non-Protestants, and the Protestant cohort born after the creation of South Korea attaining 0.817 more years of education compared to non-Protestants. These findings would require unobserved

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<sup>8</sup>Summary statistics on these data are provided in Appendix B.

variation of 4.318 and 8.064 times the observed covariation, respectively.

Similar to my breakdown by 10-year birth cohort for the KGSS data, I examine educational attainment by 10-year birth cohort for the KLoSA data in Figure 2. I find results in line with my findings analyzing the KGSS data for all age cohorts up to those born in 1957 onward, which is slightly higher than what I observe in the KGSS data. Combined, my results indicate a strong relationship between Korean Protestant affiliation and educational attainment, stemming from the times of missionary schools and persisting into the present day.

## 6 Attendance Versus Affiliation

As demonstrated in the summary statistics in Table 1, Protestants attend religious services significantly more often than their non-Protestant counterparts. As such, it is possible that the Protestant effect on years of education, holding a professional or office job, views on the United States and South Korea, pride in South Korea, and views on social rank stem from cultural expectations set in church. To test this theory, I create a binary for attending religious services at least monthly and rerun my analysis with and without the Protestant binary included. Protestants make up the majority of respondents who attend religious services at least monthly at 58.32% of respondents, and Protestant respondents are 64.44 percentage points more likely to attend religious services at least monthly.<sup>9</sup>

The economic results are presented in Table 8. I find a similar correlation between educational and monthly religious attendance as I did with Protestant religious affiliation. Furthermore, when including both in the regression, I find that monthly religious attendance is correlated with 0.981

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<sup>9</sup>I utilize the full dataset and specify my model by including both monthly attendance and Protestant affiliation to determine the driving mechanism in my cultural and economic outcomes. Because of the construction of monthly religious attendees not excluding non-Protestants, the model specification presented does raise questions as to whether or not the outcomes identified are primarily stemming from Protestant respondents. To ease this concern, I include a table rerunning the same fixed effect OLS specification exclusively examining Protestant respondents with the relationship between the outcome variables and at least monthly attendance being reported. The results are quantitatively similar to those presented in this section, showing positive correlations between Protestants attending religious services at least monthly and educational attainment, viewing the US as the nation that South Korea is closest to, pride in South Korea, and Social Rank.

more years of education than non-monthly attendees, a finding requiring unobserved variation of 1.501 the covariation to render statistically insignificant. The inclusion of the monthly religious binary also renders Protestant affiliation into a null effect. I see similar results with the likelihood of holding a professional job, where monthly religious attendees are 2.8 percentage points more likely to hold a professional job, a finding requiring 1.632 the level of covariation in the observables to render statistically insignificant. This effect also nullifies the relationship between Protestant affiliation and likelihood of holding a Professional job. Finally, while both monthly attendees and Protestant affiliated individuals are both more likely to hold office jobs at 2.8 percentage points and 3.0 percentage points respectively; however, neither finding is robust to unobserved variation.

The major departure in economic results by monthly attendance versus Protestant affiliation comes in how years of education and job status translate into household income. Monthly religious attendance is correlated with an income 38,763 won more per month than non-monthly attendees. This renders the Protestant effect to earning 23,599 won per month less than non-Protestants. Neither result is robust to unobserved variation, so it is important to take these results with caution. Across all economic results, it appears that religious attendance explains economic associations more than affiliation, suggesting a potential in-network effect centered around modern Protestant churches in South Korea, many of which have roots back to Protestant religious missions.

Turning to the cultural results presented in Table 6, I find that monthly religious attendance is correlated with identifying the United States as the nation that South Korea is closest to; however, this does not hold when including the Protestant affiliation binary. Instead, Protestant affiliation alone is correlated with a 5.6 percentage points higher likelihood to identify the United States as the nation that South Korea is closest to at the mean. As with the original specification, this result is not robust to unobservables; however, the relationship between South Korean Protestant Christianity and favorable views towards the United States is established within the literature (Hong and Paik, 2021). Monthly attendance is correlated to a higher likelihood in a respondent stating that they are proud of South Korea, rendering the Protestant affiliation effect null. While this effect is not robust to potential omitted variables in the unobserved variation, the result is consistent within

the literature linking Korean Protestantism to nationalism, along with the findings in the literature linking nationalism to Protestant missionary presence (Hong and Paik, 2021; Mattingly and Chen, 2022).

Finally, monthly religious attendance is correlated with a higher view of the respondent's social rank by 2.23 percentile points. This result is robust to unobserved variation 6.619 times the magnitude of the covariation between social rank and monthly attendance. Additionally, controlling for monthly attendance results in Protestant affiliation to have a null effect on views of social rank. While it is not entirely clear why at least monthly religious attendance translates into higher views of societal rank, be it culturally from religious services or merely because of the higher correlation between monthly religious attendance and economic variables such as years of education, holding a professional job, and household income, the result does follow a pattern of demonstrating that attendance and active participation within the religious group is more important for the results of interest rather than religious affiliation alone.

## **7 Discussion**

This paper explores the long-run impacts of religious aid and development by examining the present day outcomes within the populous affiliated with the religious aid organization. I do so by examining economic and cultural outcomes within the Protestant community of South Korea in order to identify any potential lasting impact from the expansion of Protestantism in Korea through conversionary missions. I find several economic and cultural differences in modern-day South Korean Protestants.

The Protestant missions in Korea established some of the first formalized schools in Korea and had established 25% of all schools in Korea by 1910 (Lee, 1989; Matsutani, 2012; McCleary, 2013). I find evidence of a legacy of educational attainment continuing today in Protestant Koreans, as Protestant affiliated individuals attain 0.497 more years of education than non-Protestant South Koreans. Furthermore, the correlation is present across two datasets and all 10-year birth cohorts

examined in my analysis. The higher levels of education translate into Protestant respondents being 3.9 percentage points more likely to hold professional-level jobs and 4.8 percentage points more likely to hold office jobs.

Culturally, I find two potential ties back to missionary times. First, South Korean Protestants are 6.2 percentage points more likely to identify the United States as the nation that South Korea is closest to. While there are other ties to the United States and South Korea stemming back from the United States Military Government in 1945 through the Korean War and the current diplomatic relationship between the two nations in the present day, the Protestant missionaries from the United States were some of the first Americans regularly interacting with Koreans in the Peninsula.<sup>10</sup> Additionally, South Korean Protestants are 4.2 percentage points more likely to indicate that they are Proud of South Korea, which ties back to missionary times through the 1919 March for Independence and broader Korean nationalism movement that largely originated in and consisted of members from Korean Protestant churches (Matsutani, 2012). Importantly, neither of these results are robust to unobserved variation, indicating that further study is required to identify Protestant cultural relationships. Finally, South Korean Protestants view their social rank 1.05 percentile higher at the mean than non-Protestants.

For both my observed economic and cultural results, it appears that the main vehicle driving the results is religious service attendance. This is important to note, as this implies that participating in the community associated with the religious faith is more important than the affiliation itself. More research is required to fully understand the dynamics of how religious participation drives the economic and cultural outcomes of interest. As South Korean Protestantism grew substantially after missionary exit from 2% of the population in 1945 to 18% of the population in 2000, giving all credit the philanthropic efforts of the 19th and 20th century Protestant missions would be an inaccurate assertion (Baker, 2006; The Economist, 2014). However, given the ties noted back to missionary times, the associations noted throughout this paper suggest that the community originally built through conversionary efforts of Protestant missions and expanded by the South

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<sup>10</sup>The United States was also not the only nation that Protestant missionaries came from; however, they are the only country option on the KGSS that missionaries originated from.

Korean Protestant community have transmitted the values of higher education and national pride over time, in essence continuing the mission of Protestant missionaries over 60 years after they had left the Korean Peninsula. While these results are exploratory in nature and do not meet the statistical assumptions needed for causal analysis, they do indicate that religious philanthropic aid can have long-lasting economic and political results. As such, my results indicate that religious aid groups, and all aid groups with community building aims must consider the lasting impacts that the community will have after the group leaves because the legacy of successful community building efforts can potentially last for decades.

## 8 Conclusion

Protestantism in modern-day South Korea represents one of the most successful and lasting religious groups with conversionary missionary ties from the 19th and 20th centuries. While the culture of Korean Protestantism is a story written largely by Koreans, examining South Korean Protestants in the present day provides a unique opportunity to examine the economic and cultural impacts of conversionary religious philanthropy. This topic is crucial to understand in the modern nonprofit sector, as nearly 75% of all charitable donations in the United States go to a religiously affiliated nonprofit organization, and the second most common non-church type of nonprofit organization are religious relief and development charities (Giving USA, 2021; Schietle, 2010).

In this paper, I find lasting economic and cultural differences in South Korean Protestants when compared to non-Protestant South Koreans. Across two datasets, South Korean Protestants robustly attain more education than their non-Protestant counterparts. Furthermore, I find evidence that South Korean Protestants are more likely to hold professional and office jobs than non-Protestant counterparts. While these roles are correlated with higher levels of household income, I do not find any evidence that the higher levels of educational attainment or working in higher paying careers translates into higher household incomes. Culturally, South Korean Protestants are more likely to identify the United States as the nation that South Korea is closest to and

are more likely to indicate that they are proud of South Korea. These results are in line with studies that demonstrate a correlation between the presence of Protestant missionaries and long-run nationalism (Hong and Paik, 2021; Mattingly and Chen, 2022).

The mechanism explaining the differences in South Korean Protestant economic and cultural outcomes appears to be religious service attendance. When controlling for at least monthly religious attendance in my analysis, all relationships between Protestant Christianity and nearly all of my outcomes of interest become statistically indistinguishable from zero, while simultaneously the relationship between monthly attendance and the outcome variables is similar in value to the previously observed relationship between the outcomes and Protestant Christianity. The lone exception in my outcomes is in the likelihood of identifying the United States as the country to which South Korea is closest. These findings suggest that active participation in Protestant Christian churches in South Korea is the major determining factor in terms of the behaviors and beliefs of South Korean Protestants rather than potential other outside factors associated with South Korean Protestant affiliation.

While I do identify economic and cultural differences between South Korean Protestants and non-Protestants, particularly those who attend religious services at least monthly, this is not to argue that religious philanthropy necessarily caused these outcomes. Further research is required to determine the extent of the economic and cultural impact directly made on Koreans living below the 38th parallel during missionary times; however, there is little to no statistical evidence of differences between either the general population or South Korean Protestants who currently live in areas that received a higher proportion of missionary aid compared to those who live in areas that received a lower proportion (Oxley, 2021).

Yet this research still contributes to the understanding of modern religious philanthropy, as the foundation for the modern South Korean Protestant church has the same roots and foundations as modern Protestant Christian aid and development charities in the United States: missionary philanthropy establishing schools, hospitals, and churches (Thaut, 2009; Matsutani, 2012). More research is required to determine the level of causality that is attributable to religious missionary

groups. Still, this exploratory study suggests that religious philanthropic efforts, along with the donors funding these efforts and volunteers making these effort, need to be aware of and consider potential cultural and economic changes that will persist long after the philanthropic efforts have been completed. This is especially true for those organizations that aim to convert philanthropic aid recipients and bolster their religion within the area receiving aid. Finally, my results indicate that contemporary program evaluation for philanthropic aid may not fully capture impact when community building is occurring, as the goals and culture established within the community may perpetuate the goals of the aid long after an organization has left the region.

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## 9 Figures

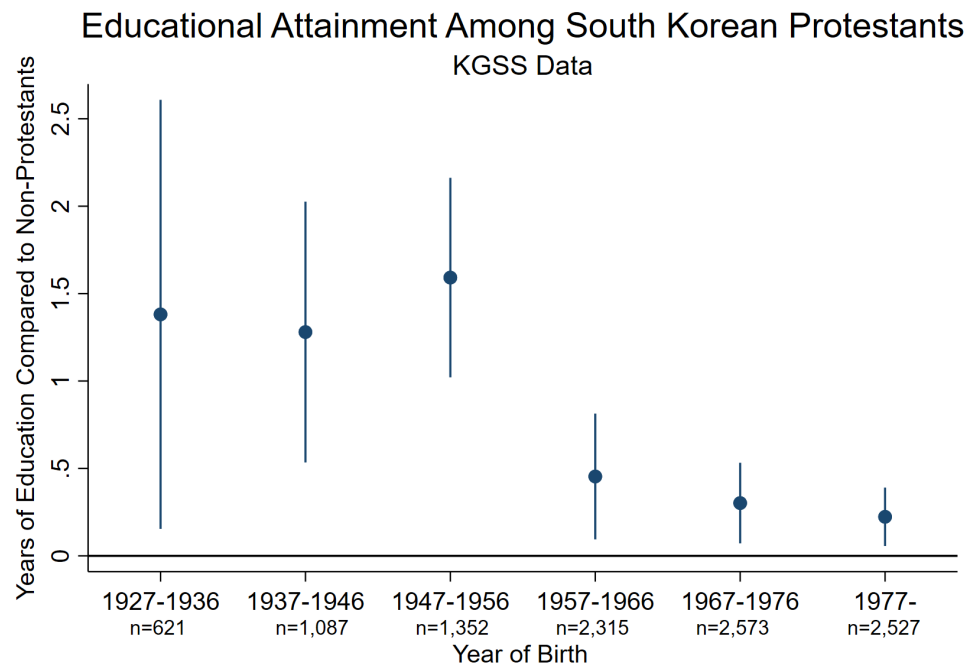


Figure 1: Protestant Educational Attainment By Age Cohort, KGSS Data

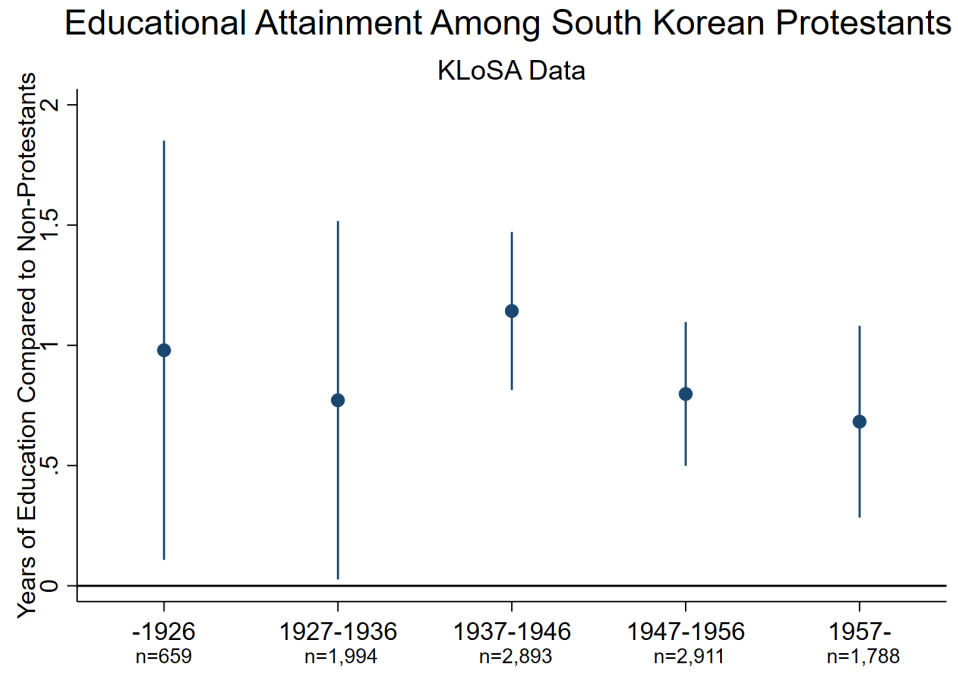


Figure 2: Protestant Educational Attainment By Age Cohort, KLoSA Data

## 10 Tables

Table 1: Summary Statistics – KGSS Data 2006-2012

	All Respondents	Protestants	Non-Protestant	Difference
Household Income (10,000 Won)†	360.393 (353.323)	366.765 (332.090)	358.765 (359.211)	8.302 (8.319)
Years of Education†	11.855 (4.486)	11.732 (4.456)	12.260 (4.488)	0.528*** (0.103)
Married	0.646 (0.478)	0.639 (0.480)	0.648 (0.478)	-0.009 (0.011)
Female	0.541 (0.498)	0.621 (0.500)	0.516 (0.485)	0.105*** (0.011)
Home Population	2.950 (1.302)	2.989 (1.296)	2.938 (1.322)	0.051 (0.030)
Age†	45.176 (16.434)	45.363 (16.423)	44.560 (16.459)	-0.802* (0.378)
S.K. Closest to U.S.A.	0.599 (0.490)	0.632 (0.482)	0.589 (0.492)	0.434*** (0.113)
Professional Occupation	0.284 (0.451)	0.313 (0.464)	0.275 (0.446)	0.038*** (0.010)
Office Job	0.412 (0.492)	0.456 (0.498)	0.398 (0.490)	0.060*** (0.011)
Attend Religious Services†	2.504 (2.646)	5.341 (2.130)	1.643 (2.137)	3.698*** (0.049)
Proud of South Korea†	3.159 (0.725)	3.229 (0.700)	3.138 (0.731)	0.090*** (0.017)
Rank †	4.623 (1.658)	4.709 (1.661)	4.597 (1.656)	0.112** (0.038)
<i>N</i>	10,618	2,462	8,156	10,618

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard deviation in parentheses in columns 1-3, standard errors in column 4. † represents differences in *N* as follows: Household Income, Protestants 2,347, Non-Protestants 7,749, Total 10,096; Years of Education, Protestants 2,461, Non-Protestants 8,153, Total 10,614; Age, Protestants 2,460, Non-Protestants 8,143, Total 10,603; Attendance of Religious Services, Protestants 2,455, Non-Protestants 8,095, Total 10,550; Pride in South Korea Protestants, Protestants 2,442, Non-Protestants 8,071, Total 2,442; Rank, Protestants 2,445, Non-Protestants 8,112, Total 10,557

Table 2: South Korean Protestant Economic Results — KGSS Data

	Years of Education		Household Income		Professional	Office
	All Respondents	-1945 Birth	1946- Birth			
Protestants	0.497*** (0.077)	0.865*** (0.270)	0.455*** (0.0759)	1.232 (7.779)	0.039*** (0.010)	0.048*** (0.011)
Demographic Controls	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Municipal District Fixed Effects	✓	✓	✓	✓	✓	✓
Oster (2019) $\delta$	7.950	0.945	2.275	0.031	11.050	0.504
$N$	10,599	1,715	8,884	10,088	10,603	10,603
Clusters	205	203	205	205	205	205

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard errors clustered at the municipal district level and robust to heteroskedasticity in parentheses.



Table 3: South Korean Protestant Cultural Results — KGSS Data

	S.K. Closest to the U.S.A.	Proud of South Korea	Social Rank
Protestants	0.062*** (0.011)	0.042*** (0.009)	0.105** (0.037)
Demographic Controls	✓	✓	✓
Year Fixed Effects	✓	✓	✓
Municipal District Fixed Effects	✓	✓	✓
Oster (2019) $\delta$	0.369	0.329	1.116
$N$	10,603	10,603	10,544
Clusters	205	205	205

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard errors clustered at the municipal district level and robust to heteroskedasticity in parentheses.

Table 4: South Korean Protestant Educational Attainment – KLoSA Data

	Years of Education		
	All Respondents	-1945 Birth	1946- Birth
Protestants	0.910 (0.112)*** [0.650, 1.164]***	0.949 (0.167)*** [0.578, 1.350]***	0.817 (0.122)*** [0.544, 1.107]**
Oster (2019) $\delta$	45.489	4.318	8.064
$N$	10,245	5,266	4,979
Clusters	15	15	15

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard errors clustered at the province level and robust to heteroskedasticity in parentheses.

Wild bootrapped 95% confidence intervals in brackets.

Table 5: Economic Results by Monthly Attendance — KGSS Data

	Years of Education		Household Income		Professional		Office	
Monthly Attendance	0.912*** (0.774)	0.981*** (0.100)	26.351** (7.613)	38.763*** (9.980)	0.040*** (0.010)	0.028* (0.012)	0.044*** (0.011)	0.028* (0.012)
Protestants		-0.131 (0.101)		-23.599* (10.199)		0.021 (0.012)		0.030* (0.013)
Demographic Controls	✓	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Municipal District Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Oster (2019) $\delta$ Attendance	1.272	1.501	0.412	0.425	0.248	1.632	0.364	0.502
Oster (2019) $\delta$ Protestants		0.131		0.120		0.070		0.075
<i>N</i>	10,599	10,599	10,088	10,088	10,603	10,603	10,603	10,603
Clusters	205	205	205	205	205	205	205	205

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard errors clustered at the municipal district level and robust to heteroskedasticity in parentheses.

Table 6: Cultural Results by Monthly Religious Attendance — KGSS Data

	S.K. Closest to the U.S.A.		Proud of South Korea		Social Rank	
Monthly Attendance	0.038*** (0.011)	0.009 (0.013)	0.047*** (0.007)	0.037*** (0.009)	0.204*** (0.030)	0.223*** (0.038)
Protestants		0.056*** (0.014)		0.018 (0.011)		-0.038 (0.046)
Demographic Controls	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Municipal District Fixed Effects	✓	✓	✓	✓	✓	✓
Oster (2019) $\delta$ Attendance	0.334	0.014	0.163	0.027	0.442	6.619
Oster (2019) $\delta$ Protestants		0.500		0.016		0.023
$N$	10,603	10,603	10,603	10,603	10,544	10,544
Clusters	205	205	205	205	205	205

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard errors clustered at the municipal district level and robust to heteroskedasticity in parentheses.

## 11 Appendix

### 11.1 Appendix A: Supplementary Figures

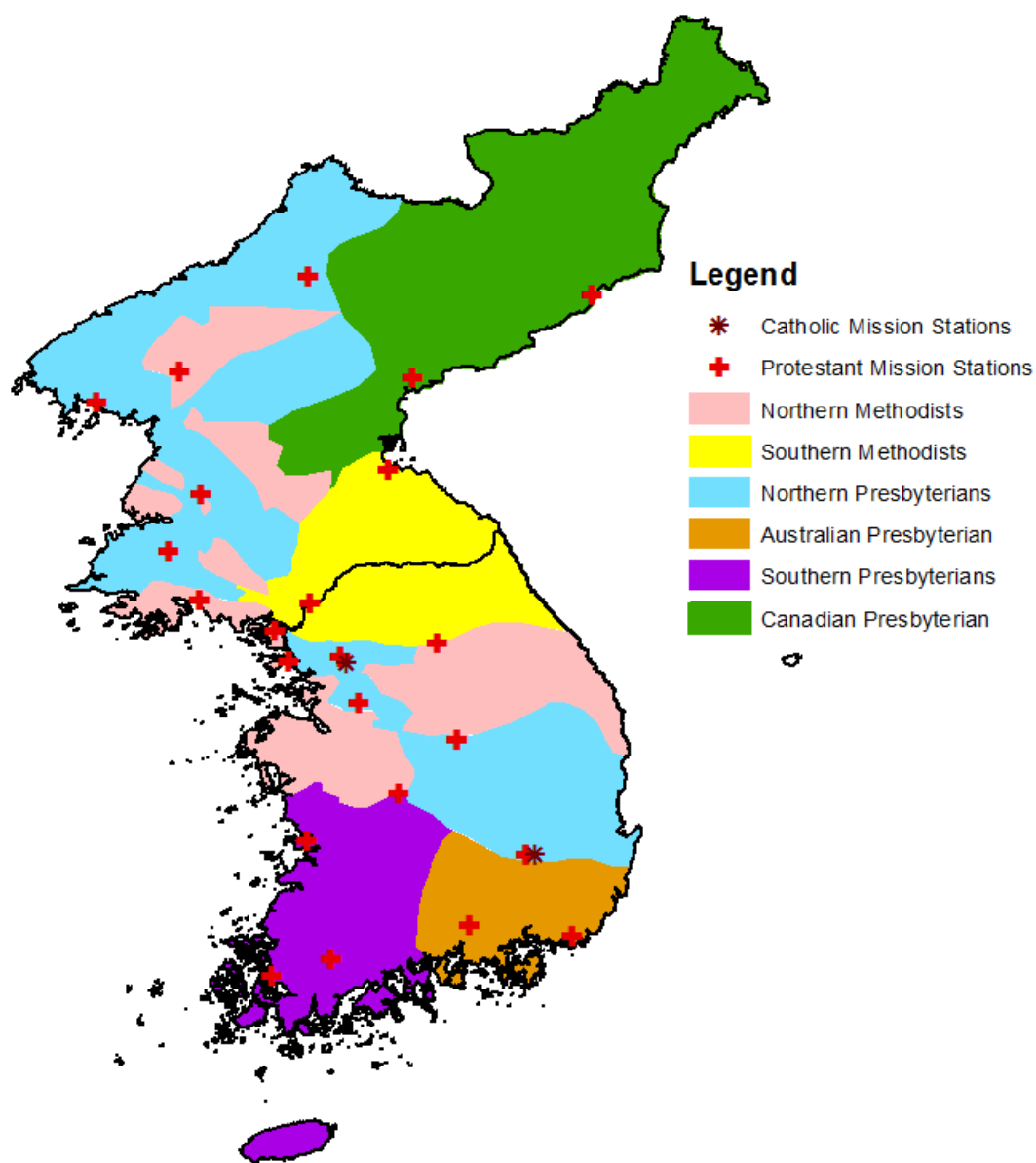


Figure 3: Comity Agreement Areas and Mission Station Locations

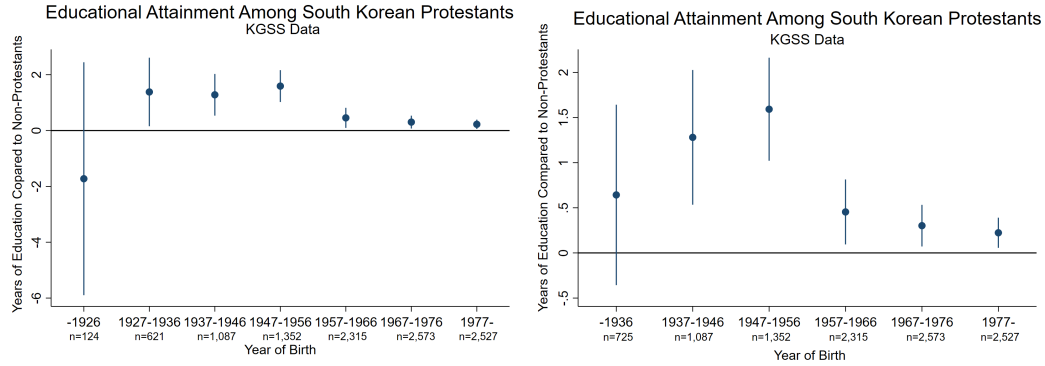


Figure 4: Protestant Educational Attainment By Age Cohort, Alternate Cohort Definitions, KGSS

## 11.2 Appendix B: Supplementary Tables

Table 7: Summary Statistics – KLoSA Data 2006

	All Respondents	Protestants	Non-Protestant	Difference
Years of Education†	8.131 (4.912)	8.816 (4.973)	7.959 (4.882)	0.859*** (0.121)
Married	0.777 (0.416)	0.774 (0.418)	0.778 (0.416)	-0.004 (0.010)
Female	0.565 (0.496)	0.640 (0.480)	0.546 (0.480)	0.094*** (0.012)
Number of Children†	2.999 (1.527)	2.904 (1.542)	3.023 (1.523)	-0.119** (0.038)
Age	61.705 (11.125)	61.491 (11.357)	61.760 (11.066)	-0.269 (0.274)
Religious Attendance†	6.491 (1.821)	7.156 (1.201)	5.578 (2.101)	1.476*** (0.068)
<i>N</i>	10,253	2,056	8,197	10,253

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard deviation in parentheses in columns 1-3, standard errors in column 4.

† represents differences in *N* as follows: Years of Education, Protestants 2,055, Non-Protestants 8,191, Total 10,246 ; Number of Children, Non-Protestants 8,196, Total 2,056; Religious Attendance, Protestants 1,341, Non-Protestants, 1,098, Total 2,439

Table 8: Results by Monthly Attendance Among Protestants — KGSS Data

	Years of Education	Household Income	Professional	Office	S.K. Closest to the U.S.A.	Proud of South Korea	Social Rank
Monthly Attendance	0.674*** (0.162)	2.247 (16.701)	0.020 (0.026)	0.031 (0.026)	0.073** (0.028)	0.047* (0.022)	0.267*** (0.078)
Demographic Controls	✓	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Municipal District Fixed Effects	✓	✓	✓	✓	✓	✓	✓
Oster (2019) $\delta$	0.809	0.025	0.099	0.160	0.296	0.305	0.454
<i>N</i>	2,459	2,346	2,460	2,460	2,460	2,460	2,444
Clusters	204	204	204	204	204	204	204

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Standard errors clustered at the municipal district level and robust to heteroskedasticity in parentheses.

### 11.3 Appendix C: Protestant History in South Korea

The Protestant missionaries were neither the first Protestants nor the first missions to arrive in the Korean Peninsula. The first missions to arrive in Korea were Catholic in 1783, with efforts stemming into the 1800s and two functioning Catholic missions by the time Protestants arrived (Streit, 1913). The first Protestant to arrive in the Korean Peninsula arrived in 1883 (Cho, 2014). Over the next two years, the American Southern Presbyterian and American Southern Methodist missions began to arrive in Seoul. Both groups worked together while remaining independent of each other to provide missionary aid through the establishment of schools and hospitals and to evangelize to as many Koreans as possible. This philosophy continued as more groups arrived, culminating in a 1911 “comity” agreement dividing areas for missionary work (Byun, 2004; Matsutani, 2012; Lee, 2013). The comity agreement map and areas of mission stations can be found in Figure 3. Comity areas are based on the comity agreement map of 1911 (Rhodes and Campbell, 1934). Mission station locations Atlas Hierarchicus (Streit, 1913) and the Statistical Atlas of Christian Missions (World Missionary Conference, 1910).

The missions established some of the first formalized schools in Korea, establishing 25% of all schools in Korea by 1910 (Lee, 1989; Matsutani, 2012).<sup>11</sup> However, after the Japanese annexation of Korea in 1910, the missions would face backlash from the Japanese imperial government through their educational ordinances and overall political pressures to remove missionaries. Korean Protestants, sometimes against the approval of missionary leaders, became the leading political force of Korean nationalism against imperial Japan, culminating in the March 1st Movement for Independence in 1919 (Matsutani, 2012). Despite the resistance of Korean Protestants, pressure from the Japanese imperial government would result in dwindling missionary presence and missionary school operations, resulting in the final Protestant missions leaving in 1940 (Ryu, 2007; Matsutani, 2012).

After WWII and the subsequent liberation of Korea from Japan, the nation was divided into

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<sup>11</sup>At the time, Korea had no formal education system. Instead, most non-mission schools were village schools or *seodangs*, along with some Korean Government schools (Lee, 1989).

North and South Korea at the 38th parallel, with the United States establishing a military government in South Korea (Kim, 1982; Lee, 2006). This government was largely supported by Protestants living in South Korea (Kang, 2005). During this time and up through the Korean War, many North Korean Protestants fled the nation to South Korea due to political persecution (Kim, 1992; Park, 2011). Over the next several decades, the population of Protestants in South Korea expanded substantially, seeing a 9.3% annualized growth rate between 1972 and 1981 (Lee, 2009). The religious denomination has continue to grow, where as of 2015, Protestantism is the most popular religion in South Korea (Choi, 2020).