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Commentary

Is investing in religious institutions a viable pathway to reduce mortality in the population?

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ABSTRACT

There is established and consistent findings from epidemiologic studies, among individuals, that religion—broadly assessed through frequency of attending worship services—is associated with lower all-cause and cause-specific mortality attributed to suicide, alcohol, cardiovascular disease and cancer. Religious norms, social support, character, virtue, compassion, love, generosity, and religious community are among some mechanisms purported to explain lower mortality, on aggregate. The religious ecology or characteristics of religion within an area or geographic level (e.g., county, ZIP-code, country), has been linked with overall and cause-specific mortality, but directions of findings are mixed. Mechanisms to explain the links between the religious ecology and mortality included social integration, civic engagement, and social control. The study by Clark 2020 a fresh and timely perspective by investigating another mechanism: investment in local healthcare spending. The study found some support of an indirect association from county-level religious denominational composition, through investments in health spending, on Black and White all-cause mortality rates. Should society or government invest finances in religious institutions to indirectly improve population health? This work adds evidence to debate that question. Future work on the topic will need to address several conceptual and methodological challenges. Conceptually, is investigating the market share of religious denominations (i.e., % Catholics vs % Protestants) relevant today given diversity in population and declining trends of worship attendance? Is mortality the most relevant for moving policy or should the focus be on well-being? Methodologically, are there alternate observable measures religious investments/spending in the local economy? Mechanisms, challenges, and opportunities for social epidemiology research on this topic are discussed.

1. Background

Studies with rigorous designs (i.e., those with large sample size, prospective, and extensive covariate control) consistently showed that religion—specifically, attending worship services weekly or more—is associated with lower all-cause and cause-specific mortality attributed to suicides, alcohol, cardiovascular diseases, and cancer (Strawbridge et al., 1997; VanderWeele et al., 2016; Wen et al., 2019; Chen et al., 2020). Religious norms, social support, character, virtue, compassion, love, generosity, social influence or control on unhealthy behaviors, and religious community are among some mechanisms (Larson et al., 2002; Morton et al., 2017; VanderWeele, 2017) that explain lower mortality, on aggregate. Ecological studies have shown that religious ecology or characteristics of religion in area or geographic level (e.g., county, ZIP-code, country), is associated with overall and cause-specific mortality such as suicide rates (Stack, 1986; Dwyer et al., 1990; Neeldean and Lewis, 1999). French Sociologist Emile Durkheim proposed one mechanism that dominates analyses today. He argued that anomie—lack of social integration, disconnection from others, and normlessness influenced higher suicide among people. Based on data across Western European countries, He found that suicide rates were higher in predominantly Protestant compared to Catholics areas. He surmised that higher suicide among people living in areas with greater Protestant organizations was influenced by Protestants' stronger emphasis on individualism (Durkheim 1995, 2002). Studies that replicated those analysis in the United States (U.S) (Pescosolido and Georgianna, 1989; Dwyer et al., 1990) often used Durkheim's theoretical framework. Specifically, denominations with higher market share (i.e., % Catholics vs % Protestants) relevant today given diversity in population and declining trends of worship attendance? Is mortality the most relevant for moving policy or should the focus be on well-being? Methodologically, are there alternate observable measures religious investments/spending in the local economy? Mechanisms, challenges, and opportunities for social epidemiology research on this topic are discussed.
such as civic engagement, social capital and social networks, and investments in communities (Pescosolido and Georgianna, 1989; Blanchard et al., 2008).

2. Study findings, mechanisms, and emerging debates

Religious institutions’ investments or spending in local community health infrastructure has been one discussed mechanism, but not substantiated empirically. The recent work by Clark (2020) addresses this gap by testing investments in health, hospital, non-health, and aggregate health-shaping investments, as a mechanism that links religious denomination market share to all-cause mortality. The study is fresh and timely given disparities across race and county, in mortality from the COVID-19 pandemic, which in part, reflects economic strains on health care systems and community. Strengths of the study include diverse sources of data on spending, strong theoretical framework, and sophisticated econometric analyses. In that study, the author found support for an indirect association from county-level religious denominational composition to Black and White all-cause mortality rates, through investments in total institutional spending. However, the directions of findings are mixed, and the explanations are complex. High Catholic market share was associated with larger aggregate health-shaping spending while higher Pentecostal and Fundamentalist market share was correlated with lower spending. Larger market share of Black Protestant, Pentecostal, and Fundamentalist congregations was associated with higher Black and White mortality rates, which was partially mediated by lower institutional investment. Larger market share of Evangelical denominations was associated with lower mortality across race and partially mediated by higher investment in spending. There is no clear conclusion from these findings, but rather potential issues for debates that in the future influence social policy. In the research ahead, some conceptual and methodological challenges should be addressed to develop new theories and analytic approaches for examining the ecological relationships between religion and mortality, and potential explanatory mechanisms.

3. Conceptual challenges

Is it time to stop studying denominational composition as an independent variable in ecological studies that investigate religion and mortality or health? Examining the market share of Protestants, Catholics, and other groups arose in response to post-modernity concerns of changes in norms, uncertainty, consumerism, and fragmented culture, all things purported to threaten social life (Giddens, 1991). Durkheim proposed that denominations vary in adopting post-modernity structure and norms, so influences on health can be studied empirically by observing deaths as a function of religious composition in an area (Durkheim, 2002). Later work followed Durkheim’s framework but put forth different reasons (e.g., religious commitment rather than social integration) (Stark et al., 1982; Stack and Lester, 1991). Analytical approaches that followed included expanding the Protestant/ Catholic dichotomy to include disaggregating Protestants (Blanchard et al., 2008) or including other groups (e.g., Jews, Baptists, Methodist) (Blanchard et al., 2008; O’Reilly and Rosato, 2008). What remained the same in those studies, however, was comparing the size and direction of coefficients for each denomination on health or mortality rates.

Two trends raise debate on whether denomination market share should be the primary independent variable in future studies. Globalization, greater freedom, and ethnic and religious diversity have changed rapidly (Pew Research Center, 2017). Thus it’s reasonable to assume that religious denomination diversity (Shortridge, 1976) (rather than one dominant’s group market share) will have greater consequences (Finke, 1990) for health. Presumably, the higher religious diversity, the greater the competition and greater confusion among individuals, and less state protections, which may collectively lead to higher mortality through several pathways (including less institutional spending) (Andreoni et al., 2016). Next, is denomination market share still relevant in the context of steady declines in national rates of people who claim no religious affiliation or steady increase in the proportion of people who do not attend church? (Chaves, 2017) If the field persists on studying denomination market share, should comparisons now include non-denominational churches and megachurches, which have disrupted the religious ecology (Wolschleger and Porter, 2011)? Studies will need to address how the market share of megachurches in an area impact health spending and subsequently health and mortality rates.

What other competing indicators of the religious ecology might be relevant for today, either as the primary exposure or mediating/mechanistic variable that influences mortality? Could religious political identity compete with denomination market share as the focal predictor or mechanism? Today, religion is highly politicized (Pew Research Center, 2015; Lipka, 2016) and thus plausible that dominant religious political affiliation or policies in an area may influence investments in health care or other institutional spending. Should there be a new focus on ecological analogous of non-organizational aspect of religion such as spirituality (Ransome, 2020)? Can prayer at the ecological level be a predictor? Historical accounts of Judeo-Christian religion documented the relationship between prayer and mortality (e.g., Exodus 32: 11–13 Moses appeals to God to save the Israelites). Today, there is nationwide prayer in response to pandemics, presumably for divine intervention for reduce morality from COVID-19 (The White House, 2020). Could a non-organizational aspect of a religious environment such as prayer be operationalized and studied empirically? While those are potential alternative predictors to denomination market share, much of the development and investigation on this topic will be limited by the availability of indicators to operationalize these concepts. Some conceptual paths (for e.g., those following religious diversity), will be easier to follow because there are established indices of religious diversity (e.g., Shannon’s index, Simpson’s index, Herfindahl-Hirschman Index). Choosing to study organizational or non-organizational aspects at the ecological level will have consequences for pathways to health (Hall et al., 2008). While some variables will be easier to obtain, researchers nevertheless, should use theory to justify their choices and consider plausible proxy variables (Ransome et al., 2019).

4. Methodological challenges

The study by Clark (2020) is novel for operationalizing local spending/investments in health and weighting these county-level indicators by the prevalence of specific denominations attitude toward spending. That approach moves the field forward, yet other methodological challenges remain in specifying the models, operationalizing the primary religious ecology exposures and mediators, and strategies to improve causal inference that can influence policy.

4.1. Model specification

Studies that document lower individual mortality in response to service attendance have identified that effects are mostly present or strongest when attendance is weekly or once per week and higher (Wen et al., 2019; Chen et al., 2020). Therefore, attendance, though measured ordinarily (e.g., never, once per month, weekly, etc.) is often specified categorically. One limitation of ecological studies, including the study by Clark (2020) is specifying denominational proportion continuously. The field still does not know whether there is a ‘threshold’ or certain proportion at which the market share of a specific denomination has a positive or negative association with mortality rates. The consequence of identifying thresholds in individual studies are unclear since it’s impossible to modify or randomize people into attendance, although one can certainly incentivize participation. At the ecological level, identifying thresholds may have consequences for health since it’s possible (although controversial) to regulate the rate of denominations that receive permits to open in an area. Next, ecological studies on the
topic, particularly in the U.S., examine the county and control for geographic census region. Is specifying census region as a covariate appropriate to identify the mediating role of investments in health care spending and subsequent impact on mortality? Other work might suggest specifying census region as a moderator (Stark et al., 1982). Stark and Doyle found that correlations between religiousness and de-linkevity were weakest in the West coast—a region they called the “unchurched belt,” where people there exhibit weaker religious commitments and values (Stark et al., 1982).

4.2. Operationalization/measurement

Should the mechanisms be investments in local health shaping institutions or other directly observable measures of investments in population health? The religious characteristics and doctrines of a denomination may or may not be reflected by the social services they provide publicly (Sider and Unruh, 2004). Therefore, if a study hypothesis is that some religious denominations espouse doctrines that shape social engagement, then perhaps, stronger proxies are available. Service to the community through food pantries and soup kitchens are directly observable measures of religion’s investment in community, which should be quantified and studied. Stronger indicators that directly quantify religious spending in local economies is necessary. Tax returns data from IRS forms 990 and 990-EZ contain information among 501c3 entities that can be used to determine the amount of money that churches donate to individuals or other community organizations (e.g., 990 Core PI IV-21). Those data can be linked, using EIN numbers (Belvedere, et al. nd) to the exempt organizations business master file extracts to aggregate the financial contributions by geography (e.g., county-level).

4.3. What’s needed to strengthen causal inference that can influence policy?

In individual-level studies, stronger claims for the causal effect of religion on mortality have been obtained through temporal sequencing between exposure and outcome, extensive confounding control, isolating effects of mediators, reducing or eliminating selection, demonstrating effects with multiple outcomes based on plausible theoretical explanations, and strong explanations for inconsistent findings (VanderWeele et al., 2018; Chen et al., 2020). In ecological studies, it may be impossible to identify and isolate all time-varying confounders on changes in population health. Even so, examining changes in ecological exposures on changes in rates is a stronger design. An example is to use Religious Congregations and Membership Study data from 2000 to 2010 to examine changes in market share in association with changes in mortality over a similar or later 10-year period. Clark (2020) found significant sizeable percentages of indirect effects on mortality through institutional investment. Were there enough relevant covariates included to be confident in those effects? While there is no consensus on the set of ecological covariates to include, studies should consider environmental factors likely to influence the specific mortality outcome. For instance, one study that investigated denominational market share on cancer mortality adjusted for several environmental factors such as presence of sulfur dioxide, hydrocarbons, and particulate matter (Dwyer et al., 1990). Ecological studies on religion and mortality often find sizeable and significant associations potentially because they do not include sufficient mechanisms/mediators that can explain away associations (Idler, 2011). Isolating mediators at the ecological or individual levels are only possible in multilevel studies (van Tubergen et al., 2005; Stroope and Baker, 2018). Future studies should include competing mechanisms that can be modified by social policy. Next, can mortality be a function of selecting to live in a religious environment? How much control do people have in creating the religious environments where they reside (Jaffe et al., 2005)? A promising direction could be to experimentally manipulate or retrospectively observe mortality between people who reside in a specific religious community long-term compared to mortality among people who moved across religious environments. Should all-cause or cause-specific mortality remain the focus to draw the spotlight on religious environments? Well-being and mental health is closely linked to religion (Nelson, 2009) so ecological studies focusing community rates of well-being should be prioritized (Maton and Wells, 1995). Studies can then also quantify the impact on well-being indirectly through spending/investments in the local economy because religious institutions have a long history of delivering public health interventions, alone or in partnership with government (Idler et al., 2019).

5. Conclusion

Clark (2020) investigated the mediating role of investments/spending in local health shaping institutions as a link between the religious ecology and all-cause mortality. As society recovers from the coronavirus pandemic, financial investment in religious institutions to deliver care may be an important strategy to reduce disparities in COVID-19 mortality observed in communities of color. Future work on the topic will be strengthened by addressing several conceptual and methodological challenges.

Ethical approval

This article does not contain any studies with human participants performed by any of the authors.

Declaration of competing interest

The authors declare that they have no conflict of interest.

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