

Are Faith-Based HIV/AIDS Programs Effective?

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Overview

This edition of *The MURC Digest* provides an overview and discussion of the Mississippi Urban Research Center's (MURC) *Research Report Series 05-03* (Granger and Price, 2005) that considers the likely effectiveness of Faith-Based Public Health interventions designed to reduce the risky sexual behaviors associated with transmission of the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS). The public policy context for such programs has its genesis in Public Law 104-193 or *The Personal Responsibility and Work Opportunity Reconciliation Act of 1996* (PRWORA). The inclusion of a charitable choice provision in PRWORA encouraged states to involve so-called faith-based organizations (FBOs) as providers of government-funded support services. In 2001, President George W. Bush signed Executive Order 13198 creating the White House Office of Faith-Based and Community Initiatives to promote and encourage federal, state and local compliance with the charitable choice provision of PRWORA.

A theoretical and practical basis for federal support of FBOs as service providers is provided by Olasky (2000), who argues that a host of problems that afflict individuals (e.g., poverty, substance abuse, poor health), can result from a breakdown in values. In general, Olasky (2002) posits that human behavior, instead of being explained by the secular cost-benefit logic of economics, is better explained by religious faith and related derivative beliefs. It follows that if public policy interventions are primarily designed to improve only the measurable secular and economic attributes of the lives of individuals in need, such interventions are not likely to be effective. Faith-based interventions on the other hand, are likely to be effective as they are better able to endow troubled individuals with the requisite faith and belief assets that are presumably important for repairing troubled lives.

The notion that faith-based public policy interventions are likely to be effective has had a dramatic impact on the funding of social service programs. For example, at the Department of Housing and Urban Development (HUD) and the Department of Health and Human Services (HHS), fiscal year 2003 saw an increase of \$144 million in grants and contracts to FBOs. Total funding for FBOs at both HUD and HHS totaled \$1 billion. While no exact figures are available, a significant portion of this funding has been received by FBOs for programs designed to ameliorate the HIV/AIDS crisis, including, for example, treatment, counseling, and abstinence education.

As Mississippi has an HIV infection rate that exceeds the national average, knowing if FBOs can be effective in reducing the transmission of HIV/AIDS would expand the arsenal of potential public health interventions that would improve the health status of Mississippians. Given the racial disparities in infection rates, and the fact that black Americans are more likely to attend church than white American groups (Presser and Stinson, 1996), FBO-sponsored interventions, if effective, may also be an effective way to eliminate racial disparities in HIV/AIDS infection. However, it is not clear if FBOs have a causal impact on the underlying sexual behaviors that are associated with HIV/AIDS transmission, or why there should be such an impact.



Other than the theoretical arguments provided by Olasky (2000), no consideration has been given as to why funding FBOs to provide HIV/AIDS behavioral interventions is likely to be

effective. *Research Report Series 05-03* provides a theoretical framework to address the likely efficacy of behavioral interventions, designed to reduce the risky sexual behavior associated with HIV/AIDS, delivered by FBOs. Given the public health crisis that HIV/AIDS represents, the findings of *Research Report Series 05-03* are instructive, suggesting that with the exception of gay males, if conformist peer effects govern sexual activity, FBO-delivered HIV/AIDS interventions are an effective way to combat HIV/AIDS.

How the Christian Church may Constrain Risky Sexual Behavior

While there are possibly many reasons why FBOs are likely to be effective mechanisms for constraining risky sexual behavior (Liebowitz, 2002), one reason is the fact that FBOs such as churches are established social institutions that have the trust of their members, and presumably of the nonmembers that live in or are proximate to the community where the church is located. At least part of this trust is derived from the church being viewed as having historical jurisdiction over, and being arbiters of, acceptable moral behavior. As sexual activity is a behavior with moral implications from the perspective of the Christian faith, church jurisdiction over sexual morality is a fundamental channel through which, as FBOs, churches can have an effect upon the sexual behaviors that contribute to the spread and transmission of HIV/AIDS.

To the extent that individuals cede moral authority to the church as arbiters of sexual morality and morally acceptable sexual activity, their interactions with nonmembers through

behavioral intervention programs designed to alter risky sexy behavior are likely to be effective through so-called "peer effects." A peer effect occurs when an individual behavioral outcome is a function of the behavior of some reference group. While there are many theoretical and empirical approaches to rationalizing peer effects, the behavioral effects of religion appear consistent with the conformist model of Akerlof (1997). In a conformist model of individual behavior, peer effects emerge as a result of individuals deriving utility from behaving like an average member of some reference group.

If the church is at least perceived as a reference group with particular and actual sexual mores and behaviors conditioned by religion, public health interventions designed to change risky sexual behavior associated with HIV/AIDS could be effective. If religion does causally condition actual sexual behavior, then it is plausible that church-based public health interventions designed to modify risky sexual behavior can be effective through peer effects whereby program participants conform to the perceived behavior of actual church members. The existence of such peer effects requires that religion must first causally condition the risky sexual behavior that is associated with HIV/AIDS.

Research Design and Methodology

The research design of *Research Report Series 05-03* begins with an explicit economic model of sexual activity — a theoretical framework for individual sexual activity that incorporates the implications of both hominid evolution and utility maximization by self-interested individuals (Rogers 1994, Hansoon and Stuart 1990). Engaging in sexual activity implies that individuals have a preference for it and that sexual activity is an argument of an individual's utility function. Utility or well-being as a function of sexual activity can be defended on evolutionary grounds. Current preferences for sexual activity exist among

individuals because they are the descendants of individuals who had a preference for sexual activity. As such, the current population of individuals was favored by natural selection — humans in the distant past who did not have a preference for sexual activity were selected against as they left no offspring.

For any species, evolution selects against those for which over time, the number of offspring asymptotically decreases. Species that are selected for are said to have achieved reproductive success whereby each successive generation has maximized Darwinian fitness, defined as the expected number of offspring. Viewed in this context, modern humans have sexual activity as an argument in their utility functions because that is what is necessary for reproductive success, and natural selection favors species that maximize the number of offspring.

While evolution imposes its own particular benefits and costs on sexual activity, the Christian church imposes, for participants, additional costs. Beliefs among church participants regarding the authority of the Bible on permissible sexual activities could follow from interpretations of Scripture that articulate certain sexual practices and activities as being sinful, and as such, imposing afterlife costs. There are many passages in the Bible that imply divine prohibition, and perhaps afterlife costs for certain sexual practices and activities. The type of sexual practices and activities subject to divine prohibition in the Bible include for example, adultery (*Exodus 20:14*), homosexual sex (*Leviticus 20:13*), prostitution (*Genesis 38:15-17*), and sex outside of the institution of marriage (*1 Corinthians 7:2-9*). To the extent that church participants perceive these and other prohibitions on certain sexual activities to be associated with divine penalties/costs, variation in individual sexual activity could vary with beliefs and religious participation — as religious beliefs are probably developed and reinforced through church participation.

Research Report Series 05-03 tests the theoretical implications of the economic model of sexual activity with data from the 1996 General Social Survey (GSS). GSS data are a nationally representative sample of adults living in the United States. Conducted by the National Opinion Research Center (NORC) at the University of Chicago, the GSS was initiated in 1972, with surveys in 1973-1978, 1980-1993, 1994, 1996, 1998, 2000 and 2002. The first 19 surveys were annual, and each has

samples of approximately 1,500 adults. Starting in 1994, the GSS became biennial with a sample of approximately 3,000 adults per survey. GSS data are generated by in-person interviews and are based on questions relating to various demographic and attitudinal variables. There are also collections of variables relating to topics of special interest — so-called topical module questions that are included on a rotational basis in particular years of the GSS.

The sample is selected on the basis of GSS respondents providing valid responses to questions regarding the number of sexual partners in the last 12 months and the frequency of sex within the past 12 months. Additional measures of risky sex were also derived and constructed: a binary variable indicating whether or not a condom was used during the last time the respondent had sex, a binary variable indicating whether or not a respondent ever had sex with someone other than their spouse, and a binary variable indicating whether or not a gay male respondent used a condom the last time he had sex.

The economic model of sexual activity implies the existence of demand functions for sexual activity. The economic model of sexual activity also generates two testable implications. First, the stronger religious beliefs are about say sexual gluttony, fornication, and adultery, the lower should be the demand for sexual partners and sex frequency. Finally, to the extent that frequency of church attendance is how religiosity is at least partly engendered among individuals, high levels of religious participation are also inversely related to the number of sexual partners and the frequency of sex. Given the binary and or integer-valued nature of the GSS measurements of risky sexual behavior, *Research Report Series 05-03* provides Probit and Poisson regression parameter estimates of demand functions for the number of sexual partners, frequency of sex, sex without a condom, extra-marital sex, and gay male sex — all conditioned on various measures of costs associated with religion and religiosity.

The Effects of Religion and Religiosity on Risky Sexual Behavior

What are the actual empirical effects of religion and religiosity on risky sexual behavior? The effects of religion and religiosity are captured with four measures from the 1996 GSS: 1.) Frequency of church attendance, 2.) Whether or not one was raised as a Catholic, 3.) Whether or not one is currently a Catholic, and 4.) Whether or not one believes the Bible is the literal word

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of God. With respect to the number of sexual partners, the results of *Research Report Series 05-03* reveal that if the exogenous variables are independent across individuals, the demand for sexual partners is decreasing in religious beliefs as measured by whether or not an individual believes the Bible is the literal word of God. Allowing for clustering across the four measures of religious belief and religiosity results in belief in the Bible as the literal word of God, and frequency of church attendance is always being negative and significant. Being raised as a Catholic is only negative and significant when clustering is on Catholics. The coefficient on income is always positive, but significant only when clustering on being raised as a Catholic and belief in the Bible as the literal word of God — suggesting that the number of sexual partners is a normal good. In general, the parameter estimates provide evidence that religious beliefs and participation are a source of costs for risky sexual behavior as measured by the number of partners over a twelve-month period.

With respect to the demand for the frequency of sex, belief in the Bible as the literal word of God does not seem to matter, but being raised as a Catholic and being a Catholic currently do matter. Church participation as measured by attendance is negative and significant in two of the clustered specifications. As with the number of sexual partners, the demand for sexual frequency increases with income. If the risk of HIV/AIDS increases with sexual frequency, apparently religious beliefs and participation — with the exception of being a Catholic — are a source of costs, and constrain such behavior.

For the demand for sex without a condom, and extramarital sex, the risky sexual behavior increases significantly with income in most of the specifications. For both sex without a condom and extramarital sex the effect of religious beliefs as measured by belief in the Bible as the literal word of God are always negative and mostly significant. Sexual activity by men with other men without a condom does not appear to be constrained by religious beliefs or participation, as being Catholic has a positive effect on the behavior, and none of the other religious variables is significant.

Overall, the parameter estimates suggest that, consistent with a theory in which sex is an exogenous argument in individual utility functions, the demand for sex is conditioned on the costs engendered by religious beliefs and participation. In particular, our initial

results suggest that risky sexual behavior by individuals is constrained by religious beliefs and participation — at least for heterosexuals. In the case of gay males, the results reported in *Research Report Series 05-03* suggest that their risky sexual behavior is not constrained by religious beliefs and participation.

Conclusions and Policy Implications

If conformist peer effects are a likely mechanism by which faith-based public health interventions work, their effectiveness depends upon whether religion actually conditions risky sexual behavior. If actual risky sexual behaviors are constrained by religion, then it is possible that participants of faith-based public health interventions will identify the church as constituting a peer reference group, and conform to the actual sexual behavior conditioned on the costs consistent with what the Christian church has historically sanctioned as legitimate and morally acceptable. *Research Report Series 05-03* finds that except for gay males, religion actually constrains risky sexual behaviors. This suggests that if conformist peer effects are operative in faith-based HIV/AIDS public health interventions, they are likely to be effective in reducing the incidence of HIV/AIDS among all demographic groups at risk except gay males.

The results reported in *Research Report Series 05-03* are well-identified, as the empirical demand functions for sexual activity are derived from an explicit economic model in which hominid evolution exogenizes preferences for sexual activity, generating reduced forms with exogenous determinants. As such, the parameter estimates of the effects of religion and religiosity on sexual activity can be interpreted as causal effects. The results suggest religion and religiosity as measured by frequency of church attendance, belonging to the Catholic denomination, and believing that the Bible is the literal word of God, have the effect of reducing the demand for sexual partners, sexual frequency, and extra-marital sex — all risky behaviors associated with contracting HIV/AIDS.

That religion and religiosity have no effect on the risky sexual behavior of gay males suggest that faith-based public health interventions are not an effective way to reduce the HIV/AIDS risk among this demographic group. Of course, these results could reflect a reluctance of male GSS respondents to report if they actually had sex with another male, with or without a condom. As such, the insignificance of the

religion and religiosity variables could be picking up insufficient or erroneous variation across respondents, biasing the parameter estimates.

The results lend some support to the claims of Olasky (2002) that human behavior — in this case human sexual behavior — can be explained by religious faith and related derivative beliefs. Thus, to the extent that there are conformist peer effects associated with FBO-delivered social programs, public policies that seek to improve the well-being of individuals through FBOs can be effective. In the case of risky sexual behavior that is associated with HIV/AIDS, the results of *Research Report Series 05-03* suggest that FBO-sponsored behavioral interventions can be effective in reducing individual risky sexual practices — contingent upon the existence of conformist peer effects.

The results also suggest that black churches may be an invaluable tool in public policy efforts aimed at eliminating racial disparities in HIV/AIDS infection rates. If indeed relative to white Americans, black Americans have higher rates of church attendance (Presser and Stinson, 1996), any conformist peer effects, if they exist, would have a disproportionately higher impact upon black Americans, affecting a disproportionate and favorable change in the risky sexual behavior associated with HIV/AIDS. Such an outcome would help reduce the racial disparity in HIV/AIDS, and provides a possible justification for targeting black churches as a recipient of federal funds to sponsor HIV/AIDS education programs.

While the results of *Research Report Series 05-03* posit the existence of conformist peer effects, the parameter estimates do not identify any peer effects. Identification of religious peers effects, while important, are beyond the scope of this paper, and GSS data as constituted do not permit identification of such effects. This of course is a limitation of the policy implications of the results. Currently, it is not known if there are actual conformist peer effects associated with the religion and religiosity of the Christian church. As such, the fact that religion and religiosity constrain risky sexual behavior may not be relevant for faith-based public health interventions if there are no conformist peer effects associated with religion. At minimum, the results reported in *Research Report Series 05-03* have policy implications contingent upon the existence of conformist peer effects.

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ENDNOTES

These data were obtained from Fact Sheet: America's Compassion in Action, White Office of Faith-Based Initiatives at <http://www.whitehouse.gov/government/fbci/factsheet.html>.

² As of 2003, the latest year for which national surveillance data are available, the Centers for Disease Control and Prevention (2004) report that the HIV infection rate per 100,000 population in the United States and Mississippi was 127.0 and 186.0, respectively. Relative to the United States, the AIDS infection rate was lower in the state of Mississippi. Pressor and Stinson (1996) show that black church attendance exceeds that of whites in six distinct scientific surveys of church attendance.

³ The canonical approach to peer effects is provided by Manski (1993). Other theoretical and empirical examples include Brock and Durlauf (2001), Sacerdote and Glaeser (2001), Zimmerman (2003), and Kawaguchi (2004).

⁴ Following the theoretical framework of Granger and Price (2006), MURC Research Report Series 05-03 considers the effects of Christian religion and religiosity on sexual behavior. While there are many different religions in the United States (e.g., Buddhism, Islam, Hinduism), results based on the effects of Christian religion/religiosity on sexual behavior will be general to the extent that other religions impose through their beliefs and practices costs and benefits similar to those in Christianity.

⁵ Other Biblical Scripture relevant to sexual practices and activities include those that address incest (*Leviticus 20:11-12*), sexual lust (*1 Thessalonians 4:2*), lesbianism (*Romans 26-38*), transvestitism (*Deuteronomy 22:5*), and sexual frequency (*Genesis 1:28, 1 Corinthians 7:5*).

⁶ GSS data are available at www.icpsr.umich.edu:8080/GSS/homepage.html.

⁷ These beliefs have their origin in medieval Christianity, and are codified within the Catechism of the Catholic Church. Of the seven deadly sins, four are categorized as "sins of the flesh": Lust, Gluttony, Greed, and Sloth, of which the first three, in order of severity, are relevant to sexual desire and activity, and the possible source of afterlife costs for engaging in these particular types of sexual activity. For a historical overview of the origins and evolution of the seven deadly sins, see Panati (1996).



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