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The Associations of Religious Affiliation, Religious Service Attendance, and Religious Leader Norm With Support for Protective Versus Punitive Drug Policies: A Look at the States Affected by the Rural Opioid Epidemic in the United States

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Although anecdotal reports suggest that many religious communities in the United States oppose public health policies such as medication-assisted treatment and syringe services, the relation between religiosity and drug policy attitudes is currently unclear. A survey of support for protective and punitive drug policies was conducted with 3,096 residents from 14 Appalachian and midwestern states currently affected by the rural opioid epidemic. Despite the high prevalence of drug use in the sample, only 59% and 36% of the respondents, respectively, supported medication-assisted treatment and syringe exchange services, and 52% and 50%, respectively, supported punishment and incarceration for people who use drugs. Furthermore, although religious affiliation had no association with personal support for either protective or punitive drug policies, the frequency of religious service attendance was positively correlated with support for punitive policies and negatively correlated with support for protective policies. In addition, the perception of punitive norms among religious leaders was positively correlated with personal support for punitive policies, and the perception of protective norms among religious leaders was positively correlated with personal support for protective policies. Thus, religious attendance and religious norms may reduce compassion toward others in the context of the rural drug use epidemic in the United States.

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Public Health Significance Statement

A large survey of rural areas in Appalachia and the Midwest suggested that religious attendance and religious norms reduce compassion toward others in the context of the rural drug use epidemic in the United States. Religious leaders may be mobilized to support protective and efficacious drug policy to curb the opioid epidemic.

Keywords: opioid epidemic, religion, altruism, drug policy

In the United States, the use of drugs including prescription pain relievers, heroin, and synthetic opioids (e.g., fentanyl) threatens public health and the welfare of many rural communities. In the United States, there were 67,367 drug-related overdose deaths in 2018, and the CDC (Centers for Disease Control and Prevention) estimates the cost of this crisis (i.e., health care, loss of productivity, treatments, and criminal justice) to be \$87.5 billion a year. The opioid crisis has also been linked to outbreaks of HIV (Human Immunodeficiency Virus) and HCV (Hepatitis C Virus), mostly concentrated in rural areas of the United States. After initial outbreaks in Scott and Austin in the state of Indiana, and accumulating evidence of alarming overdose rates in other states, Van Handel et al. (2016) modeled regional risk for rapid dissemination of HIV and HCV and found that the majority of the most vulnerable 220 counties in the country were located in Appalachia and the Midwest. Hence, this region has a need for policies to treat SUD (Substance Use Disorder) and reduce injectionrelated infections, including medication-assisted treatment (MAT) and syringe exchange programs.

Drug policies involve protective ones referred to as "harm reduction policies," particularly MAT and syringe services, which reduce long-term drug use (Deschamps et al., 2019) and communicable diseases (Hagan et al., 2011). For example, SSP (Syringe Service Programs) can reduce the likelihood of transmitting infectious disease via injection drug use (Samoff et al., 2020), and MAT can reduce overdoses and transmission of infectious disease (Fullerton et al., 2014). This article addresses these issues. Other policies are punitive and entail a "war-on-drugs" approach (Coyne & Hall, 2017) typically associated with more overdoses, violence, and disease transmission (Coyne & Hall, 2017; Csete et al., 2016; Rogeberg, 2015), as well as unfair criminalization (Abadie et al., 2018; Vogel & Porter, 2016). We refer to each set of policies as *protective* and *punitive*, respectively.

In rural areas of the U.S. affected by drug use, religious values are likely correlates of support of or

opposition to protective and punitive drug policies. On the one hand, 12-steps programs that meet in churches have gained high levels of popularity and provide positive support for people trying to stop using substances (Giannelli et al., 2019). On the other, more religious people have negative attitudes toward drug users (Jara-Concha & Cumsille, 2019) and lower support for protective policies (Gebelhoff, 2019). According to Szott (2020), this opposition stems from a moral model of addiction, which increases drug use stigma and blocks key initiatives like the provision of sterile syringes for disease prevention, or the use of medication as a part of SUD treatment. Many religious communities have either disapproved or overtly repudiated MAT, retail access to syringes, or syringe exchange programs (Szott, 2020), largely because they interpret substance use as a moral failure rather than a disease and see these science-supported programs as "enabling" drug use (Ibragimov et al., 2017). Although some churches have cooperated with campaigns delivering syringes (Shimron, 2019), many others continue to view such participation as facilitation of and tacit approval of drug use (Sulmasy, 2012). Thus, in the end, even though the Catholic doctrine, for example, supports syringe exchange programs on the grounds of justifiable cooperation and absence of intrinsic evil (Sulmasy, 2012), many Catholic groups and other Christian communities effectively oppose establishing syringe exchange programs in their area (for a discussion of objections in Albany, NY, see Sulmasy, 2012).

In this article, we studied the degrees to which religious affiliation, frequency of attendance to religious services, and perceived norms of religious leaders correlate with support for protective and punitive policies in the area of substance use and HIV/HCV prevention. Religious affiliation, religious attendance, and religious leader norms are different facets of religious identification and ongoing social influence within the religious community, and dovetail well with Putnam et al. (2010) conceptualization of religiosity as involving formal

affiliation as well as behaviors and internalized norms. The question in our article is whether religious affiliation, attendance, and norms have implications for community support of policies that may punish or protect people who use substances.

We were interested in determining which aspects of religiosity correlate with support for punitive and protective drug policies in Appalachia and the Midwest. For example, religious affiliation may be associated with policy support. In addition, the attendance of religious services and religious leaders' norms may be associated with policy support as well. That is, people who attend services regularly and people who perceive that leaders oppose syringe exchange programs may be more likely to oppose syringe exchange programs than may people who do not attend services regularly or who do not perceive policy opposition by religious leaders. This research tested these hypotheses with a large sample representative of states identified as having counties with high vulnerability to HIV and HCV outbreaks related to injection drug use. These counties were located in Appalachia and the Midwest.

Studying Associations Between Drug Policy Support and Religiosity

The impact of religious convictions on concern for other people has attracted scholarly interest since the 1990's. Some authors, mostly affiliated with religious institutions, have reported the positive effects of religiosity on altruistic behaviors like donations to charity and serving the poor (Koenig, 2012). Along those lines, people whose faith declines appear to reduce their solidary activities (Krause & Pargament, 2017), people who receive spiritual support from religious organizations are more likely to practice compassion and forgiveness (Krause et al., 2019), and religious involvement correlates positively with volunteering (Gutierrez & Mattis, 2014). Moreover, a meta-analysis of 92 studies of religious priming reported evidence that the reminders of religion can heighten prosocial behavior (Shariff et al., 2016). From this standpoint, religious affiliation, religious service attendance, and religious leader norms could be associated with support for protective drug policies.

Research contradicting a positive association between religious variables and concern for others has proposed that compassion and generosity, rather than religiosity per se, underlie the prosocial outcomes of religiosity (Steffen & Masters, 2005), and that generosity correlates with a higher educational level and more financial resources, which are often confounded with religiosity (Wiepking & Maas, 2009). Other research contradicting a positive link between religiosity and concern for others has shown that conservative religious beliefs are associated with labeling people who use drugs as violent and criminal, as well as responsible for damaging their families and society (Ibragimov et al., 2017). In Tajikistan, where 95% of the population is Sunni, campaigns that distributed syringes in the middle of a serious epidemic of HIV and HVC among people who injected drugs, crashed against religious stereotypes (Ibragimov et al., 2017). In the U.S., the proposal to create a safe injection place in Philadelphia was labeled a crack house' by Christian conservatives (Gebelhoff, 2019), leading to a ban of the proposal. Conservative Christian groups also tend to espouse the 12-step method as the ideal and express disapproval of methadone and other medications for the treatment of SUD (Frank, 2011). In this light, religious affiliation, religious service attendance, and religious leader norms could be associated with support for punitive drug use policies.

This research involved a survey of general population within states affected by the rural opioid epidemic. The survey gauged respondents' attitudes toward protective and punitive policies. Specifically, protective policies included providing clean syringes for people who inject drugs as a way of avoiding infections; paying for treatment for SUD; providing free treatment for infections that result from drug use; supporting the use of medication that reduces addiction; and funding drug treatment programs that help people out of addiction. Punitive policies included penalizing the use of drugs without a prescription and incarcerating people who use drugs illegally. The survey also included questions about religion affiliation if any; frequency of attendance of religious services; and religious leaders' norms with respect to punitive and protective policies. Analyses relied on structural equation modeling.

Method

To understand the associations among support of protective or punitive policies, religious affiliation, religious service attendance, and religious leaders' norms in areas affected by the opioid crisis and vulnerable to HIV/HCV (Hepatitis C Virus) outbreaks, we recruited participants through Qualtrics Panels (Online Panels: Get Responses for Surveys & Research) covering the states of interest. The Qualtrics panel provides an online sample chosen from a prearranged pool of respondents who have agreed to be contacted by Qualtrics to respond to surveys.

The panels are recruited nationwide via various local and national advertising methods according to industry standards.

Participants

The survey included 3,096 who completed the survey online. The sample was drawn from 14 states in Appalachia and the Midwest, including Alabama, Georgia, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia. To ensure good representation of highly vulnerable counties, half of the participants were drawn from state counties that ranked in the top 5% of injection-related vulnerability to HIV and HCV (Van Handel et al., 2016); the other half were drawn from other counties in the same states. Participants received payment for their completion through their panel according to industry standards, and the study was approved by the University of Illinois' Institutional Review Board.

Measures

Participants in this study were asked questions about demographics, alcohol/drug use, attitudes toward alcohol/drug use, social support, mental health, and attitudes and resources within their communities. Of interest in this article were items concerning attitudes toward protective and punitive drug policies, religious affiliation, religious service attendance, and religious leaders' norms. We also use demographics and political ideology as controls.

Religious Affiliation

The item about religious affiliation asked participants to indicate "Which of the following, if any, describes your religious beliefs?" The options were Baptist, other Protestant, Catholic, Jewish, Muslim, Hindu, Agnostic, and other.

Attendance to Religious Services

Participants were asked by "How often do you attend services?" Respondents provided their answer on a scale with the following points: 1 (*Never*) to 6 (*More than once a week*).

Religious Leaders' Norms Concerning Drug Policies

The survey included two items that measured religious leaders' norms concerning punitive drug policies: "Religious leaders in my community want to make people afraid of the consequences of using drugs" and "Religious leaders in my community believe that drug problems should be dealt with by punishing people for using drugs illegally." Participants used a scale from 1 (strongly disagree) to 5 (strongly agree) to rate support for protective and punitive policies. These two items were used for an index of religious leaders' norms concerning punitive drug policies.

The survey also included measures of religious leaders' norms concerning protective drug policies. These included (a) "Religious leaders in my community try to help people who are misusing drugs to recover," (b) "The top concern of religious leaders in my community regarding drugs is to help people stay safe," (c) "Religious leaders in my community are supportive or would be supportive of programs that provide ways for people who misuse drugs to stay safe (such as with clean needles to prevent spreading)," and (d) "Religious leaders in my community are supportive or would be supportive of treatment programs that use medication to help reduce drug addiction (e.g., MAT)." Participants used a scale from 1 (strongly disagree) to 5 (strongly agree) to rate support for protective and punitive policies. These items were used to form an index of religious leaders' norms in support of protective drug policies.

Support for Drug Policies

The measures of support for protective policies included the following items: (a) "To prevent the spread of disease, the government should provide clean syringes for people who inject drugs as a way of avoiding infections;" (b) "The government should pay for treatment for drug addiction when community members need treatment;"

(c) "The government should provide free treatment for infections that result from drug use;" and (d) "The government should deal with drug misuse by funding drug treatment programs that help people out of addiction." The measures of support for punitive policies included (a) "The government should punish people for using drugs without a prescription" and (b) "The government should jail people who use drugs illegally." Participants used a scale from 1 (*strongly disagree*) to 5 (*strongly agree*) to rate support for protective and punitive policies.

Demographics, Lifetime Drug Use, and Other Descriptors

Our survey also included demographic measures and lifetime drug use measures. To measure lifetime drug use, the survey asked whether participants ever used any of the substances in Table 1. It also asked if participants had ever been arrested, and measures about income, living situation, and having a health provider. We also had a measure of political ideology scored from 1 (extremely liberal) to 5 (extremely conservative) with the following points: extremely liberal, liberal, neither liberal nor conservative, conservative, and extremely conservative.

Results

Description of the Sample

General Characteristics

A description of the sample appears in Table 1. As shown, we had good representation of participants in all of our target states (i.e., Alabama, Georgia, Illinois, Indiana, Kansas, Kentucky, Michigan, Missouri, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia). Participants' average age was 45 years, and 60% of them were female. In accordance with the population in this region, participants were mostly White (88%) followed by African American (9%), Hispanic (4%), Asian American (2%), Native American (2%), and Hawaiian or Pacific Islander (0.2%) respondents. Participants with less than a high school level of education comprised 5% of the sample; participants with complete high school comprised 29% of the sample; and participants with a college degree comprised 18% of the sample. For comparison, the U.S. Census for the specific states in our sample involves 51% females, 79% Whites, 15% African Americans, 0.6% Native Americans, 3% Asian Americans, and 0.09% Native Hawaiian or Pacific Islander.

Politically, 23% of the sample indicated being Extremely Liberal or Liberal, whereas 36% indicated being Conservative or Extremely Conservative. Forty percent of the respondents chose the option Neither liberal nor conservative. About 50% of the sample was currently working, whereas the other half was not due to temporary unemployment, disability, being a student, or being retired. With respect to living arrangements, 66% of our respondents lived with other people, 32% lived alone, 1% lived in a hospital or recovery house, and 1% were homeless. Sixty-six percent of the sample reported having used some kind of substance, including marijuana, amphetamine without a prescription or more than prescribed, methamphetamines, cocaine, crack, prescription opioids, anxiolytics, or amphetamines without a prescription or more than prescribed, heroin, fentanyl, hallucinogens, inhalants, Gamma Hydroxybutyrate (GHB), or tobacco. Lifetime drug use was 23% for opioids without a prescription or more than prescribed, 22% for anxiolytics without a prescription or more than prescribed, and 14% for amphetamines without a prescription or more than prescribed. Lifetime use of illicit substances was 13% for cocaine or crack, 11% for hallucinogens, 11% for methamphetamines, 7% for heroin, and 6% for fentanyl, with smaller prevalence of other illicit substances as well. About three fourths of the sample had a health service provider, about a quarter were receiving public assistance, 38% had used alcohol rehabilitation services, and 11% had used drug rehabilitation services. Finally, 1% reported having been in jail or prison.

Religious Affiliation, Attendance, and Religious Leaders' Norms

The sample was generally religious. Ninetyone percent of the participants reported belonging to a religion. Forty-six percent were Protestant, 14% Catholic, 1% Jewish, 1% Muslim, 0.1% Hindi, 9% Agnostics, and 29% other. With respect to attendance to religious services, 64% reported ever attending, with about half of those (29%) reporting attending between one and a few times a year, and the rest (35%) reporting attending monthly to attending more often than weekly.

 Table 1

 Sociodemographic, Health, and Political Characteristics (N = 3,096)

Variable	N	%
Gender		<u> </u>
Male	1,867	39.1
Female	1,209	60.3
Nonbinary	7	0.2
Race/ethnicity		
White	2,713	87.6
Black	282	9.1
American Indian/Alaskan	59	1.9
Asian	66	2.1
Hispanic/Latinx	123	4.0
Native Hawaiian or Pacific	7	0.2
Education		
Less than high school	149	4.8
High school	900	29.1
College degree	545	17.6
Master's degree	211	6.8
Professional degree	44	1.4
Doctoral degree	17	0.5
Employment status	545	17.6
Not working (student)	99	3.2
Not working (temporary layout)	58	1.9
Not working but looking for work	238	7.7
Not working-disabled	361	11.7
Not working-other	216	7.0
Not working-retired	574	18.5
Working (paid employee)	1,206	39.0
Working/self employed	227	7.3
Looking for employment	1,052	47.0
Income less than 50,000/year	1,355	60.3
Receiving public assistance	1,000	44.9
Living situation	1,000	22.2
Living alone	1,000 2,043	32.3 66.0
Living with others	32	1.0
In group home/recovery home	44	1.0
Living in a hospital	13	0.4
A prison or jail Relationship status	15	0.4
Married	1,380	44.6
Divorced	368	11.9
Never married	755	24.4
Partnered but never married	325	10.5
Separated	84	5.4
Widowed	166	5.4
Political ideology	100	5.4
Liberal/extremely liberal	713	23.1
Neither liberal nor conservative	1,236	39.9
Conservative/extremely conservative	1,129	36.4
Religious affiliation	1,12)	50.1
Baptist	834	26.9
Another Protestant	593	19.2
Catholic	427	13.8
Jewish	39	1.3
Muslim	29	0.9
Hindu	4	0.1
Agnostic	251	8.2
Religious service attendance	231	0.2
Attending religious services	1,975	64.3
Not attending religious services	1,096	35.7
The americang rengious services	1,070	55.1

 Table 1 (continued)

Variable	N	%
Drug use		
Marijuana	1,380	44.8
Amphetamines without prescription or more than prescribed	423	13.7
Methamphetamine	326	10.6
Cocaine, crack	407	13.2
Prescription opioids without prescription or more than prescribed	708	23.0
Heroin	205	6.7
Fentanyl	193	6.3
Nonopioids prescription for pain without prescription or more than prescribed	471	15.3
Hallucinogens	340	11.0
Thinner or other inhalants	149	4.8
GHB	114	3.7
Prescription pills for anxiety without prescription or more than prescribed	677	22.0
Cigarettes	1,487	48.3
Chewing tobacco	425	13.8
Nicotine vaping products	665	21.6
THC vaping products	431	14.0
Ever arrested	159	5.1
Having a health provider	2,318	51.6

Note. The age of the sample was M = 44.96 (SD = 17.08). THC = tetrahydrocannabinol; GHB = Gamma Hydroxybutyrate.

The norms of religious leaders were M = 2.42 (SD = 1.15) in support of punitive policies and M = 2.60 (SD = 1.03) in support of protective policies.

Support for Protective and Punitive Drug Policies

The index of attitudes toward protective policies had a M=3.30~(SD=1.00) and the index of attitudes toward punitive policies had a M=3.01~(SD=.90). Considering participants who checked either agreeing or strongly agreeing with these items, support for protective was 67% for the government funding drug treatment, 59% for the government providing treatment with medication, 48% for the government paying for drug treatment of some sort, and 36% for the government providing clean syringes for people who inject drugs. Support for punitive proposals included 53% agreeing that the government should punish people who use drugs and 49% agreeing that the government should put people who use drugs in jail.

Associations Between Religious Variables and Policy Support

Using the R package Lavaan (*Lavaan Package-R*, n.d.), we conducted Structural Equation Modeling with latent variables to test the associations of religious affiliation, religious

service attendance, and religious leaders' norms with support for punitive and protective policies (see correlation matrix in the Appendix). Age, income, sex (1 = male, 2 = female), and indicator variables for race and ethnicity were introduced as controls. Religious affiliation was assessed through a series of indicator variables for Agnostics, Catholics, Protestants, and religious service attendance was treated as a continuous variable. Punitive and protective religious norms and support for punitive and protective policy were treated as latent variables, with punitive religious leaders' norms, protective religious leaders' norms, support for punitive policies, and support for protective policies each being a latent factor. The model fit very well (Comparative Fit Index; CFI = .95; Tucker-Lewis index; TLI = 0.93; root mean square error of approximation; RMSEA = .039; Standardized Root Mean Square Residual; SRMR = .024) and all factor loadings within the measurement model were high. Table 2 shows all of the model's coefficient, and Figure 1 shows a summary of the results. For simplicity, this figure does not show nonsignificant paths or correlations among external variables. Please refer to Table 1 for that information.

Figure 1 provides support for the idea that religious variables shaped respondent's attitudes toward drug policies. First, attending religious services and a punitive religious leader norm were positively correlated with personally

 Table 2

 Effects of Religious Affiliation and Attendance on Relative Support for Protective Versus Punitive Drug Policies

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Regressions: Support for punitive policies 0.222 0.034 6.613 .000 Age -0.004 0.002 -2.052 .040 - Education -0.047 0.021 -2.238 .025 - Conservative ideology 0.230 0.028 8.065 .000 Income 0.005 0.010 0.452 .652 Sex 0.266 0.068 3.893 .000	0.679
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Conservative ideology 0.230 0.028 8.065 .000 Income 0.005 0.010 0.452 .652 Sex 0.266 0.068 3.893 .000	0.055
Income 0.005 0.010 0.452 .652 Sex 0.266 0.068 3.893 .000	0.062
Sex 0.266 0.068 3.893 .000	0.223
	0.012
Frequency of service affendance 0.037 0.018 7.084 0.37	0.101
1 7	0.059
	0.038 0.053
	0.003
č	0.025
±	0.020
	0.049
Support for protective policies	
** * *	0.163
	0.051
Education 0.043 0.019 2.296 .022	0.064
Conservative ideology -0.229 0.026 -8.926 .000 -	0.248
Income -0.032 0.009 -3.562 0.000 $-$	0.098
	0.105
	0.019
	0.050
	0.022
	0.031
1	0.016 0.001
	0.001
Punitive religious leaders' norm	7.007
C	0.066
8	0.058
	0.084
	0.013
	0.004
	0.136
Protestant 0.172 0.065 2.644 .008	0.088
	0.007
	0.019
Hispanic 0.105 0.140 0.747 .455	0.019

Table 2 (continued)

Variables	Coefficient	SE	z	p	Standardized coefficient
White	-0.045	0.142	-0.318	.750	-0.015
Black	-0.129	0.154	-0.838	.402	-0.039
Protective religious leaders' norm	0.12)	0.15	0.050	.102	0.057
Age	0.003	0.001	2.122	.034	0.056
Education	-0.050	0.017	-2.888	.004	-0.079
Conservative ideology	0.033	0.023	1.427	.154	0.038
Income	0.005	0.008	0.610	.542	0.017
Sex	-0.037	0.056	-0.662	.508	-0.017
Frequency of service attendance	0.130	0.015	8.817	.000	0.249
Protestant	0.178	0.053	3.364	.001	0.100
Catholics	0.083	0.073	1.142	.254	0.032
Agnostic	-0.380	0.327	-1.161	.246	-0.030
Hispanic	0.148	0.114	1.295	.195	0.034
White	-0.077	0.115	-0.666	.505	-0.029
Black	0.219	0.126	1.745	.081	0.073
Covariances:					
Punitive religious leaders' norm					
Protective religious leaders' norm	0.443	0.029	15.127	.000	0.556
Support for punitive policies					
Support for protective policies	-0.142	0.027	-5.212	.000	-0.163
Variances:					
Punitive religious leaders' norm Item 1	0.434	0.053	8.237	.000	0.313
Punitive religious leaders' norm Item 2	0.767	0.040	19.245	.000	0.580
Protective religious leader's norm Item 1	0.553	0.025	22.263	.000	0.413
Protective religious leader's norm Item 2	0.719	0.029	24.725	.000	0.526
Protective religious leader's norm Item 3	0.523	0.024	21.794	.000	0.397
Protective religious leader's norm Item 4	0.394	0.021	18.763	.000	0.315
Support for punitive policies Items 1	0.622	0.046	13.436	.000	0.359
Support for punitive policies Item 2	0.361	0.047	7.682	.000	0.227
Support for punitive policies Item 1	1.208	0.049	24.890	.000	0.575
Support for punitive policies Item 2	0.590	0.030	19.578	.000	0.374
Support for punitive policies Item 3	0.707	0.033	21.120	.000	0.423
Support for punitive policies Item 4	0.913	0.035	25.987	.000	0.660
Support for punitive policies Item 5	0.761	0.032	24.058	.000	0.539
Punitive religious leaders' norm	0.916	0.067	13.776	.000	0.965
Protective religious leaders' norm	0.693	0.040	17.235	.000	0.884
Support for punitive policies	0.969	0.054	18.044	.000	0.871
Support for protective policies	0.776	0.052	14.844	.000	0.871

supporting punitive policies. Second, a protective religious leader norm correlated with personally supporting protective policies.

Several of the control variables correlated with policy support as well. For example, as one might expect, conservative ideology correlated positively with support for punitive policies but negatively with support for protective policies. Older age and higher education were negatively correlated with support for punitive policies, whereas being female was positively correlated with support for punitive policies. Being Black and more educated correlated positively with support for protective policies, whereas being female and having a higher income correlated negatively with support for protective policies. Overall,

younger, female, less educated, non-Black, and higher income participants endorsed harsher drug policies than did older, male, more educated, Black, and lower income participants.

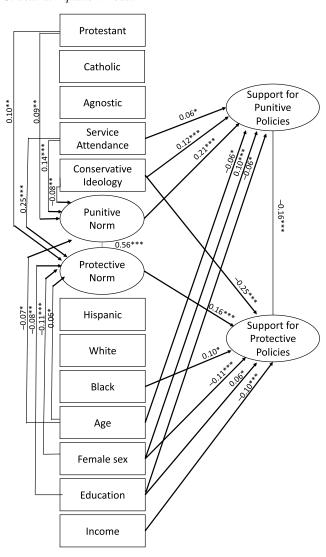
Religious leaders' norms correlated with specific religious affiliations and religious service attendance. A punitive norm correlated positively with service attendance and being protestant, and negatively with being conservative and older in age. A protective norm correlated positively with being protestant, attending religious services, and being older, and negatively with higher education and being female. That is, even though service attendance differentially affected personal support for punitive and protective drug policies, more frequent attendees perceived stronger

punitive as well as stronger protective norms among religious leaders. Being protestant had similar associations by which respondents who identified as protestant perceived stronger punitive and protective norms. Finally, similar to the policy support findings, females perceived harsher policy norms, whereas older respondents perceived more benevolent norms among religious leaders. More highly educated respondents perceived weaker protective norms among their leaders, which combined with the more benevolent attitudes of the more highly educated

suggests that this group perceived religious leaders as being harsh.

In summary, attendance and religious leaders' norms are important correlates of people's support for punitive and protective policies. However, the model in Figure 1 assumes that the norms precede personal support for the policies although it is also possible that people infer norms that are consistent with their own attitudes (Festinger, 1954; Turner, 1985). For this reason, we tested another model in which norms were the endogenous variables and support for punitive

Figure 1 Structural Equation Model



and protective policies predicted the norms. This model, whose details appear in the Appendix, also had a good fit (CFI = .94, TLI = .92, RMSEA = .041, SRMR = .033). Although the two models cannot be directly compared, the fit of our proposed model was slightly better than the fit of this alternate model.¹

Discussion

We investigated the patterns of association between religiosity and attitudes toward policies intended to reduce harm from drug use as well as punitive policies. The respondents, who were demographically similar to the rural populations affected by the current opioid and methamphetamine epidemic, were mostly religious and had moderate attendance. In general, religious affiliation had no impact on either protective or punitive policy attitudes. However, consistent with past findings that people with religious practice are less compassionate toward people who use drugs than are those without such a practice, we found that religious service attendance correlated with stronger support for punitive policies and weaker support for protective ones. That is, the greater the frequency of religious service attendance, the greater the support for punishment and incarceration for people who use drugs. Thus, despite churches often supporting services for recovery from alcohol and drug use disorder, regions with higher religious service attendance may continue to experience support for punitive than protective drug policies.

Our study contributes to the literature on links between the public stigma surrounding opioid use disorder (Magnus et al., 2013; Neale et al., 2008; Rivera et al., 2014; Van Boekel et al., 2013) and drug use policies. For example, people who use drugs anticipate the negative judgment of providers if they need harm reduction interventions (Earnshaw et al., 2013; Paquette et al., 2018; Van Boekel et al., 2013), and providers who prescribe MAT feel stigmatized for providing these medical services (Madden, 2019). It is likely that the relation between religious variables and drug policy support is partly due to the stigma of drug use, which is known to correlate with religiosity (Ibragimov et al., 2017; Vigliotti et al., 2020). However, the objections to drug policies are also based on the notion of the lack of efficacy of actions that are framed as "enabling" drug use (Ibragimov et al., 2017).

There are limitations to our study. First, the survey was conducted electronically, may exclude participants who may only be able to respond via phone or in person. Second, our analysis of religious affiliation was limited to the affiliations as reported in the region and led to very low numbers of Jewish and Muslim individuals. Despite these limitations, to the best of our knowledge, the study is the first to examine associations between religion and policy attitudes in rural areas that carry a heavy burden of the current SUD epidemic.

These findings may be useful in finding ways of working with religious leaders and communities to become more open to science-based policies that protect people who use drugs and consequently society at large. For example, religious conferences may begin to address these issues and mass media messages may be used to link religiosity to the protection of all vulnerable populations, including those who use drugs. There are two large community projects in Appalachia currently funded by the NIDA (National Institute of Drug Abuse). HEALing Communities (National Institute on Drug Abuse [NIDA], n.d.) is a large-scale attempt to integrate prevention, overdose treatment, and medication-based treatment in select communities in the United States. Also with NIDA funding, the Grid for the Reduction of Vulnerability (Grid for the Reduction of Vulnerability, n.d.) has invited agencies from 99 counties to participate in community efforts to support services and protective policies in communities in Appalachia and the Midwest. In this context, our findings suggest that finding ways of incorporating religious leaders and developing an agenda that incorporates religious value in a way that increases compassion may go a long way in reducing the harm of drug use in rural areas on the United States.

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¹ The results in Figure 1 do not change when lifetime drug use is added into the model.

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(Appendix follows)

Appendix

Correlation Matrix

Characteristics of the sample	1	2	3	4	5	6	8	9	10	11	12	13	14
1. Age	1												_
2. Sex	.152	1											
Z. SCA	.000												
3. Education	.118	.130	1	_	_	_	_	_	_	_	_	_	_
3. Education	.000	.000	•										
4. Income	014	.160	.399	1	_	_	_	_	_	_	_	_	_
4. Income	.467	.000	.000	1									
5. Conservative	.163	.043	015	.036	1								
political	.000	.017	.407	.407	1								
1	.000	.017	.407	.407									
ideology 6. Frequency of	.103	.022	.204	.128	.199	1							
	.000	.022	.000	.000	.000	1	_	_	_	_	_	_	
religious service	.000	.210	.000	.000	.000								
attendance	026	020	006	024	170	120	1						
7. Punish drug	.026	030	.006	.034	.179	.130	.1	_	_	_	_	_	_
use	.155	.097	.735	.076	.000	.000	107						
8. Provide clean	148	.030	.021	.007	279	065	187	1	_	_	_	_	_
syringes	.000	.092	.245	.708	.000	.000	.000						
9. Pay for	121	014	019	058	229	023	219	.521	1	_	_	_	_
treatment	.000	.440	.302	.003	.000	.204	.000	.000					
10. Free treatment	094	.052	029	030	239	046	134	.559	.642	1	_	_	_
for infections	.000	.004	.110	.121	.000	.011	.000	.000	.000				
from drug													
injection													
11. Put people who	.000	059	013	.025	.220	.155	.711	195	153	133	1	_	_
use drugs in jail	.984	.001	.466	.189	.000.	.000	.000	.000	.000	.000			
Support	050	.053	.025	.009	155	026	050	.397	.480	.449	080	1	_
medication-	.006	.003	.174	.632	.000	.156	.006	.000	.000	.000	.000		
assisted													
treatment													
13. Fund programs	064	.028	.008	.018	211	049	047	.395	.592	.513	074	.530	1
for treatment	.000	.117	.651	.359	.000	.007	.009	.000	.000	.000	.000	.000	

Effects of Religious Affiliation and Attendance: Alternate Model

Variables	Unstandardized coefficient	SE	z	p	Standardized coefficient
Latent variables					
Punitive religious leaders' norm					
Religious leaders' norm Item 1	1.000	_	_	.988	0.844
Religious leaders' norm Item 2	0.736	0.048	15.437	.000	0.635
Protective religious leaders' norm					
Religious leaders' norm Item 1	1.000	_	_	.883	0.765
Religious leaders' norm Item 2	0.908	0.034	27.100	.000	0.687
Protective religious leaders' norm Item 2	1.006	0.033	30.717	.000	0.776
Protective religious leaders' norm Item 2	1.044	0.032	32.462	.000	0.826
Support for punitive policies					
Support for punitive policies Item 1	1.000	_	_	1.046	0.794
Support for punitive policies Item 2 (12)	1.067	0.037	28.983	.000	0.887
Support for protective policies					
Support for protective policies Item 1	1.000	_	_	.935	0.647
Support for protective policies Item 2 (12)	1.067	0.037	28.983	.000	0.793
Support for protective policies Item 3 (13)	1.050	0.041	25.897	.000	0.760
Support for protective policies Item 4 (14)	0.733	0.035	20.743	.000	0.583
Support for protective policies Item 5 (15)	0.864	0.036	23.727	.000	0.680

(Appendix continues)

Appendix (continued)

Variables	Unstandardized coefficient	SE	z	p	Standardized coefficient
Regressions:					
Punitive religious leaders' norm					
Support for punitive policies	0.103	0.027	3.765	.000	0.109
Age	-0.003	0.002	-1.884	.060	-0.055
Education	-0.035	0.021	-1.629	.103	-0.049
Conservative ideology	-0.102	0.029	-3.520	.000	-0.106
Income	0.005	0.010	0.450	.653	0.014
Sex	-0.020	0.070	-0.291	.771	-0.008
Frequency of service attendance	0.074	0.018	4.107	.000	0.126
Protestant	0.160	0.065	2.454	.014	0.081
Catholics	0.006	0.089	0.063	.950	0.002
Agnostic	-0.252	0.402	-0.627	.531	-0.018
Hispanic	0.117	0.140	0.835	.404	0.024
White	-0.051	0.142	-0.361	.718	-0.017
Black	-0.115	0.155	-0.747	.455	-0.035
Protective religious leaders' norm	0.002	0.025	2.641	000	0.007
Support for protective policies	0.092	0.025	3.641	.000	0.097
Age	0.003	0.001	2.289	.022	0.060
Education	-0.054	0.017	-3.082	.002	-0.084
Conservative ideology	0.053	0.024	2.252	.024	0.062
Income Sex	0.008	0.008	0.954	.340 .800	0.026
	-0.014	0.056	-0.253 8.799		-0.006
Frequency of service attendance Protestant	0.129 0.184	0.015 0.053	8.799 3.495	.000 .000	0.248 0.104
Catholics	0.184	0.033	1.207	.227	0.033
Agnostic	-0.336	0.326	-1.031	.303	-0.026
Hispanic	0.139	0.320	1.221	.222	0.032
White	-0.076	0.114	-0.662	.508	-0.028
Black	0.190	0.115	1.518	.129	0.064
Support for punitive policies	0.170	0.123	1.516	.12)	0.004
Education	-0.055	0.021	-2.628	.009	-0.074
Conservative ideology	0.208	0.028	7.308	.000	0.203
Age	-0.004	0.002	-2.510	.012	-0.068
Income	0.005	0.010	0.540	.589	0.015
Sex	0.264	0.068	3.862	.000	0.101
Frequency of service attendance	0.053	0.018	3.027	.002	0.086
Protestant	0.116	0.064	1.812	.070	0.055
Catholics	0.168	0.088	1.907	.057	0.054
Agnostic	-0.049	0.396	-0.124	.902	-0.003
Hispanic	-0.105	0.138	-0.759	.448	-0.020
White	0.060	0.140	0.429	.668	0.019
Black	-0.198	0.152	-1.300	.194	-0.056
Support for protective policies					
Age	-0.002	0.002	-1.555	.120	-0.042
Education	0.034	0.019	1.821	.069	0.051
Conservative ideology	-0.221	0.026	-8.631	.000	-0.242
Income	-0.031	0.009	-3.442	.001	-0.096
Sex	-0.250	0.061	-4.102	.000	-0.107
Frequency of service attendance	0.012	0.016	0.753	.452	0.021
Protestant	-0.063	0.057	-1.108	.268	-0.034
Catholics	-0.046	0.078	-0.586	.558	-0.017
Agnostic	-0.483	0.352	-1.371	.170	-0.036
Hispanic	0.098	0.123	0.799	.424	0.021
White	-0.009	0.124	-0.075	.940	-0.003
Black	0.321	0.135	2.371	.018	0.101
Covariances: Support for protective policies					
Support for protective policies Support for punitive policies	-0.108	0.027	-4.008	.000	-0.122
support for pullture policies	-0.106	0.027	-4.006	.000	-0.122

(Appendix continues)

Appendix (continued)

Variables	Unstandardized coefficient	SE	z	p	Standardized coefficient
Punitive religious leaders' norm					
Protective religious leaders' norm	0.424	0.029	14.761	.000	0.532
Variances:					
Punitive religious leaders' norm	0.393	0.059	6.693	.000	0.287
Punitive religious leaders' norm Item 2	0.785	0.041	19.041	.000	0.597
Protective religious leader's norm Item 1	0.552	0.025	22.204	.000	0.415
Protective religious leader's norm Item 2	0.719	0.029	24.704	.000	0.528
Protective religious leader's norm Item 3	0.522	0.024	21.716	.000	0.398
Protective religious leader's norm Item 4	0.394	0.021	18.714	.000	0.317
Support for punitive policies Items 1	0.642	0.048	13.384	.000	0.370
Support for punitive policies Items 2	0.339	0.050	6.816	.000	0.214
Support for punitive policies Item 1	1.213	0.049	24.945	.000	0.581
Support for punitive policies Item 2	0.587	0.030	19.384	.000	0.371
Support for punitive policies Item 3	0.706	0.034	21.065	.000	0.423
Support for punitive policies Item 4	0.914	0.035	25.989	.000	0.661
Support for punitive policies Item 5	0.760	0.032	24.019	.000	0.538
Support for punitive policies	0.932	0.071	13.087	.000	0.955
Support for protective policies	0.681	0.040	17.156	.000	0.874
Punitive religious leaders' norm	1.001	0.056	17.986	.000	0.914
Protective religious leaders' norm	0.781	0.054	14.563	.000	0.894

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