Cureus
Part of SPRINGER NATURE

Open Access Original Article

Religious Devoutness and Attitudes Toward Government Involvement in Abortion Decisions: An Exploratory Community Survey in New York City, United States

Review began 11/02/2026
Review ended 11/13/2026
Published 11/16/2026

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DOI: 10.7759/cureus.119763

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Abstract

Background

Government-imposed abortion restrictions can shape reproductive autonomy and access to care, yet less is known about how religious devoutness relates to support for such restrictions across specific clinical and social contexts. This study examined whether attitudes toward government-imposed abortion restrictions differed across relative levels of religious devoutness and explored associations with continuous religiosity scores.

Methods

An exploratory cross-sectional analysis was conducted using anonymous survey data from 64 adults recruited through convenience sampling at community health events in New York City. Religious devoutness was assessed using an exploratory composite score derived from the Duke University Religion Index (DUREL). Participants rated five study-developed abortion-restriction statements, including one general statement and four clinical or social scenarios, using five-point Likert scales. Kruskal-Wallis tests compared responses across sample-specific religiosity tertiles, while exploratory Spearman correlations assessed associations with continuous composite DUREL scores. The Benjamini-Hochberg procedure was applied to control the false discovery rate across the five correlation tests.

Results

No abortion-attitude item differed significantly across religiosity tertiles, and all Kruskal-Wallis effect sizes were small (η^2H range, 0.000-0.050). Continuous composite DUREL scores demonstrated a weak negative correlation with responses to the general abortion-ban item (ρ = -0.271, unadjusted p = 0.030); however, this association did not remain statistically significant after false discovery rate adjustment (adjusted p = 0.150). None of the five correlations reached statistical significance after adjustment.

Conclusions

In this exploratory community sample, the findings did not provide strong evidence of an association between religious devoutness and support for government-imposed abortion restrictions. Given the modest sample size, convenience sampling, and use of abortion-attitude items that had not undergone formal psychometric validation, these findings should be interpreted as preliminary and hypothesis-generating rather than definitive. Larger studies incorporating more representative sampling strategies, validated abortion-policy measures, multidimensional assessments of religiosity, and consideration of religious affiliation are warranted.

Categories: Obstetrics/Gynecology, Health Policy, Public Health
Keywords: abortion, government restrictions, public opinion, religiosity, reproductive autonomy, reproductive health policy

Introduction

Public attitudes toward abortion have important implications for reproductive health policy, access to care, and bodily autonomy. These attitudes cannot be adequately characterized by a binary distinction between support for and opposition to abortion. Rather, they vary according to pregnancy circumstances, the nature of proposed restrictions, and individuals' demographic, religious, and ideological characteristics. Previous reviews consistently identify religion as a prominent correlate of abortion attitudes, alongside political

ideology, gender, education, and broader sociocultural influences [1,2]. Importantly, personal moral opposition to abortion is conceptually distinct from support for government-imposed restrictions, which concerns whether the state should regulate another person's reproductive decisions. Following the US Supreme Court's decision in Dobbs v. Jackson Women's Health Organization, abortion restrictions have assumed heightened significance for reproductive autonomy and healthcare access [3].

Religiosity is a multidimensional construct, and religious affiliation alone may not adequately characterize its relationship with abortion attitudes. The Duke University Religion Index (DUREL) measures three dimensions of religiosity: organizational religious activity (ORA), non-organizational religious activity (NORA), and intrinsic religiosity (IR) [4]. The instrument's developers recommend evaluating these dimensions separately rather than relying exclusively on a composite score. However, subsequent cross-national psychometric research suggests that a unidimensional total score may be appropriate in certain populations, whereas a multidimensional approach is preferable in others [5]. Accordingly, the present study uses the total DUREL score as an exploratory summary measure rather than assuming that religiosity represents a single underlying construct.

Existing literature demonstrates that religiosity is associated with abortion attitudes through multiple potential pathways, with associations varying across religious dimensions and demographic characteristics [6]. Among US social work students, greater religiosity has been associated with stronger personal opposition to abortion [7]. Research involving US Latino adults has identified gender-dependent associations between evangelical identification, religious attendance, and abortion attitudes [8]. Religiosity has also been linked to abortion-related stigma in other sociocultural settings [9]. Collectively, these findings suggest that the relationship between religion and abortion attitudes extends beyond denominational affiliation and may be influenced by gender, religious practices, and social context.

Abortion attitudes also vary substantially according to the circumstances surrounding a pregnancy. In a nationally representative survey of Mexican Catholics, support for legal abortion was considerably greater in cases involving rape or threats to maternal life than in circumstances involving abortion on request or socioeconomic hardship. These associations also differed according to the measures of religious commitment employed [10]. Similarly, previous research has identified relationships between religiosity and abortion attitudes across scenarios involving partner objection and threats to maternal health or life [11]. Such findings emphasize the importance of evaluating context-specific attitudes rather than treating abortion views as a single, uniform position.

Although the relationship between religiosity and abortion attitudes has been extensively examined, the distinction between personal opposition to abortion and support for government-imposed restrictions warrants further investigation. Evaluating general abortion restrictions alongside specific clinical and socioeconomic circumstances may provide additional insight into this relationship.

The primary objective of this study was to examine whether responses to five government-imposed abortion-restriction statements differed across sample-specific religiosity tertiles among adults recruited at community health events in New York City. These statements comprised one general abortion-ban item and four context-specific clinical and social scenarios. The secondary objective was to explore associations between continuous composite DUREL scores and responses to each of the five abortion-restriction statements. This exploratory cross-sectional study was intended to characterize associations within the surveyed community sample and generate hypotheses for future research.

Materials And Methods

Study design and participants

This exploratory cross-sectional study analyzed anonymous questionnaire responses collected during community quality assurance/quality improvement (QA/QI) activities in New York City during the summer of 2025. Participants were recruited through nonprobability convenience sampling at Opioid Overdose Prevention Program tabling events and Heart to Heart community health-screening events. Eligible participants were adults aged 18 years or older who voluntarily agreed to participate.

During recruitment, potential participants were informed that participation was voluntary, that their responses would remain anonymous, and that the questionnaire responses would be used for the QA/QI project and related scholarly analysis. Individuals who verbally agreed to participate were provided access to the questionnaire. Participants received a $20 gift card following participation.

Questionnaires were administered electronically through Research Electronic Data Capture (REDCap; Vanderbilt University, Nashville, TN, USA) using iPads at the community outreach events rather than distributed in printed format. A total of 64 participants provided questionnaire data and constituted the final analytical sample. The number of eligible individuals approached during recruitment, including those who declined participation, was not systematically recorded; therefore, an overall recruitment response rate could not be calculated. The study sample should not be interpreted as representative of the broader New York City population.

Ethics and consent

Data were collected during community QA/QI activities associated with the Weill Cornell Medicine Clinical and Translational Science Center's Heart to Heart community outreach program. The program previously operated under a Weill Cornell Medicine Institutional Review Board (IRB)-approved research protocol (No. 1507016399). In correspondence dated July 26, 2023, the institution's IRB Regulatory Manager confirmed that the program's remaining activities were classified as non-research and requested closure of the existing protocol because those activities fell within the QA/QI framework.

The present survey was subsequently conducted in association with the community outreach program in 2025. No separate IRB determination specifically addressing this questionnaire was issued. The institutional correspondence documenting the earlier program-level determination was submitted for editorial review.

Participation was voluntary and anonymous. Before questionnaire administration, potential participants were verbally informed of the purpose of the survey, the voluntary nature of participation, and the intended use of their responses for the QA/QI project and related scholarly analysis. Verbal informed consent was obtained before questionnaire completion. No separate written consent form was used, and no participant names or contact information were collected.

Survey instrument and demographic characteristics

The survey assessed three domains: demographic characteristics, religious involvement, and attitudes toward government-imposed abortion restrictions.

Demographic variables included age, sex/gender as recorded by the original instrument, race, ethnicity, educational attainment, employment status, household income, country of birth, and duration of residence in the United States.

The original survey item labeled "sex" included female, male, and non-binary response options; therefore, this variable is described as "sex/gender (survey item)." The instrument also included "Hispanic" as a selectable racial category despite separately assessing Hispanic/Latino ethnicity. Original response categories were preserved without post hoc reclassification.

Assessment of religiosity

Religiosity was assessed using the five-item DUREL, which evaluates ORA, NORA, and IR [4].

The ORA and NORA items each contained six ordered response categories and were coded from 1 to 6, with higher values indicating more frequent religious participation or private religious activity. The three IR items each contained five ordered response categories and were coded from 0 to 4, with higher values indicating greater IR.

An exploratory composite DUREL score was calculated by summing the five coded item responses (ORA + NORA + IR1 + IR2 + IR3), yielding a theoretical range of 2-24. All 64 participants had complete responses to the five religiosity items. Observed composite scores ranged from 2 to 23.

To independently reconstruct the sample-specific religiosity tertiles reported in the original analysis, participants were ordered by ascending composite score, with tied scores ordered by ascending original record identifier. Participants ranked 1-22 were assigned to the lower tertile (n = 22), ranks 23-43 to the middle tertile (n = 21), and ranks 44-64 to the upper tertile (n = 21).

The observed composite-score ranges were 2-12, 12-18, and 18-23 for the lower, middle, and upper tertiles, respectively. Scores of 12 and 18 crossed tertile boundaries because participants with identical composite scores were divided according to their assigned ranks. Accordingly, the classifications represented relative religiosity within the study sample rather than validated numerical DUREL thresholds.

The sample-specific tertiles were used to facilitate exploratory comparisons of abortion-related attitudes across relatively lower, intermediate, and higher levels of religious devoutness while maintaining comparably sized groups. Continuous composite-score analyses were also conducted to evaluate associations without relying exclusively on categorical classifications.

The original participant-level dataset was recovered and independently examined. The reconstructed rank-based assignment procedure reproduced the reported religiosity summaries and primary inferential results. However, because the original statistical script was unavailable, the reconstructed tie-breaking procedure could not be confirmed as the exact method used in the historical analysis.

Although the DUREL developers recommend examining its three dimensions separately [4], subsequent psychometric investigations suggest that composite scoring may be appropriate in certain populations [5].

Accordingly, the total score was treated as an exploratory summary measure, while the individual dimensions were described separately. Cronbach's alpha was calculated as a descriptive measure of internal consistency and was not interpreted as evidence of unidimensionality.

Assessment of abortion-restriction attitudes

Attitudes toward government-imposed abortion restrictions were evaluated using five statements developed by the project team. One statement assessed general support for government authority to prohibit abortion, while four scenario-specific statements examined support for restrictions involving opposition from a long-term partner, life-threatening maternal medical risk, financial hardship, and pregnancy resulting from rape or incest.

Participants rated each statement using a five-point Likert scale ranging from strongly agree to strongly disagree. Responses were coded for analysis from 0 (strongly agree) to 4 (strongly disagree). Higher scores indicated greater disagreement with government-imposed restrictions.

Because the abortion-attitude items had not undergone formal psychometric validation, they were analyzed individually rather than combined into a composite outcome. The five study-developed abortion-restriction statements and their corresponding response options are reproduced in Appendix A.

Statistical analysis

Statistical analyses were conducted using R version 4.5.1 (R Foundation for Statistical Computing, Vienna, Austria).

Demographic characteristics were summarized for the overall sample and according to religiosity tertile. Continuous variables were reported as means with standard deviations or medians with interquartile ranges, as appropriate. Categorical variables were summarized using frequencies and percentages.

Differences in demographic characteristics across religiosity tertiles were assessed using Kruskal-Wallis tests for continuous variables and Fisher's exact tests for categorical variables.

Responses to the five abortion-restriction statements were treated as ordinal outcomes. Kruskal-Wallis rank-sum tests were used to evaluate differences across religiosity tertiles, with effect sizes estimated using eta-squared for the Kruskal-Wallis test (η^2H). Because none of the omnibus comparisons reached statistical significance, post hoc pairwise comparisons were not performed.

Analyses used available responses for each outcome. One response was missing for the partner-opposition item and one for the financial-hardship item, resulting in 63 evaluable responses for each of these outcomes. Both missing responses occurred within the middle religiosity tertile. The remaining three abortion-attitude items had complete responses from all 64 participants.

Exploratory associations between continuous composite DUREL scores and individual abortion-attitude responses were evaluated using Spearman rank correlation coefficients.

To account for multiple comparisons across five correlation analyses, the Benjamini-Hochberg procedure was applied to control the false discovery rate. Both unadjusted and adjusted p-values were reported. Statistical significance for the exploratory correlation analyses was defined as a two-sided adjusted p-value below 0.05.

Results

Participant characteristics

A total of 64 participants provided electronic questionnaire data and were included in the analysis. The number of participants included in the analytical sample does not represent the total number of eligible individuals approached during recruitment. Because the number of eligible individuals approached was not systematically recorded, an overall recruitment response rate could not be calculated.

Participants had a mean age of 48.2 years (SD = 18.0), and 39 (61%) selected "female" on the survey's sex/gender item. The sample included 32 (50%) participants who selected Black/African American, 20 (31%) Hispanic, 6 (9%) White, 5 (8%) Asian, and 1 (2%) American Indian/Alaska Native on the original race item. Hispanic/Latino ethnicity was assessed separately.

The demographic distribution reflects the composition of the participants recruited at the community outreach events and should not be interpreted as representative of the broader New York City population. Age differed significantly across religiosity tertiles in the unadjusted analysis (Kruskal-Wallis p = 0.039). Other reported demographic comparisons were not statistically significant, including the distribution of the

original racial categories (Fisher's exact test, p = 0.082). Participant demographic characteristics and comparisons across religiosity tertiles are presented in Table 1.

Characteristic	Overall (N=64)	Lower tertile (n=22)	Middle tertile (n=21)	Upper tertile (n=21)	p-value
Age, years, mean (SD)	48 (18)	41 (17)	55 (17)	49 (17)	0.039
Sex/Gender (Survey Item), n (%)					0.394
Female	39 (61)	11 (50)	15 (71)	13 (62)	
Male	24 (38)	10 (45)	6 (29)	8 (38)	-
Non-binary/Other	1 (2)	1 (5)	0 (0)	0 (0)	
Self-Identified Racial Categories, n (%)					0.082
American Indian/Alaska Native	1 (2)	1 (5)	0 (0)	0 (0)	
Asian	5 (8)	2 (9)	1 (5)	2 (10)	
Black/African American	32 (50)	7 (32)	10 (48)	15 (71)	-
White	6 (9)	4 (18)	0 (0)	2 (10)	
Hispanic	20 (31)	8 (36)	10 (48)	2 (10)	
Ethnicity, n (%)					0.064
Hispanic/Latino	27 (42)	12 (55)	11 (52)	4 (19)	-
Not Hispanic/Latino	37 (58)	10 (45)	10 (48)	17 (81)	
Highest Education, n (%)					0.891
High school or less	6 (9)	1 (5)	2 (10)	3 (14)	
Some college	18 (28)	5 (23)	8 (38)	5 (24)	
Bachelor's degree	15 (23)	5 (23)	5 (24)	5 (24)	-
Graduate degree	18 (28)	7 (32)	5 (24)	6 (29)	
Other	7 (11)	4 (18)	1 (5)	2 (10)	
Employment Status, n (%)					0.522
Full-time	18 (28)	7 (32)	3 (14)	8 (38)	
Part-time	10 (16)	4 (18)	4 (19)	2 (10)	
Unemployed	12 (19)	2 (9)	7 (33)	3 (14)	-
Student	8 (13)	5 (23)	1 (5)	2 (10)	
Retired	16 (25)	4 (18)	6 (29)	6 (29)	
Annual Household Income as Percentage of Federal Poverty Line, n (%)					0.347
0-100%	19 (30)	5 (23)	8 (38)	6 (29)	
100-150%	11 (17)	5 (23)	3 (14)	3 (14)	
150-200%	6 (9)	2 (9)	1 (5)	3 (14)	
200-250%	6 (9)	1 (5)	3 (14)	2 (10)	-
250-300%	4 (6)	2 (9)	2 (10)	0 (0)	
300-400%	7 (11)	5 (23)	1 (5)	1 (5)	
400% and over	8 (13)	2 (9)	1 (5)	5 (24)	
Prefer not to answer	3 (5)	0 (0)	2 (10)	1 (5)	
Born in USA, n (%)	48 (75)	19 (86)	13 (62)	16 (76)	0.173

TABLE 1: Participant Demographic Characteristics by Religiosity Tertile (N = 64)

Note: Values are presented as n (%) unless otherwise indicated. The survey item labeled “sex” used female, male, and non-binary/other response options; it is reported here as sex/gender (survey item). The original race item included “Hispanic” as a selectable category, while Hispanic/Latino ethnicity was also assessed separately. The p-value for age was calculated using the Kruskal-Wallis test; categorical variables were evaluated using Fisher’s exact test.

SD, standard deviation

Distribution of religiosity

Participants were categorized into lower (n = 22), middle (n = 21), and upper (n = 21) sample-specific religiosity tertiles based on the exploratory composite DUREL measure. Median total DUREL scores were 7.0 (IQR 4.0-9.0), 17.0 (IQR 16.0-18.0), and 20.0 (IQR 20.0-21.0), respectively. The five DUREL items demonstrated a Cronbach's alpha of 0.84 (95% CI 0.77-0.90). Given the multidimensional nature of the instrument, this finding was interpreted as descriptive evidence of internal consistency rather than confirmation of a unidimensional construct. The distributions of ORA, NORA, IR, and total DUREL scores across tertiles are summarized in Table *2*.

DUREL subscale	Overall (N=64)	Lower tertile (n=22)	Middle tertile (n=21)	Upper tertile (n=21)
ORA, n (%)				
Never	15 (23)	13 (59)	2 (10)	0 (0)
Once a year or less	6 (9)	3 (14)	3 (14)	0 (0)
A few times a year	7 (11)	1 (5)	4 (19)	2 (10)
A few times a month	10 (16)	2 (9)	5 (24)	3 (14)
Once a week	20 (31)	3 (14)	7 (33)	10 (48)
More than once/week	6 (9)	0 (0)	0 (0)	6 (29)
NORA, n (%)				
Rarely or never	22 (34)	17 (77)	5 (24)	0 (0)
A few times a month	3 (5)	2 (9)	1 (5)	0 (0)
Once a week	6 (9)	1 (5)	3 (14)	2 (10)
Two or more times/week	8 (13)	2 (9)	4 (19)	2 (10)
Daily	23 (36)	0 (0)	7 (33)	16 (76)
More than once a day	2 (3)	0 (0)	1 (5)	1 (5)
Intrinsic Religiosity Score, median (Q1, Q3)	9.0 (5.5, 11.0)	3.5 (1.0, 6.0)	9.0 (8.0, 10.0)	11.0 (10.0, 12.0)
Total DUREL Score, median (Q1, Q3)	17.0 (9.0, 20.0)	7.0 (4.0, 9.0)	17.0 (16.0, 18.0)	20.0 (20.0, 21.0)

TABLE 2: DUREL Components by Sample-Specific Religiosity Tertile

Tertiles were defined from this sample’s total DUREL score and are not validated DUREL cut points. Inferential p-values are not presented because the tertiles were created from the same DUREL responses summarized in this table.

DUREL, Duke University Religion Index; ORA, organizational religious activity; NORA, non-organizational religious activity; IR, intrinsic religiosity; Q1, first quartile; Q3, third quartile

Attitudes toward government-imposed abortion restrictions

No statistically significant differences were observed across religiosity tertiles for any of the five abortion-restriction statements. Median responses were generally similar across groups, and Kruskal-Wallis effect sizes were small (η^2H range, 0.000-0.050).

For the general statement, "I believe that the government should be able to ban all abortions," median responses were 4.0 (IQR 3.0-4.0) in the lower tertile, 3.0 (IQR 2.0-4.0) in the middle tertile, and 3.0 (IQR 2.0-

4.0) in the upper tertile. The difference was not statistically significant (p = 0.113, η^2H = 0.039).

Similarly, no statistically significant differences were observed for scenarios involving opposition from a long-term partner (p = 0.083, η^2H = 0.050), life-threatening maternal medical risk (p = 0.389, η^2H = 0.000), financial hardship (p = 0.357, η^2H = 0.001), or pregnancy resulting from rape or incest (p = 0.872, η^2H = 0.000). Complete item-level descriptive statistics, group comparisons, and corresponding effect sizes are presented in Table 3.

Survey question	Overall median (Q1, Q3)	Lower tertile	Middle tertile	Upper tertile	p-value	η^2H
Government authority to ban all abortions	3.0 (2.0, 4.0)	4.0 (3.0, 4.0)	3.0 (2.0, 4.0)	3.0 (2.0, 4.0)	0.113	0.039
Ban abortion when long-term partner opposes procedure	3.0 (2.0, 4.0)	4.0 (3.0, 4.0)	3.0 (1.5, 3.2)	3.0 (2.0, 4.0)	0.083	0.050
Ban abortion when maternal life is at risk	4.0 (3.0, 4.0)	4.0 (3.0, 4.0)	3.0 (2.0, 4.0)	4.0 (3.0, 4.0)	0.389	0.000
Ban abortion when family cannot afford to raise child	3.0 (2.0, 4.0)	3.5 (3.0, 4.0)	3.0 (1.0, 4.0)	3.0 (2.0, 4.0)	0.357	0.001
Ban abortion in cases of rape or incest	4.0 (3.0, 4.0)	4.0 (3.0, 4.0)	4.0 (3.0, 4.0)	3.0 (2.0, 4.0)	0.872	0.000

TABLE 3: Attitudes Toward Abortion Restrictions by Religiosity Tertile

Note: Values are presented as median (Q1, Q3). Responses were coded from 0 (strongly agree) to 4 (strongly disagree), with higher scores indicating greater disagreement with government-imposed abortion restrictions. p-values were calculated using Kruskal-Wallis tests. The partner-opposition and financial-hardship items each had 63 evaluable responses because of one missing response per item in the middle religiosity tertile. All other items had 64 evaluable responses.

Q1, first quartile; Q3, third quartile; η^2H, eta-squared effect size for the Kruskal-Wallis test

Correlation between religious devoutness and abortion attitudes

Exploratory Spearman rank correlation analyses evaluated associations between continuous composite DUREL scores and responses to the five abortion-restriction statements.

A weak negative correlation was observed between total DUREL score and responses to the general abortion-ban item (Spearman ρ = -0.271, unadjusted p = 0.030). Given the direction of the response scale, this finding suggested that greater religious devoutness was associated with slightly greater agreement with government authority to prohibit abortion before adjustment for multiple comparisons. However, this association did not remain statistically significant after Benjamini-Hochberg false discovery rate correction (adjusted p = 0.150).

Associations involving partner opposition (ρ = -0.183, adjusted p = 0.380), life-threatening maternal medical risk (ρ = -0.028, adjusted p = 0.829), financial hardship (ρ = -0.141, adjusted p = 0.453), and pregnancy resulting from rape or incest (ρ = -0.069, adjusted p = 0.733) were weak and did not reach statistical significance after adjustment. None of the five exploratory correlations met the adjusted significance threshold of 0.05. Complete correlation coefficients and corresponding unadjusted and adjusted p-values are presented in Table 4.

Survey question	Spearman ρ	Raw p	Adjusted p
Government authority to ban all abortions	-0.271	0.030	0.150
Ban abortion when long-term partner opposes procedure	-0.183	0.152	0.380
Ban abortion when maternal life is at risk	-0.028	0.829	0.829
Ban abortion when family cannot afford to raise child	-0.141	0.272	0.453
Ban abortion in cases of rape or incest	-0.069	0.586	0.733

TABLE 4: Spearman Correlations Between Total DUREL Score and Abortion Attitudes With False Discovery Rate Adjustment

Note: Higher abortion-attitude scores indicate greater disagreement with government-imposed restrictions. Correlations were exploratory. Adjusted p-values use the Benjamini-Hochberg false discovery rate procedure across the five correlations.

DUREL, Duke University Religion Index

Discussion

This exploratory cross-sectional analysis found no statistically significant differences across sample-specific religiosity tertiles for any of the five government-imposed abortion-restriction items. All Kruskal-Wallis effect sizes were small, suggesting limited observed differences between religiosity groups in this sample. Although continuous total DUREL scores demonstrated a weak negative association with responses to the general abortion-ban item before adjustment for multiple comparisons, this association did not remain statistically significant following Benjamini-Hochberg correction. Consequently, these findings do not provide strong evidence of an association between religious devoutness and support for government-imposed abortion restrictions in this community sample. However, the absence of statistically significant associations should not be interpreted as establishing the absence of a relationship. Descriptive differences were observed across scenarios, although the study was not designed to formally evaluate within-participant differences between circumstances.

Religion has consistently been identified as an important correlate of abortion attitudes in larger and more representative populations, although its influence varies according to sociocultural context and measurement approaches. A systematic review encompassing 116 studies identified religion as one of the most frequently investigated correlates of abortion attitudes while highlighting considerable heterogeneity across populations and study methodologies [1]. Additional research has demonstrated that political ideology, gender, education, and local religious environments may independently or jointly influence abortion-related beliefs [2,12]. Accordingly, the findings of the present study should be interpreted within the context of its modest sample size, convenience-based recruitment, and exploratory analytical approach rather than as evidence contradicting the broader literature. These findings represent a preliminary, hypothesis-generating contribution that warrants investigation in larger and more diverse populations.

An important distinction underlying this analysis is the difference between personal moral opposition to abortion and support for government-imposed restrictions. Individuals may consider abortion morally objectionable while simultaneously opposing legal limitations on another person's reproductive autonomy. Previous research has associated religiosity with personal abortion beliefs and abortion-related stigma [7,9]. Other studies have examined how restrictive abortion policies and personhood legislation may affect healthcare access, family-planning considerations, and reproductive decision-making [3,13]. By specifically evaluating support for government authority to prohibit abortion, the present study addresses a policy-related dimension of abortion attitudes that is conceptually distinct from individual moral beliefs.

Measurement of religiosity

The DUREL evaluates three dimensions of religious involvement: ORA, NORA, and IR. Koenig and Büssing recommend examining these dimensions independently because composite scoring may obscure differences in their associations with health-related and social outcomes [4]. Subsequent cross-national psychometric research has suggested that a unidimensional structure may be appropriate in certain populations, whereas a multidimensional model provides a better fit in others [5].

In the present analysis, total DUREL scores and sample-specific tertiles were used as exploratory summary measures of religious devoutness. The tertiles facilitated comparisons among participants with relatively lower, intermediate, and higher levels of religious involvement while maintaining comparably sized groups. These categories reflect relative differences within the study sample rather than validated thresholds

defining low, moderate, or high religiosity. Continuous composite-score analyses were also conducted to examine associations without relying exclusively on categorical classifications. Nevertheless, neither analytical approach excludes the possibility that particular dimensions of religious involvement may have distinct associations with abortion-policy attitudes.

Religious affiliation and religious devoutness represent related but distinct constructs. Individuals reporting comparable levels of religious involvement may hold different attitudes toward abortion depending on their religious traditions, denominational teachings, cultural backgrounds, and personal interpretations of religious beliefs. Previous research has demonstrated that associations between religious involvement and abortion attitudes may vary according to religious and sociocultural characteristics [6,8,10]. Consequently, heterogeneity across religious traditions may contribute to variation in abortion-related attitudes that is not fully captured by a composite religiosity measure.

The present study focused on religious devoutness rather than conducting denomination-specific comparisons. Potential heterogeneity in religious affiliation within the sample may have obscured associations that could be more apparent within individual religious traditions. Future investigations should consider recruiting sufficiently large samples to examine associations within specific religious affiliations, as well as comparisons across religious traditions. Such approaches may help distinguish the influence of religious commitment from that of denominational affiliation and specific religious beliefs.

Future investigations should also prespecify the dimensional structure of religiosity and evaluate ORA, NORA, and IR separately. Religious affiliation, frequency of religious practice, and intrinsic religious commitment should be considered alongside demographic and ideological characteristics. Larger samples would facilitate multivariable analyses examining whether observed associations persist after adjustment for political ideology, gender, race and ethnicity, educational attainment, and reproductive experiences.

Context-specific abortion attitudes

Descriptive responses varied across the five abortion-restriction scenarios, although these differences were not formally tested within participants. Accordingly, observed variations should not be interpreted as evidence that particular pregnancy circumstances generated significantly greater or lesser support for government restrictions.

Previous investigations have demonstrated that abortion attitudes frequently depend on the circumstances surrounding pregnancy. In a nationally representative survey of Mexican Catholics, support for legal abortion was greater in cases involving rape or threats to maternal life than in circumstances involving abortion on request or socioeconomic hardship [10]. Differences between those findings and the present study may reflect variation in national context, religious composition, participant characteristics, sampling strategies, or survey wording.

Importantly, general support for the legal availability of abortion may not fully capture attitudes toward specific government-imposed restrictions. The present questionnaire specifically examined whether respondents believed governmental authorities should prohibit abortion under various circumstances. This distinction may contribute to differences between the present findings and studies focused on personal beliefs or general support for abortion legality.

The absence of statistically significant differences across religiosity tertiles may reflect limited statistical precision, characteristics of the convenience sample, measurement limitations, heterogeneity in religious affiliation, or genuinely small associations. Although the exploratory cross-sectional design was appropriate for describing associations within the surveyed community sample, it was not intended to establish causality or formally assess differences in responses to pregnancy scenarios within individual participants.

Future research should incorporate larger samples and analytical approaches that account for the repeated nature of responses to multiple abortion-related circumstances. Such approaches could formally evaluate whether support for government-imposed restrictions differs across pregnancy scenarios and whether these differences vary according to religious affiliation, religious involvement, or other participant characteristics.

Participant characteristics and generalizability

The demographic composition of the present sample warrants consideration when interpreting the findings. Of the 64 participants, 32 (50%) identified as Black/African American on the original race item. The sample also included participants from Hispanic, White, Asian, and American Indian/Alaska Native backgrounds. Because participants were recruited through convenience sampling at community health outreach events rather than through a probability-based sampling frame, the observed demographic distribution reflects the individuals included in the study and should not be interpreted as representative of the broader New York City population.

Racial and ethnic differences in sociocultural experiences, religious participation, healthcare access, and

reproductive experiences may contribute to variation in abortion-related attitudes. However, the present study was not designed to determine whether these factors explain the observed associations between religious devoutness and support for government-imposed restrictions. Moreover, differences in abortion utilization or reproductive healthcare access should not be assumed to correspond directly to differences in support for abortion restrictions.

Although the distribution of the original racial categories across religiosity tertiles did not reach statistical significance, the relatively small numbers of participants in several demographic categories limit the reliability of subgroup comparisons. The possibility that the demographic composition of the sample influenced the observed associations cannot be excluded.

Future investigations should recruit larger and more diverse populations, with sampling strategies that provide adequate representation of relevant racial, ethnic, religious, and socioeconomic groups. Such approaches would facilitate more reliable evaluation of whether the relationship between religious involvement and abortion-related attitudes differs across demographic populations.

Reproductive autonomy, moral beliefs, and legal restrictions

Distinguishing personal moral beliefs, abortion legality, government prohibition, and criminal penalties is essential because these constructs, although related, are not interchangeable. National US research has demonstrated that public responses vary according to whether questions address legal access to abortion, criminal penalties, or specific abortion methods [14].

This distinction has implications for interpreting the relationship between religion and reproductive-health policy. Religious commitment may influence personal beliefs about abortion without necessarily predicting support for state intervention. Similarly, individuals may support legal access under certain circumstances while favoring restrictions under others.

The present findings emphasize the importance of measuring these constructs separately. The abortion-attitude statements were developed for the community survey and had not undergone formal psychometric validation. Although they permitted preliminary assessment of attitudes toward government-imposed restrictions, they should not be interpreted as a validated measure of abortion-policy preferences.

Future studies should employ validated or carefully evaluated measures that distinguish reproductive autonomy, personal moral beliefs, government authority, and support for legal penalties. Such approaches may provide a more precise understanding of how religiosity relates to abortion-policy attitudes.

Strengths

Despite its exploratory nature, the study has several strengths. The use of the DUREL provided an established measure of religious involvement encompassing ORA, NORA, and IR. The questionnaire also assessed a general abortion restriction alongside four specific clinical and social circumstances, allowing examination of distinct aspects of government-imposed restrictions rather than relying on a single general measure of abortion attitudes.

The analytical approach included both sample-specific religiosity tertiles and continuous-score analyses. Reporting effect sizes alongside statistical significance provided additional context for interpreting the observed group differences, while adjustment for multiple comparisons reduced the likelihood of overinterpreting nominally significant exploratory correlations.

Additionally, anonymous electronic questionnaire administration through REDCap allowed participants to provide responses without collection of names or contact information. The community-based recruitment setting provided an opportunity to examine abortion-related attitudes among adults with varied demographic and religious characteristics. These strengths support the study's value as an exploratory investigation while not eliminating the limitations associated with its sampling strategy and measurement approach.

Limitations

Several limitations should be considered when interpreting these findings.

First, data were collected through community QA/QI activities using convenience sampling at New York City health outreach events. The sample was not drawn from a probability-based sampling frame, limiting generalizability to New York City residents or the broader US population. Questionnaires were administered electronically through REDCap using iPads rather than distributed in printed format. Although 64 participants provided questionnaire data and constituted the analytical sample, the number of eligible individuals approached during recruitment, including those who declined participation, was not systematically recorded. Consequently, an overall recruitment response rate could not be calculated. This limits assessment of potential nonresponse bias, as individuals who elected to participate may have differed

from those who declined participation.

Second, the modest sample size of 64 participants reduced statistical precision and limited the ability to detect small or modest associations. The demographic composition of the convenience sample, in which 50% of participants identified as Black/African American, may also have influenced the observed relationships. The small numbers of participants in several racial and ethnic categories precluded reliable subgroup analyses. The absence of statistically significant findings should therefore not be interpreted as evidence of equivalence between religiosity groups or as establishing that no relationship exists between religious devoutness and abortion-related attitudes.

Third, the cross-sectional study design precludes causal inference. The analysis cannot establish whether religious involvement influences abortion-policy attitudes or whether these characteristics are associated through other demographic, ideological, religious, or sociocultural factors. Furthermore, differences in responses to individual abortion-related circumstances were not formally evaluated within participants. Alternative study designs and analytical approaches may provide additional insight into these relationships.

Fourth, the five abortion-restriction statements were developed by the project team and had not undergone formal psychometric validation. Repeated use of the term "ban" and wording referring specifically to a "woman" or "mother" may have influenced responses and may not adequately represent all individuals capable of becoming pregnant. Responses may also have been influenced by social desirability or differences in participants' interpretations of the questionnaire statements. Although the survey was anonymous, potential response bias cannot be excluded. Additionally, one response was missing for each of the partner-opposition and financial-hardship items, resulting in 63 evaluable responses for each of these outcomes.

Fifth, limitations in the original demographic instrument may have affected measurement precision. The survey included a sex/gender item containing a non-binary/other response option and classified "Hispanic" as a racial response category despite separately assessing Hispanic/Latino ethnicity. The original response categories were preserved without post hoc reclassification. More precise and inclusive demographic measures should be incorporated into future investigations.

Sixth, the DUREL measures multiple dimensions of religiosity, and its developers recommend evaluating these dimensions separately. The use of an exploratory composite score and sample-specific tertiles may have obscured dimension-specific associations, while categorization of continuous scores may have reduced statistical information. Religious affiliation and religious devoutness were not evaluated as separate explanatory variables, and heterogeneity across religious traditions may have influenced the observed associations. Consequently, the findings should not be interpreted as representative of the attitudes of any particular religious denomination.

The original participant-level dataset was subsequently recovered, permitting independent reconstruction of the DUREL composite scores, rank-based tertile assignments, and primary abortion-attitude analyses. However, the original statistical script remained unavailable, preventing confirmation of the historical procedure used to resolve tied composite scores. Because tied scores crossed tertile boundaries, some group assignments may depend on the tie-breaking procedure. This limitation should be considered when interpreting the tertile-based comparisons.

Seventh, five exploratory correlation analyses were conducted. Although the association between continuous DUREL score and the general abortion-ban item reached nominal statistical significance (unadjusted $p = 0.030$), it did not remain statistically significant following Benjamini-Hochberg correction (adjusted $p = 0.150$). This finding should therefore be interpreted cautiously and requires independent replication.

Finally, age differed across religiosity tertiles in an exploratory, unadjusted comparison ($p = 0.039$). This finding should be interpreted cautiously given the multiple demographic comparisons performed. Age and potentially important determinants of abortion attitudes, including political ideology, religious affiliation, educational attainment, and personal reproductive experiences, were not simultaneously evaluated in multivariable models. Residual confounding and unmeasured associations cannot be excluded.

Future research should prioritize larger and more diverse samples, representative recruitment strategies, validated abortion-policy measures, multidimensional assessments of religiosity, detailed assessment of religious affiliation, prespecified statistical analyses, and multivariable modeling. Studies examining individual religious traditions and using analytical methods that account for within-participant responses across pregnancy scenarios may provide further insight. These improvements may clarify whether religious involvement is independently associated with support for government-imposed abortion restrictions across different clinical and social circumstances.

Conclusions

Among 64 adults recruited at community health events in New York City, responses to five government-

imposed abortion-restriction statements did not differ significantly across sample-specific religiosity tertiles, and all group-comparison effect sizes were small. Although a weak negative correlation was observed between continuous total DUREL scores and responses to the general abortion-ban item (ρ = -0.271, unadjusted p = 0.030), this association did not remain statistically significant after adjustment for multiple comparisons (adjusted p = 0.150). These findings do not provide strong evidence of an association between religious devoutness and support for government-imposed abortion restrictions in this community sample. However, the absence of statistically significant findings should not be interpreted as evidence that no association exists. Given the modest sample size, convenience sampling, exploratory design, and use of abortion-attitude items that had not undergone formal psychometric validation, the findings should be interpreted as hypothesis-generating rather than definitive. Larger studies incorporating more representative sampling strategies, validated abortion-policy measures, multidimensional assessments of religiosity, and consideration of religious affiliation are warranted. Adjustment for demographic, political, and reproductive-experience factors may further clarify these relationships. Distinguishing personal moral beliefs from support for government-imposed restrictions remains essential for understanding the relationship between religiosity, reproductive autonomy, and health policy.

Appendices

Appendix A. Study-developed abortion-restriction items

This appendix reproduces the five study-developed abortion-restriction statements administered to participants. The Duke University Religion Index (DUREL) and demographic questionnaire are not reproduced here. The DUREL instrument is described and cited in the Materials and Methods section.

Response Options

Each statement was evaluated using a five-point Likert scale. The original questionnaire presented verbal response categories, which were coded numerically for statistical analysis as follows:

0 = Strongly Agree

1 = Agree

2 = Neither Agree nor Disagree

3 = Disagree

4 = Strongly Disagree

Higher numerical scores indicated greater disagreement with government-imposed abortion restrictions.

General Abortion-Restriction Statement

1. I believe that the government should be able to ban all abortions.

Scenario-Based Abortion-Restriction Statements

The following questions are scenarios where an adult pregnant woman is considering an abortion.

2. A pregnant woman seeking an abortion is in a long-term relationship, and her partner strongly opposes the procedure. The government should be able to ban abortion in this scenario.

3. A pregnant woman is in a medically complex situation where the life of the mother is at risk. The government should be able to ban abortion in this scenario.

4. A pregnant woman feels she cannot afford to raise a child right now due to financial hardship. The government should be able to ban abortion in this scenario.

5. A woman became pregnant as a result of rape or incest. The government should be able to ban abortion in this scenario.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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